

THE BOMBAY DOCKYARD
AND
THE WADIA MASTER BUILDERS

RUTTONJEE ARDESHIR WADIA

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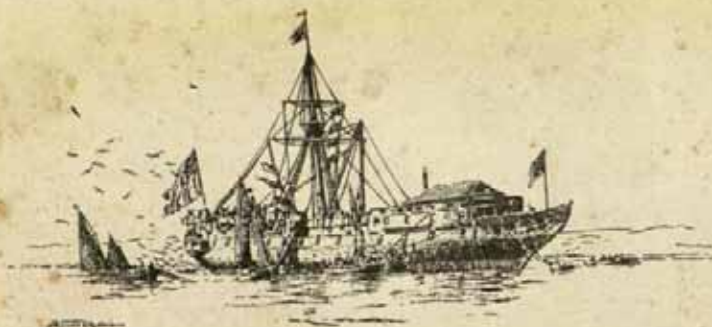
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Boulay -

11.8.56



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of THE SOCIETY FOR NAUTICAL RESEARCH

To save the Foudroyant as a national monument and a holiday training ship for young people.

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April 26th., 1954

Dear Mr. Wadia,

Please accept my Committee's and my own very sincere thanks for the portrait of your distinguished ancestor, Jansetjee Bomanjee, the builder of Trincomalee, now named Foudroyant. Mr. Lishman has presented it bound appropriately in teak, and it will hang in the ship, a cherished possession, as long as she lasts.

I am glad to tell you that a recent survey has shown her structure to be fundamentally sound, and, if we can survive financially, there is no reason why she should not last another 100 years. As no doubt you know, she is the only surviving frigate of the old sailing navy, and her fine craftsmanship is a source of admiration to all who view her.

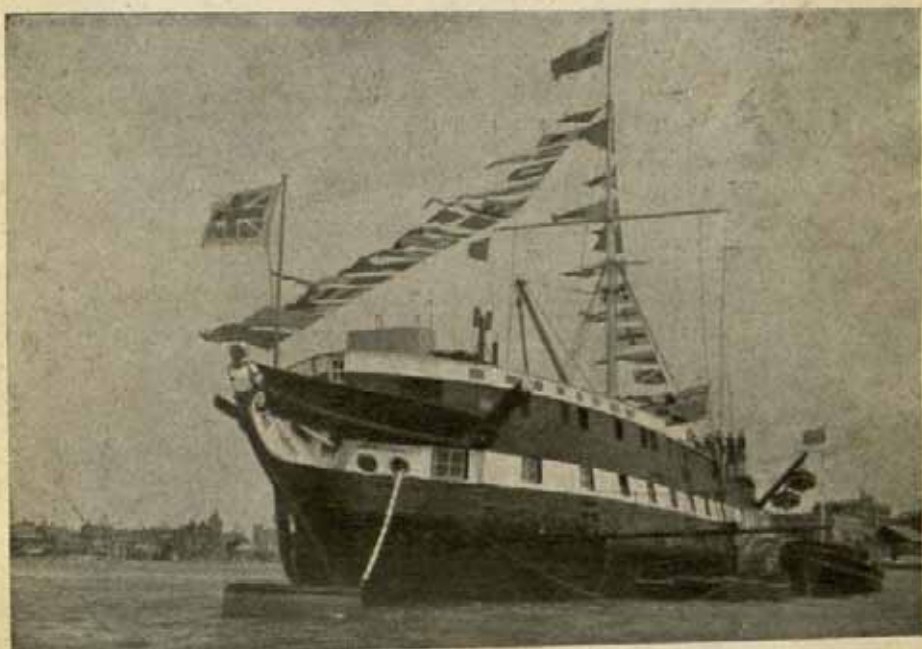
I have pleasure in enclosing a copy of our latest report, which describes the purposes for which she used and illustrates some colourful occasions in 1953.

Yours very sincerely,

Moody

Chairman of the Foudroyant Committee.

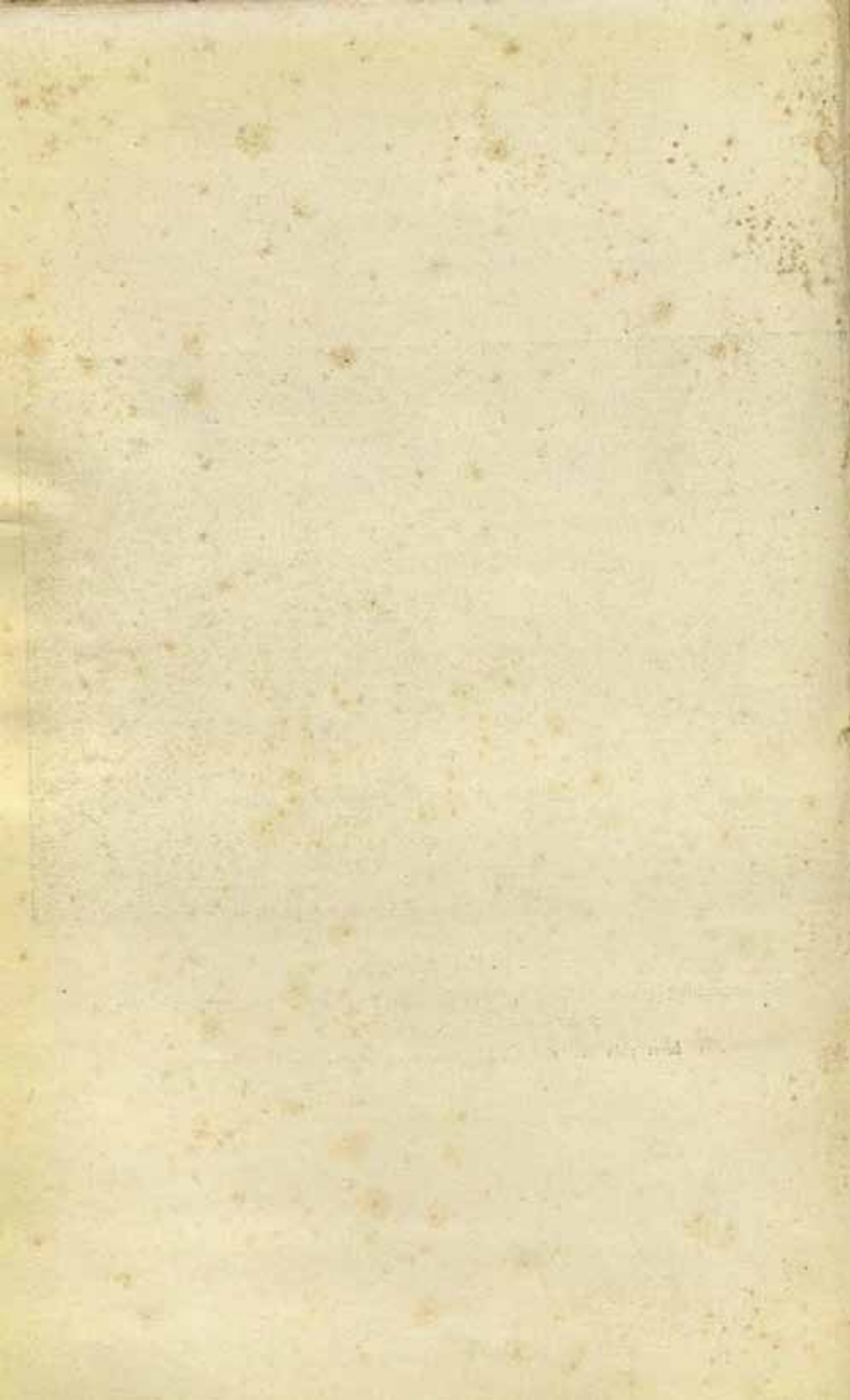
R.A. Wadia Esq.
Thakur Nivas,
173 J. Tata Rd.,
Back Bay Reclamation,
Bombay, India.



H. M. S. "*Foudroyant*."

From an etching by Harold Wyllie, O. B. E. of the Royal Yacht passing the *Foudroyant*
at the Coronation Naval Review, 1953.

"The oldest ship in the world today, still afloat and still in active use."
The Evening News of India, 2-3-1955.



Dedicated

to

The Memory of

My Father

ARDESIR RUTTONJI LOWJI WADIA,

My Paternal Grand-father

RUTTONJEE DADABHOY LOWJEE WADIA

and

My Maternal Grand-father

DORABJEE NANABHOY WADIA

with feelings of

deep affection and gratitude.

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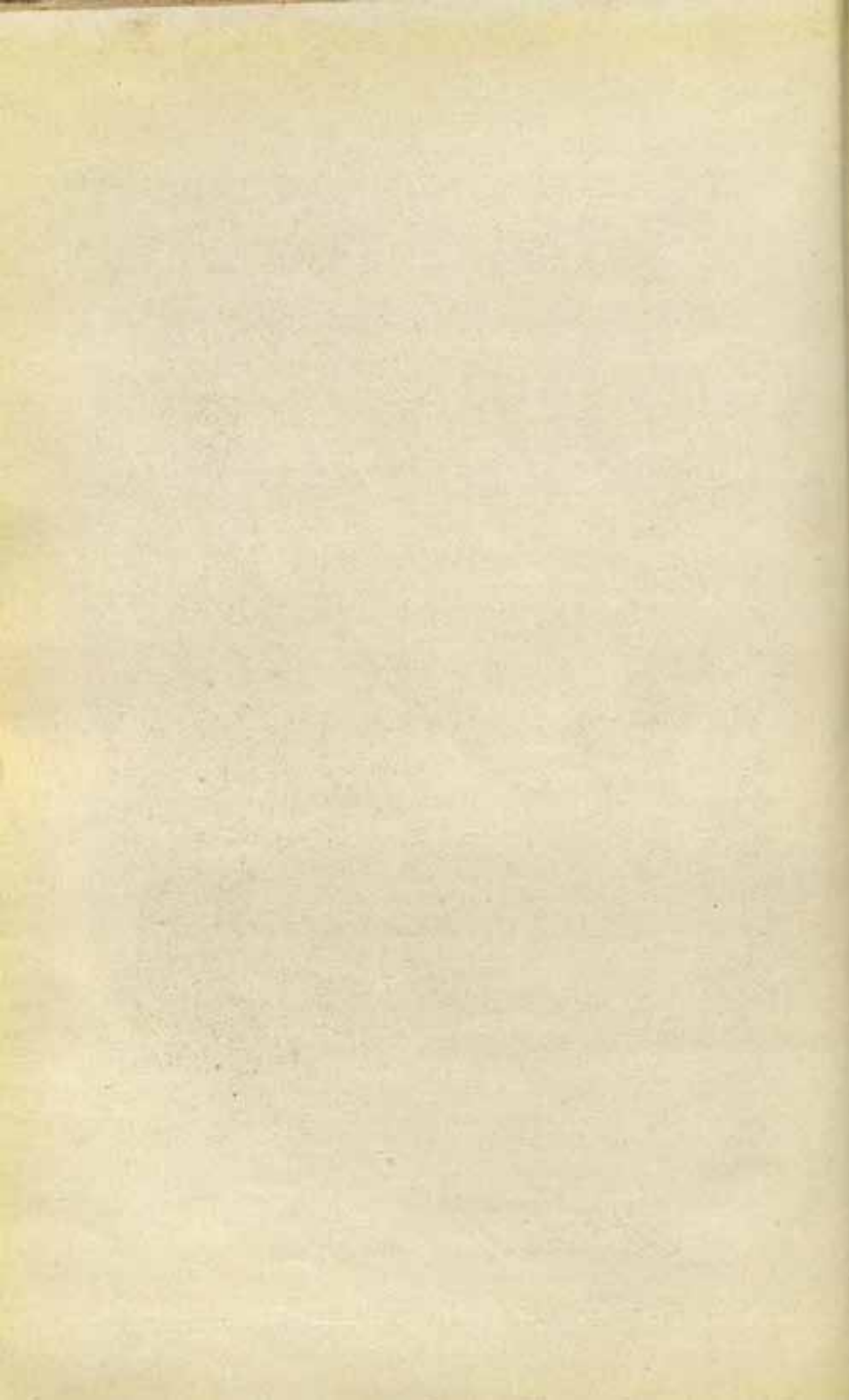
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Abdullah Pullup Long

Born : 4th November, 1854

Died : 23rd February 1893

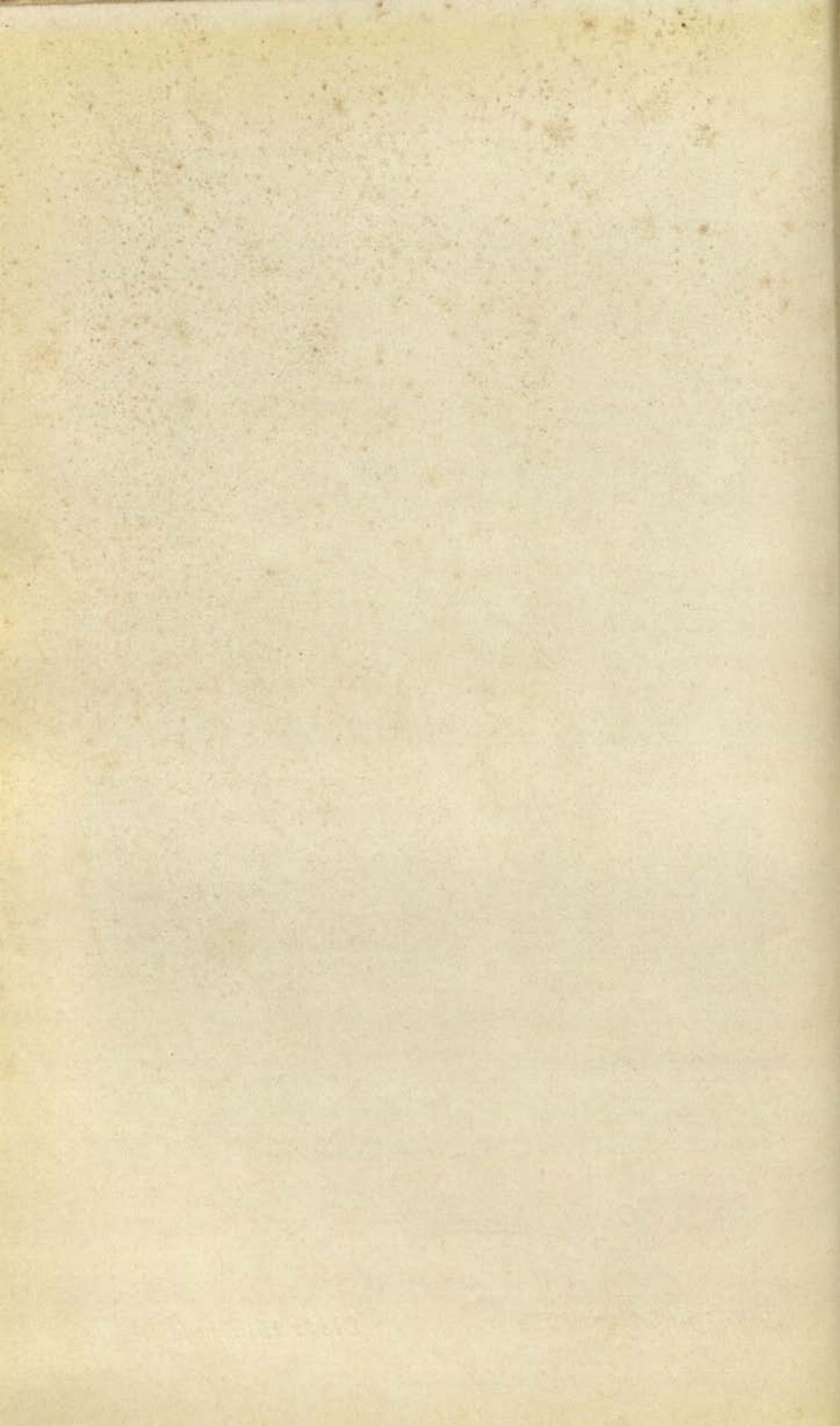




Piethonjuddady Loug

Born: 8th May, 1835

Died: 15th June, 1907

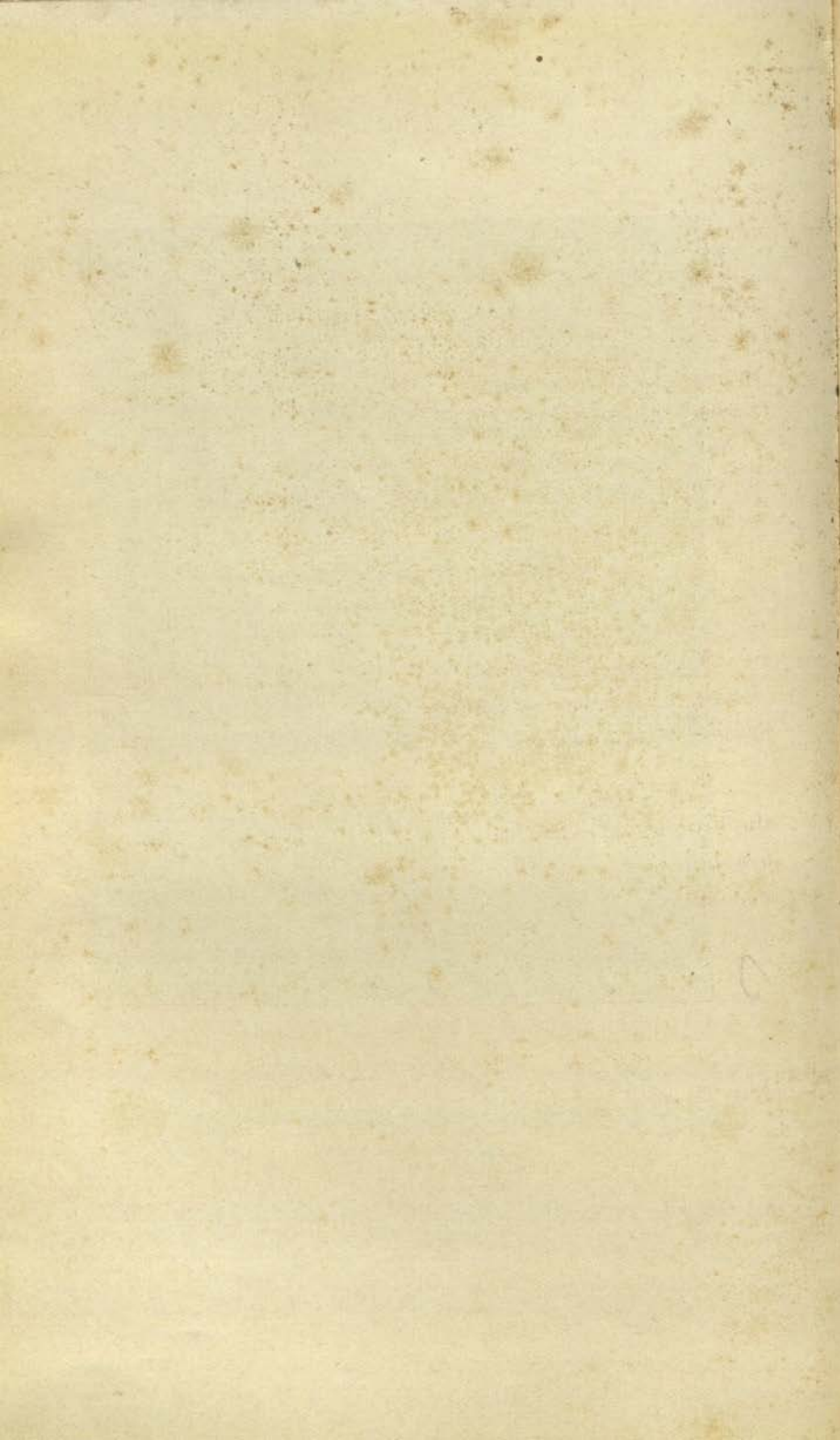




*Lorabjee Narabhai
Nadia*

Born : 24th April, 1835

Died : 10th June, 1897



FOREWORD

Indians have had for many centuries a fine tradition of seamanship and it is well-known that in the days of the wooden ships, there was a flourishing ship-building industry in this country. The Hindu colonization of lands across the seas—in Java and Malaya, in Ceylon and Cambodia—bears testimony to the excellence of the Indian mercantile marine in the past and the qualities of navigational skill. What is perhaps not so well known is that even as recently as the last century Indian-built ships played no little part in the merchant and fighting navies of Europe. In the sphere of naval architecture, the contribution of the Lowji Wadia family was one of the most outstanding and it is but proper that its achievements should be chronicled.

The history of the Dockyard at Bombay right from the time of its construction down to the present day should also help to fill a gap in this aspect of India's maritime history.

S. Radhakrishnan

New Delhi,
27th December 1954.

Vice-President of India.

PREFACE

My father, Ardesir Ruttonjee Lowji Wadia, had collected material regarding the Lowjee Wadia Family for the purpose of preparing a Genealogical Table and it was also his intention to publish a small brochure dealing with the lives of prominent members of the family. Before he could use this material he passed away on the 23rd February 1893 at the early age of 38. These papers were, however, preserved by my mother, and in 1918 I published the Genealogical Table for private circulation.

My interest in the subject of shipbuilding and the Builders of the Bombay Dockyard was aroused and, after collecting further material, I wrote an article which was published in the *Times of India Engineering Supplement* in June/July 1919 under the title *Bombay Dockyard, A Forgotten Chapter*.

The History of the Bombay Dockyard is the History of the Wadia family and their achievements over a period of six generations. In searching all available sources of information, to compile this record, I have been inspired by a sense of legitimate pride as a member of the family and the belief that this record will acquire a historical value beyond that of the biographical record of a Parsi family.

I have not words adequate enough to express my thanks to Dr. S. Radhakrishnan, Vice-President of India, for the readiness with which he agreed to write the

Foreword. This in itself is a great compliment to the Wadia family and a recognition of the part they played in the history of Indian shipbuilding.

In my search I have been able to obtain access to many hitherto unpublished Government Records as well as private papers and documents in the possession of the family. Extracts have been obtained from the Records of the India Office in London and also the Bombay Secretariat. I tender my thanks to the authorities.

My thanks are also due to the late Vice-Admiral Sir Edward Headlam who, as Director of the Royal Indian Marine, placed his own manuscript at my disposal and gave permission to reproduce much of it, as well as plans of old Bombay which have been incorporated in this work. I am grateful to the Imperial War Museum, London, the Trustees of the National Maritime Museum, Greenwich, the Director, Science Museum, London, and to the Victoria and Albert Museum, Bombay for permission to publish photographs of some of the ships and to the National Archives of India, New Delhi for allowing me to print the old plans of Bombay of 1758 and 1767. My special thanks are due to Mr. A. Kirkwood Brown for allowing me to publish the plan of Bombay with the Harbour and Country Adjacent.

I am also obliged to the Foudroyant Committee of the Society for Nautical Research for permission to reproduce the etching by Harold Wyllie, O. B. E. of the Royal Yacht passing the "*Foudroyant*" at the Coronation Naval Review, 1953; to the Commander-in-Chief,

PAGE IX, LINES 4, 5 & 6

Instead of

"To Commodore R.M.T. Taylor, Late Commodore-in-Charge of the Dockyard, and Commodore A. K. Chakravarti, for all the help and assistance they have given me."

Please Read

"To Commodore R.M.T. Taylor and Commodore A. Chakravarti, Late Commodores-in-charge, Bombay, and Commodore A.K. Chatterji, the present Commodore, for all the help and assistance they have given me."

to

"To Commodore R.M.T. Taylor, Late Com-
modore-in-Charge of the Dockyard and Commodore
K. Chakravarti, for all the help and assistance
they have given me."

Yours Read

"To Commodore R.M.T. Taylor and Commo-
dore A. Chakravarti, Late Commodore-in-charge,
today, and Commodore A.K. Chatterji, the present
Commodore, for all the help and assistance they have
given me."

Indian Navy, New Delhi for permission to reproduce four photographs of the Old Bombay Docks with a note on the Development of the Bombay Dockyard as a Naval Arsenal; to Commodore R. M. T. Taylor, Late Commodore-in-Charge of the Dockyard, and Commodore, A. K. Chakravarti, for all the help and assistance they have given me.

My sincere thanks are also due to the Trustees of the N. M. Wadia Charities who in 1921 unconditionally donated the sum of Rs. 1,500 towards the expense of collecting material for this work.

I would express my most grateful thanks to Mr. Norman Lishman who has rendered valuable assistance in obtaining details of the vessels built at the Yard. Much of the detailed information in the chapters relating to the Mazagon Docks and the Administration of the Dockyard was supplied by him. He has been of very great help and assistance to me in revising the manuscript. But for his assistance this book would not have seen the light of day.

My very sincere thanks are due to Mr. Sapur Faredun Desai for the help he has given in connection with the publication of this book.

Finally I would be failing in my duty if I were not to acknowledge the help rendered to me by my brother Prof. P. A. Wadia, Prof. A. R. Wadia, Miss Roshan Kaikhusroo Wadia and Mr. Sohrab Edulji Sidhwa for having gone through the proofs. Over and above this tiring work Prof.

A. R. Wadia and Miss Roshan Wadia have rendered me great help in other matters relating to this publication for which I am deeply indebted to them.

In conclusion I take the liberty to quote Basil Lubbock from his book *Blackwall Frigates*: "The world has seen many great shipbuilding families and by no means the least of these were the Wadias..... Lowjee, like all the Wadias, combined great skill in his profession with great honesty of work and great integrity in the purchase of materials and handling of moneys. And from the first the ships built in the Bombay Dockyard by the Wadia family were celebrated for their strength, for their durability, and for their speed."

Bombay, March, 1955.

Ruttonjee Ardeshir Wadia.

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2. Maneckjee Lowjee Wadia	..	1774-1792	} Joint Builders
3. Bomanjee Lowjee Wadia	...	1774-1790	
4. Framjee Maneckjee Wadia	...	1792-1804	} "
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7. Cursetjee Rustomjee Wadia	...	1844-1857	
8. Jehangir Nowrojee Wadia	...	1857-1866	
9. Jamsetjee Dhunjibhoy Wadia	...	1866-1884	

Ardaseer Cursetjee Wadia—

Assistant Builder ... 1822-1840

Chief Inspector of Machinery... 1841-1857

*List of Assistant Builders and Assistants employed
in the Bombay Dockyard.*

1.	Rustomjee Maneckjee Wadia 1781-1812
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3.	Ruttonjee Bomanjee Wadia	...	about 1780-1811
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10.	Hirjibhoy Merwanjee Wadia 1834-1863
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12.	Nusserwanjee Ardeshir Wadia 1844-1850
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MR. NORMAN LISHMAN

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CAPT. SIR E. J. HEADLAM.

Born: 1st May, 1873

Died: 14th July, 1943

(Taken from India, March 1929 R. I. M.)

See Page vii

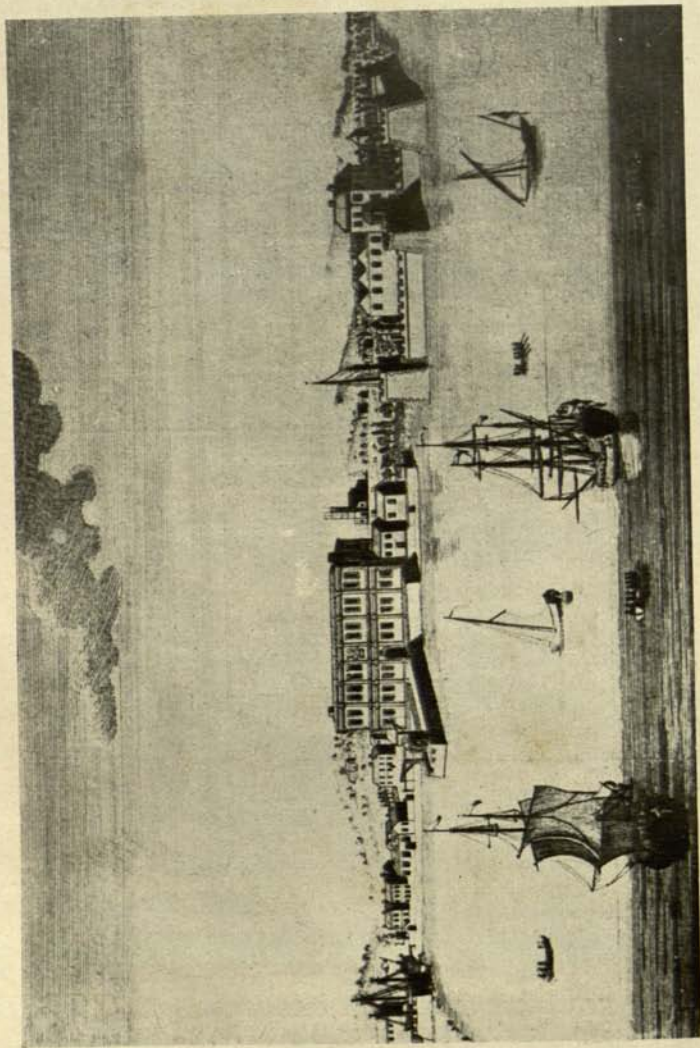


NOWROJEE MANECKJEE WADIA, C. I. E.

Born : 22nd May, 1837 Died : 21st July, 1909

Founder of the N. M. Wadia Charities.

See Page ix



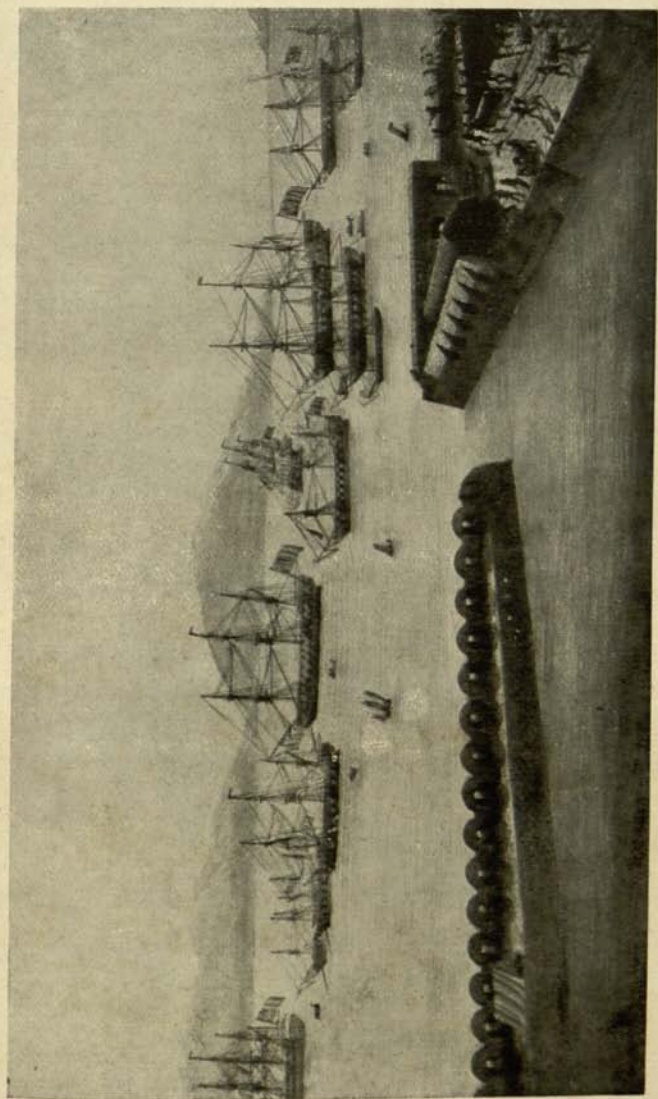
Bombay on the Malabar Coast Belonging to the East India Company of England.

List of Photographs of Ships

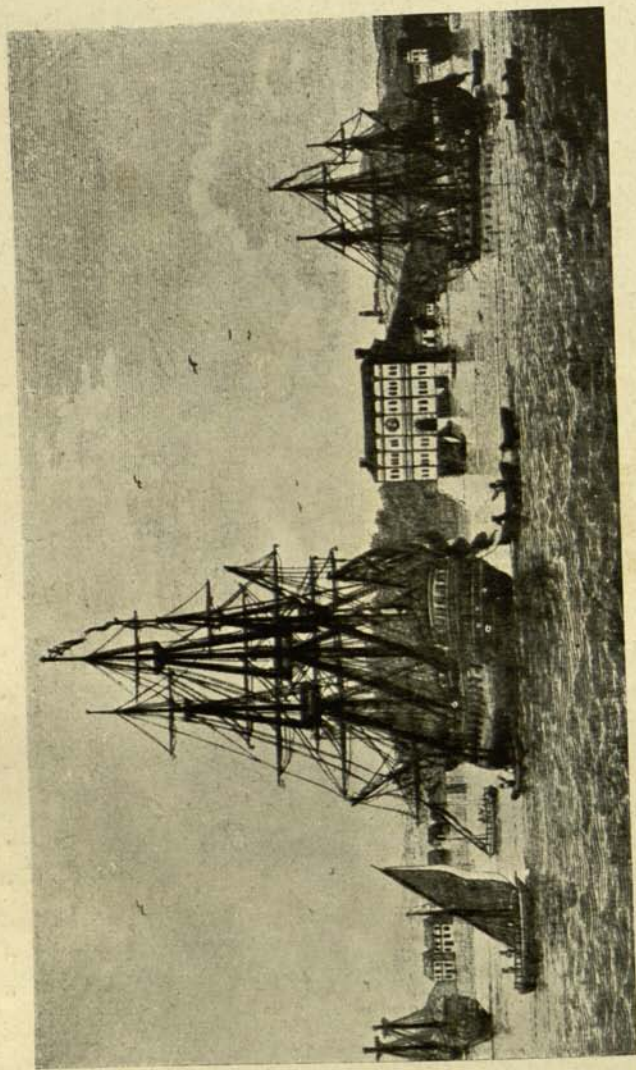
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Shipping lying off Bombay Custom House Bunder, about 1800.



Bombay Harbour in the early years of the 19th century.

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Mumbaino Bahar.
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Observations on the Expediency of Shipbuilding at Bombay by
 W. T. Money.
The Old Country Trade of the East Indies by W. H. Coates.
Old East Indiamen by E. Keble Chatterton.
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Residence in Great Britain by Ardaseer Cursetjee.
Parsi Prakash by Bomanji B. Patel.
Pirates of Malabar by Colonel J. Biddulph.
Sailing Ships by E. Keble Chatterton.
Selections from the Bombay Secretariat by G. W. Forrest
 (Home Series).
Travels in Asia & Africa by Abraham Parsons.

ERRATA.

Page 5 lines 24-25	... Read "mencioned" instead of "mencoined."
.. 7 line 3	... Read "willing" instead of "willlng."
.. 13 Foot-note	... Read "The Old Country Trade of the East Indies" instead of "Old Company Trade."
.. 16 line 15	... Read "considerable" instead of "cosiderable."
.. 20 .. 11	... Read "gallivats" instead of "gallyvats."
.. 20 Foot-note	... Read "gallivats" instead of "gallyvats."
.. 22 line 6	... Read "Vol." instead of "Vo."
.. 22 .. 17	... Read "coast" instead of "coasts."
.. 86 .. 1	... "up" is omitted in the word Superintendent.
.. 100 .. 8	... Read "Gary" instead of "Cary."
.. 125 .. 14	... Read "1810" instead of "1811."
.. 126 .. 19	... Read "Joshua" instead of "Joshus."
.. 162 .. 5	... Read "previous" instead of "next."
.. 181 .. 1	... Read "built" instead of "bUILT."
.. 209 .. 30	... Read "Britannic" instead of "Britanic."
.. 264 .. 3	... Omit the words "in India."
.. 283 .. 8	... Read "owner" instead of "owners."

CHAPTER I

Bombay: Its Acquisition by Britain

"Amongst the foreign dependencies of the British Crown none are of greater and more increasing importance than Bombay. The growth of the Australian Colonies has been indeed far more rapid, and their sudden acquisition of wealth more astonishing, than any which has been made in India. But the possession of Australia and other colonies is not essential to the maintenance of England's power and glory; if their independence were to be at once proclaimed, no serious consequences need be apprehended on her account. It is, however, essential to her prosperity that she should preserve her Indian Empire, and every year strengthens the conviction of thinking men that, whether that Empire be regarded from a political or commercial point of view, its most important possession is the Island of Bombay."*

The first Europeans to touch Bombay were the Portuguese, who arrived at Mahim in 1509.†

The second descent was in 1517.

In 1529, there was a naval engagement in Bombay harbour, as a result of which Thana, Bandora and Karanja agreed to pay tribute to the Portuguese; and they left a naval force to harass the coastal trade. In 1531 a great naval review was held in Bombay waters. Bombay passed into Portuguese hands in 1534.

* "The English in Western India." P. Anderson. p. 50.

† *Origin of Bombay.* G. Da Cunha p. 71.

The first Englishman to arrive in India was Thomas Stephens. He was born in 1549 and arrived in Goa on 24th October 1579. He was a missionary of the Society of Jesus. After his arrival in India he wrote two letters; one to his brother dated 4th November 1579 and another to his father dated 10th November 1579. In 1583 four Englishmen, Ralph Fitch, John Newbury, Leeds and Storie came out to India as private merchants. The letters of Stephens, and the report of these Englishmen on their return to England, gave an idea to the English of the wealth and potential value of trade with India. This led to the formation of the first East India Company in 1599.*

The advantage of obtaining possession of the Island of Bombay was seen by the English nearly 40 years before it actually passed into their hands. It was not, however, the value of its harbour that attracted them to it so much as the desire to have a place from which they could carry on their mercantile activities without being molested by Indian Princes or their subordinates.

Da Cunha states that it was its isolated position rather than its harbour that made the English covet Bombay. The harbour was considered then and until a much later date to be too big for the trade and shipping of those days.†

It was this consideration that led the Court of Directors to suggest in 1625 the acquisition of Bombay and

* *Origin of Bombay.* p. 163/168

† *Origin of Bombay.* p. 173

the following year (1626) the English and the Dutch invaded the Island, landing troops, pillaging the town as it then existed and setting fire to it. One important point the invaders noted, however, was that even at that early date they found two new frigates under construction. This indicates that the small Island as it then existed had facilities to construct vessels.*

The following is a description given by David Davis:

“October 11th. Anchored in the offinge before Bombay. Consultation held aboard the ‘*William*,’
October 12th. We waied and sayled in neere the going into the baye, to see if the Portugalls weare ther, and the commanders sent their shallupps to chase fisher boats that were in the offing, whereof they took two, the one loaden with salt which came out of the baye the other fisher boate.

October 13th. We went into the baye and roade without the stakes, as you may see in the draft following. October 14th. The *Moris* and two Dutch shippes went in neere the greate howse to batter agaynst it; in which batterie two of the *Moris* ordinance split. The same daie we landed 300 men, English and Dutch and burnt all their kitjonns howses, and tooke the greate howse with two basses of brass and one faker of iron.
October 15th. All our men embarqued aboorde the shippes, being Sunday in the evening and left the greate howse which was both a warehowse and a frierry forte all afire burning with many other good howses together with two nywe fridgetts not zett frome the

* *Anglo-Portuguese Negotiations*, S. A. Khan. p. 422. Also *Origin of Bombay*, p. 160.

stockes nor fully ended but they had caried away all their treasur and all things of any value for all were rounde away before our men landed. October 16th. In the morning we wayed and sayled out of Bombaye."*

This early expedition of the Dutch and the English paved the way for the Company to make further attempts to secure a safe place for their trade. There were conflicting reports regarding the value of Bombay. James Slade, Master of the "*Blessings*" at Swally wrote to the Company in his letter dated 8th January 1628, that it was "no good place to winter in, it being open to the Westerly (wind) and no sucker for them for the winter. What other place there is in this sound which is deep and undiscovered by any of us, to winter in is unknown to us then that were there present." Against this opinion Kerridge stated that "Bombay is no ill ayre, but a pleasant fruitful soile and excellent harbour, as experience of our own people doth testify."

The reason why Bombay was not occupied by the Dutch and the English at this time was that the Dutch viewed the possession of the Island by the English with suspicion, and Kerridge's proposals for occupation were rejected by the Dutch.†

Moreover President Kerridge in his despatch to the Company dated 4th January 1628, wrote in favour of getting possession of the Island on the strength of information he had received from one Richard Tuck, an

* *English Factories in India* 1624-29. Also Khan: *Anglo-Portuguese Negotiations*. p. 422

† *Anglo-Portuguese Negotiations*. S. A. Khan. p. 425.

English sailor who had served the Portuguese and had visited the Island several times during the period of his service. This appears to be the earliest account of Bombay:

"The iland called Bumbaie in some places thereof is within muskett shott off the maine of Decan, divided by a small creeke from another iland called Salsett. The entrance to the southwards is a large channell, where shippes of greatest burthen may boldly enter laden and ride lanlockt within a bay, free from all winds and weather, being the same where your people demolished a fort or chappell of the Portugalls last year, within which some 3 leagues they have another village and small fort to keep the Mallabar frigates from rounding the iland, where is so little water that every ebbe the people of the maine, being the subjects of Nizam Shaw, King of that part Decan, may wade over. The inhabitants of Bumbaiee and Salsett are poore fishermen and other labourers, subject to the Portugall whither as well the Portugalls as the Moore's cattle come from the iland of Bassein and from the maine to feed. It is in length twixt 6 and 7 leagues lying N. and S., but in breadth little more than an English mile. It is not unlikely that the Portugalls have made choice of the fittest places to fortify, being the same already mentioned.* Howbeit our people do speak of a point laying out into the sea att entrance, to be a low sandy point merely unfitt for fortification and that the entrance cannot be commanded from the shoare, which is cause the Portugalls have not bestowed cost in strenthning itt, as they have done other places the small forts mentioned being only to keepe the mallabars from robbing the country, abounding with all kinds of fruits

* *Anglo-Portuguese Negotiations*. S. A. Khan. page 426.

rice and fish a most pleasant and healthful place, fit to be inhabited hath stones sufficient to build and fortify and timber is had from the maine in abundance to make the Portugall frigatte and small vessels butt their greater ships they build at Bassein and Damon."*

Thereafter several servants of the Company visited Bombay and according to President Methwold these people were given full liberty during their stay on the Island which proved far from healthy for them, due to the excessive drinking of toddy and arrack.

In this connection, it is important to note that whereas W. S. Lindsay in his "*History of Merchant Shipping*" stated that Bombay was recaptured in 1635, no other work of reference supports this statement.

The next reference to Bombay appears in 1640 when according to Bruce, the Surat Council drew the Court's attention to Bombay as the best place on the western coast for their commerce.

In 1652, a suggestion was made for the purchase of Bombay and Bassein.†

In a letter of 23rd March 1653, to London, President Blackman wrote :

Wee were never soe sencible of the want of a port in these parts (as that wee might call our owne) as wee are at present, and are like to bee if these warrs continue. Doubtless a faire opportunity may now present by a treaty with the Portugall who hath enow to spare, and wee believe willing to spare on easy terms. Bombay

* *English Factories in India 1624-29* p. 197-198.

† Bruce's *Annals of the East India Company* p. 336.

and Bassin, which is secured would be very convenient for you. What the Dutch hold in Zelon wee believe the Portugalls would bee willng wee should enjoy, if by our assistance—they could bee driven out; which were noe hard matter to doe, if the Parliament would please to engage therein. Seven or eight frigatts with four or five good ships would soone give them a law in India for though they are to hard for us at present, yet there strength is not soe greate as is imagined by us in England. They have many places to secure, which requi'e great supplies; and if they bee cut short in the springe (as wee trust they will be), the streames will soone be dried. And if this could bee effected, the honour of our nation in these parts would much bee advanced, our priviledges in all places increased (which are now much impared), your customes of Gombaroone not onely established but much augmented, and you enjoy as great a royalty of the seas in these parts as formerly the Portugalls did, and the Dutch, wee believe, will doe if not prevented.”*

A year later a similar suggestion was made by John Spiller who pointed out the advantages of having a convenient “castle” or town “about Surat or on the coast of India which,” would be a means of increasing “their strength force and honour in these Orientale parts.” The Company favoured these proposals, and they were conveyed in an address to Oliver Cromwell, the Lord Protector, but nothing seems to have come out of it.†

In 1658, the Company wrote to Surat “to obtain Bombay, Bassein, Danda Rajapore or any other suitable

* “*English Factories in India*.” 1651–54. p. 169. Also *Anglo-Portuguese Negotiations* p. 428.

† *Anglo-Portuguese Negotiations*. p. 428.

place for a settlement. Next year this matter was again brought forward and in 1660, they wrote to their President at Surat that they had discussed this point with the Portuguese Ambassadors but "Have found therein very high and exceeding unwilling to part with anything." *

In the meanwhile the situation of the English at Surat had become intolerable, for we find Surat Council writing to London under date 7th December 1661, that unless a place could be obtained placing the Company's Servants out of the reach of the Mogul and Shivaji and render them independent of the overbearing Dutch, it would be more prudent to bring off their property and servants than leave them exposed to continued risks and dangers.†

But the coveted prize was now within the grasp of the English. Under the Treaty of Marriage of 1662 between Charles II and the Infanta Catherine of Braganza the King of Portugal ceded and granted to the crown of England the Island and Harbour of Bombay in full sovereignty.

The authorities at Lisbon afterwards realised the advantage of having Bombay in their hands, for when this news reached India, the Portuguese Viceroy Antonio de Mello de Castro wrote:

"I see the best port your Majesty possesses in India with which that of Lisbon cannot be compared treated as of little value by the Portuguese themselves..... I considered also that your Majesty has no other place to receive and shelter your Majesty's ships and the galleons of your fleet when that bar is closed. The

* *Anglo-Portuguese Negotiations.* p.430.

† *Da Cunha's Origin of Bombay.* p. 173.

English once there and the Island fortified Your Majesty will lose all to the North as they will take away all your Majesty's trade."

He finally suggested purchasing the Island from the English. From a letter of the King of Portugal dated 15th April 1665, addressed to the Viceroy of Goa, an attempt appears to have been made to purchase the Island, but Charles II wanted such a large sum "that they reach to millions." In view of this the Viceroy was asked to remit as much money as he could. In another letter the same shrewd Portuguese Viceroy prophesised; "I foresee that India will be lost the same day on which the English Nation is settled in Bombay."*

Of all prophecies wrote Da Cunha, "which are proverbially dangerous, political prophecy is the most fallacious of all. But the prophecy of the Viceroy Antonio de Mello de Castro has been fulfilled to the letter."†

But the die was cast and Bombay passed into English hands on 8th February 1665.‡

Humphrey Cooke took possession of Bombay on behalf of the King of England and was thus the first Governor of the Island from 18th February 1665, until Sir Gervase Lucas dismissed him and, on account of his mismanagement of the Island and other charges, threw him into prison. He escaped to Goa where he tried to organise a levy to capture Bombay, but failed. He was proclaimed a traitor in 1668.

* Da Cunha's *Origin of Bombay*. p. 247 & 258.

† *Origin of Bombay*. p. 258.

‡ *Anglo-Portuguese Negotiations* p. 466. Dr. J. Gerson de Cunha in his "*Origin of Bombay*" gives 18th February 1645 as the date on which the Island was delivered, p. 257.

In 1661, Bombay was attacked by the Arabs of Muskat who burnt the Governor's house built formerly by the Portuguese so that when the English took possession of the Island there was little more than the Walls left but since it came into their possession it was much repaired.*

On taking possession of the Island Henry Gary wrote to the King's ministers:

"The Port is famous and is very commodious and if the English doo settle there noe question then but His Majesty will reape much benefit by the customes that may bee raised for then all trade of Cambaya and Surat will bee with good management soone drawn thither,"†

It appears from the old records that the inhabitants of Chawl received information about the cession of Bombay two months before the English fleet appeared "at which the inhabitants of Chawl and Bassine murmured saying the King of Portugal did not understand what a considerable place he parted with and that he was deceived by his ministers; therefore they resolved to oppose the delivery of it to the English and for that purpose raised 500 men."‡

In another letter Gary wrote that on hearing that the Island was not delivered to the English the inhabitants sent a Brahmin to Sir A. Shipman that if he would appear before the Island they would deliver the Island to him without the loss of a single soldier only on condition that they and their children may be free and not treat them as

* *English Factories in India.* 1661-64 p. 132.

† Ibid

‡ Ibid. p. 135.

serfs as the Portuguese did by depriving them of their religious liberty. *

Sir George Oxenden who sailed from England on 7th March 1662, arrived at Surat on 19th September. On his arrival in Bombay he reported:

"The whole trade may in a short time bee drawne thither and Bombaim become the scale of India, the Bay and Harbour being very commodious and faire, that there is now no need of pillotts but ships of any burden may goe out and in at midnight. Besides the countrey people being soe slavishly used by the Portugalls uppon civile treatment would resort thither, for they are much more affected to us than (to) their ould master."†

In his letter to London of 16th February 1665, Henry Gary wrote :

"My endeavours at present being to draw hither as many merchants (Banians as well as Moores and Persians) as possibly cann from Suratt, Cambaya Ahmadavad, Boroach, Div, Thanah etc, other places unto whom if His Majesty will grant liberty to build them Pagodas and Mosequitos to exercise theyr religion publiquely in noe doubt then but this will be made a very famous and opulent port."‡

But though for many years the English desired to possess Bombay yet when it actually came into their possession its value remained for a while hidden from the penetration of their statesmen, the practised eyes of their naval and military commanders, and the keen avidity of their enterprising merchants. Its retention was considered

* *English Factories in India, 1661-64.* p. 144.

† *Ibid* 1665-67. p. 43.

‡ *Ibid* p. 51.

scarcely worth a struggle, and the question whether it should be given back was actually debated. Even the Dutch historian of the age (Baldaeus), a shrewd and accurate man, considered that this possession was worthless.*

Many disputes arose between the English and the Portuguese as to what constituted the exact limits of the Island of Bombay, whether Mahim formed a part of it and whether Salsette was also included in it, but it is enough for this purpose to note that though what the English received was a tiny little fishermen's hamlet yet it turned out to be a fountain spring from which much of the British Indian Empire arose.

On 23rd September 1668, the Island passed into the hands of the East India Company by the Charter of 27th March 1668, being delivered by Capt. Henry Gary on behalf of the King to John Goodier, Streynshan Master and Cotes, Members of Council at Surat on behalf of the Company. According to the author of the *English Factories in India* it was delivered to Goodier and Henry Young on 23rd September 1668.†

* *The English in Western India.* p. 107-8.

† Bruce's *Annals of the East India Company.* Vol. II. p. 257.

CHAPTER II

Indian Shipping And Shipbuilding

The subject of Indian shipping and shipbuilding has been exhaustively dealt with by Prof. Radha Kamud Mookerji in his monumental work "*History of Indian Shipping*." The author states :

"It has been established that shipbuilding was carried on in very early days in India, that Indians traded in those days with Arabia, Egypt, Africa and Rome, by vessels built in India. It is a historical fact that shipbuilding was an extensive industry in ancient India and it has equally been established that Indian Teak vessels traded to Africa and it is claimed, went as far as Mexico."

In an article in the publication "*India*" of March 1929, contributed by R. J. Wilkinson, it is stated :

"When the English first set their feet in India ship-building was in a flourishing state. There was a time when India possessed a large and active marine of her own. Ships were made in India and manned and navigated by Indian Sailors and were sailing the Indian and Pacific Oceans in the centuries when the very existence of the country was almost legendary in the Western hemisphere."*

The ancient shipbuilders, as pointed out by Prof. Mookerji, had a good knowledge of the materials as well as the varieties and properties of wood for shipbuilding.†

In the third century B.C., shipbuilding was a very flourishing industry giving employment to many and the

* *Indian Review*, November, 1922.

† *Old Company Trade* by W. H. Coates p. 45 & 94.

stimulus to its development must have come from the demands of river and ocean traffic. When Alexander invaded India he made full use of Indians in building large numbers of boats he required to effect his passage. Interesting details are given by Pliny of the shipping and navigation of this period.

The palmy days of this art continued during the age of the Guptas and of the Andhras of the South and Kushans of the North. And the 10th and 11th centuries witnessed considerable maritime activity under Chola Kings, as described by Prof. Mookerji:

"Marco Polo (A.D. 1292) gave important and interesting details regarding Indian Ships and Shipbuilding which are worth reproducing. According to him the ships that were employed in Navigation were built of fir-timber, they were all double-planked, i.e., they had a course of sheathing boards laid over the planking in every part. These were caulked with oakum both within and without, and were fastened with iron nails. The bottoms were smeared over with a preparation of quick-lime and hemp pounded together and mixed with 'oil procured from a certain tree which made a kind of unguent that retains its viscous properties more firmly and is better material than pitch'."*

Besides describing the construction of Indian Ships, Marco Polo gives details of their size, form, fittings and the mode of repairing. He saw ships of so large a size as to require a crew of 300 men, and other ships that were manned by crews of 150 to 200 men. These ships could carry from five to six thousand baskets or mat bags of pepper, a

* *History of Indian Shipping.* p. 191/3.

method which is still used to indicate the size and tonnage of these country vessels...The larger vessels usually had a single deck. The space below deck was divided into as many as sixty small cabins, varying in number according to the size of the vessel and each afforded accommodation for one merchant. Some ships of the larger class had, besides the cabins, as many as thirteen bulkheads or divisions in the hold, formed of thick planks rabbeted into each other, their object being to guard against accidents which might make the vessel spring a leak. The compartments or holds were let to the merchants who travelled with the vessel. When the vessel was in need of repair, the practice was to give her another course or sheath over the original planking thus forming a third course. This was repeated in case of necessity even to the extent of six layers, after which the craft was condemned as unserviceable.*

In the 14th century Friar Odoric gave an account of a voyage across the Indian Ocean in a ship that carried full 700 people. This gives some idea of the capacity and maritime skill of the Rajput sailors of Gujrat who could successfully manage such large vessels.

Necolo Conti, another traveller in the earlier part of the 15th century, has given some interesting details about Indian shipbuilding. He stated:

"The natives of India build some ships larger than ours capable of containing 2000 butts and with five sails and as many masts. The lower part is constructed

* *History of Indian Shipping.* p. 191/93.

† *Ibid.* p. 194.

with triple planks in order to withstand the force of tempests to which they are much exposed. But some ships are built in compartments that, should one part be shattered, the other portion remaining entire may accomplish the voyage."^{*}

During the latter part of the 15th and first half of the 16th century, there are records of considerable maritime activity carried on on the western coast of India. Till the arrival of the Portuguese (A.D. 1500-1507) the Ahmedabad Sultans maintained their position as lords of the sea. The Ahmedabad Sultans had their own Navy. In 1429, a fleet of 17 vessels was despatched to recover the Islands of Bombay and Salsette from the Brahmani King. During the same period, the Raja of Visalgad on the western coast built up a naval force of considerable strength and until his activities were subdued harassed the commerce of the Musalman Princes. The King of Gujrat also maintained a large fleet to subdue the pirates who infested the coast. There were engagements between the Portuguese fleet and those of Gujrat and Cambay in 1527 and 1528 and again in 1546. In 1584, the Portuguese were defeated by the Pirates of Goa who had organised themselves into a force practising guerilla warfare and preying on seaborne traffic.[†]

Calicut also developed in the 16th Century into a great centre of commerce and seaborne trade. The foreign traveller Verthema gave details of the materials they used in building their ships and their methods which are of interest:

^{*} *History of Indian Shipping* p. 199.

[†] *Ibid.* p. 200 & 202.

"First they make their ships such as are open, each of 300 or 400 butts. They do not put any oakum between one plank and another but they join the planks so well that they keep out water excellently. They then lay on pitch outside and put in an immense quantity of iron nails. They also possess as good timbers as ourselves and in greater quantity than with us. The sails of these ships are made of cotton and at the foot of the said sails they carry another sail and they spread this when they are sailing in order to catch more wind. So that they carry two sails where we carry one. They carry anchors made of marbel, that is, a piece of marbel eight palmi long and two palmi every other way. The said marbel has two large ropes attached to it and these are the anchors."

At a number of places on the west coast of India shipbuilding was carried out in the 16th century, notably at Agashi, which had a large dockyard, Chaul, Dabhol, Diu, Daman, Bassein and most places where supplies were available as well as in other parts of India; but of all Bassein ranked according to Capt. Sir E. J. Headlam, R. I. N. * as one of the oldest of the shipbuilding ports. It was the chief port from which timber fit for building ships was exported.

*Note: Capt. Headlam had, with a view to writing a short history of Government Dockyards at Bombay, written a monograph, but for want of time had not completed the manuscript. When I saw him in connection with the present work and requested him to give such help as he could, he placed a file containing the MSS at my disposal. He most willingly gave me permission to make any extracts and to use the manuscript which contained a few plans of the Docks, flags etc. A few extracts were copied from it and the MSS was returned to him. After his retirement when he was approached by Mr. N. Lishman to allow us to make use of the MSS, it was stated that it was in the Bombay Navy Office. Unfortunately this manuscript has not been traced and all we are left with of his important work are the few extracts taken at that time and which have been incorporated in this work.

Ships built at Surat and Dabhol were frequently of over 1,200 tons burthen; English Ships of that age (1611-12) were of from 300 to 350 tons.

The same authority states, "It is difficult to assign a date, when the Bombay Harbour itself was first used as an anchorage; it may however, safely be assumed that it was utilised by native craft prior to Portuguese occupation."

In 1531, the Portuguese Viceroy Nuno de Cunha, presumably recognising these advantages, selected Bombay as a rendezvous for the expedition he commanded against the Mohamedans, and the "Bay" was used as an anchorage for European vessels for the first time. A little later he took possession of the Island, for immediately following this date the Portuguese commenced fortifying the place, evidence of which in the shape of foundations is frequently met with during excavations on various parts of the Bombay fore-shore.

Capt. Headlam* further states:

"There can be little doubt that the present position of the Dockyard, Fort, and incidentally Bombay itself, was originally determined by the existence of what was formerly called "the Bay" which in those days formed the only anchorage for small vessels near the Peninsula or Island which afforded any protection whatever. This "Bay" is at present hardly recognisable, having been altered very materially. It comprised what is now the lower parts of the old Bombay and Duncan Docks a part of the wet Basin, the Customs Basin and the waters included in the area bounded on the North by Bombay Castle Point and on the South by the Ramparts which terminated at the water's edge close to the entrance gate of the Lower Bombay Dock. The close proximity of an anchorage with shores adapted as a

* Capt. Headlam's MSS p. 3/4.

landing place and requiring little artificial aid for the operations of shipbuilding and launching and also careening the small vessels of those days would at once appeal to a Navigator as it did to Nuno de Cunha in 1531."

Continuing to quote Capt. Headlam:

"The site of the present dockyard was, therefore, from the earliest days of Portuguese occupation until they handed over the Island in 1662, and subsequently during the period the East India Company ruled in India, the centre of both their naval and commercial operations, the anchorage extending onwards into deeper water as vessels increased in size, as latterly the commercial element has moved up the Harbour and provided for itself suitable Docks and Basin with convenient anchorages adjacent. In an old map dated November 1750, the old place of riding for ships in winter during the Monsoon is marked near Thana while there is said to be 'safe riding' between the Butcher's Island and the Island of Elephanta."

Before the acquisition of Bombay by the East India Company, Surat was the only place where the Company could have their ships repaired and built, though we find that in some cases they had their ships built at other places also. For instance, in 1635 as a result of the truce between England and Portugal in the East, a convention was entered into at Goa between the two Governments as a result of which two Pinnaces were to be built at Daman and two at Bassein. At Daman, however, ships of 800 to 1,000 tons were teak-built upto the early decades of the 19th century. *

* *History of the Indian Navy* p. 51.

CHAPTER III

The Indian Navy

Before proceeding to trace the history of the Dockyard at Bombay it will be of interest to refer shortly to the history of the Bombay Marine—subsequently known by the name of the Indian Navy, until its abolition in 1863, and thereafter until the present day.

It was in 1612 that Capt. Best with his squadron encountered armed opposition from the Portuguese and in this first encounter he gave defeat to them.

From this encounter and from the annoyance caused by pirates, the English resolved to maintain a small fleet of grabs and gallyvats mounting from two to six guns at Swally (near Surat). This was the beginning of the Bombay Marine. This small force proved of the greatest strength to the English within a very short period, as it successfully fought the Portuguese fleet in the Swally waters and as a result of which the Mogul authorities, who were constantly in dread of the Portuguese fleet helped the Company—in the words of Capt. C. R. Low, the author of the "*History of the Indian Navy*" in gaining their earliest privileges in Western India through the skill of their Naval Officers and the valour of their Seamen.*

This small force had rendered unique services. It not only had to fight the Portuguese, the Dutch and the French, but was also constantly employed against interlopers and privateers of all nationalities, besides rendering very

* For the description of grabs and gallyvats, see *History of the Indian Navy*. Vol. I. p. 16-17.

important services in convoying merchant ships on the coast and away. And it must not also be forgotten that the officers and ships of this service played no mean part in surveying the Arabian and Persian coasts and the coast of India, a duty the service carried out continuously throughout its history and still does.

The name of this force was the Honourable East India Company's Marine from 1612-1686. Thereafter it assumed the name of the Bombay Marine and as such continued to be known till 1830, when it came to be known as Her Majesty's Indian Navy until 1863. In that year it again assumed the name of Bombay Marine by which it was known until 1877. After that year until 1892 it was known as Her Majesty's Indian Marine. It then assumed the name of the Royal Indian Navy. With the inauguration of the Republic of India the prefix Royal was dropped. This represents the longest uninterrupted Naval History in the world, longer than that of the Royal Navy.

CHAPTER IV.

Docks & Shipbuilding in Surat

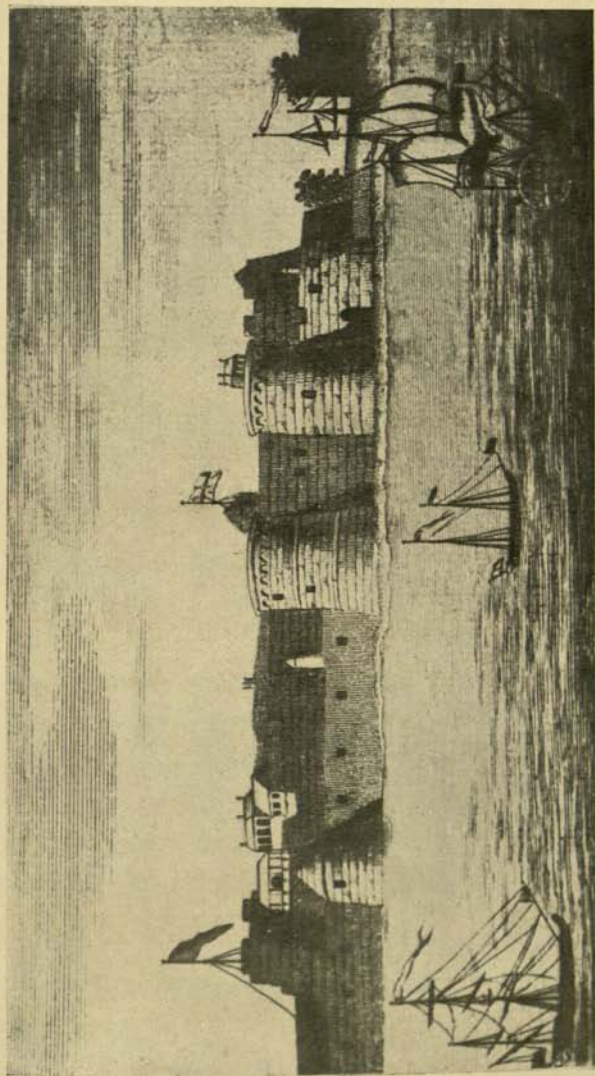
Very little is known of shipbuilding and docks at Surat. Both the *Imperial Gazetteer* and the *Bombay Gazetteer* give very little information. There is no doubt that docking facilities existed at Swally (Sumari), some twelve miles away from the city and the *Bombay Gazetteer* (Vo. II pp. 146 – 147) gives the following details of these places:

“The yards were places like graving docks, hollowed out on the bank of the river. While the ship was building, these slips were closed towards the river by an earthen dam. When the work of the building was completed, the dam was taken away and the water coming in floated off the ship.

There is clear evidence of shipbuilding and repairing activities at Surat from very earliest times and the Moghul Emperors of Delhi had all their vessels built there.

With the arrival of the English on the coasts of Western India, their first need was a place to careen, repair and refit their ships. This was undoubtedly carried out at Surat and in later years new ships were also constructed.

In letters from Richard Blyth and others at Swally to the President and Council at Surat (1626), they stated that they have careened the “*Primrose*”, and done their best to make her tight and serviceable but with little success. They request the Council’s opinion whether, if brought to Surat, she could be sheathed by the “Country Carpenters, she being a new shipp only spoiled with the worme, soe



A View of Surat in the East Indies.
See Page 22

that to make her fitt for any service she must be new plancked from the keele upwards." They think this might well be done, "the Dutch building at their own pleasure" otherwise she must be pulled to pieces, "whereby the Company shall receive prejudice, shee being such an excellent mowld that the eye of man hath not commonly seen a better."*

The next reference is in 1644:

"We caused the ship (*Hopewell*) 5th February to be grounded upon Swally sands with an intent to chunam her † it being an extraordinary preservative against the worme, but the weather turning bad, she was so beaten against sands that she became leaky. She was, therefore, taken into the Surat River found defective in hold to be thoroughly repaired if the Carpenters consider that the result will be worth the expense."‡

There are numerous references to careening and repairing the Company's Ships at Surat. In December 1645, "The *Sea Horse*" was overhauled in the river of Surat," and there are a few more references to the ships being careened and repaired there.

* *English Factories In India* 1618-21 p. 314.

† About this practice of giving a coat of chunam, the editor of *English Factories in India* writes as under: "Mr. T. Avery, Chief Constructor at Bombay Dockyard informed me that the practice of daubing chunam or lime on the bottoms of wooden vessels is still in general use on the western coast. The lime is mixed with gingelly oil and gum sundrac and then smeared thinly over the planks. It hardens well in a day and becomes ultimately like stone; thereby preventing the toredo navatis getting at the wood and boring holes in it."

Mr. N. Lishman states: "In the Persian Gulf it is the practice to pound coral into the hull forming a solid coating impervious to the toredo, a worm that has been known to eat into concrete, so tough are its mandibles."

‡ *English Factories in India* 1642-45 page 248.

It is recorded that the ships of Sidi's navy were also built at Surat, by orders of Aurangzeb.*

Hamilton in his "*New Account of the East Indies*" states that in 1683, "the Dutch factory at Bantum in Java and the English having a mind to regain it by force of arms built several ships between 60 and 70 guns so that in 1685 they had a fleet ready victualised and manned with 7 or 8,000 men to the number of 23 Sail of Line of Battleships and they were all built by the Company at Surat."†

Ships built at Surat were also known for durability and strength and Mr W. H. Coates in his work "*The Old Country Trade of the East Indies*," has given some instances of such ships.

The shipbuilders at Surat were mainly Parsis. Unfortunately nothing is known of these men but there is reference to one Khurshed to whom the construction of a vessel was entrusted on behalf of the Bombay Government in 1672. No further reference to Parsi shipbuilders has come to our notice except the one seen above. We know from Surat diaries that when Lowjee was requested to come over to Bombay he did so with the permission of the Head Builder, Dhunjibhoy.‡ There are also references in the works of several travellers viz., Alexandra Hamilton, James Forbes and others that one of the chief occupations of Parsis in Surat and other places on the western coast was shipbuilding and that they were excellent shipwrights.

* *English Factories In India 1671-77* New Series, p. 55.

† A. Hamilton's *New Account of the East Indies* p. 201.

‡ According to the author of the *Parsi Prakash* (vol-I p. 32 note) Dhunjibhoy's ancestors were also Head Builders in the Surat Dock and the family was known as Sahavora.

CHAPTER V.

Development of the Bombay Dockyard

The advantage of constructing a dock at Bombay was recognised by the English from their earliest connection with the Island because of the wide range of its tides, and to the close proximity of an anchorage with shores suitable for landing places and requiring little artificial alteration for shipbuilding operations and the launching and careening of the vessels of those days; a fact that was observed by the Portuguese before the arrival of the English.*

From the commencement the Court of Directors in London were desirous of seeing Bombay a port "for the importation and exportation of goods and persons to and from Persia, the Red Sea and other places and encouragement to the trading merchants to inhabit there" reads their letter of 27th March 1667.†

In their despatch to Surat of 10th March 1668, they wrote:

"We would have you consider of some place near the Town or Castle where a convenient dock or haven may be made (where the water comes deepest to the shore and that it may be digged at an easy charge) wherein our ships may be secured from the assault of an enemy that if any attempt should be made they may also lie as to be defended by our fortifications," and they further desired a crane to be built for the better accommodation of merchants in landing or loading of goods.

* Capt. Headlam's MSS

† India Office Papers Volume II 1664-67 p. 104.

In their letter of 24th August 1668, to Surat the Court expressed their desire that the Castle be enlarged, that a harbour with docks be constructed and an armed vessel of about 180 tons was to be stationed at Bombay for the protection of the Island and of its trade.*

These instructions had crossed a letter of the Surat Council in which it was stated: "We find that with an easy charge we may make a mole and a dry dock or two here which will be of great advantage to us," and they added that they required the services of two or three Engineers.†

They also informed the Court that the small bay was being cleared of rocks between the Fort and the Custom House so that they "shall make it a harbour for shipping and will be a place of great security for them." This is the "Bay" referred to by Capt. Headlam.

The following extract from the *English Factories in India* will be of interest:

"Captain Warde, Commander of the "*Constantinople*", doth affirme that he saw a very convenient place where wet and dry docks may be made at a small charge and that all things suites for the conveniences, the situation of the place, the mould and the rising of the tides."

Goodier in his report to the Surat Council wrote that a mole and a dry dock or two might be constructed and these would be very useful and a little later it is reported

* Bruce's *Annals of the East India Company* II p. 226.

† Ibid p. 241.

that the "*Chestnut*" pink was already in great part repaired and the work was being hastened. *

The Bombay Council again complained about the depredations committed by the Malabar Pirates who had "taken away their vessels and our fishermen in our sight" and therefore asked Surat authorities to have "two or three small good nimble vessels" to protect their trade.

Sir George Oxenden arrived in Bombay on 5th January 1669 and stayed for a month, at the end of which he issued a number of regulations for the administration of the Island. In a letter dated March 1669, to the Court, the Deputy Governor and Council at Bombay stated that the trade of Bombay had been so much exposed to capture by Malabar Pirates and the armed boats of Shivaji that it would be necessary to construct three small armed ships to protect the trade of the Island and to serve as convoys to the trade with the Gulfs of Persia and Arabia.†

But as befitting merchants, the Directors took care to write to their servants in India:

"In our last year's we have given encouragement for a dock or haven which you say in yours may be conveniently done, but before you go in hand with it we do desire you will thoroughly advise with the Commanders and those which have experience that the charge may not exceed yours nor our expectations and that when it is done, it may fully answer the end." ‡

* *English Factories in India, 1668-69*, p. 61-64.

† *Bruce's Annals of the East India Company*, II, p. 243/44.

‡ Vol. III, London to Surat D/16-2-1670, p. 106.

Two years later Gerald Aungier left Surat on 21st May 1672 and arrived in Bombay on 7th June, where he remained for three years. In his letter to the Court of 12th July 1672, he wrote:

"We are told to assure your Honours that when it (the Port) is finished according to the model prescribed it will not only be sufficiently fortified at small charge against the most potent enemy we feared but also be the most pleasant spot of ground in all India for the extent of the place..... We have also staked out a place for a mole for shipping wherein we hope there will be room enough for 20 sails or ships between 300 and 400 tons to lye under the command of your guns."*

Aungier's long letter of 15th December 1673, gives a detailed report on the condition of the Island which is of great interest; in this document he refers to it as follows:†

"The Island is happy in severall Bays and Havens for shipping, for their security against the violence of the Sea and weather, as also in Docks to hale them ashore, to clean and repaire them, together with very convenient places to build and launch shippes and vessells from 400 to 40 tons burthen. The great Bay or Port is certainly the fairest, largest and securest in all these parts of India, where 100 saile of tall shippes may ride all the yeare safe, with good morage, the Bay being land locked against all winds but the South, and by west, and South West, which though it blows violently in the raine times, yet for these two yeares past ships of 400 tons have wintered, one against the Fort continuing afloat all the raines. In the small Bay to the northward of the Castle, ships of 400 tons have bin haled ashore to repaire, there being 15 foot

* Home Series (Misc) Vol 48.

† Aungier's Report B. B. R. A. S. Journal Aug. 1931. p. 32.

water at the Springs, but this Bay hath bin almost spoiled by the improvidence of those who first began to build the Fort, who broke the rocks which kept of the violence of the Sea, and carried away the stones to the Fort, whereas they might have had them cheaper out of the ditch and mote: this evill we are endeavouring to remedy by casting more stones there to keep of the Sea, and secure the ships, which will be a worke of time. In the lesser Bay to the Northward of the Fort ships of 300 tons may be haled ashore, to repaire and lye dry. At Mazagon ships of 200 tuns may be haled ashore, also at a place called Drungo* there is an excellent Bay where 50 saile of 200 tuns a paece may winter and repaire very safely. For small frigatts, † Gorabs‡ and other vessells there are very many places, insomuch that if there were 500 saile or more of them, there would be roome enough for them to ride either afloat or hale ashore with safety, soe that the Island (is) as it were by Providence appointed a mart for trade and shipping to which we pray God grant increase."

But the mercantile instinct of the Directors was against the expenditure incurred by their Bombay Servants and in reply they wrote in their letter of 5th March 1674, blaming them for the moneys they spent and preached a sermon that they were not to follow those Princes "who have

* This is possibly a corruption of Trombay or Trumbay as it was sometimes spelt. The substitution of D for T is easily explicable: thus Salazette was sometimes spelt "Salzede." The termination "go" instead of "bay" may be due to the fact that Trombay was then also known as "Baragaon" or Baragone", so Trongo or Drungo may have been a composite variation. This suggestion is supported by Fryer's Map of Bombay, which shows "The Riding Place for Winter" near Trombay.

† Originally a light and swift galley for river work.

‡ Generally called 'grabs', small vessels used by corsairs.

great rule and Government and have nothing else to do but to maintain themselves and their own greatness thereby or as some traders who are too apt to spend their estates in making a great show that signifies nothing but thereby bring reproach upon themselves. Whereas our business is to advantage ourselves, by trade etc. etc.", but at the same time they added that "for the convenience of the Haven and Docks they hoped that they will improve them to their best advantage."

In their letter dated 24th January 1676-77, Bombay Council wrote to London showing the advantages Bombay had over Surat:

"Whereas Bombay lies in an excellent latitude for the whole trade of India and is a most excellent harbour, winter and summer, which is a great inviter of merchants and for a small charge wee will run up a stone causeway from the Fort allmost to the Mint without, in which ships may at any time ly ashoar, carine, and mend, or ly there the whole yeare with as much safety as in a Dock.....upon our landing of Europe goods here, merchants would easier be perswaded to transport them from hence then from Surat and though the same Custome was taken at landing them on the Maine as at Surat, yet all that was transported in shipping to forreign parts would be so much custome gained to your Honours but these are happineses in posse and to be prayed for."*

But it appears from a letter dated 30th August 1686, written by Bombay Council to London that no dock to carry out big repairs had been completed until then as they pro-

* *Farrest Selections, Home Series* Vol. I. p. 121.

posed sending the ship "*Ffaulcon*" to Surat for repairs. In their letter to London dated 29th December 1686, they wrote:

"A dry dock for the refitting of shippes will be of great use here and may be easily made. This your Deputy Governor Sir John Wyborne does believe may be of great use and profit to your Honours and indeed so it must for all shippes in these seas, when they know of a Dock where they may lye dry securely, will come to clean and repair their shippes. The shipp "*Ffaulcon*" had not left her bones here, had there been a Dock."

From this it appears that this ship must have met with a mishap before she could get to Surat for repairs.*

In reply to this, the Directors once again expressed their desire that Bombay should be made as strong as possible with all facilities for repairs to ships, and in their letter of 3rd August 1687, they wrote:

"Let no time be lost nor money spared in making Bombay as strong and defensible as you can and to be fitted with all conveniences and materials for building and repairing of ships according to our often repeated orders to that purpose. Delay not making a good dry dock and drying drowned lands if our General be satisfied it can be done at a charge that will be repaid us in revenue within 7 or 8 years as we hope it may in a short time since land in that place will certainly be worth double what it is now when our whole trade and shipping is entirely fixed to that place and it be made defensible against any enemy as we would have it whatever it costs."

* Forrest Selections Home Series Vol. 1 page 149.

They again referred to the subject in their letter of 15th February 1688-89.

"Your resolution to build a Dry Dock at Bombay is most acceptable to us who do not think ourselves born merely for enriching of ourselves or the Company singly though that be a National interest, but more largely for the good of posterity and the Nation in general, it being great pity that this Kingdom hath been so long deprived of such a place of their own as Bombay is and of such a conveniency, therein as a Dry Dock whereby to repair securely and grave these ships."^{*}

These instructions were followed up in their next letter dated 27th August 1688: "If you can make our Dry Dock tight with stone and chunam, it is certainly the very best way..... and we shall not grudge the charge and say again let it be no longer delayed."[†]

They again reverted to this subject in their letter of the 11th September 1689, and ordered, the Bombay Council to proceed with the work:

"To do everything else that tends to the strengthening of security of the place or to the aid, ease and safety of shipping..... it being one of the greatest goods we are capable of doing in our generation for posterity to make such provision that English shipping may have on each side of India one wherein they may as securely and conveniently build or repair any sorts of shipping as in the River Thames; for which end we have done and said and spent and are willing to spend all that is needful for the good of our common country."[‡]

* Home Series, (Misc.) Also Bombay Records Vol XI page 63 & 69.

† Bombay Records Vol XI page 116.

‡ Home Series (Misc.)

After receipt of these positive orders the Bombay Authorities appear to have completed the Dock by 1693-1694, and the Bombay Council wrote to London under date 11th February 1695, asking them to "issue orders to all English ships that winter on this side of India to repair to this port and in neglect thereof to deny them protection." Mr. S. M. Edwards in the *Bombay City Gazetteer* (Vol. III, page 266 Note 2) remarks that upto 1704 the arrangements for repairing ships were described as "wretched" but they were somewhat improved under the auspices of Sir Nicholas Waite between 1704 and 1707.

In 1711, in their letter of the 17th April, the Court of Directors wrote, with reference to Bombay's proposal about having a dock, that if that work was to be carried out, it should be done early and added :

"We would have you consider of it and where you might best make it completely good and fit to take in one or rather two ships and let us know it with your opinion therefrom for our final decision. We are not willing you should have too much work upon your hands at once, but would rather see the most necessary first concluded. Still we believe it would be a great benefit to the owners and us, that their ships should be new cleaned and graved before they return for Europe, as it would contribute to the shortening of their passage, and by the better coming at any defects in the hull, would preserve their cargoes from damage."

But it seems nothing came out of it. *

* Campbell's *Bombay Gazetteer* Vol XXVI P. 196.

On 22nd March 1721, the Bombay Council wrote to the Court :

"Your Honours being yearly at a very great expense in Marine for building sheds for housing the stores of the several vessels lied up in the rains and which being cadjanned * are liable to be destroyed with fire we have proposed for the security and convenient keep of all the Marine Stores in general to build a Marine Yard on the ground now employed for that purpose with a range of warehouses from four hundred to five hundred feet long and convenient tiled sheds for the lodging of masts and yards and for the work of the carpenters and sawyers and also a proper office for the Master Attendant and it is now proposed to carry out the casemated bastion to join the Mole Wall, as Your Honours will perceive by the enclosed plan, the charge of the whole we compute will come within six thousand rupees and what we judge a very necessary expense, which by its convenience in a short time will be saved."†

From this letter it appears that upto this time no provision whatever had been made for a dockyard and necessary work was carried out in the open or under cadjan sheds. There was, it appears, ample space on the shores at the bay under the command of the Castle to careen and repair vessels but the Company had no organisation to carry out repairs to its shipping.

Thus fifty years after Aungier's report Bombay continued to remain without a proper dock.

The next reference is found in 1723, when the Bombay Council submitted with their letter dated 8th

* Cadjan—a thatch made from palm fronds.

† Bombay Letters Received Vol. I.

November, a plan prepared by Capt. Elias Bates for a wet and dry dock:

"Not with expectation Your Honour will immediately consent to so considerable an undertaking but to lye before you for your consideration to be attempted in making one or both at a time when this settlement being less burthensome shall become more agreeable to Your Honours. It is the general opinion here there will be little occasion for a wet dock but that a dry one would be of great use and might be completed as laid down in the draft for about 20,000 or 30,000 rupees."^{*}

The following entry appears under date 11th August 1734:

"We are now finishing the proposed offices in the Marine Yard and the Carpenter's Yard between Mr. Bradyll's house and the Moody, two hundred thirty eight feet and one hundred fifteen feet broad with a slip to the sea for the convenience of landing and housing timber or anything else."[†]

In 1735, the present site of the Dockyard was occupied by Marine Officers' Quarters, Seamen's Quarters, a jail (the latter on the site of the Old Marine Office demolished in 1944) and other buildings. There was also a public thoroughfare through the Yard. In 1750 Grose's Map of Bombay[‡] shows the Bander Pier projected from the Bander House or Company's House as it was sometimes called. This was situated somewhat nearer to the Dockyard than the existing Old Custom House which dates from 1802. This Pier was the principal and official landing place, and is that portion between the present Dock-

^{*} Bombay Letters Received Vol. 1.

[†] Ibid Vol. 1 a

[‡] For Map see p. 16.

yard and Customs Basins, but of course somewhat altered. Next to the Bander House towards the Dockyard was the house of the Superintendent of Marine, the Marine Store House and quarters for the Marine Paymaster. This latter house was bought in 1720 from Capt. Ingram for Rs 3,300 "as it was very convenient for keeping naval stores and as an office for the Marine Paymaster." These houses were situated near the site of the present Customs Godown and the old Government Central Press, demolished in 1916. The General Hospital came next and occupied a part of the site of the present Opium Warehouse, and a portion of the northern end of the Marine Stores. The Doctor's House within the Hospital was situated at the northern end of the present Marine Stores. This formed the northern boundary of the Dockyard. A long wall came next containing the main gate and continued nearly to the Apollo Gate and formed the western boundary. Part of this wall from the main gate existed upto 1884. The Apollo Gate of the Ramparts with its draw-bridge was situated near the present entrance to the Director's Residence. From the Apollo Gate the Ramparts formed the southern and remaining boundary of the Yard extending about east south-east to the Royal Bastion. From the Royal Bastion the Ramparts trended about north-east by north and ended at the shore, near the entrance to the Lower Bombay Dry Dock. The Ramparts forming the boundaries disappeared when the general demolition of the Ramparts of the Fort took place about 1862-65. This last portion of the Ramparts was demolished in 1894. Built into them and situated near the

gate of the Middle Old Bombay Dock were two curious old dungeon-like caverns, formerly used for storing ammunitions for that part of the fortifications; latterly they were used for storing tar, pitch and other inflammable substances.

The principal entrance to the Dockyard until recently was the main gate which may be classed as one of the historical features of Bombay. Grose in 1750 mentions having "entered the Dockyard by the gateway opposite the old Court House." The gate must, therefore, have been in existence prior to 1750 but the rooms above and the Clock Tower are not so old, but it is certain that they were built prior to 1798, as from old papers in the Marine Office giving valuation of Dockyard buildings it mentions "Comptroller of Marine Office under the Clock Tower above main entrance." Through this gate passed the Duke of Wellington (then Sir Arthur Wellesley K. C. B.) in 1801 when inspecting the refit of the expedition proceeding to operate with the forces despatched from England for the invasion of Egypt.

If the old gateway could write its own history the scroll would certainly not be lacking in interest. It would divulge the names of many distinguished Governors and other personages who had entered to see the wonders of the Marine Yard and to assist at the ceremonies of launching. Possibly, it would describe the embarkation of Clive when proceeding to capture Angria's fortress of Gheria, and in conjunction with the name of Wellington, England's greatest Naval Hero also. For it is more than mere probability that it would recount the doings of a small midshipman belonging to H. M. S. "Seahorse" passing to and fro within

its portals, unconscious of his brilliant future, the immortal Nelson. It is proved beyond doubt that Nelson visited Bombay at least three times during his Naval service in India, twice in 1775 and once in 1776. This period appears as a blank page in all his biographies, and for how long on each occasion he remained in the East Indies will probably be never known. As Bombay was the only place possessing a dry dock in the East during the three years the "*Seahorse*" served, she must have unquestionably occupied the dock for purposes of cleaning.

This Gateway contained on the ground floor, Guard Rooms for the Police of the Dockyard. The rooms above were originally the Office of the Comptroller of the Dockyard, but when in 1848 the Indian Navy was transformed into a Steam Service, the Steam Department was organised and a large number of Europeans and Indians were specially trained in the Yard. To assist them in their engineering studies, a Mechanics Institute was formed, and its first Offices were in the rooms over the Gateway. Its library was later taken over by the Sassoon Institute and Library where these volumes are still preserved.

Afterwards, the quarters were handed over as a Dockyard Dispensary. This dispensary was, however, shifted to its present quarters near the Saw Mills in 1898 and the Warden of the Dockyard has occupied the quarters over the Gateway ever since.

On the 3rd January 1749, the following entry appears in the proceedings :

' Considering that a dry dock at this place capable of receiving a ship of 50 guns would be extremely useful

for cleaning and repairing ships belonging to the Hon. Company or private traders and thereby bring many advantages to the Island particularly in respect of trade and most branches of the revenues, the charges of which by computation would not exceed five thousand and which will be soon reimbursed by collecting a duty not yet agreed upon on all ships that make use of it; of all which the Board being very sensible and likewise well assured that there are many private persons who would gladly take it upon themselves for the advantages, it is agreed that the same be undertaken on the Hon. Company's account borrowing money of the Bank for the amount for which a distinct head is to be kept in the books.

Directed, therefore, that such timber and plank as may be wanted for the gates of the Dock be indented from Tellichery."⁶

The Dock was completed by July 1750, when the Bombay Council fixed rates for docking etc:

"The Dry Dock ordered to be set about at this Presidency being finished the rates to be paid for all ships and vessels that go into it are now settled viz. Rs. 150 for the first spring and Rs. 100 for every spring they remain in it afterwards."[†]

Lowjee Nusserwanjee, the first Master Builder of the Dockyard, had by this time arrived and had settled down. According to a letter dated 28th September 1810, of Mr. William Taylor Money, the then Superintendent of Marine to the Bombay Government, the site of the Dock-

*Bombay Public Proceedings Vol. XVII.

†*Bombay Gazetteer* Vol. XXVI, p. 197 & Public Department Diary, Vol. XXIII. 1750, p. 269.

yard was selected by Lowjee and it is presumed that the work was carried out under his supervision.*

This Dock, which was the first Dry Dock to be constructed in India is still in use, known as the Upper Old Bombay Dock; it measures 209 ft. in length, 47 ft. in breadth and 15 ft. in depth. It forms the western section of the southernmost of the two Docks, lying parallel to one another, near the centre of the Dockyard.†

In the next year the Bombay Government decided that the heads of the Dry Dock, if carried a little further out, would not only make the Dock more commodious but would provide a means to enable the tides to carry off the silt which then settled in the entrance. As this could be carried out at a small expense, it was agreed it should be done as speedily as possible.‡

This Dock proved such a great success, that the London Court in their letter of 5th April 1754, wrote to Bombay:

"We are satisfied of the great utility of the Dock at Bombay not only as it serves every purpose of our ships but as it brings a considerable trade to the place by repairing the shipping for Bengal and other parts of India but we are acquainted that to render it complete there is still wanting another at the end of it, to form a double one that a ship may be shut up and repaired while the outer dock serves for all other occasions. You are therefore, hereby empowered and directed immediately to proceed upon with all convenient

**Memorial of the Lowjee Family* p. '20. Also Edwards' *Bombay City Gazetteer*, Vol. III, p. 258 Note 4.

†*Bombay City Gazetteer* Vol III, p. 267.

‡*Public Department Diary* Vol. XXIV, p. 44.

despatch to complete a Dock without the present one upon such a plan as you shall judge will best answer the purpose."

"It has been represented to us that the Bunder Pier Head at present runs barely half way to low water mark, which prevents the luggage and other boats landing goods till half flood and that consequently they cannot stay for receiving goods for shipping longer than half ebb. It has been likewise represented to us that another great hindrance to the despatch of business arises from Piers being so short and narrow that when several vessels import together there is not room sufficient to work at the cranes. These difficulties may be remedied by running the same Pier out to Low Water Mark by which means goods may be landed or exported at all times of tide. You are accordingly here directed to set about so useful and necessary a work without delay."

"It has been further represented to us that the Docks and Marine Yard are extremely exposed to all enemies having no security from the Battery Pier to the Fort and that when the Bunder Pier is carried out as mentioned in the preceding paragraph a very small expense will be further incurred in carrying on Piles and running a Boom across from which there will be a double advantage as it will secure the town in that part defenceless and will in a great measure prevent desertion which we are told often happens by Europeans running away with our boats in the night as there is nothing to impede their going out. This, therefore, appearing to us to be a work likewise absolutely necessary you are hereby directed to complete it as soon as you have carried out the Bunder Pier as before directed."*

* Bombay Despatches Vol. I, p. 38.

In October 1754, the Bombay Council resolved to take up the work. In Admiral G. Pocock's letter dated 22nd March 1759, the following occurs:

"Bombay is now a very commodious port to refit our ships and will be better next year. With regard to the Dock, the Superintendent, Mr. Hough, intends to have particular attention to render the Dock further serviceable by next year."

The second Dock, however, was not completed till 1762, and it is stated that this work was carried out somewhat hurriedly. It is now known as the Middle Old Bombay Dock and dimensions are: 183 ft. long, 51 ft. wide and 20 ft. deep. When the second Dry Dock was under construction, need was felt for a third Dock, as appears from the Bombay Council's letter dated 20th November 1760, to London. Due to the urgency of the work, Bombay authorities commenced construction work without submitting any estimates to the Court and without obtaining their previous consent. The Court in London on receipt of this wrote:

"You represent the necessity of having a third Dock, and of your having given order for completing it which you say may be easily made at a moderate expense on account of some contrivances for former works. If the work was so essentially necessary as you assure us, we must acquiesce but certainly you ought not to have ordered it to be set about before an estimate had been laid before you and well considered and indeed you should not have failed to have sent to us such estimate instead of the before noticed loose manner of expressing yourselves as to the expense."

*Bombay Despatches Vol I. Court's Letter dated 6-5-1761.

In the letter dated 10th April 1762, from the Bombay Council to London they stated that Admiral Cornish in a letter to them had urged the necessity of continuing the third Dry Dock as very essential to the preservation of His Majesty's Ships. The Bombay Council agreed to carry out the work as fast as the tides would permit.

The third Dock which is now known as the Lower Old Bombay Dock is believed to have been completed in 1765 and is referred to by James Campbell and S. M. Edwards, in their works; but from Bombay Council's letters of 23rd November 1772, to the Court of Directors, we find that in view of the impending arrival of Rear-Admiral Harland's* Squadron at Bombay, they issued immediate directions to complete the third Dock. This indicates that the Lower Dock was not completed before 1773. This dock measures 256 ft. in length, 51 ft. in breadth and 20 ft. in depth.

In 1767, the Marine Yard was increased in size and in the previous year the Court of Directors were written to, complaining that the Marine Yard was too confined and asking that the Hospital be removed, but a map of 1803, however, still shows the Hospital on the old site hampering the Yard. In 1777, it was reported that the jail and old buildings, inconveniently placed within the Yard and totally unfitted for the purpose, should be transferred to a portion of Fort George. This suggestion was not carried out but a new small jail was built in 1805 at Umerkhadi on the outskirts of Bombay and the jail finally removed from the Dockyard, the place properly enclosed and it then

*Bombay Letters Received Vol. III, p. 46.

ceased to be a public thoroughfare. The roadway is clearly shown dividing these buildings from the Yard in Grose's Plan of Bombay and both the roadway and the jail are shown on the Map of 1803.

In 1778 the Bombay Council appear to have received from London proposals for the improvement and enlargement of the Docks. The matter was fully gone into and in their reply of 29th December 1778, they thought it advisable to have two new docks. Their report was sent to London with their letter of 27th March 1779. In 1781, Admiral Sir Edward Hughes, who had arrived in India with his squadron, submitted proposals for improving the old Docks and constructing two new ones in a long letter dated 24th April 1781, to the Governor, William Hornby and his Council: *

"To,
Wm. Hornby Esquire,
President & Governor & Council of Bombay.

Sir and Gentlemen,

The ready and cheerful assistance which I have received from you in your conjunct capacity as President and Council as well as from each of you in your separate departments of the Company's service, in docking, repairing and refitting His Majesty's Squadron under my command at this very critical period of our affairs calls forth my warmest acknowledgements and I very sincerely thank you, Sir and Gentlemen, not only for your unwearied zeal in assisting me to the utmost of your power in the refit of the squadron under my command,

*Bombay Letters Received, Vol. VI.

but also for the personal attention you were pleased to pay to myself and the officers and men under me.

As you are acquainted with the great utility and even necessity for a squadron of His Majesty's Ships being employed in the East Indies in time of war especially, for the protection of the Company's trade and possessions and as you likewise know that this is the only port in the East Indies where a ship of the line can be docked and effectually repaired, I think it a duty incumbent on my station to state to you such inconveniences as have arisen to me in the course of our late refitting, which no exertion of yours or mine, could at that time remedy or prevent, but which are now in your power to amend, if not only obviate, before the time the squadron will have occasion to return to this port to refit.

The first and indeed most capital amendment I would propose to you is in the present depth of water in the Lower and Middle Docks as from the want of but a few inches more water, 3 line of battleships were neep'd* or delayed, each 14 days longer than was otherwise necessary to keep the ship in Dock. To obviate any such accident in future I beg leave to point out to you the best and most effectual means that occur to me to put the Docks and Marine Yard in such a state as to be able to afford a sure, speedy and effectual refit to His Majesty's Ships for which purpose I would recommend that you set about deepening the Lower and Middle Docks with all expedition, which I am assured by good authority may be done at least from 12 to 18 inches and both Docks to be on the same level which will be attended with the greatest advantages as it would give time for putting two ships into

*Neeped means tide bound—prevented by the low tides to leave the Dock.

the two Docks on the same tide, as well as give a positive certainty of docking and undertaking the line of battleships whenever they are in a condition to dock, or undock, a defect severely felt in the present state of the Docks.

On building the two new docks abreast of the present Lower and Middle Docks, as recommended to your Board in the report of your Chief Engineer and Master Attendant care must be taken to give them at least 18 inches more water than is in the present Lower Dock, and if these new docks are immediately set about so as to be finished in all next December the present Docks may remain in the same state they now are, for the use of the trading ships until the new are finished.

The extent of the Marine Yard, as it is at this time, is much too small to give room for the necessary quantities of timber and workmen and I earnestly recommend to you that you will extend it so as to comprehend the two Surgeon's Houses and the Hospital on that side and that the prisoners be moved from the house now made a prison and the whole of the house be opened as was the case formerly for the purpose of fitting, and containing the stores of the ships in Dock; for the present very crowded state of the yard evidently retards conditions so necessary to the health of such as labour in it, and the jail making, as it were, a part of the yard is greatly inconvenient and a nuisance.

I am with great regard,
Sir and Gentlemen,
Your most obedient
Humble servant,
(Sd) Edward Hughes".

This question of new docks was carefully considered by the Council. It was at first suggested that a

new dock might be constructed at Butcher's Island. The Chief Engineer and the Master Attendant were asked to give their opinion and also to submit plans and estimates. Ultimately, the two outer docks were deepened by which an increase of depth of water was gained to the extent of 18 inches. At this stage it will be of interest to note the views of Admiral Sir Edward Hughes on the importance of Bombay. In his letter of 27th January 1784, he urged the importance of keeping up such military force under this presidency as will at all times not only make Bombay impregnable to any attacks of any enemy, whether European or native, but also to carry on offensive war if need be. The letter then proceeds :

"To prove the necessity of the first I beg to observe to you, gentlemen, that if the defence of the Company's possessions in the East Indies depends in a very great degree if not entirely in time of war, on the superiority or exertions of His Majesty's Squadron, destined and employed for that purpose as was the case in the last as well as the former war with France then the safety of Bombay is of the utmost importance to the safety of the whole, for at no other port or place in our possession could the ships of the Squadron, be even properly refitted much less repaired. At Bombay, as the only place of refit, are deposited all the masts and other stores for the ships, and it not only furnishes a great number of expert native artificers, but its Docks are of the utmost consequence. In short, without Bombay or some other as convenient harbour in our possession no squadron or force could be kept up in this country. Few arguments are needed to prove all this when I instance the nine sail of His Majesty's line of battleships which

arrived in this harbour on the 17th December 1782 and after four severe conflicts with the French Squadron had suffered greatly in their hulls, not a serviceable lower mast on board of any of them, nor a fish for a mast or a spar for a top-mast to be found but at Bombay, five ships of the number uncoppered and fouled by being two years off the ground and ofcourse heavy clog to the operations of the other ships of the Squadron that were coppered. At the same time the ships' companies reduced to half their complements by sickness. Under all these circumstances of distress and difficulty you gentlemen, saw, with mixed pleasure and surprise that very Squadron in less than three months put to sea, to seek the enemy, completely refitted and the health of the ships' company in great measure restored."

"The constant exertions of the officers of the Squadron, the use of the Docks, supplies of all kinds of timber and numerous native artificers of Bombay effected this great end and without them, I am positive the Squadron could not, in any other port in the East Indies have been put in a condition to face the enemy with even hopes of success."^a

Apparently the question of improving the Marine Yard and that of constructing new docks remained undecided for several years for we notice from Bombay Government's letter of 18th January 1792, to the Court that, in view of the fact that "the Mercantile importance of this Port had very considerably increased since Sir Edward Hughes submitted to Government his ideas of enlarging the Marine Yard," a fresh Committee, consisting of Messrs. Morley & Farmer, two Senior Civil Servants

* Admiralty Records - Secretary 7

and Mr. Robinson, the Master Attendant, was appointed to go into all details and empowered to call to their assistance, the Master Builder and any other officers of the Marine as they thought best. This Committee submitted their report and thereafter the Chief Engineer was asked to submit a plan showing the existing arrangement and another showing improvements and alterations. This was done and submitted to the Court, but once again the matter was left over and no progress was made with this scheme of improvement and alterations to the Marine Yard or the construction of new docks. *

In 1799, the Bombay Council informed London that they had postponed putting into execution the scheme they had previously recommended in view of the great cost and were considering improvements at a lesser cost. However, the question of constructing the new docks could no longer be delayed as in 1802 the Court informed Bombay Council by their letter of 5th May 1802, of the wish of His Majesty's Government that the Company should undertake to build a ship of the line and frigate of teak annually at Bombay and the desire of the Company in consequence to ascertain by actual experience how far it was practicable to comply with the request.

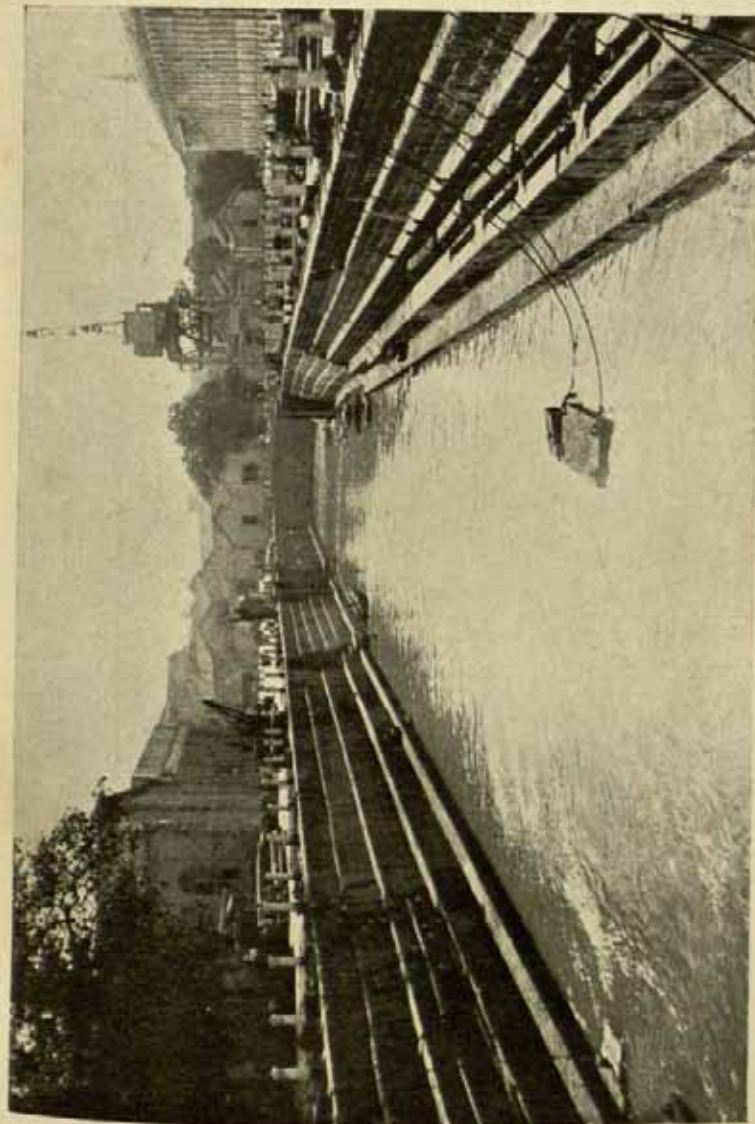
In reply, the Bombay Government, in their letter of 25th November 1802, reported the result of their enquiries and stated that the measure was practicable and that the estimated cost of a 74 gun ship would be Rs. 3,06,900 and that of a frigate Rs 1,70,000. The Bombay Authorities also appointed a Committee to survey Butcher's Island for the

*Bombay Letters Received Vol. IX.

construction of a new dock and the Report was submitted on 13th August 1804.

The Ropewalk (shown in the plan of 1803) was from the first a necessary adjunct to the Dockyard, it was about 900 ft. long and much complained of by the military engineers as the situation interfered with the buildings of the Ramparts to some extent. It was, however, not removed until it became unnecessary. Formerly an open courtyard, it was roofed over in 1760. A writer in 1775, Mr. Abraham Parsons, states that for length, situation and convenience it equals any in England except that of the King's Yard at Portsmouth and like that, it has a covering to shelter the workmen from the inclemency of the weather at all seasons. Here are made cables and all sorts of hemp ropes both for the Royal Navy, the Hon. Company's service and Merchant vessels, also ropes of lesser strength made of cocoanut fibre and coir.

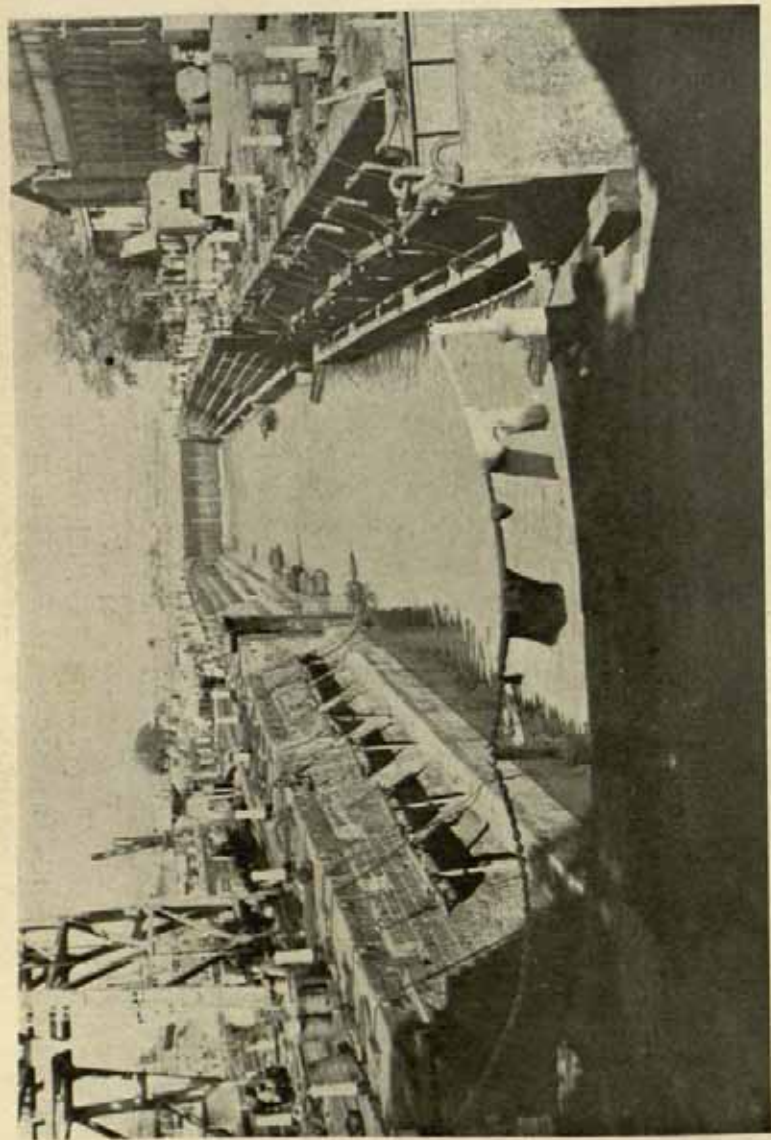
The earliest known official residence of the Superintendent of the Marine was on the site of the present Customs Godowns as shown on Grose's Map of 1750. About 1777, this house was required for the purpose of extending the Bandar's commercial offices, and the Court of Directors were written to regarding the new Marine Office. The Court, however, wrote on 19th March 1778, "We have determined not to consent to any Marine House being built." In the Map of 1803 the same building is shown as the Hon. Company's House. The Superintendent's residence, therefore, previous to 1778 (when the office was abolished) was as above stated. From 1778-1798 there was no Superintendent. From 1798 to about



View of the Bombay Dock from the Gate.

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View of Bombay Dock from the shore.

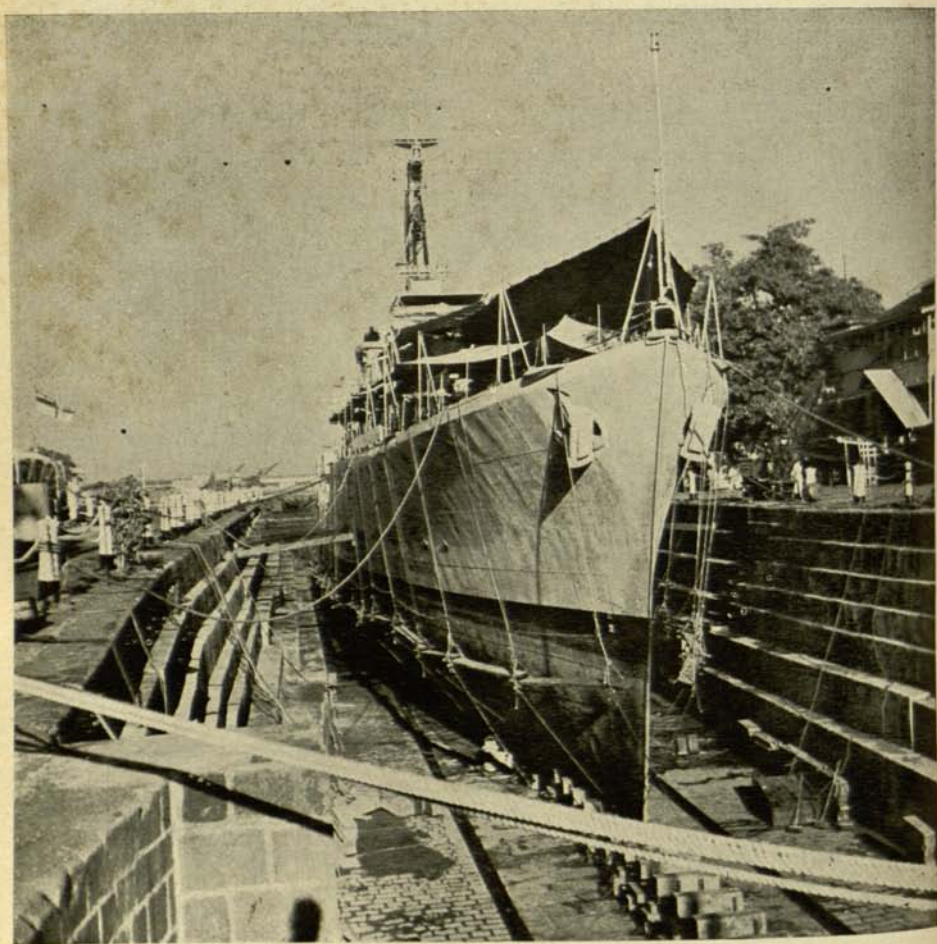
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View of Duncan Dock from the shore.

This photograph is published by special permission of the Naval Headquarters, New Delhi.

See Page 54



Bombay Dock with I. N. S. "Rajput."

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1877 it would seem to have been customary for the Superintendents to reside where they pleased, as in 1826, the Superintendent Captain Buchanan lived in a bungalow called Chintz Poglee which is now the name of the district near Mazagon. Others lived at Malabar Hill; but in 1879 it is recorded that the quarters were fitted up as an official residence for the Directors of Marine. It is but a glorified office floor compared with the modern residences that have been erected in Bombay during the last quarter of a century. The building was erected after the demolition and on the site of the old Town Jail, and originally the top floor was the Marine Office. The next floor below (later the Marine Office) was occupied by (1) the Jail Lieutenant, later the Director and Assistant Director's Marine Offices, and (2) the Master Attendant's office, later the Cashier's office, and (3) the Dock Master's office established in 1859. The ground floor was occupied by the Rigging Loft and store rooms. The Jail Lieutenant was accommodated in the Mole Loft. The office of the Examiner of Marine Accounts having been transferred from Calcutta in 1889, one end of the Mole Loft was suitably fitted up for his convenience. The original Dockyard Hospital and Dispensary was afterwards shifted above the Main Entrance Gate which had for some time been used for religious and other purposes already mentioned; and in 1885 the Rigging Loft was transferred from the ground floor of the Marine Office to an old Hospital Building near the Dockyard Bastion, and later about 1896, the Rigging Loft was again shifted to one of the then new Dockyard buildings when the old Hospital Building and an ancient pitch boiling house were pulled down.

Admiral Sir Edward Pellew urged again the necessity of a new dock and expressed the wish that the construction of a 74 gun ship of the line should also immediately be taken in hand. Tenders were invited, the lowest of which was Rs. 1,20,811 submitted by Mulji Naronji. On further consideration, the Bombay Council entrusted the work to Capt. L. Crozier. The work was taken in hand but it proved somewhat troublesome. Immediately thereafter certain suggestions were made by the Marine Board that the proposed dock should be extended further towards the sea to give room for another dock which they considered necessary at an additional cost of Rs. 49,000. This suggestion was agreed to. Thereafter Government were informed that the original estimates would be increased by about Rs. 80,000. Some trouble arose as water made its way into the Dock under the North Wall. In May 1806, a Committee was appointed to report upon the whole subject. This report was very unfavourable as it considered the Docks planned on a wrong principle and the work carried out in an improper manner. As a result of this report Capt. Cowper was appointed to carry out the work.

Capt. Cowper reported that to complete the two docks would cost Rs. 2,79,457 and that the work already done at a cost of Rs. 90,000 was an obstacle and should be removed. During the rains the work stood at a standstill.

In September Capt. Cowper was ordered "to proceed with the Upper or Building Dock with as much regard to economy as might be consistent with durable construction" and was to perform the work "on honour" without "pro-

ceeding further on the original design until the first and most urgent portion of the work (i. e. the Upper or Building Dock) was completed." On the 23rd September, the Board reconsidered the question of the Lower or Repairing Dock and as opinions were divided it was agreed that work with the second Dock should be stayed until the views of the Court of Directors had been ascertained.

Capt. Cowper began work and his first step was to enclose the whole of Capt. Crozier's masonry with a coffer dam, to the summit of which the high water spring tides nearly approached. Before he could lay a stone in execution of his own plan, Capt. Cowper had to remove every particle of Capt. Crozier's masonry. The two leading features of the plan were the general use of vaulted arches and buttresses in constructing the piers and the system of rabbetting every stone in the exterior and interior surfaces of the Dock. By this rabbetting all chinks and cracks were avoided and the Dock walls were as impervious as if hewn out of solid rock.

By January 1807, all Capt. Crozier's "obstacles" had been removed and the new work begun. There were four difficulties to be faced; the want of trained workmen; interruption from springs, which required constant attention at all hours to repress and confine; the extension of a bed of rock stretching from far west in the Upper Dock to the mouth of the Outer Dock, so solid and hard that it had to be removed by mining. When this cutting reached below the level of the old dock, water oozed through the old walls, a considerable part fell and the new wall fabric had to support the tottering fabric of the old dock.

On the 28th November 1807, the Upper or Building section of the new dock was reported ready for the reception of the keel of the 74. The President of the Dock Committee would have ordered the keel to be immediately laid. But the builder, Jamsetjee Bomanji, being anxious to choose a fortunate day for that purpose and the astrologers having fixed the ensuing Friday, Mr. Money assented to Jamsetjee's proposal. The Hon. Board preferred the old English lucky day to the astrologer's lucky day. *The Bombay Courier* of 26th December announced that the new dock was forward enough to admit the laying of the keel of the new 74, and that the ceremony of the Silver Nail had been fixed for New Year's Day. *The Courier* of 2nd January 1808, has this paragraph: "While this paper is going to press a Royal Salute is firing as a signal that the Silver Nail has been driven in and united the stem and keel of the new 74. "May" adds the loyal editor, "the ever-enduring Indian teak, under the auspices of our gallant tars, rival the glories of the British oak". A note in the *Asiatic Annual Register* of 1808 shows that the name of the new 74 was *Minden*; that her Silver Nail was driven by the Governor; and that in the Governor's honour the dock was called Duncan's Dock. On the west end of the dock on a blackened slab, about eight feet below the pier level, these words are carved: "This Dock was executed during the Government of the Honourable Jonathan Duncan, Esquire by Capt. William Cowper of Engineers, 1807."

The Upper Duncan Dock is 286 ft. long, 63 ft. broad and 23 ft. deep. The sides are of fine cut stone. The bottom is partly masonry, partly rock.

The answer of the Honourable Board of Directors to the reference regarding the outer or repairing the new dock has not been traced. What its purport was is beyond doubt. At all cost the outer or repairing dock had to be pressed on. On the 20th July 1810, the Dock Committee addressed the Government, stating that as the magnificent and important work of the new docks was completed, they laid before the Hon. Board the peculiar and eminent merits of Capt. Cowper, who planned and executed the great undertaking. All who visited the Presidency considered the new docks an unrivalled monument of professional skill and public utility. The Committee pleaded for a special reward to Capt. Cowper. The Hon. Board referred the question of special reward to the Hon. Court of Directors. The Lower Duncan Dock is 246 ft. long, 63.6 ft. broad and 23 ft. deep making the total length of the two Docks 532 ft. In 1811 before all the dock fittings were completed a further sum of Rs 20,000 had to be spent. The total cost of the Upper and Lower Duncan Docks was therefore :

Spent by Capt. Crozier without return	Rs. 90,000
Capt. Cowper's detailed estimate.....	„ 2,54,052
Add for fittings and finishings	„ 20,000
	<hr/>
	Rs. 3,64,052 *

To facilitate the work of constructing the New Dock, the Court advised Bombay of having forwarded a Steam Engine of 20 H.P. with requisite pumps to draw out

* *Bombay Gazetteer* Vol. XXVI, p 518. Part II.

water from the excavations. It appears that the second Dock—now known as the Lower Duncan Dock—was also completed by 1810 under Capt. Cowper. The *Bombay Gazetteer* states the total cost to have been Rs. 3,64,052, but according to an extract from the Court's despatch dated 18th September 1812, (Bombay Despatch Vol. 34) in which they strongly criticised the way in which the Bombay Government had carried out this work of national importance, the cost must have amounted to Rs. 5,61,728. In the same despatch they state:

"It is, however, some consolation to us to reflect that though a heavy expense has been incurred a work has been executed and that too under various impediments and obstructions which for excellence of constructions and for utility and importance in a national view, is unparalleled in the East. Indeed, every person who has seen the New Dock reports of it as a work of superior excellence and the Dock Committee in their letter of the 18th October, 1810, style it one of the grandest works of public utility that human labour can produce."

The Court also appreciated the work of Capt. Cowper and in addition to an allowance to him of Rs. 400 a month, he was presented a sum of Rs. 30,000.

Mr. James Campbell states that after these additions the next work of importance in connection with the Docks was taken up in 1841, when the Bombay Government proposed to widen the entrance to the Lower Duncan Docks. But we find that in his letters of 20th December 1833, and 17th January 1834, Vice-Admiral Sir John Gore

brought to the notice of the Bombay Government certain facts indicative of the deterioration of the Bombay Harbour since his first visits in 1789 and 1791 and suggested measures to arrest further deterioration and for improvement of the Docks; upon which the Bombay Government appointed a Committee to report, presided over by Capt. R. Cogan.

In his letters the Vice-Admiral suggested the following :

(1) To construct a basin from the Flag Staff Bastion of Bombay to the southernmost extremity of the Dockyard wall.

That there be two gates one to the north and the other to the south for exit and entrance at the same time. If one gate in the centre is thought sufficient, time and expense will be saved, the inner gate to be a caisson, the outer floodgates and the distance between them sufficient to hold the largest ship, so that it may serve for a tide dock for a ship requiring the basin.

(2) The present old Bunder to be done away in toto, and the area of the proposed basin excavated to the depth of 18 ft. at least. The sea line battery, with its 100 guns will then become useless, and the materials of it will nearly build the walls of the basin and if a sea-battery is required a much more formidable one and one that will be irresistible can easily be formed in the wall of the basin. The ground on which the rampart stands, I propose, should become the site of warehouses and merchants' counting-houses wherein the ships may deposit their cargoes with expedition and safety and reload with another, and haul

out of the basin in as short a time as they do in London and Liverpool and be docked for one tide, if necessary, instead of fourteen days now. The docks, opening into the basin, as I suppose, will have deeper water outside their gates than much less as at present and they will be accessible to ships at all tides, instead of only four days in each moon, and that even curtailing yearly.

(3) Besides the sea-face battery I would take down the present old dilapidated inconvenient Custom House and place it at the angle of the north end of the basin opening a communication with the harbour by a Bund and flight of steps for ready communication with the ships. Another communication should open to the docks and one to the town. Thus the four sides of the Custom House will be open for air and light, and the officers of the establishment see the sources of their work.

A line of convenient warehouses should be built facing the basin leaving a sufficient space on the wharf for landing the ships' cargoes and the necessary traffic, and openings from it to the town between each quadrangular building, and beyond these a line of buildings for merchants' counting houses, from the new Custom House to the dockyard which may be made very ornamental as well as convenient to the merchants, and being open to the sea-breeze will be cool.

(4) There must be a flight of steps and slip at the south end of the basin wall to communicate with the dockyard from the harbour, independent of the basin and the town. When I see the prodigious and yearly increasing trade with

Bombay and contemplate that opening of the navigation of the Indus, and the consequent extension of the China trade, both of which must augment the number of ships in this magnificent but yearly deteriorating harbour, I see that something is required to be speedily effected to arrest the growing evil and to afford that facility to the trade which will be loudly called for to reach its growing importance.

(5) In his letter dated the 17th January 1834, Sir John Gore stated:

"I venture to propose that not only the Colaba Causeway* such as was formerly contemplated, should immediately be made but that it should be carried

*The earliest reference to the desirability of constructing the Colaba Causeway is seen in the Bombay Letter of 31st December 1814, to London in which it is stated that much advantage will be gained by facilitating that entrance and exit to ships in the Dockyard owing to the stoppage of the current which then flowed between the two islands. (Bombay Letters Received, Vol. XXIX.)

In this connection the following note of Mr. Pai the former Assistant Curator of the Victoria & Albert Museum, Byculla, will be read with interest:

In the beginning of the 16th century Colaba (Old Woman's Island) was joined to the Island of Bombay by a ledge of rocks over which the sea water flowed. This channel was usually crossed in a ferry and the landing place on the Island of Bombay was on the spot where now the Colaba Police Station is. It was all wooded with cocoanut plantation (and President Aungier purchased it for the Company to breed cattle on). Sir John Child is stated to have been buried on the island, his sepulchre for a time serving as a recognised mark for the mariners. His tomb on the harbour foreshore, since extended by the reclamation, would have been near the Admiralty House. In later times it became a pleasant residential quarter, but often at high tide, the roadway to it from the Island of Bombay being under water, it became difficult to cross the channel. This inconvenience was at length overcome by the erection under the orders of Sir Robert Grant of a solid and handsome wall with a footpath protecting the level and elevated road. The Causeway was projected in 1820, started in 1835, completed in 1838 and widened in 1861-63. It was usual in those days for English people to live in tents pitched on open places like the maidan during the summer days.

nearly to the Apollo Bunder. From this continuation I contemplate a most important benefit not only to the trade but to the community at large, by its being made a wharf whereon to land the hundred thousand bags of cotton which are now yearly landed on the Apollo Bunder to the extreme inconvenience amounting almost to the total destruction of all communication with the ships in the harbour. A small duty may be levied on each bag of cotton so landed, for the use of the cranes and other facilities that would be afforded by this wharf instead of the manual labour now exercised by hundreds of coolies, who now work in each other's way to the great expense of money and time. Such a straight line of wall or embankment or mound as may be technically given to it cannot fail to retain a prodigious body of water in the ebb-tide, that will be an effectual benefit to the whole extent of Bombay, and I will go further by stating that if a similar line of wharfage was carried from the point of Fort George (or Bombay Castle) to the end of Mazagon, it will not only guide the ebb-tide with more regularity but serve as a commodious landing place for the cargoes of the innumerable native vessels which are now brought on shore by coolies on the mud flat."*

Capt. Cogan's Committee however, reported at great length and proved that the harbour had not deteriorated.

Sir John Gore, on receipt of this report, strongly criticised it "in a very long and heated letter", to which again Capt. Cogan, as President of the Committee, replied at length, conclusively refuting the Admiral's statements and deductions.

* *Asiatic Journal* 1835, Vol. XVII.

From these letters we find that Sir John Gore was a man of foresight who saw the potentiality of the growing importance of Bombay as a great commercial centre.

The Colaba Causeway was not completed until 1845 and the construction of Bombay Port Trust Docks and Warehouses was taken in hand more than half a century later.

From the proceedings of the Bombay Marine in 1839 we also find that the Chief Engineer transmitted a detailed estimate of expenses of constructing building slips for three Iron Steamers and these were sanctioned by the Government of India. The latter asked for a report of the effect of the measure on the defence of the Island.

At the same time the Chief Engineer submitted a plan of a Building Yard comprising slips for three ships of War of the first class and slips for three Iron Steamers referred to above. A Committee was also appointed to report on the effect which these works would have on the defences of the neighbouring part of the sea face as was suggested by the Supreme Government.*

In the same proceedings it was noted that the slips for two Iron Steamers were expected to be completed in four months.

According to the *Bombay Gazetteer*, the entrance to the Lower Duncan Dock was widened and culverts and sluicies were made and a groove cut in the Dock walls. The estimated cost was Rs. 73,400. The Court approved these

*Bombay Marine Proceedings for 1839. Vol. LXXI, p. 412.

proposals. Later, in 1843-44 the Upper Duncan Dock was also widened at a cost of nearly a lakh of rupees.

All these works were completed in July 1847. According to the same authority the Court considered the work very satisfactory and complimented Capt. Estridge for his ability and skill.

Forty years later, the need for the enlargement of the Docks appeared necessary and so, according to Edwards' *Gazetteer of the City of Bombay* in 1890 the increased accommodation for extension of the Duncan Dry Dock at a cost of more than $4\frac{1}{2}$ lakhs of rupees and also the construction at a cost of 14 lakhs of rupees of a Wet Basin, a dry dock for torpedo boats and hydraulic warping-capstans, were carried out. The Wet Basin, which lies between the old Custom Bunder and the Government Dry Docks, was triangular in shape, had a water area of 5 acres and could accommodate 8 vessels of the Royal Indian Marine. It was 26 ft. in depth and had a wharfage of 1,600 ft. while at the entrance which was 60 ft. in width, it was furnished with a hauling caisson constructed on the then latest principles. In the north-west corner was a small dry dock capable of accommodating 2 torpedo boats and a boat-slip for the repair of like craft. The designs for the Wet Basin and for the alterations to the Duncan Dock were prepared by Capt. Porter R. E. and the cost of the works including the cost of engines and machinery exceeded $16\frac{1}{2}$ lakhs of rupees. The improvement to the Duncan Docks resulted in increasing their lengths by 60 ft. their width by 48 ft. and depth by 7 ft. the work from start to finish occupied $2\frac{1}{2}$ years during which time about a thousand workmen were daily employed.

Ten Photographs representing alterations and additions in
the Dockyard (1889-1893).

From the original given by Mr. N. Lishman. See Page 63



Photo No. 1

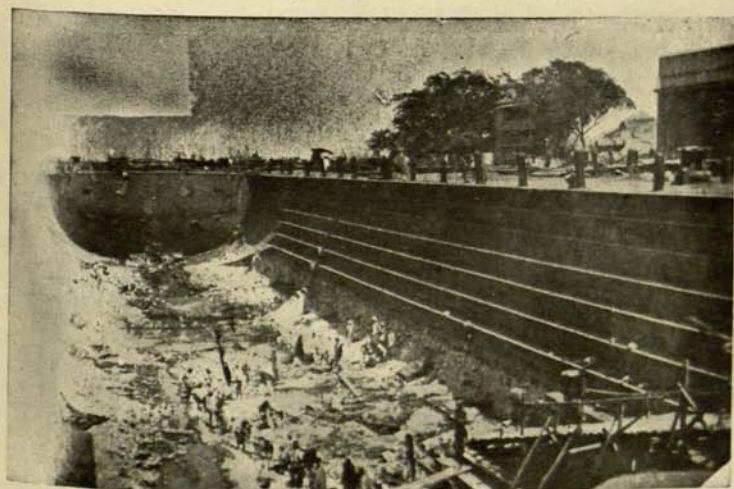


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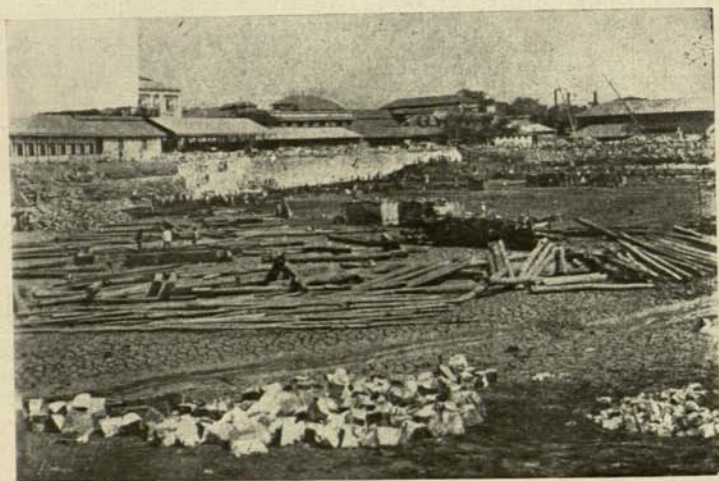


Photo No. 3



Photo No. 4

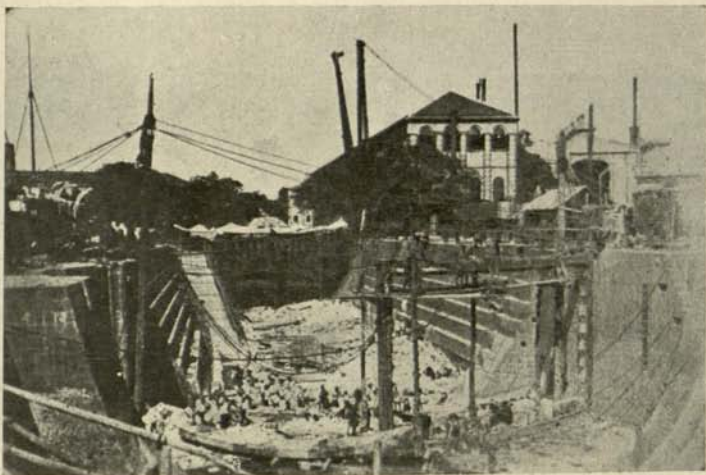


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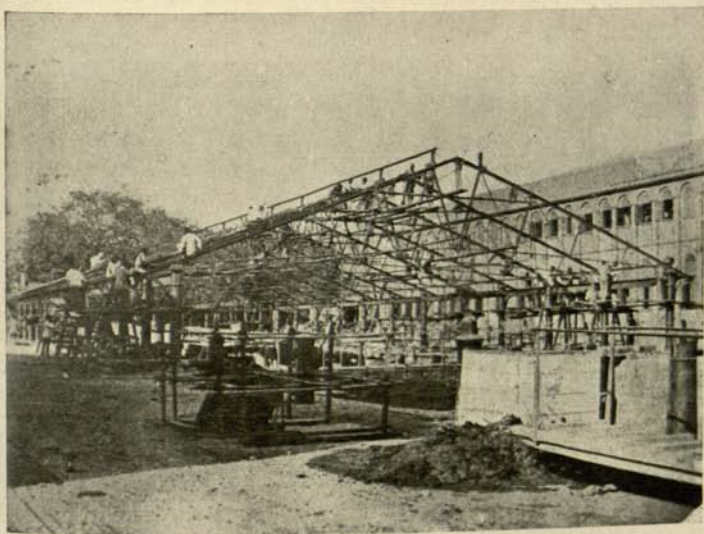


Photo No. 6



Photo No. 7

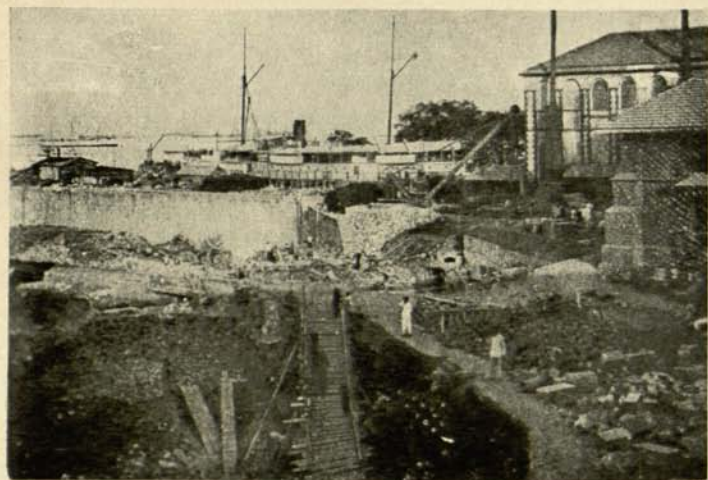


Photo No. 8



Photo No. 9

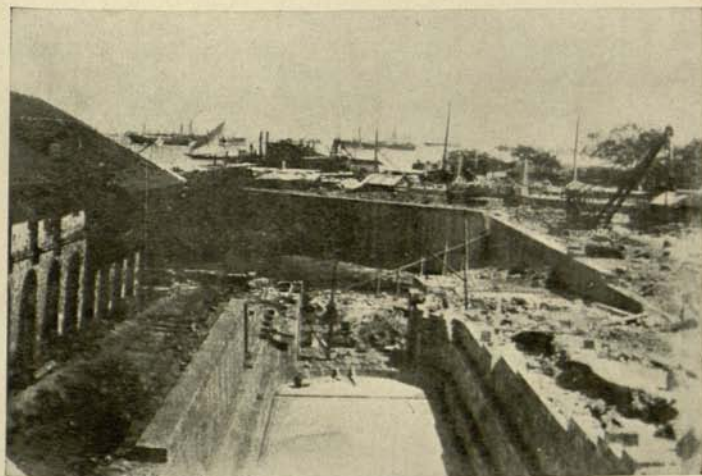
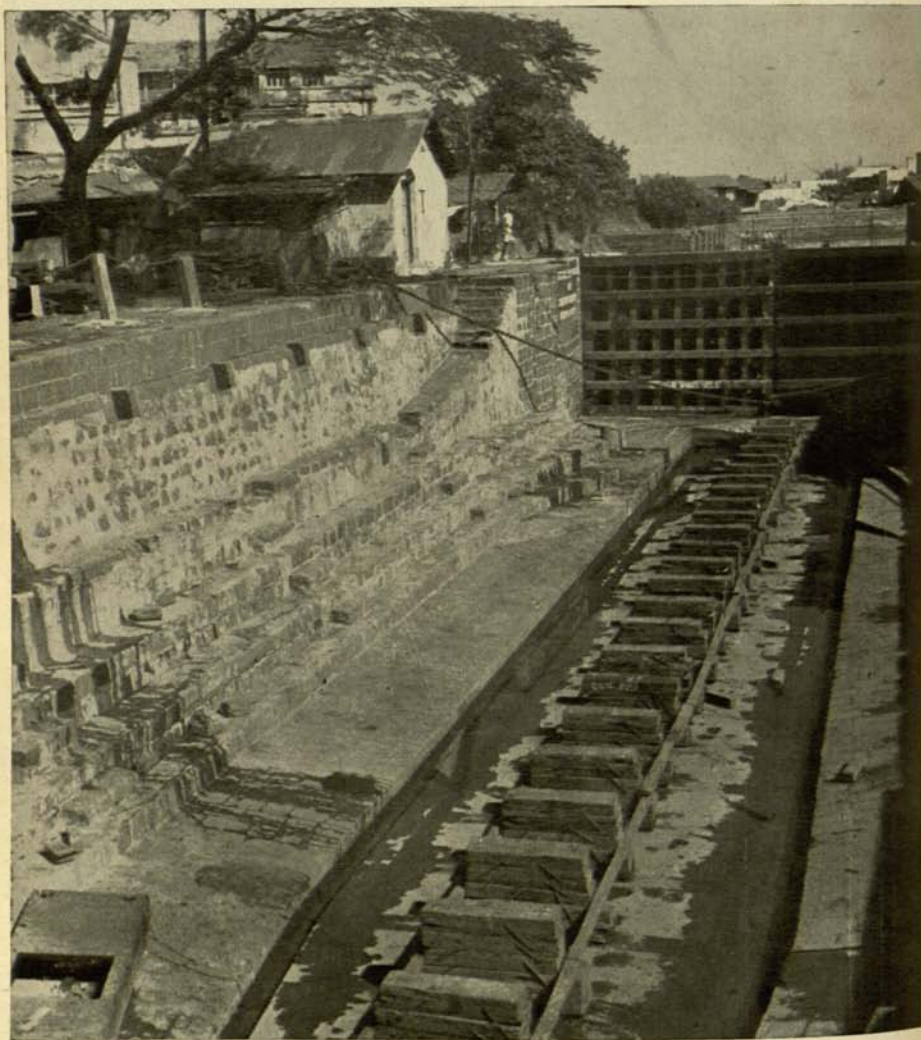


Photo No. 10



Mazagon Dock.

See Page 68

The following 10 illustrations give a vivid impression of this additional work in progress:

- | | |
|-----------|--|
| Photo No. | 1, 9th September 1889, site of the Wet Basin. |
| .. .. | 2, 12th February 1891, deepening Upper Duncan Dock. |
| .. .. | 3, 2nd March 1891, Wet Basin under construction. |
| .. .. | 4, 25th April 1891, Wet Basin... |
| .. .. | 5, 19th June 1891, deepening Lower Duncan Dock, and making up old gates and caisson. |
| .. .. | 6, 17th February 1892, roof over Upper Old Bombay Dock, removed October 1941. |
| .. .. | 7, 18th March 1892, old Banyan Tree site of Electric Power House. |
| .. .. | 8, 25th April 1892, small Dry Dock under construction. |
| .. .. | 9, 18th June 1892, small Boat Dock under construction. |
| .. .. | 10, 4th March 1893, small Dry Dock under construction. |

In 1841 and 1842 the three large building slips were commenced on the initiative of Capt. Sir Robert Oliver, Superintendent of the Indian Navy. These slipways are situated on the shore next to the Commodore's House contiguous to the old Yacht Club and constitute a remarkable relic of the last days of the era when ships of the line were built for the Royal Navy. It was not until orders for battleships came in in numbers that vessels were built on slipways, the method hitherto practised being to build the vessels in the dry docks and to float them out. The largest ship to be built on these slips was H. M. S. "*Meeanee*" 2591 tons, launched on 11th November 1848.

These slipways were protected by huge cadjan shades or sheds, and apart for the replacement of the cadjan by corrugated iron sheets, they remain to-day in their original and somewhat unique form. They are shaped somewhat like an inverted vessel and are constructed of rough-hewn teak timbers, massive in proportion. The truss sections and frame are most interesting in shape, the size of the vessels being built beneath them demanding great height as well as span.

The dimensions of these slipways are 253 feet long, by 77 ft. wide. The tie beams are 34'-3" above the level of the slipway and the overall height is 51'-6". The diagonal tie beam is 55' long in one piece and many of the timbers are 40' and more. The slipways were stone-paved and were provided with a curtain sea wall, which, when building was in progress, was closed up to prevent the tide from flowing and ebbing from the lower part of the slipway. One of them is fitted with trolley lines to take launching trolleys, but this is most probably a fairly modern innovation. Alongside each slipway were workshop and boat-building sheds.

The Mole or Breakwater was originally constructed between the years 1816 and 1846. Simultaneously the foreshore from the Dockyard Bastion towards Apollo Bunder was reclaimed, levelled and buttressed by a stone wall. Owing, it is said, to the blasting operations outside the Dock entrances, consequent upon the deepening of the Duncan Dock, and to excessive dredging, the end of the old Breakwater collapsed on the 23rd January 1896. This raised the question as to whether the old Breakwater

should be renovated or demolished to make way for a more modern and convenient mole to meet the requirements of the modern conditions.

It was first proposed that an entirely new pier should be built which would be available for berthing troopships and transports. A Committee of experts was appointed to go into the whole subject and they submitted their report in 1899. In 1902 the report was adopted, but in 1904 it was decided it would cost too much, and elaborate proposals were considered to provide capstans, cranes, boiler house, electric house, hydraulic engine house with water mains, electric light, train lines and all modern appurtenances. By 1905, however, contractors started the work and completed their job by November 1906, abandoning, however, the bullnose at the end, which was part of the scheme. This attenuated pier is that which now exists; but plans exist for more extensions and the future Dockyard may bear but little semblance to that which even now exists and possibly no trace at all of the original.

The first reference to Admiralty House appears in 1754. The Bungalow was then known as the Tank House. This was originally the Government House, according to Edwards' *Gazetteer*, said to have been built by Vice-Admiral, Sir John Wyborne (Deputy Governor, 1686-90). The house appears to have been situated somewhere near where the north wing of the Town Hall stands to-day.

Tank House became the residence for Admirals who visited the Island with their squadrons, but due to the

proximity of the tank it was found to be very unhealthy. It was Admiral Cornish who bitterly complained to the Government about this matter and a new house was purchased for the residence of the Admirals, which according to old authorities was situated at the south end of the Parsi Bazaar Street. About 1772, Mr. Hornby's house opposite the Dockyard's main entrance was rented for the residence of the Admirals. This was a very spacious building as appears from the following description given in the *Old Navies in Modern Bombay* (Public Diaries 1782).

There were one large warehouse separated from the house, six large warehouses under the body of the house, six large warehouses under the back verandah, one large warehouse or stable in the yard, two warehouses or godowns in the yard and three small warehouses in the back compound.

The House Details:

Parts	(In feet)		
	Length	Breadth	Height
One large hall	... 68	38	18
Two large dining-rooms	... 50	26	18
Four bed chambers	... 25	25	18
Two bed chambers	... 25	16	18
Two offices	... 16	—	18
A back verandah to the length of the house and opening at the ends to terraces which form the roofs of the two wings	... 94	—	18
Four large rooms each	... 30	16	—
The attic storey, a large room with a verandah round its 3 sides, the room alone measures	... 69	39	—

There were two necessities below stairs, one large stable, one cook room, one wood house, three godowns for stock, one large well and a pigeon house, a large back-yard and a back compound. The whole premises cover as per the Collector's books, 5,561 sq. yards.

After 1795 Dady Buildings (now the office of Messrs. Greaves Cotton & Co.) in Forbes Street appears to have been occupied as the residence of the Admirals until about 1840. Between 1840 and 1864 the Admirals stayed in a bungalow at Marine Lines. In 1864, Government bought a house in the same locality and this house continued to be used by Admirals until 1903, when the present Admiralty House on the Cooperage was constructed.

The site occupied by the Sailors' Home, later the Legislative Assembly, was at one time Dockyard property, and before that was part of Mendham's Cemetery. (See plan of 1858).

The site formerly occupied by the main building at the Royal Bombay Yacht Club and the old Watson's Annexe Hotel were also dockyard property before it was handed over for the purpose of building in 1880-1890.

The Old Indian Naval Commander-in-Chief's and Admiral's landing place was between the Yacht Club Lawn and the old Warden's, later Assistant Director's official residence and consisted of a long and broad ship's gangway with arrangements for lowering to suit the tide.

CHAPTER VI

Mazagon Docks.

In Gerald Aungier's report on Bombay of 1673, reference is made to the anchorage at Mazagon where "ships of 200 tons may be hauled ashore." In 1769, it was decided to build a new dock at Mazagon for the use of ships not exceeding 300 tons burthen. *

Further reference to Mazagon Docks is in a letter which the Court wrote to Bombay under date 25th April 1771. They wrote: "We approve the making a dock with store houses at Mazagon as also of the duty you intend to levy for such private vessels as shall be repaired in it and hope that the expense of executing that work will not exceed the estimated sum of Rs. 10,025".† From an entry in the Marine Records we find that on 5th February 1803, Bombay Council proposed building a wall enclosing the Mazagon Dock.

In 1776 reference is found to an estimate of Rs. 608-2-6 for a store-house at Mazagon, which work was ordered to be carried out.‡

There is evidence of the existence of docks at Mazagon from very early days and the Old Moghul Dock owned by the Sheikh of Maculla,¶ who was also a Nawab of

*Edwards' Gazetteer, Vol. II. p. 119.

†Bombay Despatches, Vol. V. p. 47.

‡P. D. D., Vol. 72 A. p. 131.

¶A port on the Red Sea.

Hyderabad (Deccan), appears to have been of some antiquity.* The Sheikh in 1835 was known as H. H. Awad Bin Oomer Sultan Nawab Jung Shamsheerul Mulk Bahadur and is shown in the title deeds of the Dock when hired by the P. & O. S. N. Co., as belonging to the family of Mirza Ally Mahomed Khan Shoostry.

This Dock was used extensively by the large fleet of dhows trading to the Persian Gulf, Red Sea, Zanzibar, etc. When in later years the Dock was taken over by the P. & O. Company, the practice persisted and the Dock was frequently hired by dhows for graving purposes.

*The Moghul Dock, according to *Parsi Prakash*, was taken over by a well-known Moghul merchant Aga Mohamad Rahim Sirazi in July 1843, and he placed the Dock in charge of Dhunjibhai Rustomji Wadia. On 1st January 1847 according to the same authority P. & O. Co. took up this Dock on lease and Dhunjibhai continued to be its Master Builder till his death on 4th August 1854.

We further find that the following ships and steamers were built at Mazagon:

Ship <i>Hormasjee Bomanjee</i> ,	Launched on 31st May 1828.
Brig <i>Tigris</i>	„ on 20th April 1829.
Ship <i>Charles Malcolm</i>	„ on 4th May 1829.
Ship <i>Jamsetjee Jejeebhoy</i>	„ on 6th February 1833.
Steamer <i>Indus</i>	„ on 16th August 1833.
Ship <i>Mary Gordon</i>	„ on 13th July 1839.
Frigate <i>Queen Victoria</i>	„ on 22nd December 1844.
Steamer <i>Jamsetjee Jejeebhoy</i>	„ on 12th November 1848.
Steamer <i>Lowjee Family</i>	„ on 16th February 1851.
Steamer <i>Mt. Stewart</i>	„ on 15th February 1854.
<i>Elphinstone</i>	
Steamer <i>Secundershah</i>	„ on 19th March 1859.

From a letter dated 30th March 1931, addressed by the Principal Officer, Mercantile Marine Department, Bombay District, to the late Mr. B. S. Wadia it appears that the bell of the ship, *Mary Gordon*, launched on 13th July 1839, at the Mazagon Dock, came into possession of the Sea Scout Troop of Lymington, Hants, England.

Evidence of a very primitive pumping arrangement, consisting of hollow wooden trunks fitted with buckets and worked by hand, came to light when the pump incorporated in the upper section of the old Dock was opened. As originally built, the old Moghul Dock appears to have been 160 ft. in length and 45 ft. wide and is believed to have been built about 1835.

Mazagon appears to have been regarded with much favour as an anchorage but whether it was this fact, the presence of the old Moghul Dock, or the fact that the Bombay Docks were overburdened and so led to the construction of the Mazagon Dock, is not clear. Reference is made to the docking activities at Mazagon in the *Bombay Gazetteer* (Vol. XXVI, Part II) where it is stated that the oldest dock in that locality was the P. & O. small dock — the place being referred to in a consultation of 30th January 1776.

The first reference found to the Mazagon Dockyard is in 1774 as follows: "The Dock and Pier Paymaster reporting that the Dock at Mazagon is completed, it must be put under the orders of the Land Paymaster everything belonging thereto delivered with its inventories of which signed by them must be laid before the Board."*

The Mazagon Dock was 154 ft in length, 33 ft. wide with 7 ft. of water on the sill at ordinary spring tides. The entrance was from Mazagon Creek, later known as Kasara Basin and remains in its original form to the present day, still in use.

*P. D. D. Vol. 65 A.

The consultation quoted in the *Bombay Gazetteer* referred to the acquisition of some houses for improving the Marine Yard.

Although there are no official records to show when and to what extent the Mazagon Dock was used for shipbuilding, an old Gujarati work *Mumbaino Bahar* by Ratanji Framji Vacha, published in 1874, states that from 1801 onwards Rustomji Maneckji, a grandson of Lowjee, was placed in charge of this Yard as a builder until his death on 14th August 1812. In 1805, his salary was fixed at Rs 700.

Rustomji Maneckji was born in 1766 and very likely must have joined the Dock as an assistant at a very early age. On the death of his elder brother Framji in 1804, he became second Master Builder under Jamsetjee Bomanji, the Head Builder.

Rustomji Maneckji had also distinguished himself as a shipbuilder and received compliments from his employers for his abilities. As Head Builder at the Mazagon Dock he must have built a number of vessels, but unfortunately no records are available except one regarding the building of the "*Thomas Granville*." It is probable that many of the vessels attributed to the Bombay Yard were built at Mazagon.*

Rustomji Maneckji's two sons were also brought up in this profession under him and it appears that while the Master Builder and his first assistant were working in the

**Asiatic Annual Register* p. 189. See p. 105.

Bombay Dockyard, the second assistant builder was placed in charge of the Mazagon Yard. This is corroborated by Capt. Headlam in his MSS. who states:

"A Parsi Master Builder was attached from the Bombay Dockyard in 1801; this was the only Master Builder ever appointed. It was customary afterwards thus to appoint an officer of the Bombay Marine in charge of this Mazagon Dockyard. After 1839 the Dock fell into disuse but in 1860 it was secured from Government for a very low sum by the P. & O. Company with permission to reclaim the foreshore."

Capt. Headlam then gives a list of Captains of the Mazagon Dockyard upto 1839 as under.

1815-23	Capt.	John Lawrence	Bombay Marine
1823-24	..	William Manwaring	..
1825-27	..	James Jeakes	..
1827-28	..	John Lawrence	..
1828-29	..	Walker	..
1829-30	..	P. Maughan	..
1830-32	..	Thomas Tanner	..
1832-33	..	Henry Windham	..
1833-34	Comdr.	George Grant	..
1834-36	..	R. Cogan	..
1836-38	..	J. H. Wilson	Indian Navy
1839	..	A. S. Williams	..

The *Bombay Courier* of the 21st April 1832, refers to launching from the Mazagon Dock:

"A large number of people assembled on Tuesday last at the Mazagon Dockyard to witness the launch of a beautiful schooner of 6 guns which has lately been built there for the Indian Navy, and is of the following

dimensions — length 58'6", breadth 18'8" and depth 10'0". She very prettily went off the stocks and received the name *SHANNON*.

The reference to launching indicates that the vessel was probably not built in the dock itself, a practice that was generally followed in Bombay in respect of larger vessels, but on a slipway.

On a plan dated 1824, the Mazagon Dockyard is shown as a triangular plot about 300' by 350' jutting out into the Mazagon Creek, with the dry dock at the northern tip. The Dockyard, though small, was seemingly well equipped, as the plan shows it to have a mast house, store-rooms and office, fire-engine house and dwellings for the carpenters.

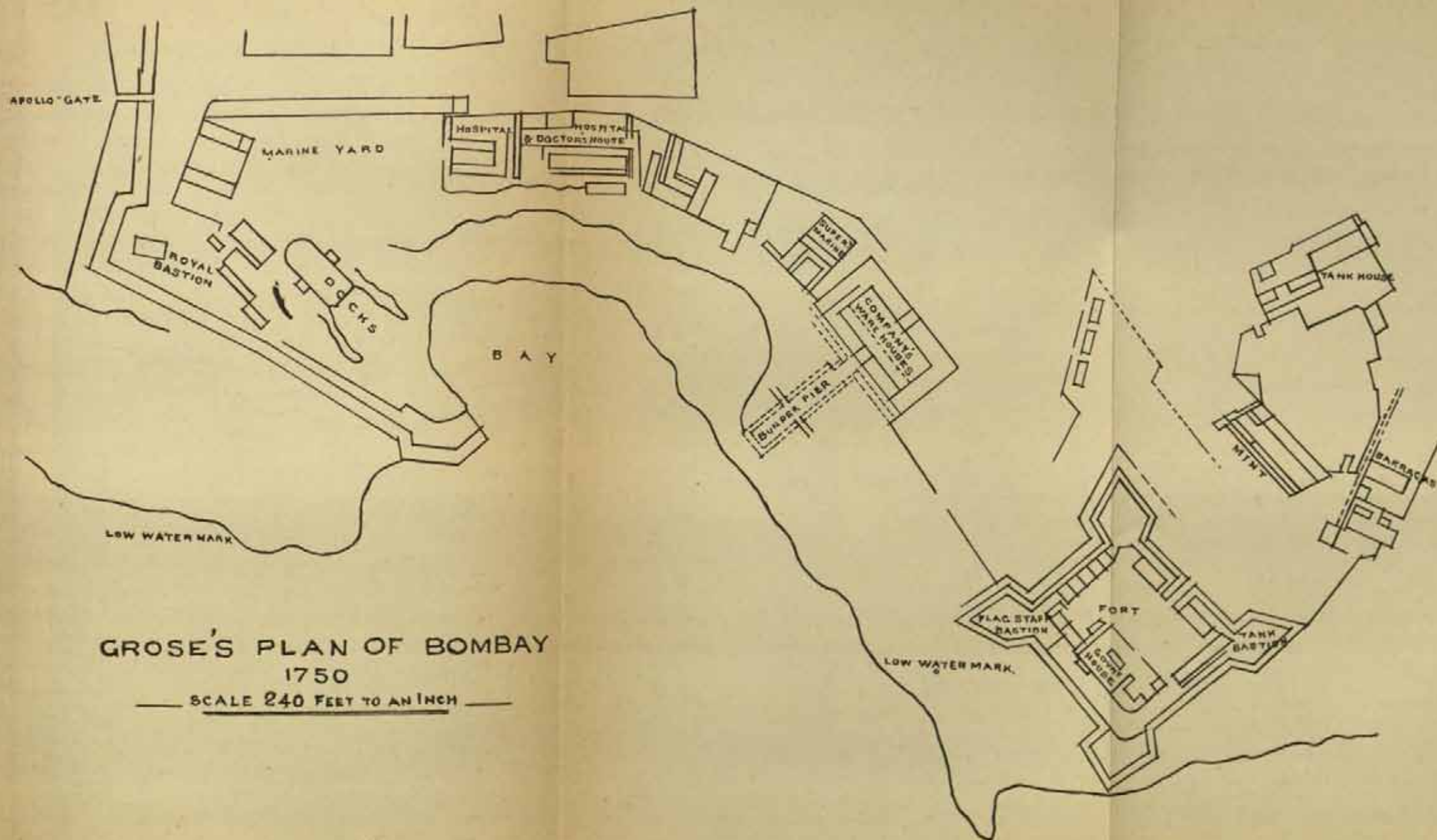
The Old Moghul Dock was rented by the P. & O. Company in 1854 to provide for their new mail service from Suez to Bombay. This Dock proved to be too small for their needs and it was extended seawards making it 395 ft. in length, 56 ft. wide and 15'6" deep at the sill at ordinary spring tides. To enable this work to be carried out, 1684 square yards of foreshore were leased from Government in 1863. A Cornish boiler was installed to provide steam for the side lever pumps. Workshops were also erected. This Dock served the requirements of the P. & O. Company for some years, but the arrangements were evidently not entirely satisfactory, for in 1859 they set about making arrangements to acquire their own premises.

A preliminary survey of the area to the north of the Moghul Dock was made in the same year, which area embraced the Mazagon Dockyard and the small dock which was eventually leased together with the foreshore

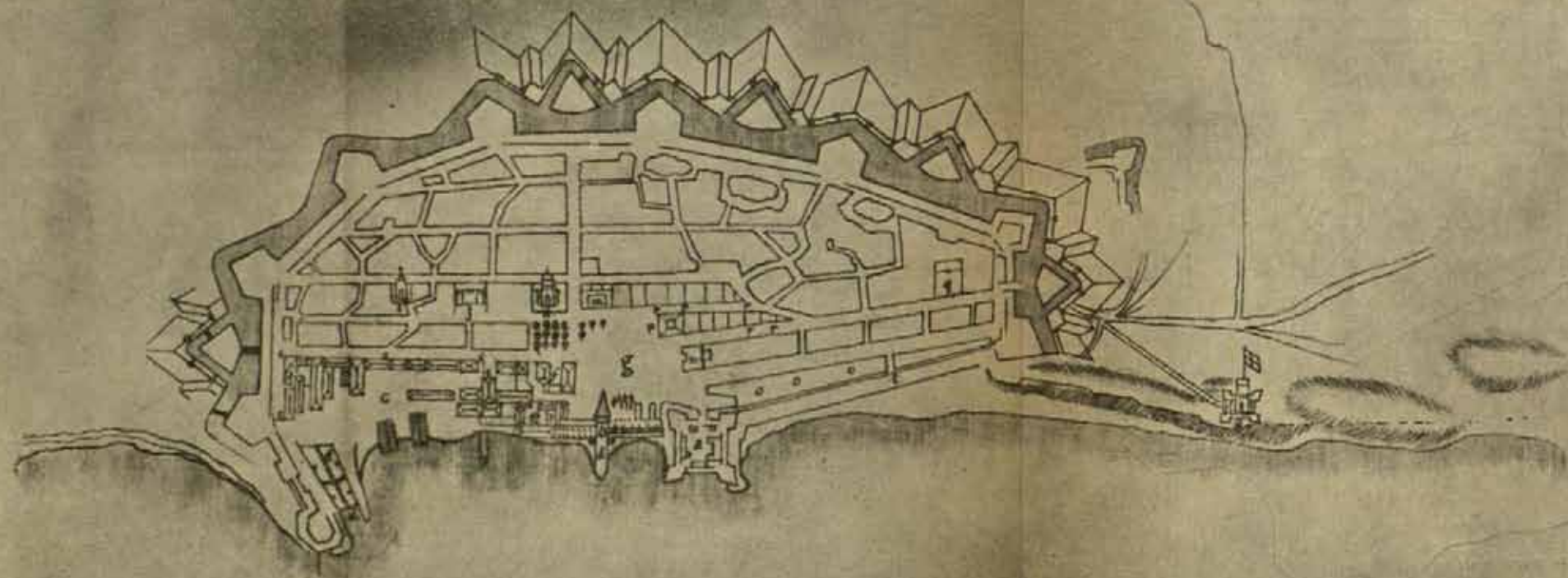
extending some 1,200 ft. eastwards for a period of 99 years from the 5th November 1859. By a lease dated 17th December 1864, a triangular plot to the north-west of the Mazagon Yard was acquired making the area rectangular in shape, substantially the same as is now known as the Mazagon North Yard.

The Ritchie Dry Dock in the North Yard was completed on the eastern reclamation in 1865, being 393' long, 62'6" wide, 18' deep at the sill and 66' wide at the gates. The Ritchie Dock soon proved to be too small for the rapidly growing fleet of P. & O. steamers, both in size and numbers and in 1870 it was lengthened by 27 feet. This operation was repeated in 1881 when the Dock was lengthened by 50 feet and again in 1889 by 25 feet, making it 495 feet in length, its present dimensions.

The P. & O. Company vacated the South Yard in 1870 when it was taken up by the British India Steam Navigation Company who at that time had only a corrugated iron shed on the Colaba Beach and who used to careen their vessels on the Karanja or Corun Beaches. The South Yard and with it the Moghul Dock were eventually acquired by the B.I.S.N. Co. by purchase from Awad Bin Oomer Sultan Nawab Jung in 1900 for a sum of Rs. 11,00,000.



Bombay 1758.



- | | | |
|-----------------|-----------------------------|-----------------|
| Ville de Bombay | 1. L'Église | 7. Le Bazar |
| a. L'Esplanade | 2. L'Église des catholiques | 8. L'Esplanade |
| b. L'Esplanade | 3. L'Esplanade | 9. L'Esplanade |
| c. L'Esplanade | 4. L'Esplanade | 10. L'Esplanade |
| d. L'Esplanade | 5. L'Esplanade | 11. L'Esplanade |
| e. L'Esplanade | 6. L'Esplanade | 12. L'Esplanade |
| f. L'Esplanade | 13. L'Esplanade | 14. L'Esplanade |
| g. L'Esplanade | 15. L'Esplanade | 16. L'Esplanade |
| h. L'Esplanade | 17. L'Esplanade | 18. L'Esplanade |
| i. L'Esplanade | 19. L'Esplanade | 20. L'Esplanade |

Maison de Campagne du Gouverneur de Bombay à 11 lieues de la ville



Échelle de 10 lieues.

CHAPTER VII

Administration of the Dockyard

From the earliest records it is known that there has been some sort of Marine Establishment where the present Dockyard is situated, probably consisting of officers' and men's quarters, store-houses, workshops and such primitive arrangements as were necessary for the refit of the small vessels of those days. This early Establishment was apparently under the orders of the Admiral or Commodore of the Company's Marine, who administered alike for war and commerce. Associated with this shore establishment were several officials of whom the earliest mention is the Marine Storekeeper, and an old Surat Diary of 1660-1669 records that the office of Marine Storekeeper being vacant, it was resolved on 6th February 1670, that Mr. William Minchen should fill the place and that for his encouragement his pay be raised from 18 *d.* to 2*sh.* a day. It would seem probable that Storekeepers had other more lucrative sources of income than the pay of their appointment in those days.

The exact date when the post of Superintendent of Marine was first created is not actually known, but it is thought to be about 1738 as this is about the earliest mention of such an official. In 1742 the Marine Establishment consisted of a Superintendent of Marine and 8 Commanders, one of whom was styled Commodore. The Superintendent was the official in charge of Shore Establishment, and the Commodore under him was in command afloat, a purser of Marine in charge of accounts,

a Master Builder and others in charge of several departments. The records state that the salary of the Superintendent was fixed in 1754 at £250 per year, but as a house near the Dock and Marine Yard would have been convenient to him when one so situated could be spared to him and belonging to the Company, he was to have the option of living in it, and then the sum of Rs. 240 was to be annually deducted from his salary, if he availed himself of the same. In the case of the death or absence of the Superintendent his office was to be filled by the Master Attendant for the time being. This is the first mention of this rank. At a consultation of 2nd July 1777, the Board resolved and ordered that it be established from henceforward as a rule in the Marine, and signified to every officer therein, that the Master Attendant was to be considered by them as the Second Officer in the Marine and next in rank to the Superintendent.

We thus gather that the business of the Marine afloat and in the Dockyard was carried out by a Superintendent of Marine having as assistants a Master Attendant in charge of port duties, a Commodore in charge respectively of accounts and stores, victualling etc. and a Master Builder in charge of the workshops.

On 17th April 1778, the office of the Superintendent of Marine was abolished by the Court of Directors, but it is suspected that this office continued for some time after this date. On 23rd December 1778, the Court wrote :

"It is now our order and we hereby direct that immediately on receipt of this letter a Board of Marine be formed at Bombay, that the said Board do consist of

the following persons: The President and such members of the Council for the time being as shall be resident upon the Island of Bombay, in which the Marine Paymaster will of course be included, also the Master Attendant, the Commodore and the Marine Storekeeper. That the said Board of Marine do meet once in every week at least and oftener, if thought necessary for the disposal of business, that no member of the Board of Marine, nor any person employed in the Marine Office except the Secretary and his assistants be allowed any additional salary or emoluments on that account, that the Secretary to the Marine Board be one of our covenanted servants, and that he be allowed a yearly salary equal to 100 sterling. That the Assistant Secretary be allowed monthly gratuity of Rs. 34/- being the allowance made to the Assistant to the late Superintendent of Marine during the existence of their office. That each of the members of the Board do in his turn officiate as Auditor of Marine Accounts and Controller of the Marine Office, the President and Marine Paymaster excepted. That in the case of an attack on the Island of Bombay, as the office of Superintendent is abolished, the Master Attendant be added to the Committee of Defence. In case of the death or removal of the Master Attendant, it is our order that the Commodore for the time being succeed provisionally to the office of Master Attendant and hold the same till our further pleasure therein be known."

Accordingly the Bombay Government at a consultation of the 16th June 1780, resolved that the Board be forthwith formed for transacting the business of the Marine Department, and that the Master Attendant, the Commodore and the Storekeeper be exempted from serving in

turn with the other members as Auditors and Comptrollers and that only members of Council with the exceptions made by the Company do officiate in these offices.

It appears, however, that owing to certain difficulties the Bombay Government were unable to or perhaps unwilling to carry out the orders of the Hon. Court of Directors in regard to forming a Marine Board, as on the 18th March 1785, the Court wrote :

"The reasons which you offered during the war that the ships belonging to His Majesty's Squadron so fully engrossed the Marine Yard, that you could not then carry into execution our orders and regulations of December 1778, for forming a Marine Board. You are, therefore, to consider it as our positive command and to which we will not admit any further evasions or excuse, that immediately on receipt of this letter you do form the Marine Board."

On receipt of this peremptory letter immediate steps were taken, and a consultation of the 19th August 1785, records :

"Government proceed to take into consideration the Honourable Company's commands of the 18th March, last, relative to the appointment of a Marine Board, when the following resolutions were taken. That the members who are to form the Board of Marine be summoned to meet us on 1st September, next..... that Mr. Robert Kitson, Senior Merchant, be appointed Secretary to the Board, with a yearly salary of £100 and that Mr. Frederick Reeves be appointed Assistant Secretary to the Board with a monthly salary of Rs. 34 and to be removed from the Accounts Office. That the Commanders of the Company's Cruisers when despatched on distant services or to the settlements

subordinate to the presidency, shall receive their orders from us as heretofore customary but the detail of Marine affairs is to be managed by the Comptroller of the Marine Board."

This new arrangement appears to have worked rather unsatisfactorily as a consultation of 2nd October 1785, reads:

"Having resolved at our meeting of the 18th August last to take into consideration the mode of conducting of business of the Marine in future, it is resolved that from this day all business relative to the Marine shall be conducted by the Board in the Public Department and that the Board of Marine as established under date 18th August 1785, shall be abolished and that it is signified to the Marine Paymaster, the Marine Storekeeper and the Master Attendant that the business of the respective offices is to be carried on agreeably to the orders of the Hon. the Court of Directors as signified in their commands of 23rd December 1778, and the orders and regulations which have from time to time been issued by the Board of Marine. It will be the duty of the Comptroller of Marine to see that these regulations are strictly carried out. It is resolved that the two senior members of the Council do in rotation continue to act as Comptrollers of Marine, and in all orders relative to the details of the Marine and Dockyard will in future be issued in the name of the Hon. the President."

The Government of the Marine and the Dockyard appear to have been carried out in compliance with the foregoing till 1st August 1798, when the Court of Directors issued an order revising the Marine regulations and the Bombay Marine was created a Naval Service for war purpose only. The Superintendent was appointed but the

office was vested in a Civilian and the two Senior Officers appointed Master Attendant and Commodore of Bombay. These three officers with the two Captains next in seniority were formed into a Marine Board for conducting the Civil branch including the Dockyard and the financial details of the Service. The executive portion came under the supervision of the Government of Bombay. This procedure continued till 1798 when the Dockyard came immediately under the direct supervision of the Superintendent of the Marine, the post of Comptroller being abolished and replaced later by the more subordinate post of Comptroller of the Dockyard, held until 1838 by an officer of the Indian Navy.

From 1838 until 1863 the Dockyard was administered by the Superintendent of Marine (afterwards styled the Commander-in-Chief of the Indian Navy) with a staff in 1838 as follows :

1. Master Attendant,
2. Boat Master,
3. Secretary, Accountant, Marine Judge and Draftsman,
4. Marine Storekeeper,
5. Marine Paymaster,
6. First Assistant to the Superintendent.

These officials administered the Dockyard and the Service generally.

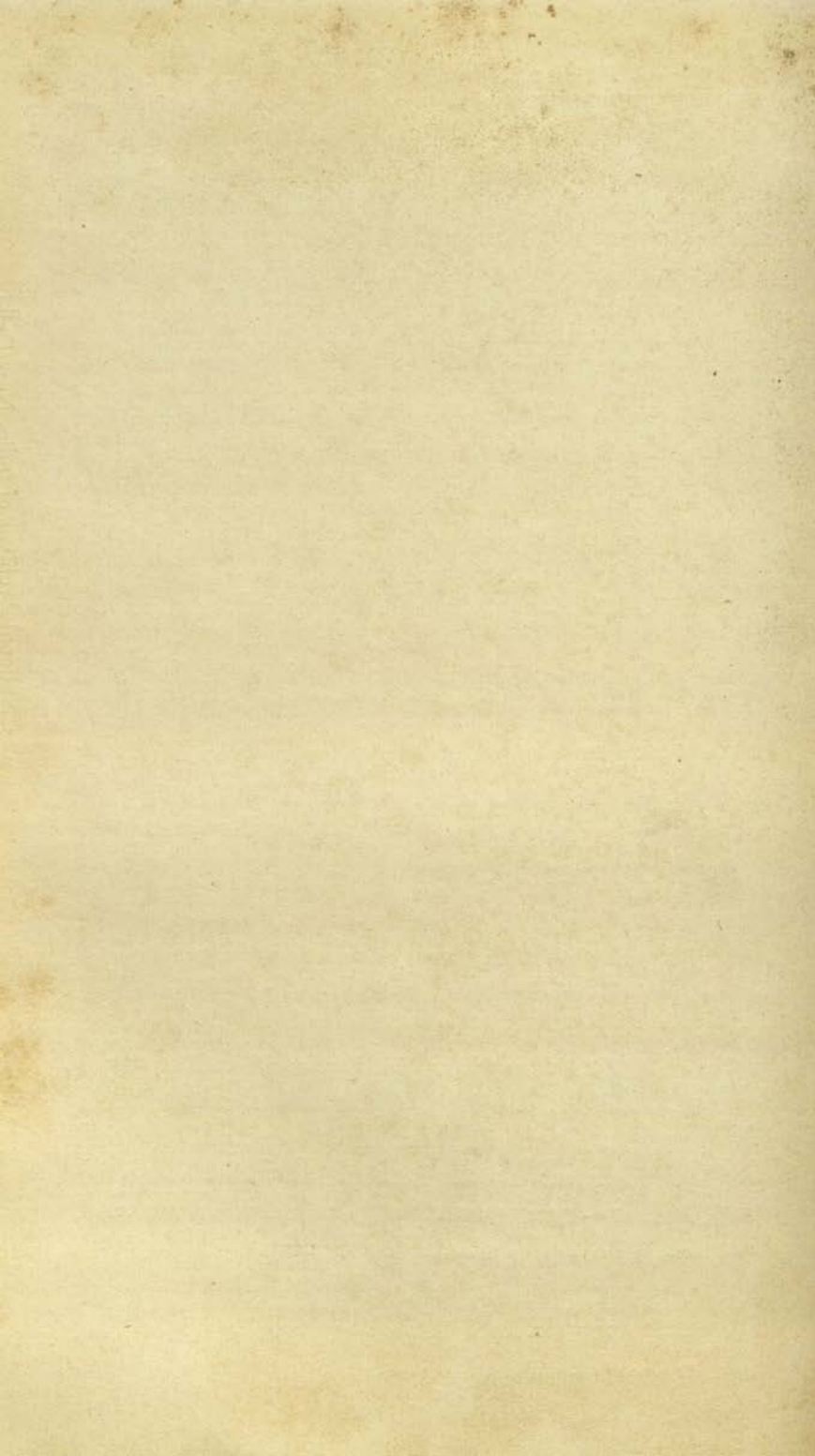
Master Attendant: The duty of this officer was principally port administrative work. He was the head of the harbour and pilotage board, now vested in the Port Trust which was formed about 1869. The docking of vessels in the Government Dockyard and the care and maintenance of the Government Moorings came



Plan of 1767.

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See Pages 75-80



under his supervision. He had an office in the Dockyard but was transferred to the Port Trust Offices in 1869, when the Master Attendant's title was altered to that of Port Officer. In the course of years, as the Port of Bombay expanded, the department of the Master Attendant became larger. In 1859, a Dock Master's Establishment was formed which took over all the duties connected with the Dockyard, the Master Attendant's Department from thenceforward performed the commercial duties of the Port alone.

Boat Master: The duties of this official are not exactly known. The post was abolished shortly after it was created. It is supposed that he was in charge of what is now known as the Yard Craft, the innumerable small vessels and hulks necessary to all Dockyards and possibly all landing stages being under him.

Secretary, Accountant, Marine Judge & Draftsman: This appointment was held by an Executive Officer, and his duties were principally the accounts work of the service (and later this department was for administrative purpose placed under the Military Auditor General, the officer in charge being styled the "Naval Assistant to the Military General"); secondly legal duties relating to Court Martial, thirdly Draftsman in charge of the Hydrographic portion which fluctuated considerably as the work was encouraged or otherwise by the various Superintendents or Commanders-in-Chief.

Marine Storekeeper: This individual appears to be the only official whose office was not at some time or other abolished or tampered with, and has existed apparently

since 1670. His duties were the proper and sufficient supply of both European and Country Stores, wood for shipbuilding, coal and other commodities and the rendering of accounts connected therewith. During the later period of the Indian Navy, he was styled the Indian Naval Store-keeper, but the title reverted again to that of Marine Store-keeper when the Indian Navy was abolished.

Marine Paymaster : This official was a civilian and his duties were connected principally with the commercial work of the port; later this office fell into abeyance and was replaced by the Deputy Naval Paymaster afterwards Accountant to the Dockyard, both of which appointments were filled by Senior Pursers of the Indian Navy.

First Assistant To the Superintendent: This office was held by an executive officer; he was practically the Secretary and Assistant to the Superintendent.

On 11th June 1877, the Superintendent of Marine, Bombay, became the Superintendent of Her Majesty's Indian Marine and on the 3rd March 1882, this title was abolished and that of Director instituted. In 1892 this was finally altered to the present designation of Director, Royal Indian Marine. In September 1874, Captain John Bythesea V. C., C. B., C. I. E., was appointed consulting Naval Officer to the Government of India in the Marine Department. His appointment was abolished on 6th November 1880 and on the 17th June of the same year Commander H. M. Street, R. N., (Retired) was appointed Assistant Secretary Military (Marine) Department and on his appointment being abolished in 1884 the post of Assistant Director was created.

The Director of Royal Indian Navy had under his charge all Indian Dockyard Establishments belonging to Government, was also Resident Transport Officer and a Member of the Bombay Port Trust. In the Bombay Dockyard he was assisted by the Deputy Director. For administrative purposes the other Dockyard Officials were grouped as Principal and Superior Officers with a subordinate staff, but their official functions remained practically the same as before.

The following is a list of Superintendents of Marine, Indian Navy, Directors of the Indian Marine and others in charge of the early Marine Establishments, with their lineal successors, the Commanders-in-Chief, Indian Navy.

- 1668 ...Capt. Young, East India Company, Marine
Deputy Governor of Bombay and Commodore.
- 1685 ...President Child, afterwards Sir John Child,
appointed Capt. General and Admiral of the
Sea and Land Forces of the Company between
Cape Comorin and the Gulf of Persia, Sir
Thomas Wyborne being Vice-Admiral of the
Company and Deputy Governor, Bombay.
- 1718-23 ...Capt. Alexander Hamilton, Commodore and
Commander-in-Chief of Marine.
- 1738 ...Commodore Bagwell, Commodore of Marine.
- 1739 ...Charles Rigby, Esq., Deputy Governor of Bombay
and Superintendent of the Marine, Bombay, and
Commander-in-Chief.
- 1754 ...Capt. Samuel Hough, appointed Superintendent
of Marine, 5th April 1754.
- 1772-74 ...Commodore John Watson, Superintendent of
Marine (mortally wounded at the siege of
Thana, 23rd December 1774 and buried at
Sonapur on the following day.)

- 1776 ...Simon Matham, Esq., appointed Superintendent of Marine, died at Bombay on the 22nd June 1776, buried at Sonapur.
- 1778 ...Office of the Superintendent of Marine abolished, and Dockyard and Marine administered by the Master Attendant as a temporary measure.
- 1785 ...Board of Marine established.
- 1786 ...Board of Marine abolished and reorganised, the two junior members acting as Comptrollers of Marine in rotation.
- 1792-1802...Philip Dundas, Esq., Superintendent of Marine, Bombay.
- 1802-13 ...Capt. William Taylor Money, Superintendent of Marine, Bombay.
- 1813-25 ...Capt. Henry Meriton, Superintendent of Marine, Bombay.
- 1825-27 ...Capt. Thomas Buchanan, Superintendent of Marine, Bombay.
- 1828-38 ...Capt. Sir Charles Malcolm C. B., R. N., assumed charge on 4th June 1828, was appointed Rear-Admiral of the Blue on 28th May 1837, and was the first Superintendent of the Indian Navy.
- 1838-43 ...Capt. Robert Oliver, R. N., assumed charge of the office of Superintendent of the Indian Navy on 2nd June 1838, was knighted on 20th June 1843, made Commodore 1st Class, 13th September 1847, Commander-in-Chief, Indian Navy, 4th April 1848. Died in Bombay, 5th August 1848, aged 65.
- 1848 ...Capt. H. Blosse Lynch, officiated as Superintendent from 6th August till 31st August when Commodore Hawkins was appointed.

- 1848-49 ...Commodore John Hawkins, Indian Navy, afterwards Superintendent of the Indian Navy.
- 1849-52 ...Commodore Stephen Lushington, K.B., assumed charge of the office of Superintendent of Marine, and Commander-in-Chief of the Indian Navy on 27th January 1849.
- 1852-57 ...Commodore Sir Henry John Leeke, R. N., Superintendent of Marine 23rd March 1852, promoted as Rear-Admiral 12th June 1854, resigned 1857.
- 1857-62 ...Commodore George Greville Wellesley, C. B., R. N., Superintendent of Marine 7th July 1857, resigned 1862.
- 1862-63 ...Capt. John James Frushard, I. N., afterwards Commodore commanding H. M.'s Indian Navy. Flag hauled down on 30th April 1863, and Indian Navy ceased to exist.
- 1863-68 ...Capt. John Wellington Young, C. B., I. N., appointed first Superintendent of Bombay Marine, 30th April 1863, Resident Transport Officer 22nd June 1867. Died at Bombay, 15th April 1868.
- 1868-77 ...Commander G. F. Robinson, I. N., appointed Superintendent 16th April 1868 and Resident Transport Officer.
- 1877-79 ...Lt. W. L. Searle, assumed charge of the office of Superintendent of Marine and Dockyard and Transport Officer. From September 1874 to November 1880, Captain (afterwards Rear-Admiral) John Bythsea, V. C., C. B., C. I. E., R. N., held office as Naval Adviser to the Government of India during the reorganisation of the Marine Service.

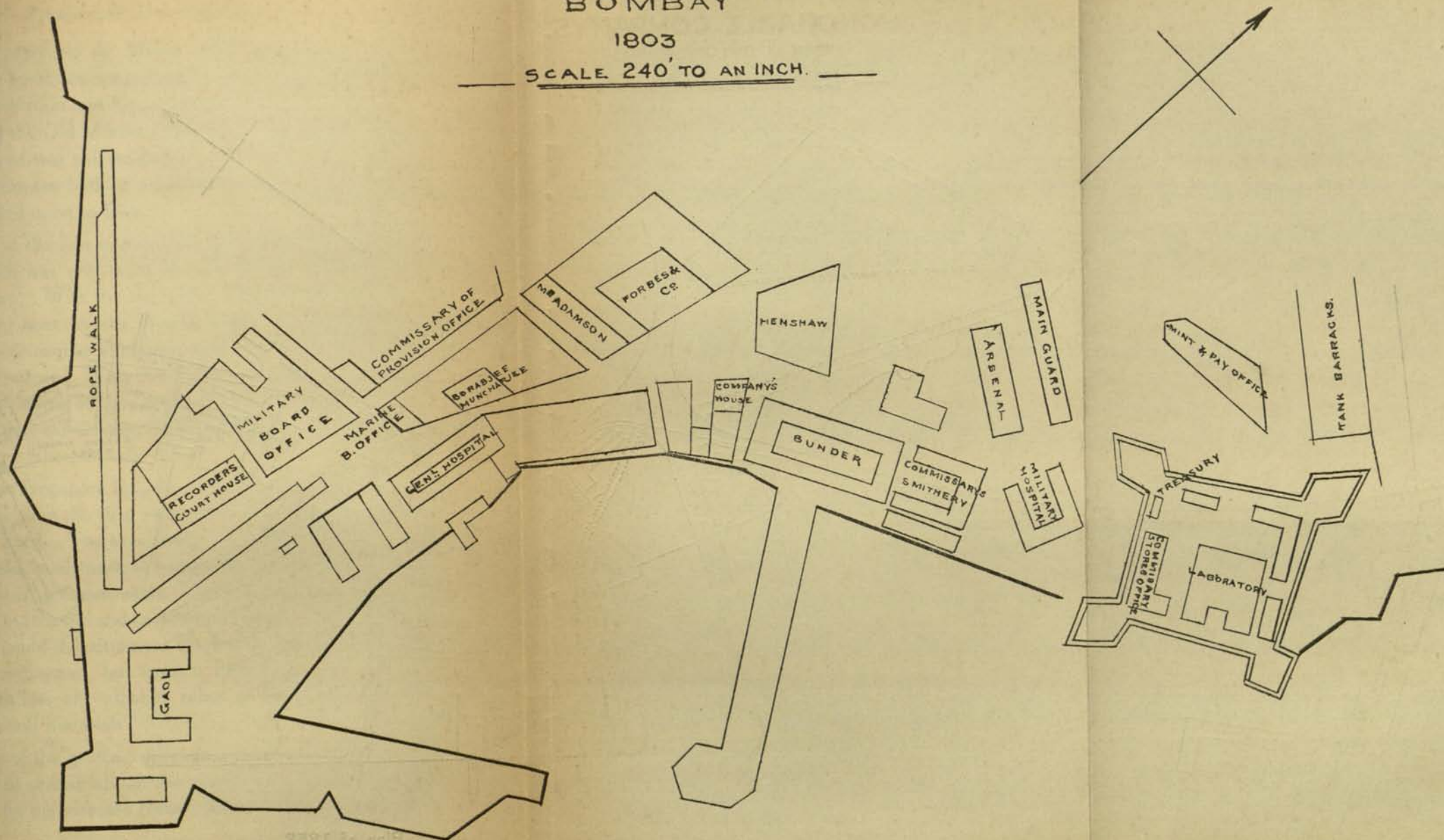
- 1879-82 ...Lt. G. O. B. Carew appointed Superintendent of Marine and Deputy Director, Calcutta, 1st April 1882.
- 1882-83 ...Capt. H. W. Brent, R. N., 1st Director Indian Marine assumed charge 1882, resigned 1883.
- 1883-1898...Capt. John Hext, R. N., Second Director Indian Marine, promoted to Rear-Admiral and knighted, becoming Rear-Admiral Sir John Hext C. I. E., R. N., and retired 14th February 1898.
- 1898 ...Capt. A. Gwyn, R. I. N., appointed Director R. I. N.
- 1898-1904...Capt. W. S. Goodridge, R. N., assumed charge as third Director R. I. N. 5th March 1898, retired as Rear-Admiral, 1904.
- 1904-09 ...Capt. G. H. Howett, R. N., assumed charge as fourth Director R. I. N. on 5th March 1904, retired as Rear-Admiral, 1909.
- 1909-17 ...Capt. Walter Lumsden (afterwards Rear-Admiral) assumed charge as fifth Director, R. I. N., on 17th March 1909, resigned 1917.
- 1917 ...Capt. N. F. J. Wilson, appointed Director Royal Indian Navy from 12th June 1917.
- 1923 ...Rear Admiral Mawbey, R. N.
- 1929 ...Capt. Sir Edward Headlam, R. I. N.
- 1929-34 ...Vice-Admiral Sir Humphrey Walwyn, R. N.
- 1934 ...Vice-Admiral A. Bedford, R. N.
- 1938 ...Vice-Admiral Sir Herbert Fitzherbert, R. N.
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BOMBAY

1803

SCALE 240' TO AN INCH.



Development as a Naval Arsenal.

The outbreak of World War II and the entry of Japan into hostilities necessitated many changes both in the administration and layout of the Dockyard. The work of clearing the Old Marine Office had been taken in hand but the Yard was still inadequate to withstand the greatly increased burden both of administration and repair which it was called upon to bear.

One of the first conversions was that of the Officers' Mess which was converted into the Dockyard Dispensary and Offices. With the exception of the old Commodore's Bungalow, next to the Yacht Club, all buildings of a residential or similar character were converted to a more utilitarian purpose. With the exception of the Old Customs House, the whole of the foreshore of the old Mody Bay including the old Custom Basin and Bunder and Bombay Castle were taken into the Yard.

When Singapore fell, the only Allied Naval Dockyard, other than the then vulnerable Trincomalee, was the Bombay Yard. The machinery, buildings and facilities were all old, inadequate to handle the great burden which fell upon it without notice. Only by a firm policy of throwing out the old and useless and bringing in and building the new could this situation be faced, and it was faced with determination, but from a historical point of view, with much loss of valuable relics of the past both in buildings and materials.

One of the greatest difficulties to be faced was the shortage of skilled labour, the magnitude of which can be assessed by the increase from 1,800 in 1939 to 15,000 in

1945. This was solved to a great degree by the employment of skilled supervisors from Singapore implemented by civilian technicians from the Admiralty. There was no time for shipbuilding as the Yard was fully engaged in repairs to all manner of vessels and craft in addition to the installing of guns in merchant ships, and later to anti-aircraft protection and degaussing.

With the Independence of India and the need for a first class Navy, the facilities of the Dockyard have to be extended to deal with all the work which needs to be performed at a Major Naval Base.

The following are the main headings of the present organisation:

Commander of the yard:	The operation, allocation and the maintenance and repair of all Yard Craft, conservancy of Yard, etc.
Constructive Section:	Employing some 2,500 workers of all classes engaged in building and repair of vessels in the Docks.
Engineering Section:	Some 1,500 workers in the Machine Shops, Pattern Shops, Foundry, Forges and Workshops generally.
Electrical Section:	Including the maintenance of the Dockyard installations, repair of instruments, electronics, wireless, etc.
Naval Stores:	The supply, administration, storage and disposal of all the consumable and other types of stores for the Indian Navy, its various shore establishments in and around Bombay.

Naval Armament Supply : The responsibility of running and maintaining all the Naval Armament Stores, including Magazines ashore, with their laboratories, the maintenance repair and modification of all guns, torpedoes, and anti-mine appliances.

Spare Parts Distribution : This department is maintained for the ordering of all spares, machinery and fittings other than those dealt with by the Store and Armament Departments, the preservation and distribution of spares to departments, depots and ships.

Gun Mounting Department : Comprises three sections. The workshops repair, maintain and manufacture gunnery equipment, keeping items up-to-date and in proper condition. They carry out repairs and adjustments aboard the ships and generally are responsible for the maintenance of gunnery equipment, apart from the storage.

The storage section which also holds all H. M. G. stores consisting principally of merchant vessel defence items, as well as spares for I. N. vessels. The optical section looks after all gunnery optical items such as sights. It is a small but essential part of the organisation.

**Estimating and Work
Planning Department :**

This is a new and small department introduced in 1946 and it has proved to be the most successful.

Its main function is to assist the departments to plan their work and at the same time to accurately evaluate all the work undertaken by the technical departments.

There is a Dockyard Medical Organisation, to look after and care for all personnel in the Yard, also a maternity clinic and creche situated in the city.

With so much expansion and accumulation of valuable property, its protection against the risk of fire became an item of major importance which could not be cared for by the Electrical Department as in the old days. In 1942 Government sanctioned a regular Fire Service of 1 Officer and 37 men which rendered yeoman service during the Dock Explosion in 1944. Since the War a permanent Dockyard Fire Service of 1 Fire Officer, 1 Assistant Fire Officer and 60 other ranks has been established, well equipped with pumps, fire float, foam devices, breathing apparatus, etc., making the Dockyard independent of the public service for all outbreaks of fire of moderate intensity. In addition to attending to all alarms, the service pumps out leaking vessels, barges, etc. fills and tests new ships' tanks, assists divers in clearing underwater obstacles, maintains all fire equipment and provides protection aboard all vessels handling and docking with ammunition.

The Captain Superintendent of the Dockyard is now a Senior Indian Naval Officer who relieved an R. N. Captain on loan in 1951.

The Dockyard comes under the general administration of the Commodore in Charge, Bombay.

PART II

CHAPTER I

Early Shipbuilding

During the first decade of the 17th century the English Navy was not strong. According to Milburn, in 1588 the total number of ships was 150, of which 40 belonged to the Crown and the average burthen was 150 tons.* In 1602 this number was reduced by about a third owing to the wars with Spain and in expeditions to America, Africa, etc. and at the time of the death of Queen Elizabeth there were only 4 ships of 400 tons each. The ships that sailed to India in 1601 were four of the best in the Kingdom.†

Sir Walter Raleigh in his works, published in 1603-04, wrote at length on the poor condition of English Shipping at that time, made a number of suggestions to improve and increase it, and showed how the Dutch and other States excelled the English in numbers and proficiency.‡

The Company experienced difficulty in obtaining large ships of sufficient burthen on hire, such ships being limited in number, but apart from this, the initial success achieved

*"Upto 1628, the tonnage given was hardly reliable, being reckoned by the capacity for storing so many tons of wine. From the time of Henry V and long after, tonnage applied to shipping denoted the capacity to hold a barrel measuring 42 cubic feet in the hold below deck. Therefore a vessel of 900 tons was capable of holding 900 barrels. As the barrels were circular and could not be packed close together, the tonnage was really greater than was given. But from 1628 it was to be estimated from the length of the keel, leaving out the false post (a piece bolted to the after edge of the main stern post) the greatest breadth within the plank, the depth from that breadth to the upper edge of the keel and then to multiply these and divide the result by one hundred." *Sailing Ships & their Stories*, E. Keble Chatterton, p. 231.

† *Oriental Commerce*, Milburn. Introduction, p. IX.

‡ *History of Merchant Shipping*, Lindsay.

by the Company in their first two or three voyages caused the owners of large ships to demand higher prices.*

It is of interest to note that in 1624 King James' Navy contained four first rate ships, fifteen of the second rate, nine of the third, and four of the fourth as well as a few more. There were also four galleys which were no longer of service in view of the larger ships being built and they were sold out of service.

The difficulties experienced in obtaining ships either on sale or charter led the Company in the first instance to purchase land at Deptford in 1607 and build their own dockyard and warehouses. The first two ships built there were the "*Trade's Increase*" and "*Peppercorn*". Milburn quotes the words of Sir William Manson with reference to one of these ships as being "the goodliest and greatest ship that was ever framed in this Kingdom" and from this beginning he adds, "may be dated the increase of great ships in England." This proved a great success to the Company as the cost of building came to £10 a ton whereas the shipowners had demanded £45.

During the reign of Charles I ships generally were of 50 tons burthen and under, equipped with oars and sails. They were square-rigged, three-masted and had two decks. Pett, a distinguished member of a distinguished family was one of the chief influences in regard to the improvements that afterwards were embodied in the ships of England.†

* *Sailing Ships*, E. Keble Chatterton, p. 228.

† *Old East Indiamen*, E. Keble Chatterton, p. 78.

‡ *Sailing Ships*, E. Keble Chatterton, p. 229.

Trade having considerably increased, by 1640 the Deptford Yard was inadequate to meet the needs of the Company and they purchased ground at Blackwall. This land was nothing better than marsh and uninhabited; it was reclaimed and they commenced building ships of 700 and 900 tons burthen and more. Side by side other allied industries dependent on shipbuilding grew up. *

Milburn states: "In these two yards the Company performed every function connected with the outfitting of shipping. They built their own ships and boats, made their own masts, yards, sails, anchors, cables and cordage for rigging. They imported their own flour, baked their own bread; killed and salted their own provisions; imported stoves from the Baltic; made their own casks and even were under the necessity of importing saltpetre from the continent to make their own gunpowder. King Charles I having taken the monopoly of this commodity into his own hands, was unable to supply the Company with the large quantities they required. All these occupations have since become separate trades, which have been successfully carried on by individuals, whereby many families, by industry, have risen to a state of affluence and honourable independence."

In 1640, the Company were offered a ship upon freight at £25 per ton, whereas their own building cost came to £31. She was thereupon chartered. It is recorded that she performed a voyage to and from India in eleven months, being the shortest that at that period had ever been known. This was followed by other shipowners

* *Oriental Commerce*, Milburn, p. 15.

and thenceforward the trade was carried on, partly by the Company's own and partly by hired or chartered ships.*

Thereafter the Company sold off their dockyards and reverted to the practice of chartering ships from shipowners. Though the number of ships in England had increased, many were not suitable for the duties which the Company required them to perform in the course of their trade which included fighting pirates and interlopers. They required ships of large burthen, well armed and manned.

Notwithstanding the restoration of the Company's privileges, they continued to suffer from interlopers. A case at this time occurred which produced the most serious differences between the Houses of Parliament. One Thomas Skinner fitted out a ship in 1657 which arrived in India in 1658. The Company by virtue of the powers they possessed under their new Charter seized Skinner and his effects. Skinner complained to the King who referred his case to the Privy Council from whence it was carried to the House of Peers. The Lords called upon the Company to put in their defence but they declined to do so on the ground that it was not an appeal from any judgment of a lower court. The Lords, however, rejected this plea and fixed the hearing in 1666. But the Company obtained postponement till 1667 and again refused the right of the Lords and appealed to the Commons. This roused the anger of the Lords and they passed a decree for £5,000 against the Company in favour of Skinner. The Commons thereupon passed some resolutions against the Lords and sent Skinner to the

* *Oriental Commerce*, Milburn, p. 15.

Tower. The Lords voted the Company's petition to the Commons as false and scandalous. The Commons retaliated by declaring that whoever voted in favour of the resolution of the Lords would be considered traitors. This controversy continued for several years and the King had to prorogue Parliament seven times. Ultimately the King called both the Houses and a settlement was arrived at in 1670 by which all the resolutions passed by both the Houses were rescinded.*

In 1658 the Company offered to take up ships at 20 shillings over the usual rate if owners could offer ships of 500 tons burthen and more with three decks.†

The first ship of this description was the "*Loyal Merchant*" built by Capt. Millet in 1660. Charles II on inspecting this vessel was so pleased with her construction that he caused an Act to be passed by which it was made a condition that for seven years to come, whoever should build ships with three decks or with two decks and a half and a forecastle with space of five feet between each deck and mounted at least with thirty guns, should for the first two voyages receive one-tenth part of all the customs that were payable on their export and import lading.‡

For the next seventy years and more the Company continued to trade in the vessels taken on hire, but this practice gave rise to a number of abuses. In the words of the author of the *Old East Indiamen* "Officially the Company did no longer build their ships. But the Company's

* Milburn's *Oriental Commerce*, Introduction, p. XXX.

† Ibid.

‡ Ibid.

directors used to build them privately and then hire them out to the Company to the great personal gain of the directors. There were few other ships big enough or strong enough. The directors would know how many to build and to what extent prices should be demanded from the Company and altogether they feathered their nests very nicely. This went on till 1708, when the New and the Old East India Companies were amalgamated. After this year the directors were prohibited by an Act of the Parliament from supplying ships to the Company." *

Instead of the former corrupt arrangement, ships for the Company were to be hired in the future by open tender from the Commander and two owners. But here was a difficulty. In as much as a special type of stalwart ship was required, the supply was small and in the hands of a ring called the Marine Interest.† Therefore the Company was just as badly off as before."‡

This position continued throughout the 18th century and led to a curious situation. "The ships were hired for so many voyages at so much a ton, the Company binding itself to freight a stipulated number of tons. These were generally less than the official measurement. About the year 1700, the largest ships were under 500 tons, though

* *Old East Indiamen*, E. Keble Chatterton, p. 130.

† According to the author of *Sailing Ships*, p. 249, the strength of the English Navy at the time of the death of Queen Anne in 1714, was as under:

7 first rate of 100 guns and upwards, 13 second rate carrying 80 to 100 guns on three decks, 42 third rate carrying 64 to 84 guns on three decks, 69 fourth rate carrying 50 to 60 guns on two decks, 42 fifth rate carrying 30 to 40 guns, 24 sixth rate carrying 20 to 30 guns.

‡ *Old East Indiamen*, p. 130.

their burthen was one-third greater." * The reason why the majority of the ships between the years 1748 and 1772 were of 499 tons was because all ships of 500 tons and more had to carry a chaplain. To avoid this additional charge the ships were rated at 499 tons.

Before this time the post of captain was for sale. The actual owner of the ship from whom the vessel was hired was termed the ship's husband and the practice had been for him to sell the command of the ship to a captain whom he would select. A captain would sometimes pay as much as £8,000 or £10,000 for the privilege of the appointment, as this position afforded him opportunities to make other handsome profits by the goods he brought home from the East in his ship as his own perquisites. To such an extent did this practice become established that the sale of a command became transferable property of the Captain who had bought it. †

The ownership of the East Indiaman was termed a hereditary bottom and the owners of the bottom were entitled to replace the vessel should it be lost, sold, or condemned the service, by another vessel of like description built according to the specification laid down by the East India Company.

This was abolished by an Act of Parliament after the amalgamation of the New and Old Companies as it was largely responsible for the high rates of freights which the Company was forced to pay.

* *Old East Indiamen*, p. 131.

† *Ibid.*

CHAPTER II

Shipbuilding at Bombay

The earliest reference to shipbuilding at Bombay was under the Portuguese in 1625 when the English and the Dutch, during their attack on the port found two boats under construction which they destroyed by fire when they reached the town.*

The first reference to shipbuilding in Bombay after the Island passed to the English is in a letter of 22nd March 1660, from Henry Cary to the Earl of Clarendon in which he proposed the building of two brigantines in view of the danger of Malabar Pirates to the trade. The advantage of building vessels at Bombay is also illustrated by the following extract from a consultation held at Surat on 7th September 1668 :†

“We doe find many reasons inducing us to build them shipping in this country, where tymber, iron worke, carpenters and many other materialls are very cheape, the building farre more substantiall then in England and more proper for these partes, in regard they will require noe sheething, nor caulking more then the deckes, and by the industry of these people from what they have learned from our nation, as handsomely built as our English vessells, and yet further for the drawing merchants to the Port, who may bee encouradged when they see us building shipping there, and for the encouradgement of the natives in setting them on worke, soe that the money expended will remayne in the Island, and the people better enabled to pay those dutyes and rents

* *Anglo-Portuguese Negotiations*, p. 422.

† *English Factories in India*, 1668-69, p. 47.

annually received from them, and the best tymber being procureable neere hand very cheape. Wherefore wee conclude to sett two shippes upon the stocks at their Island of Bombay, one about 200 the other 300 tunns.*

It is stated that :

"Capt. Warde, Commander of the "*Constantinople*" doth affirme that he saw a very convenient place where wett and dry docks may be made at a small charge and that all things sutes for the conveniences, the scituation of the place, the mould and the rising of the tides and they wrote that they were giving their consent to the building of two shippes one of 300 and the other of 200 tons or more for which timber was already stored and added: these carpenters are growne so expert and masters of their art that here are many Indian vessails that in shape exceed those that come either out of England or Holland."†

Capt. Warde also found at this early period (1668) "that there were facilities on this Island for repairing small ships as it is recorded that the "*Chestnut Pink*" was repaired there."

In October of the same year, (1668) Surat further advised Bombay to procure timber from Bassein then under the Portuguese, failing which to procure it from Gandevy or Bulsar, "where is the best and cheapest in judgement of the most knowing here."‡

In order to procure proper timber for shipbuilding at Bombay, the Company deputed Hirji Mody § who was

* Forrest's *Selections Home Series*, Vol. I, pp. 225-26.

† *English Factories in India, 1668-1669*, pp. 79-80.

‡ Surat to Bombay dated 6-10-1668.

§ According to *Mumbaino Bahar* Hirji Mody was born about 1600. He built the first Tower of Silence at Bombay in 1673-74 as his application to Government was dated 3rd October 1673, and his death is said to have been about 1674 or perhaps a little after.

(Note continued on next page.)

in their service and sent him to Bombay in 1668. He, thereafter, never returned to Surat. He was sent to Kalyan to obtain concessions for the Bombay Government from the Kalyan authorities, particularly to allow merchants to reside at Bombay; but his mission was unsuccessful due, it is said, to his old age.*

The Company's representative at Surat had already urged the advantages of teak-built ships over those built of oak in England and referred also to the expert builders, the cheap labour, and to the fine ships they built. In a letter dated 2nd November 1668, Surat wrote to London that a great deal of inconvenience and hindrance was experienced by them in the ships sent out from England and stated :

"They were always out of repaire and ailing one thing or other, when they were to take in their freights, instanceing that either they must be calkt first or that they were leakie and their sheathing must be ript off, or their caskes were leakie and worm eaten, which they were very subject to in this country. Besides our oaken plankes doth not agree soe well in this parching country but shrinkes and wastes exceedingly and therefore (he)

Cawas Mody is believed to have been one of his sons, and most probably succeeded to his father's post as a supplier to the Bombay Government.

In 1676, Cawas Mody was sent by the Bombay authorities to Shivaji to recover monies on behalf of some Bombay merchants. He was appointed to take some letters from Bombay Council to Shivaji and to his Prime Minister Moro Trimbuk but due to stormy weather Capt. Keigwin and a Shanvi were sent.

Parsi Prakash, Vol. I, p. 33 gives the names of Jamshedji, Dadabhai and Rustomji as sons of Hirji Mody and they were probably also in Government service. Jamshedji's son, Jeeji Mody was also in Government service, as an entry appears in Bombay records (1734) wherein he applies for help on account of the destruction of his warehouse by fire.

* *English Factories in India, 1668-1669*, pp. 64, 91, 220.

motioned the building of a shipp or two in the country giving these reasons: that here was as good tymber as the world afforded and espetially near Bombay, to be had cheaper than in any other place, that the carpenters wrought their worke very cheape, substantiall and strong of planke let into each other, with cotton and tar and then spiked which is called rivitting worke; this is very lasting and admits of no caulking or other trimming than chynaming once a year which is done in one springe (tide) and this excuseth all caulking work, ocum, pitch and tarr with expence of a many carpenters and caulkers; then instead of caske which are ever out of repaire. We here use tanks of great vessells made of good thicke planke that reach from the lower decke to the bottom of the hold placed amid shippes that containe 15, 20 or more butts a piece according to the begnes of the vessel that is built and placed on both sides and lastly it will be a conveniency and an advantage to the Island to have them built there that employment may be given for the encouragement of artificers and other labourers to inhabitate there."*

The Court sent out Warick Pett, who arrived at Surat on 11th November 1668 and proceeded to Bombay in January 1669, most likely with Sir George Oxenden.†

He was sent out as a writer in place of his brother Thomas Pett who was too ill to take up the post on 27th March 1668. On 2nd August 1669, writing in ignorance of Pett's death, the Committee said: "We are informed that Mr. Warick Pett is a very curious artist in the building of shipping and hath as much knowledge as most

* *English Factories in India*, Surat, 1668-69, pp. 79-80.

† *English Factories in India*, 1668-69, p. 36.

shipwrights here in London." He was, therefore, to be employed in the building of two ships at Bombay.

Pett died very shortly after his arrival in Bombay which was reported in a letter from Surat to London dated 27th March 1669. From this it appears that Pett was not sent out as a shipwright but as a writer, but the Court after he left London, learnt of his real skill.

The Court reverted to this subject in their letter of 16th February 1670 and stated that they understood the construction of the ships had not been taken in hand and wrote: "if upon second consideration you shall find that building there will be too chargeable, we would have you forbear, but if you shall find that you can build at reasonable rates and so serviceable as you write we do confirm what is written in our pre-mentioned."

In the meanwhile Surat informed the Court by their letter of 13th March 1670, that on account of want of timber due to the obstructive attitude of the Portuguese authorities and owing to want of good carpenters who were not allowed to leave Surat by the Moghul authorities, the work of constructing the two vessels was not taken in hand.

In 1671, it is recorded that a small frigate was purchased "which hath done some service and is now employed down the coast to bring up timber whereof so soon as we can procure a convenient quantity we shall build another."

By their letter of February 1671, Surat Council asked Bombay that if they could build a frigate or two at Bassein at reasonable rates they would have them procured.

But they warned them against buying a frigate from the Portuguese lest "they deceive you with old decayed ones : if you cannot get good strong and well built ones, buy none." *

During these years the Malabar Pirates had grown more bold; they had captured in the harbour a hoy returning from Goa, and had also taken a French hoy and a Dutch junk laden with goods and treasure. Aungier by his letter of 16th April 1672, to the court wrote :

"The Deputy Governor and Council at Bombay weighing well the evil consequences of this capture and their boldness in entering the port, armed out two small boats which made a sharp fight with them." †

In this action one of the enemy vessels was sunk, about 100 men killed and 14 taken prisoners. Aungier added :

"We have built one brigantine at Surat and intend to build another with which we trust in God to clear your coast of them, but they daily grow more strong, arming out fleets of 10 and 15 sail, each carrying from 100 to 300 men so that we judge it very necessary for the greater honour and security of the port that you order a constant guard of 10 or at least 6 brigantines."

This letter is followed by another dated 23rd April 1672, in which Surat Council wrote to Bombay authorities as under :

"You write you cannot buy a Ffrigott at Basseen nor build one at Cullean and therefore desire order to build a shibar with a deck. Wee had rather if possible

* Forrest's *Selections Home Series*, I, p. 57.

† Home Series, (London), Vol. IV, p. 4.

you could procure timber, you built a small Ffrigott with an English head though less then the "*Hunter*," for the better effecting whereof we have sent you downe an English carpenter by the "*Hunter*" but if that cannot bee, then we give leave that you build a substantiall large shibar who may be capable of doeing the Company good service both against the Mallabars as also in the lading and unlading of ships and vessells.*

Unfortunately we are unable to trace the replies which the Bombay authorities gave, but from Surat Council's letter dated 21st June 1672, to Bombay it appears that the latter were unable to do much on this behalf. for, Surat wrote:

"Cursett the Carpenter hath bin with us about the dimentions of the Ffrigott building for the Island; wee understand here to be built Pinck fashion like to that of the Kings built last yeare and of the same dimentions which is: Coveds 30 long, $7\frac{1}{2}$ broad by the Beame, $4\frac{1}{2}$ in the Floor, $2\frac{1}{2}$ depth in hold. The Kings Ffrigott carrys 75 tuns in hold. Now if your Honours will admitt of halfe a more in breadth and half a Coved in depth she will carry 100 tuns in hold and so may be the more serviceable to the Hon. Company and this he saith will be no hinderance to her sayling. Hee desires also that the 'Ketch' may have a head made and 3 masts and a falce keele to make her keep a better wind. This charge he computes about 500 Rupees but wee consider if she have a head and 3 masts she is no more serviceable to lade and unlade our ships; and will be useless to us here and her charge of men will be soe great that wee cannot thinke any ffreights she can make will defray her charges: we approve of a falce keele, though she will

* Forrest's *Selections, Home Series*, 1, p. 62.

draw soe much water that she will often ground in the river and doe thinke that her mast cutt shorter will keep her from rowling so much; and she will keep a better wind. But we shall forbeare our orders untill wee hear from his Honour.”*

From the reference to the name Cursett it would appear that Parsis had attained proficiency in the art of shipbuilding and were occupying a prominent position as shipbuilders at Surat.

The reference to “King’s Ffrigott” is probably to one built for the Moghul Emperor and shows that Surat had attained a reputation in the art of shipbuilding in the 17th century.

In his letter of 12th July 1672, Gerald Aungier wrote to the Court of Directors, “We are also building another small frigate for the security of the port for there is ever an absolute necessity of maintaining a reputation at sea which cannot be done but by a considerable strength to secure your Port and convey your merchant ships” and he stated his intention to build two or three brigantines as soon as timber was procured.

In December 1672, news was received that the Dutch intended to attack Bombay and in consequence of it measures for defence were taken up and all available workmen were employed in strengthening fortifications and the work of the new frigate was temporarily stopped.†

Gerald Aungier left Surat on 21st May 1672, and arrived on the Island of Bombay on 7th June. He remained here for more than three years.

* *Forrest's Selections, Home Series*, I, pp. 67-68.

† *English Factorias, New Series*, Vol. I, 1670-77, p. 54.

During this period, rapid progress was made in the defence of Bombay with the result that it attracted settlers from the neighbouring country. This is confirmed by the following report of the Portuguese Viceroy which he submitted to the King of Portugal:

"The Governor and the Ministers of His Majesty King of England, who are in India are making a large and opulent city of the Island and as those who go there with open consciences our places and towns are being deserted.....if immediate steps are not taken, all the revenues and commerce of these inhabitants will be reduced to the utmost poverty as in the case now in Chaul."*

It may be noted here that at this time (1673) the ships which comprised the Bombay Marine were the "*Revenge*" and "*Hunter*" frigates, the "*Roy*", "*Despatch*", and the "*Malabar Coaster*", and the ketch "*Phoenix*", besides the Dutch Prize "*Mayboon*"—a stout warlike ship for war or merchandise. Besides two new vessels built at Bombay for the Company were taken over by Aungier to relieve the Company from their cost.†

In reply to Aungier's letter of 12th July 1672, the Court in their letter of 12th March 1673, not only confirmed this but also wrote: "If you find further occasion you may build two more which we are convinced that will be manned by your own soldiers which may tend to their healths to take little voyage to the sea."

We further find the Bombay Council writing to the Court in London on 16th December 1674, that it was not

* *English Factories*, New Series, Vol. I, 1670-77, p. 58.

† *Ibid.* pp. 73-74.

necessary to build two additional frigates, but that they intended to build some "Shibarrs which are nimble boats of about 25 tons and exceeding serviceable on all occasions of trade and more terrible to the Malabars being well manned than the others." *

In 1675, we find the Bombay Council framing "Rules and Orders to be observed in the Custom House of Bombay." Under these regulations ships built or brought to the Island were exempted from payment of any charges except when they were sold in which case the owners were to pay 5% customs and 1% towards the cost of fortifications.†

The Court in their reply of 8th March 1676, regarding the construction of shibars stated very significantly: "You buy or build so many as you may have absolute need of and consider you may not buy cheaper than build, for we have observed men are more lavish when they work for a public society than for private persons."

The Court was anxious that no impediments should be placed in the way of private individuals on the Island building their own ships and vessels and for this purpose they asked Bombay not to levy any duties on ships.‡

In the year 1678-79 the Court on taking a review of their activities of the last 16 years thought that an economical system should be adopted both at Surat and at Bombay. The pay of the Agent and Members of the Council was reduced, some factories were withdrawn and

* Home Series, (Misc). Vol. XLVIII.

† Ibid.

‡ Court's letter to Bombay dated 7-3-1677. Vol. VII, pp. 16 & 18.

instead native agents were left to collect goods and recover debts. In the words of the author of the *Annals of the East India Company* :

"If these orders for reducing the rank and allowances of the President and Council at Surat and its dependencies appear improvident and capricious, the orders given for reducing the rank and allowances to the Deputy Governor of Bombay can only be accounted for, by the difficulty which a commercial body had to encounter in passing from trade, their original and habitual object, to the management of a small territory, revenues of which, they considered, might be sufficient to counterbalance the charges of maintaining and preserving it."

It was resolved by the Court that the salary of the Deputy Governor should be decreased to £120 per annum. the military establishment should be reduced to two lieutenants, 2 ensigns, 4 sergeants, 4 corporals and 180 privates, the troops of horse should be disbanded and the head of it, Captain Keigwin dismissed, and the Militia embodied for the defence of the Island should be discharged. The fortifications on which money was spent were of course to be preserved without any further improvements and all the armed ships, except one small frigate and a few boats to defend the fishery, were to be sold off.*

These orders reduced the Island to a state when any European or Indian invader could easily acquire it. And yet the Court summed up by requiring the Governor by strict discipline to have the garrison always prepared for

* Bruce's *Annals of the E. I. Co.*, pp. 420, 424.

a vigorous defence of the Island against foreign and native invaders.

However, it appears that Mr. Henry Oxenden, who was at the head of affairs at Bombay did not carry out these orders fully, the impolicy of which received in the following year a striking illustration when the Marathas occupied Kenery and the Siddees the neighbouring island of Henery.*

At this time (1679) Shivaji possessed a fleet of 20 grabs and 40 gallivats and had taken offence against the English for having allowed the Moghuls to rest their fleet in the harbour. At that time the Bombay Government was in a very weak condition.† They tried, however, to prevail upon the admirals of the Marathas to give up the possession of Kenery Island by sending 3 boats temporarily fitted and with 40 men on board each, but of no avail. The officer and men of one of the boats were induced by the Marathas to land with the result that the former was treacherously killed and the men were made prisoners. Shivaji now collected his armadas at Choul, the Bombay Government sent out a fleet of 8 vessels consisting of the "*Revenge*" with 16 guns, 2 grabs, 5 trading vessels hired for the purpose and they anchored off Kenery. On 16th October Daulat Khan, Shivaji's Admiral, appeared with his fleet, but seeing the English fleet returned to the mainland. On the 18th they bore down on the English fleet. Owing to the suddenness of the attack, one of the grabs the "*Dove*" was surrounded and captured, and the other

* *History of the Indian Navy*, Vol. I, p. 173.

† *Ibid.*, pp. 65-67.

only avoided this danger by keeping aloof, while the five trading vessels set sail in retreat; so that the "*Revenge*" was left alone under the command of Captain Minchin, having also on board Captain Keigwin, the Commander of the garrison, both men of conspicuous gallantry. After a determined and desperate fight they beat off the enemy's gallivats that attempted to board, and sunk five of them; on which the whole fleet, fifty vessels, fled before this single ship and were pursued into shoal water to the bar of Negotan. Several of their gallivats, with recruits and stores, succeeded in getting into Kenery during the fight. Two days later the enemy's fleet came out again from Negotan, but when the English advanced on them, returned into the river.

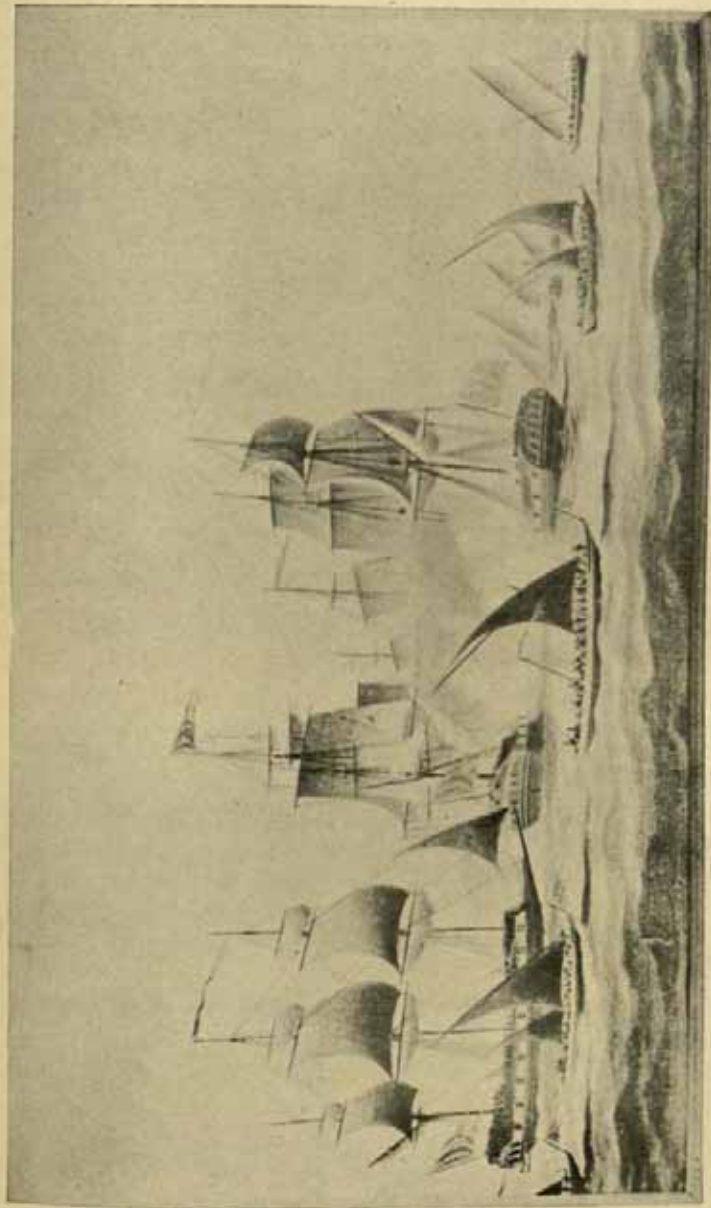
In 1685, John Child was appointed Captain General and Admiral of the Company's sea and land forces; and Sir John Wyborne appointed Vice-Admiral and Deputy Governor of Bombay.*

In the following year, 1686, the seat of Government was transferred from Surat to Bombay.

In the same year, we find the Court in London giving directions to the Surat Council under date 14th July, for the

"Buying or building a stout hulk to be always riding in the most convenient sure place you have for the purpose of carrying our own and our friends' ships by paying the Company such rates for the use of her as may fully recompense the Company's charge of

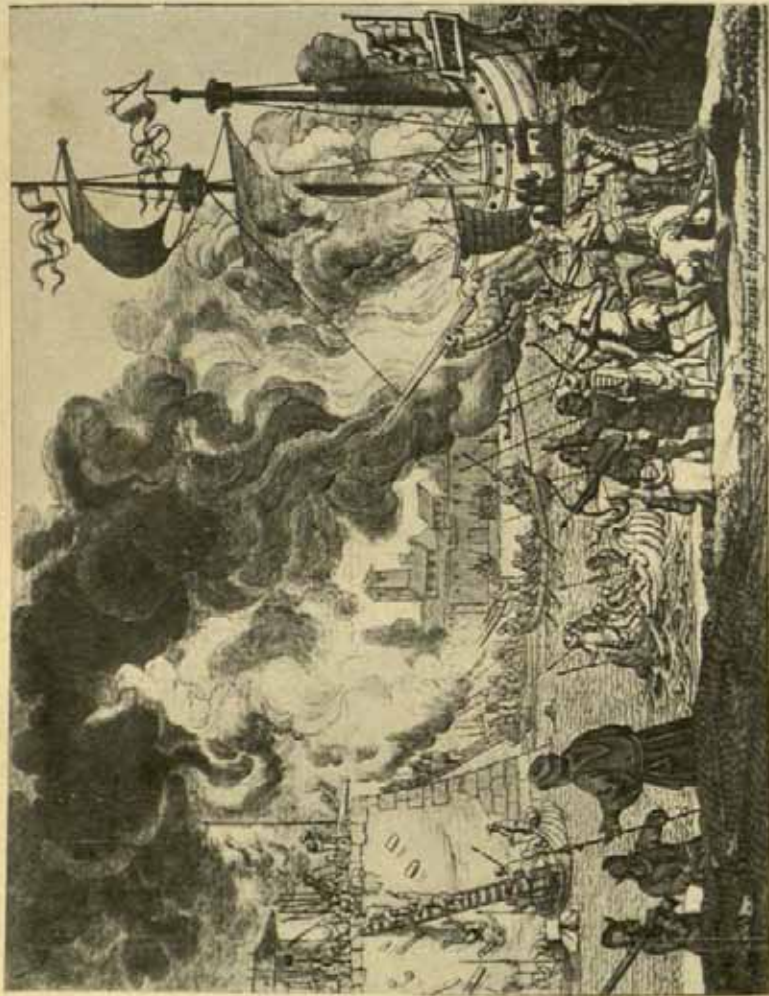
* *History of the Indian Navy*, Vol. I, p. 73.



Mahratta Grabs & Gallivats attack on English ship.

From the picture in the possession of Sir Ernest Robinson

See Page 112



A Fire-Ship burnt before it could doe execution.

See Page 116

building her and keeping her in two or three years time at furthest."*

In their next letter of 3rd February 1687, the Court issued definite instructions that "all ships should load and unload at Bombay" and stated :

"We shall not hereafter build any sloops here to send you being well informed that you can build better there if you have occasion for them and of a wood which the worms will not touch so that what need you have of small vessels may be supplied in the country and we shall send cordage etc. from hence".

And in this letter the following para will be read with interest :

"We hope this carrying all our trades and keeping all our ships constantly at Bombay will enable you in a little time to make the revenue of the Island five times what it is at present in imitation of the Dutch wisdom viz. they have so far improved in planting vineyards and orchards and setting up of stills that good Rhenish wine is sold by the planters to the Company at two pieces of 8 sh. 8d. per quarter cask and Brandy and Cyder at proportionate low rates. But no planters must sell any liquor to any but the Company."

It seems Bombay needed some small boats and in reply to that request the Court by their letter of 6th February 1688, gave sanction to build two or three fly boats "after the Dutch fashion" for fetching paddy, rice and other provisions from the mainland. In the same letter they advised Bombay to be "careful to stock timber,

* Home Series, Misc. Vol. XLIX.

plank and other necessities for building and repairing of shipping beforehand while you have leisure."*

During the period the relations between the English and the Moghul authorities at Surat became very strained and the Court, therefore, once again issued strict instructions to their Council at Surat "to keep Bombay always the seat of our power and the centre of our trade in India." (Letter dated 15th February 1688-89)†

The Company was at times not in a mood to continue maintaining their Marine at full strength and so we find in 1692 the Court desiring to reduce the cost and writing in their letter of 18th March 1692, that they had ordered their "Commissary General" Sir John Galdsborough "to ease them of all wasteful charges in all places."

It was again in 1696 that the Bombay Council was found expressing the desire to have some small vessels built to convey the small craft of the Island in their voyages, as the Marathas "are so hungry that scarce any boats can pass them and they matter not much from whom they take when a good purchase is before them. When we build and send these convoy vessels abroad we will endeavour what possible, that the merchants shall defray the charges thereof."‡

The closing years of the 17th and the opening years of the 18th century were full of troubles to the Bombay Government. There was trouble not only between the English and the Moghul authorities at Surat but also

* P.D.D. Vol. XI, pp. 78, 79.

† Ibid. Vol. XII, p. 13.

‡ Ibid. Vol. XVI, p. 14.

between the Old and the New Companies and trade naturally suffered. At the same time there was a very great storm in November 1704, in which according to the Bombay Council's letter to the Court dated 28th November:

"All our vessels except two small machvas which are of little defence have been lost, it is, therefore, in the highest manner with all possible expedition to build both at Bombay and at Mahim three yachts, three sloops, three brigantines, four large machvas for the defence and trade and two country boats to load and unload goods which will prove of great use to secure both the Island against any attempt and secure the merchants against pilfering sea robbers which of late have very much disturbed the trade."

The pirates were European and Indian and they proved very troublesome to the Company, creating trouble between them and the Moghul authorities.

With the beginning of the eighteenth century the authorities in Bombay were constantly involved in trouble on the sea. Pirates of Beyt and the Persian Gulf and the Sanganians were all active. With the decline of the power of the Siddees that of the Angrias rose. Kanoji Angria had succeeded to the command of the Maratha Navy and began plundering towns on the coast and with the commencement of the century, he began harassing the English and for the next fifty years he and his successors were a source of great trouble. The Bombay Marine at the time was not sufficiently strong to oppose these forces. Fortunately, Bombay had the good fortune to have an active Governor in the person of Charles Boone. He arrived on the Island on 26th December 1715. Bombay

until then was an open town, only the factory being fortified. Boone started building a wall and also 'set to work to build fighting ships'. He had three ships built for the purpose, the "*Brittania*" of 18 guns at Carwar, the "*Fame*" of 16 guns at Surat and the "*Revenge*" of 16 guns at Bombay. A few months later the "*Victory*" of 24 guns was launched. According to the author of the *Pirates of Malabar*, two years after the arrival of Boone, he had at his disposal a fine fleet consisting of nineteen frigates, grabs, ketches, gallivats and rowing galleys carrying two hundred and twenty guns, besides a bomb vessel and a fire ship. The cost of this Marine Force was £51,700. With such a force much would have been attained but owing to lack of good seamen and able commanders, Boone did not succeed in curbing the power of the Angrias in spite of his strenuous efforts. Yet, to quote the same author, "under his fostering care, trade had improved, so that merchants from Bengal and Madras had found it profitable to settle on the Island." He left Bombay on 9th January 1722.*

The following resolution was passed by the Bombay Council under date 9th March 1715:

"Being in want of a good boat for unlashng our shipping and other necessary uses having at present no more than two for that purpose and other times obliged to hire boats for that purpose and Rustomjit having a very strong Surat built boat which his son Nowros by his order makes us a tender of, for fifteen hundred rupees about 20 tons completely furnished with mast, yard, sails, oars, etc. agreed to purchase the same at

* *Pirates of Malabar*, Colonel J. Biddulph, p. 182.

† Rustom Maneck, the founder of the Sett Family.

that price on the Purser Marine's and Ship Carpenter's survey thereof".

She was purchased accordingly.*

There are very few references to shipbuilding during the next few years.

In 1718, the "*Fame*" frigate was repaired and refitted.

In 1726, the Bombay Council considered the strength of their Marine in view of the growing strength of the Angrias and put into order some of their armed vessels and similar action was taken by them during 1730.

In 1731 the sloop "*Emelia*" which was used as a convoy vessel "having wrecked last season coming from Cambay", was lost. The Bombay Council thereupon asked Surat to build a vessel of 90 tons. "To be well provided with close quarters and to burthen and sail well" and further asked them to submit an estimate thereof.

It is evident that upto this time facilities were available at Bombay for the building of small vessels, as indeed they also were at most of the coastal ports; but no proper establishment with a dockyard, attendant builder and ancillary factories for rope-making, coopering, etc. existed.

Shortly afterwards the Angrias defeated the Siddees and had now become powerful at sea by addition to their fleet of grabs and gallivats. This naturally led the English to review the strength of their Marine at Bombay. When they were offered the "*Rose*" galley, built only three years earlier (in 1730) the Board agreed to purchase it for

* Bombay Public Proceedings, Vol. IV.

Rs. 7,693 and an additional payment was made for stores, etc. (Public Department Diary, 1733).

In the year, 1733, Surat built a sloop in place of the "*Emelia*" lost in 1731.

In 1734 we find Bombay selling off two of her galleys, the "*Fort St. George*" and the "*Bombay*" as they were found to be unseaworthy.

The Council then considered the desirability of having a cruiser built on the model of the "*Victoria*" but as the cost was very high they did not proceed with the work.

The following entry from the Public Department Diary VII A (1734) is of great interest:

"Experience has convinced us that vessels built here (i.e. India) of teak timber and according to the manner of Surat rabbet work are far more durable and proper for the climate than any that can be sent from Europe and the "*Victoria*" continues still firm and good, sails better than any of the galleys and is of greater terror to the enemy than any two of the other cruisers and this has chiefly encouraged us to think of building another grab as near as possible of her model and dimensions since an addition to our Marine force too is esteemed absolutely necessary considering our situation and present circumstances and that we have little reason to expect any reinforcement of such ships from England."

By their letter of 2nd August 1735, Surat Council wrote to the Bombay Council with regard to Bombay's request to procure two large boats for them that they would do so on the most reasonable terms. They, however, replied to Bombay under date 23rd October 1735 and

stated that they could not purchase "one under Rs. 2,000 to Rs. 2,500, burthen about 100 Surat Candy with no other necessities than one mast, yard, sail and small grapple."*

Ultimately two boats belonging to Maneckji and Nowroji were surveyed and sent to Bombay, the price to be fixed there.†

This is followed by a letter from Bombay to Surat dated 10th January 1736, in which they wrote: "We have intention at present to build a new grab but we are in want of a good carpenter." It was as a result of this, that Lowji Nusserwanji arrived in Bombay and opened a glorious chapter in the history of the Island. It was this obscure youth, who without money and without influence was destined to lay the foundation of the greatness and importance of Bombay, now no mean city in the British Empire, and to add lustre to the name of his small community.

* Surat Factories Diary, 618, pp. 83, 109, 110.

† Ibid, p. 115

CHAPTER III

The First Master Builder—Lowji Nusserwanji

The terms "Carpenter", "Ship's Carpenter", "Master Carpenter" and "Master Builder" were variously used to describe the heads of the shipbuilding department in Bombay and were in use until the department was abolished in 1885.

The earliest reference is found of a "Carpenter" in Surat's letter of 23rd April 1672, to Bombay wherein they state that if a frigate cannot be had at Bassein or built at Kalian they were sending an English Carpenter to build a shibar.*

The next reference is in Surat's letter of 9th May 1672, to Bombay wherein they write: "The *"Little Charles"* we again return to you to winter there, whom when the monsoon is quite spent let be haled ashore in a convenient place and a survey taken of her defects by the Master Carpenter and others which send up to us that we may resolve what to do with her." This shows that the English Carpenter sent to Bombay in April 1672, had remained on the Island.†

In their next letter of 21st June 1672, Surat authorities write to Bombay that they had given contract to build a frigate to "Cursett the Carpenter."‡

No further references to this officer of the Dockyard are noticed till 1715, when Rustom Maneck offered his

* Forrest's *Selections Home Series* Vol. I, p. 62.

† Ibid, p. 63.

‡ Ibid, pp. 67-68.

boat for sale through his son Nowroji for Rs. 1,500 to the Bombay Council and the same was purchased after obtaining a survey report of the Purser Marine and the Ship Carpenter.*

On 23rd January 1718, we find in a list of arrangements made for the reception of an Ambassador from Surat mention being made of the "Master Shipbuilder" after the name of the "Master Attendant."†

From the proceedings of the Bombay Council of February 1720, we find a reference to a Survey Report on the ships "*George*" and another which was signed by the "Commodore Alexander Hamilton and J. Ingram, Carpenter."‡

At a consultation held on 4th July 1720, we come across the following entry :

"There being a large warehouse of 86 ft. length in the Bazaar belonging to Rama Cammattee with an upper room over it which last will be very proper to hold the Court of Judicature in, and which the President has caused to be valued by Major Vane and the Master Carpenter and Bricklayers we report it worth Rs. 6,000. As that is much less than we can build a proper place for the Court to sit in besides the benefit of the warehouse ; resolved that we purchase it at that price on the Right Hon. Company's account and that the upper room be fitted up for that use and that the 2 per cent fines levied on person's cast (castes) in the Court shall be applied in part payment thereof and the warehouse may be ap-

* Bombay Public Proceedings, 9-3-1715. Vol. IV.

† Ibid, Vol. IV.

‡ P. D D. Vol. 1A, 1720.

propriated as a granary for batty or other goods which we sometimes stand in need of.”²

The building in question was one of the oldest landmarks of our Island known as the Mapla's Pole[†] situated at the corner of Gunbow Street and Bohra Bazaar Street and was pulled down in 1936.

* *Forrest's Selections Home Series* Vol. II, p. 20.

† **Mapla Pole:** One of President Aungier's large minded proposals for improving Bombay was to build a Fair Common House, wherein might be appointed Chambers for the Court of Justice, warehouses or granaries for corn or ammunition and prison for several offenders. The Court of Directors, however, restricted the plan of the building to the construction of the Court House only and accordingly orders were given in 1671 to commence the work. The building was completed in 1676 and justice continued to be administered here till 1720, when the Court of Judicature was removed to Rama Camati's forfeited building in Bazaar Gate. The Town Hall was also shifted to this place. The remains of that Fair House were to be seen till recently on the west side of Bohra Bazaar Street about 300 yards north of the north-west corner of the Elphinstone Circle, and though the original building suffered from the fires of 1803 and 1868 necessitating many alterations and additions, its ruined plinths and stone staircase (now demolished) constituted one of the most imposing and oldest monuments of British Dominion on the Island. It received its name Mapla Pole from one of the Maplas, who was a merchant from Malabar, and a great landowner, and other Maplas who resided there and who during the 18th Century contributed the bulk of coasting trade of Bombay. It was an extensive building, the eastern side being occupied by a row of shops. In the central part, there was a vernacular school which was in the latter half of the 19th Century occupied by an Anglo-Vernacular School, known as Ayerton's School (Sir D. E. Wachha). The Government of India had put the place under the Preservation of Ancient Monuments Act, with a tablet referring to its historical connections with old Bombay.

The property was acquired by the Bombay Municipality some years ago from a Mapla gentleman and its complete destruction in 1936 effaced one of Bombay's oldest monuments, the 250-years-old Mapla's Pole in which were housed at various times, the Town Hall, the Courts of Justice, and a famous Jail, which once housed a Roman Catholic Priest, who converted Nathaniel Thorpe in 1687 and also the unfortunate Rama Camati erroneously convicted of treasonable dealings with the Angrias.

In November 1720, another entry shows Capt. Hamilton's name as that of Master Carpenter on a survey report of a ship. In 1727 under date 14th July we come across the following entry :

"Gunnes Naig the Black Master Carpenter of the Marine having been of a long standing in the service and therein often distinguished himself by his diligence and capacity, for his encouragement it is agreed that he be made Mukadum of the Ship Carpenters of the Island and resolved that a present be given him accordingly."

This is the only reference to a "Black Master Carpenter."*

The Next entry occurs in the records of 1733 when the Bombay Council calls upon the Master Carpenter to report upon the condition of a boat offered for sale by Ambaidas Tukidas and Nagar Lalji.

In December of the same year Edward Roach presented a petition to the Bombay Council in which he stated that he was employed as a shipwright at Surat on construction of a ship which was being built by a private individual on a salary of Rs. 200 per month but owing to the political troubles going on at Surat then, Mr. Henry Lawther employed him on construction of batteries to defend the factory for seven months but was not paid anything during the period. Hence he had submitted the petition to the Council. The Bombay Council thereupon resolved to pay half the amount claimed by the party.†

* Bombay Public Proceedings, Vol. VI.

† P. D. D. Vol. V B, p. 477.

From this it appears that Roach was not employed as a shipwright or ship carpenter by the Company.

In May 1734, the Bombay Council asked the Master Carpenter to report upon the condition of the "*Fort St. George*" galley.*

The name of Lowjee appeared for the first time in Surat Diary No. 620, under date 29th July 1735, where it is recorded that "Lowjee a shipbuilder of this place (Surat) informed them (Surat Council) about some twenty-eight Englishmen who had run away and of whom fifteen had taken service under a French Commander on a ship which was at Daman for repairs."

On 10th January 1736, the Bombay Council wrote to the Surat Factors that they intended building a new grab and were in want of a good Master Carpenter and added: "We are told that there is one in Surat named Lowjee. If he will come hither he shall have all fitting encouragement."† To this, the Surat Factors replied on 22nd January of the same year that they had seen Lowjee and that he would come down to Bombay by the next conveyance "being already engaged in some work that will shortly be finished."‡

By their letter of 17th March 1736, the Factors at Surat informed the Bombay Council that Lowjee would come on the "*Cowan*" attended by ten more carpenters; and three days later they forwarded a list of twelve carpenters who were to accompany Lowjee to Bombay. They further

* P. D. D. Vol. VII A, p. 149.

† Surat Factory Diary 620, (Hand written edition) p. 13.

‡ Ibid. No. 622, p. 72.

informed the Bombay Council that they had debited their account with Rs 300 and added: "We could not prevail on them to come on any other condition." *

On 27th March 1736, the Bombay Council informed Surat that "Lowjee with the rest of the carpenters had arrived on the "*Cowan*" that their pay seemed pretty high but they hoped that they would deserve it by their performance;"† the hope expressed in the last sentence was more than fulfilled.

Thus Lowjee arrived at Bombay between the 20th and 27th of March 1736.

Mr. W. T. Money, the then Superintendent of Marine, in his report to the Bombay Government of 28th September 1811, (paras 20 and 21) stated that in 1735, the Bombay Government sent the then Master Attendant, Mr. Dudley, to Surat to arrange with the Builder there to build a ship for the Company to be named "*The Queen*" and being struck with the abilities of the foreman, Lowjee Nusserwanjee, he (Mr. Dudley) induced the latter to come to Bombay with some artificers. Lowjee refused to come unless his superior consented to his leaving the place.‡

From an entry in the Public Department Diary (Vol. XV of 1742, p. 81) Lowjee mentions the name of Mr. Braddyll,¶ the then supervisor at Surat in a petition for a

* Surat Factory Diary No. 622 (Typed Edition), p. 3.

†Ibid No. 620.

‡ *Memorial of the Lowjee Family*, p. 20.

¶ John Braddyll was 4th member of Council in 1718, subsequently became Accountant and Chief Justice in 1720 on the establishment of the Mayor's Court. He was also a member of the Committee to stop the Great Breach, which member
(Continued on next page.)

loan of Rs. 1,000 and not of Mr. Dudley* and in an entry in the Bombay Public Proceedings, Vol. XII, the name of the Supervisor at Surat given is that of Mr. Braddyll.

But this apparent anomaly is cleared by an article in the *Bombay Quarterly Review* in which the writer states :

"In 1735, Mr. Dudley the Master Attendant, was sent to Surat that he might arrange with Dhunjibhoy, the Builder, of that place for the construction of a ship to be called "*The Queen*" and he then reported so favourably of Lowjee Nusserwenjee, a Master Carpenter, that the President and Council invited him through Mr. Braddyll, the temporary Supervisor of English Trade at Surat, to enter their service and

ship he resigned in 1720. He was involved in a bitter controversy with Rev. Richard Cobbe, Bishop of St. Thomas's Cathedral. He supported Parker's case in the dispute between the Governor and him and voted against his suspension. His tenure of the Chief Justiceship came to an end in much the same manner as had befallen Parker. In February 1721, he was in open conflict with Charles Boone and the rest of the Council. It started over a Naval Officer, Lt. Joshus Wise. He was confined in jail pending a trial. Braddyll considered this illegal without a warrant from the Court and refused to sign it on the ground that depositions against Wise were not sufficient to justify it. He also presented a petition signed by himself, Parker and seven other Englishmen, against Major Vane, the Company's Engineer, of murder and other charges.

On 28th March 1721, Boone denounced Braddyll in Council and Braddyll was dismissed from the Company's service on 4th April 1721. The Company, however, reinstated him by their despatch of 24th March 1722 and he took his seat in Council on 23rd December 1723.

On 20th January 1727, Braddyll succeeded John Hope as Chief Justice but resigned towards the end of the same year and was succeeded by Robert Cowan, the Second in Council who was in office till it was abolished in 1728.

No further reference is found to him after 1735.

* Mr George Dudley arrived in India in December 1728, was General Store-keeper and Secretary to Robert Cowan, President of the Bombay Council in 1732-33, was member of Council in 1741-42 and of the Mayor's Court in 1744. He was in Bombay in 1745.

superintend a building establishment which they proposed to form on their Island.*

It has not been possible to trace from the Government Records the names of the other carpenters who accompanied Lowjee to Bombay but three names appear in the *Parsi Prakash*, a publication edited by the late Khan Bahadur Bomanjee Byramjee Patell. They were Sorabjee Nusserwanjee (younger brother of Lowjee), Khurshedjee Furdunjee Kabra (the ancestor of the Kabraji family) and Rustomjee Framjee (the ancestor of the Rustom-Fram family). Nothing is known about them except that two sons and five grandsons of the second and a son of the third were employed in the Dockyard for a number of years.

From this time until 1764 Lowjee was referred to as "Master Carpenter", except once in 1742 where he was referred to as "Master Builder". The term "Master Carpenter" was not used after 1764, and the title "Master Builder" was used throughout.

It is not to be supposed, however, that on his arrival in Bombay Lowjee assumed the post as Head Builder. From the records the name of Robert Baldry appears as "Shipwright" in Bombay, but it is not possible to trace in which year this gentleman arrived in Bombay and assumed charge of the post. His name appears for the first time in 1739 when a new grab is ordered to be built under his supervision. It must, therefore, be taken that Lowjee

* *Bombay Quarterly Review*, April 1856, p. 332.

was employed immediately under him and this seems clear from an entry in the record of August 1740, which runs :

"Mr. Robert Baldry, late Master Carpenter being deceased before finishing the new grab last launched "*the Restoration*," launched on Tuesday, 12th August 1740, his assistant who perfected and launched her, one Nowrojee,* a Parsi expecting a gratuity, agreed that one of Rs. 200 be allowed him at the President's disposal which is esteemed well pleased, as he is a very dilligent and serviceable workman in his way and Mr. Baldry had he lived must have received so being the customary sum on such an occasion."†

This entry varies slightly from one in the Bombay Public Proceedings, Vol. XII, as follows:

"The grab lately launched through the demise of Mr. Baldry, the Master Carpenter and the want of some other capable European of that trade to see to her building obliged us to commit the same to one Lowjee who was entertained at Surat by Mr. Braddyll when Supervisor there for the service of that place. And the vessel in all appearance being well performed owing in a good measure to his care and knowledge and a gratuity being customary on such occasions, it is agreed to present him with Rs. 300 and two shawls ‡ which we hope will quicken his zeal and attention in future."

In a letter dated 26th March 1755, the Court of Directors stated that amongst the persons who had their

* Lowjee's original name was Nowrojee.

† P. D. D. 1740. Vol. XIII C, p. 475.

‡ The fact that two shawls were presented to Lowjee can only be explained by presuming that at this time Lowjee's eldest son, Maneejee, must have been employed under his father and the second shawl must have been for the former.

permission to go out was Mr. Edward Roach as "Master Builder in our service at Bombay" but they further add "should he be really wanted in his calling, you have our permission to employ him but not otherwise."*

He appears to be the same person who was at Surat in 1732-33 and who applied to the Bombay Council for compensation. (Page 123).

The Bombay Council did not apparently entertain the services of Mr. Roach as they were more than satisfied with the abilities of Lowjee as a shipbuilder.

* Bombay Despatches Vol. 1.

CHAPTER IV

The Lowjee Family

Khan Bahadur Patel, the author of the *Parsi Prakash*, gives the date of Lowjee's birth as 1710. In his letter to the Bombay Authorities dated 10th July 1774, Lowjee states that he had put in 50 years service and in informing the Court of his death, the Bombay Government stated that he was very old at the time. He must, however, have joined the Surat Dockyard about 1723 and according to the prevailing custom among Indian artisans he would have been employed in the first instance as an apprentice, and confirmed as a workman some years later. The probable date of his birth, therefore, may be taken as 1700.

Little is known of his early life or of his ancestors though it has been possible to trace the names of his parents and grand-parents and the ancestors of his father. It is also known that he came from Siganpore, a village some 10 miles from the city of Surat, where he built a small fire-temple which is still in existence. He undoubtedly came from a respectable family for his younger son married a daughter of Dhunji Hatuji Mehta, a very well-known merchant of Surat, and one of his daughters was married to a grandson of Rustom Maneck, the famous leader of the Parsis and broker to the East India Company.

The first reference to shipbuilding after the arrival of Lowjee was in May 1736, when the Bombay Council unanimously resolved to have a grab built 84 ft. long by

the keel and proportionate breadth and they further ordered that all materials be supplied at cost price.*

In February 1737, two boats were ordered to be built as the two which were bought from Maneckji Nowroji and Bomanji Rustomjee were found to be too weak for the service. In July of the same year three flat bottom boats were set on the stocks, as it was found to be cheaper than additional fortifications proposed to be carried out; and they add that should affairs take a more favourable turn than we can expect, the boats may be disposed of, whereas the charges of raising fortifications would be actually more.†

At the same time, as the Angrias were making efforts to buy gallivats in Bombay, a proclamation was issued prohibiting any persons from selling any boats, etc. to any one without permission from Government.

In March 1738, the Madras Government asked Bombay to build them a ship of about 200 tons on the Company's account which was agreed to.‡

This appears to be the first instance of a ship of such dimensions built here.

In September of the same year the Bombay Council thought it an absolute necessity to fit out 10 small gallivats for the defence of the Island. This was done as the Portuguese had some time back landed at Worli and had burnt the village.§

* P. D. D. Vol. IX, p. 405.

† Ibid. Vol. X. pp. 50, 196.

‡ Ibid. Vol. XI, p. 92.

§ Ibid. Vol. X B. p. 365.

In February 1738, the Bengal Authorities desired to have a sloop built for them, but this was declined as the workmen and timber were required for Bombay's immediate needs; hence they despatched a small vessel, the "*Neptune*" smack which was built at Tellichery, to meet Bengal's immediate need.

It appears from a later entry that the ship built for Madras, the "*Princess Augusta*", and a sloop for Bengal were constructed and finished in April 1739 and another for Bengal was ordered to be built "with all expedition."*

Due to these shipbuilding activities there followed a shortage of timber suitable for shipbuilding and the Council entered into a contract in December 1738, with one Burjor Limji who agreed to arrange for supplies before the next monsoon.[†]

In December 1739, a grab, 90 ft. by the keel, 30 ft. by the beam, and 12'8" in the hold to carry 20 guns, 10 in a line, was ordered to be built for which "our shipwright, Mr. Robert Baldry, be ordered to begin and finish the said grab with all convenient haste, for which service we resolve to gratify him as the performance shall be found to deserve."

This is the first entry when the name of Mr. Baldry appears as a shipwright.

By this time shipbuilding activities had apparently much increased on account of the expedition against the Angrias. This is evidenced by an entry laid before the

* P.D.D. Vol. XI B, pp. 183 and 203.

† Ibid, p. 183.

Board that a contract be made on behalf of the Company for the supply of timber with two Parsis, Bhikha Rustom and Burjor Limji, timber merchants, because of "increased demands of our Marine."*

In January 1740, the "*Adventure*", a grab, was purchased on a survey by the Master Attendant and Master Builder for Rs. 3,000 but was sold for the same amount in August of the same year as "the service is no longer in want of such vessels."

In June of the same year the "*Carolina*" galley was sold off as she was unfit for further service. The purchaser was "Mr. R. Baldry, our shipbuilder."

The President then placed before the Board for their consideration details of the number of ships of the Bombay Marine and it was considered to be insufficient †

On 12th August 1740, a new grab, the "*Restoration*" was launched, and from the records it appears that Mr. Baldry died some time before the vessel was launched. The grab appears to have been constructed under Lowjee's supervision as he received the usual gratuity.

From this time onwards Lowjee occupied the position of Head Shipbuilder or, as was better known, the Master Builder.

In May 1741, the "*Neptune Prize*" was found to require complete repairs and as Bombay's defences were considered inadequate, the work was ordered to be put in hand at a cost of Rs.4,500.‡

* P. D. D. Vol. XII C. p. 839.

† Ibid. Vol. XIII C. p. 450.

‡ Ibid. Vol. XIV B. p. 216.

In July 1741, a sloop the "*Porto Bello*" was launched for the Bengal Government and it was despatched under one Mr. Lawrence.*

The exigencies of the defence of the Island were so great and the strength of the Marine was so insufficient that the Bombay Council purchased two ships, the "*Pembroke*" owned by Mr. Massey, and another of 400 tons. They further ordered a new vessel

"to be immediately set on the stocks and committed to the charge of Lowjee, our Head Carpenter, of the following dimensions keel 90 ft., beam 30ft., depth in the hold 14½ ft. and to carry eleven guns in a line. But that she may be better able to proceed on voyages to Moco or Persia, we judge it will be most eligible to make her ship fashion with a head, though not so full bowed as to obstruct her sailing."†

It was further ordered that three small boats must be built. By this time, shipbuilding at Bombay must have acquired a reputation, for, Fort St. George ordered two more boats to be built, which order was accepted.

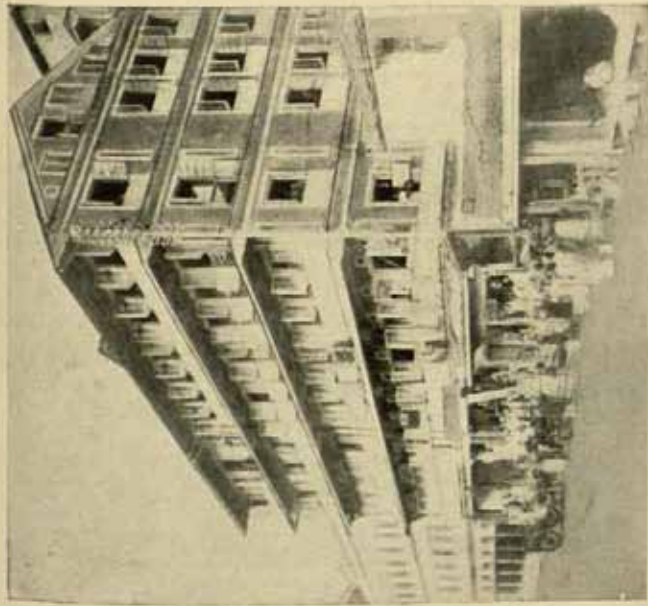
Lowjee had established his reputation by his industry and zeal, for in February 1742, he applied for a loan of Rs. 1,000 to complete building a house‡ for the residence of his family which was till then at Surat.

"The Board taking into consideration the merit of the petitioner who in the several vessels he has been

* Bombay Public Proceedings Vol. XII.

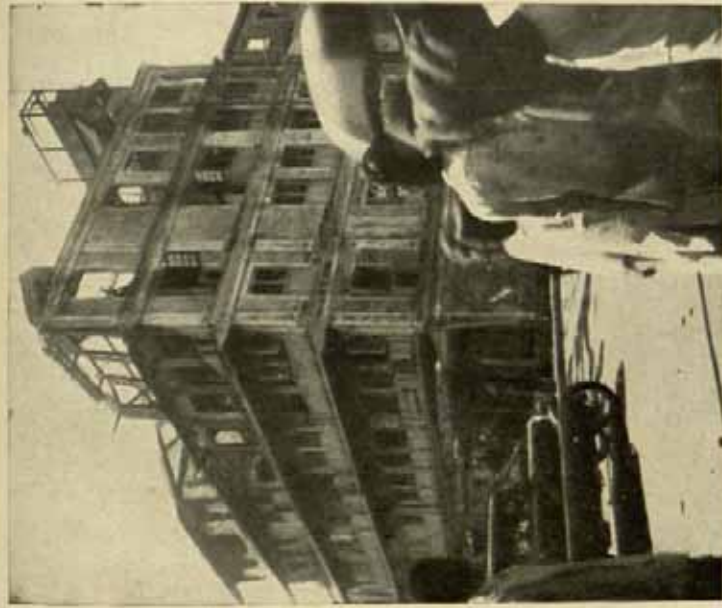
† Ibid

‡ The house was built in 1742-43 and was originally of two storeys. Additional storeys were added some 50 years later as the family grew in number. The picture shows the house as it stood at the beginning of the present century. It was destroyed by fire on 4th February 1933.



Lowjee Wadia's House in Parsi Bazar Street.
From a photograph in the possession of the late
Mr. Rustomjee Maneckjee D. Wadia.

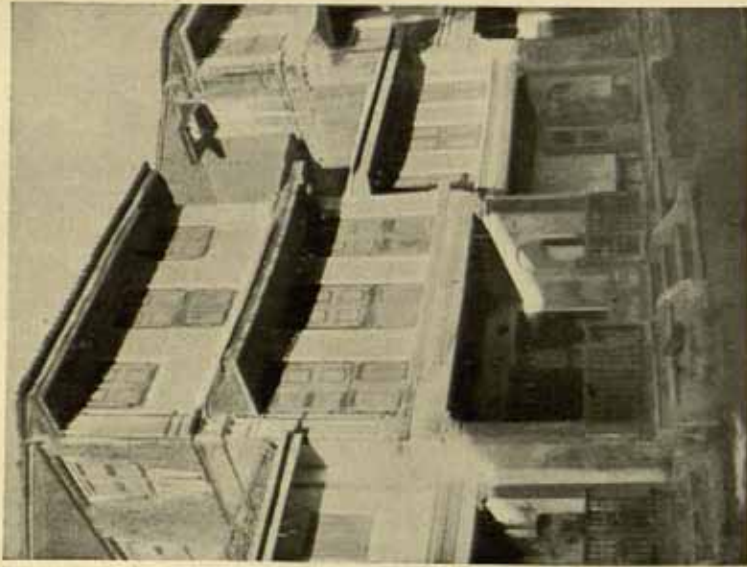
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Lowjee Wadia's House.

It was destroyed by fire on 3rd February, 1933. Noble Chambers now stand on the site. It is no longer in the hands of Wadia. The two storey house on its right is known as Bai Motilal Wadia's House built by her grandfather, Nusservanjee Maneckjee Wadia (1754-1814) in the last decade of the 18th Century.

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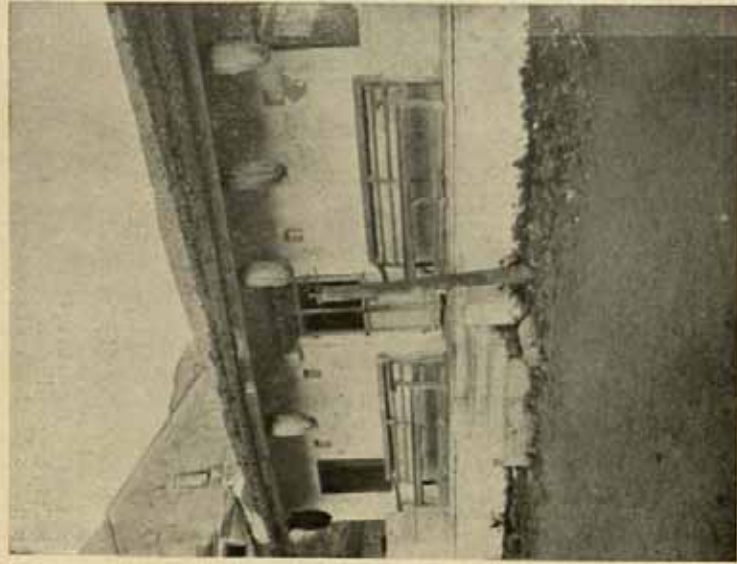


The site of Lowjee's residence at Sigapore.

The land on which the two storey house now stands belonged to Lowjee who had a house built on it. That house was pulled down between 1860 and 70 by the then new owner.

From a photo taken by Prof. A. R. Wadia.

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Lowjee Wadin's Agiary at Sigapore.

Lowjee had built a fire-temple (agiary) in the second half of the 18th century. The present building was constructed by his great grandson Nowrojee Jamssetjee Wadin in 1849.

From a photo taken by Prof. A. R. Wadia.

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employed upon, has given proof of his abilities, nor indeed have we any other of his profession equally skilled and showing the favour desired will, we presume, be an excitement to his diligence and care besides the tie of fidelity to us while his family remains under our Government and, therefore, the Board unanimously agrees to the sum of Rs. 1,000 to be received again within the term of 7 or 8 years and the treasury be directed to pay him that sum."*

In April 1742, the Superintendent was asked to consult the Master Carpenter and give orders for a large boat to be built to replace one returned to the Company's Broker Jaggernath.† At this stage, the Bombay Authorities received peremptory orders for reduction of Marine charges from the Court of Directors who at the time were seized with one of those fits of false economy to which they were prone at times and so the construction of the ship which was ordered to be built but which work was not taken in hand, was stopped.

"The strength of the Bombay Marine just before the reduction was one ship of 44 guns, four of 28, four of 18, six bomb-ketches and twenty large gallivats employing about one hundred officers and about two thousand men."‡

As a result of the reduction in the strength of the Marine Service the various piratical tribes inhabiting the coast caused havoc to shipping and consequently the merchants greatly suffered. The merchants approached the authorities to take steps to protect their trade and as a

* P. D. D. Vol. XV A, p. 81.

† Ibid. Vol. XVI B, p. 256.

‡ *History of the Indian Navy*, Vol. I, pp. 118-119.

result of this a small, but permanent increase was made in the Company's Marine.

The Marine Force was further strengthened on account of the war with France, according to a writer in the *Pioneer* of 24th February 1918, and so in 1744 it was increased to 20 ships, which included 2 ships of 28 guns, one grab of 20 guns, five ketches carrying 8 to 14 guns, and 8 gallivats. All the ships larger than gallivats were manned mainly by Europeans.

"On 21st August 1742, the ship "*Success*" was launched, which in the opinion of the Commanders and other intelligent persons being extremely well built and in such case it being customary to give something to the Master Builder, the Board agreed to fix the sum of Rs. 300 which the Marine Paymaster is empowered to pay on to Lowjee and a sum of Rs. 80 more distributed among the carpenters and other workmen in the Yard."^{*}

In April 1743, orders were received from the Madras Government to build a brigantine and the Master Carpenter was asked to build her "conformable to the dimensions specified in their letter."[†]

This was launched in July of the same year under the name of the "*Brilliant*" and as the work was well performed Lowjee "was called in and presented with two shawls" and he also received a present of Rs. 150.[‡]

The want of a large boat for landing and shipping of goods being felt, one was ordered to be built 56 ft. keel, 19 ft. breadth and 8 ft. depth in the hold, the cost of which

* P. D. D. Vol. XV C, p. 452.

† Ibid. Vol. XVI A, p. 119.

‡ Ibid. Vol. XVI B, p. 233.

according to the estimate of the Master Carpenter came to Rs. 6,541. At the same time an express boat was ordered to be built at a cost of Rs. 883, the dimensions of which were: length of the keel 30 ft., breadth of the beam $10\frac{1}{2}$ ft., depth in the hold $4\frac{1}{2}$ ft.

In 1744, Lowjee was officially associated with other marine officers in surveying the vessels, as appears from a report signed by Mr. Samuel Hough (Superintendent of Marine), Thomas Lack and Robert Lyall.

In November 1744, the President and Council at Madras asked Bombay Council to build two vessels for them which was agreed to.*

In 1745, the Viceroy of Goa wrote to the Bombay Council requesting them to build two large grabs which he required to use against his enemies. This was agreed to as "the same will be the means of keeping a number of workmen upon the Island and be otherwise beneficial."†

In 1746, the London Authorities gave permission to Bombay Council to have a sloop built. This was carried out, and the "*Drake*" was launched on 5th August 1746. According to custom, Lowjee received a present of Rs. 300 and the sum of Rs. 50 was distributed amongst the carpenters as a reward for their diligence.‡

At the same time a sloop of about 30 tons was ordered to be built to replace the "*Neptune*" which was reported to be much decayed.

* P. D. D. Vol. XVII B, p. 370.

† Ibid, Vol. XVIII B. p. 562.

‡ Ibid, Vol. XIX. pp. 316 and 358.

During 1748 a sloop for the factory at Anjengo was built and an order was given for the construction of a sloop for the Bengal Presidency. This was one of the three built at Bombay for the Bengal Pilot Service, the "*Grampus*," "*Bonnetto*" and the "*Dolphin*".*

In the beginning of 1749, the Bombay Council once again had to consider seriously the strength of their Marine Force to protect commerce on the Malabar Coast against the depredations of Angria and the other pirates, many of whom possessed cruisers of considerable strength. Angria in particular was at that time a formidable and dangerous enemy. They, therefore, decided to maintain a force of four capital ships, four ketches or sloops and ten gallivats.

In 1751, the Bombay Authorities felt the want of a proper vessel to carry a pilot[†] in any weather to ships that may be in distress. They cited the instance of the "*Warren*" which was anchored off the Island in the previous year where she had to lie in great distress for several days until a water boat was got ready but was then found unequal for the task until the weather moderated. It was, therefore, resolved to have a special pilot boat built at a cost of Rs. 4,300.‡

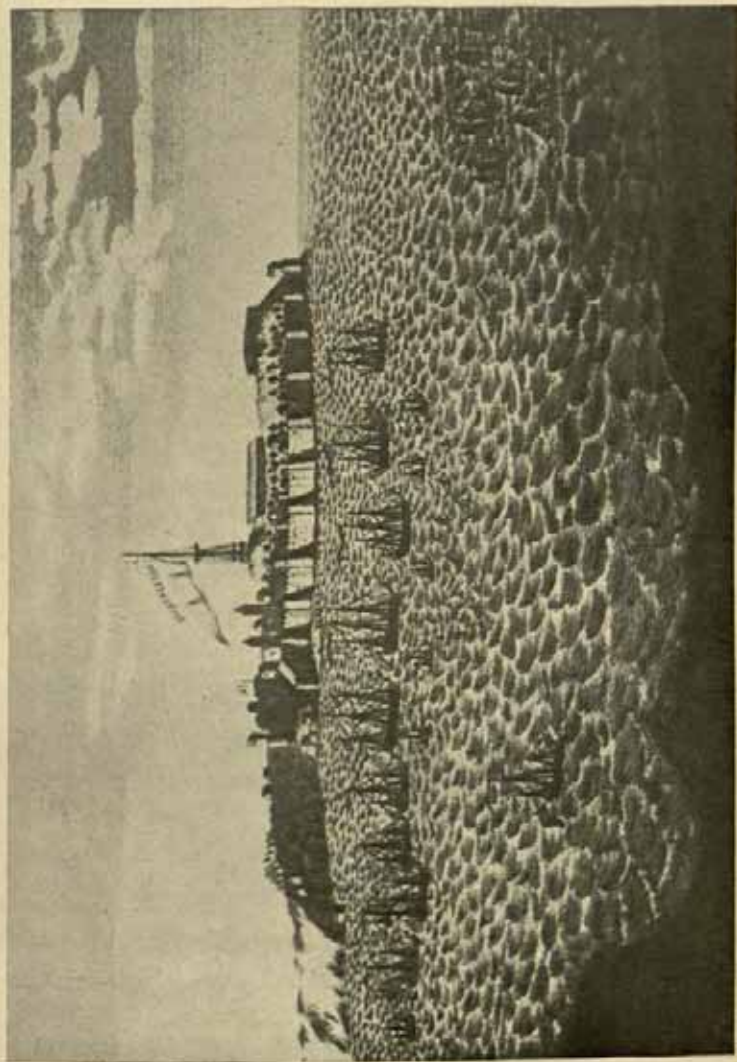
During the next two years no work of importance was carried out. In May 1754, two luggage boats were ordered to be built to replace the old decayed ones.¶

* P. D. D. Vol. XXI A. 1748, pp. 22 and 220.

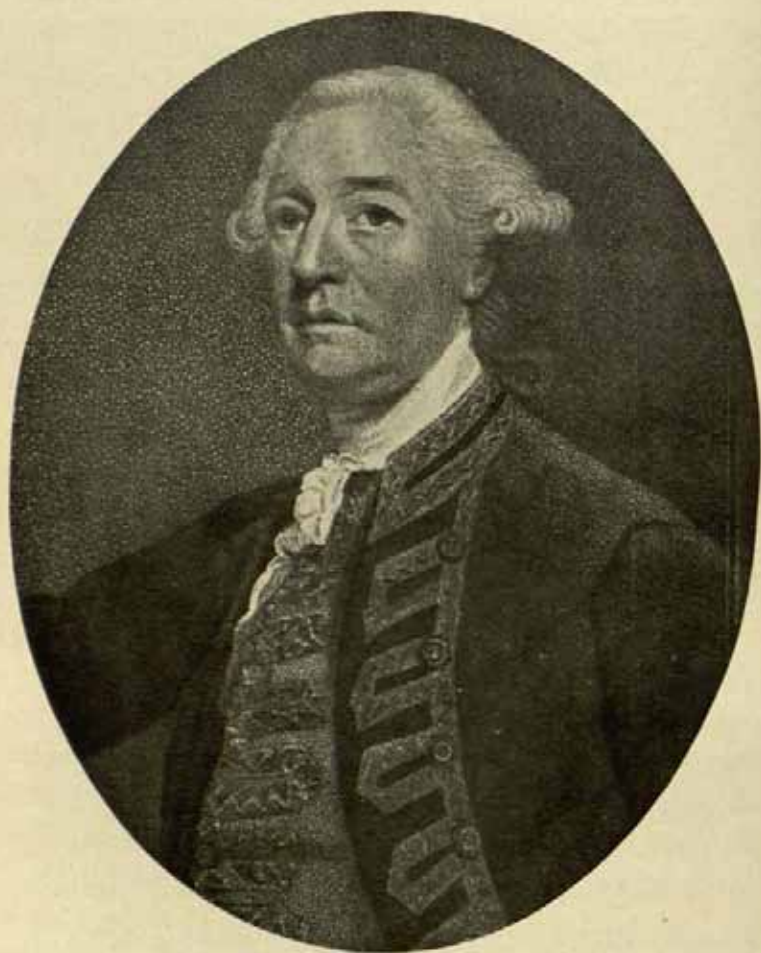
† Apparently, this was the introduction of the practice of having pilots conveying vessels from the high seas to the harbour.

‡ P. D. D. Vol. XXIV, A, p. 47.

¶ Ibid, Vol. XXVII A. p. 162.



Geriah Fort.
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SIR WILLIAM JAMES BART.

Commodore in the Hon. East India Company's Service.
Chairman of the Court of Directors.

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In the same year, the Bombay Council considered ways and means to establish the fleet of vessels which the London Authorities now desired to be built up. They directed the Superintendent of Marine, Captain Samuel Hough, to make enquiries concerning suitable timber and other stores available on the Island and they further resolved to build a cruiser to carry 20 guns (12 pounders) since the "*Protector*" cruiser was found to be unfit.*

The Court further sent instructions regarding the 10 gallivats which number was to be constantly maintained.

The Court of Directors wrote to Bombay in their letter of 5th April 1754:

"Being informed that Lowjee our shipbuilder has behaved in that station with great industry and fidelity, we have thought proper as a token of our regard to send a Silver Rule† and a Set of Instruments by our Superintendent Captain Hough which you are to present to him as likewise with a shawl in our name."

The Rule bears the following inscription :

"Presented by the United East India Company to Lowjee Bomanjee their Master Builder at Bombay as a Memorial for his long and faithful services."

The Coat of Arms of the Company—two lions holding a shield and the words "*auspicio regis et senatus anglia*"—are engraved at each end of the Rule.

*P. D. D. Vol. XXVII B. p. 330.

†Though it is now nearly 200 years since the Rule was presented it is still in the possession of members of the family along with all other presents presented either by the Hon. East India Co. or by the Lords of the Admiralty.

The year is not given but it is known to be that presented in 1754. There is, however, a mistake in the name of Lowjee's father. It should have been Nusserwanjee and not Bomanjee.

There is no record of the recommendations of the Bombay Council to London but from another entry it appears that Captain Hough returned to India again in 1754 and it is quite possible that he brought the merits of Lowjee to the notice of the Directors.

In the same year the Court issued Rules and Orders for the Marine Department. Under these Rules, the Commodores, Commanding Officers, Master Attendants, Master Builder, and all persons belonging to the Marine Yard and Bunder were placed under the Superintendent's order but the direction of the workmen as to the time and manner of employing them was to continue with the Master Attendant.*

The repair and direction of alterations to the vessels were placed under the Superintendent who was to carry out small repairs with the President's permission, but for major repairs, a survey was to be made and laid before the Governor and Council for their approval, the issues and expenses to be through the Marine Paymasters and indents through the Superintendent.

Timber and other materials were to be contracted for in the Council and the Superintendent was to see that proper stocks were maintained.

* Bombay Despatches, Vol. I, p. 25.

Repairs, improvements and alterations to docks etc. were left to the Superintendent, but all indents had to be checked and countersigned by the Master Attendant.

Watering and ballasting of the vessels and the hiring of boats was the business of the Superintendent but all money had to be collected by the Marine Paymaster.

The Superintendent could employ workmen on private ships provided that such work did not in any way interfere with the Company's work.

The most important rule made was that the Superintendent was to have a seat and voice on the Council and Board in all affairs relative to the marine only, his rank to be next to the last member of Council.

In February 1755, the "*Viper*", a new boat, was ordered to be rigged as a cruiser and the Superintendent proposed building a new ketch.*

In the same year, the Court in their letter of 26th March while approving the Bombay Council's intention to build a small cruiser in the place of the "*Drake*" ketch sold off, and expressing their great satisfaction at the increase of Bombay's population wrote :

"It is very agreeable to us to observe that notwithstanding the superstitious attachment of the Indians to the place of their nativity yet that the number of inhabitants has greatly increased and that some very substantial people have settled among you to the great advantage of the island; and as it is our earnest desire that as many people as possible, especially those of circumstance, be encouraged to settle at Bombay,

*Bombay Abstract Letters Received, Vol. I B, letter dated 21-2-1755.

therefore, we strongly recommend it to you to use the most prudent, equitable and encouraging methods for that purpose and in particular we direct that you suffer them to build houses, wherever it shall be convenient to them so as not to incommode the defence of the place, that they have free liberty to build and repair their own ships themselves in what manner and how they please, and be supplied out of stores all materials: they have likewise free liberty of appointing Commanders (being subjects of Great Britain and Ireland) for their own ships agreeable to their own choice and election without any persons whatsoever interfering in the same, and in general that they have all the reasonable privileges that can possibly be given them.*

The cruiser, which was ordered to be built in 1754, was completed and launched on 22nd September 1755, with slight modifications with regard to the number of guns. She was named the "*Revenge*" and carried 18 nine pounders instead of 20 as originally intended.

In their letter of 31st January 1756, to London, Bombay Council informed London that the "*Revenge*" commanded by Captain William Dicks sailed even better than the "*Bombay*" grab.†

In this same letter the Court was informed of the arrival of the Royal Squadrons under Admirals Watson and Pocock. On their arrival they were saluted with 15 guns and also on their landing. Both Admirals were accommodated at the Tank House and both the flag ships, the

* Bombay Despatches, Vol. I, p. 28.

† Bombay Abstract Letters Received, Vol. I B.

"*Kent*" and the "*Cumberland*" were docked, repaired and made ready for sea.

The Royal Squadron under Admiral Watson was engaged in the reduction of Gheria which was attacked on 12th February 1756, and was taken on the 13th. By this action the power of the Angrias was finally crushed and their fleet destroyed;* and in this action the ships of the Bombay Marine played a conspicuous part.†

The extent of the annoyance which the Angrias gave to shipping will be realised from the following extract of the instructions given to Robert Clive and Samuel Hough by the Bombay Council :

"It is probable that Toolajee Angria may offer to capitulate, and possibly offer a sum of money; but you are to consider that this fellow is not on a footing with any prince in the known world, he being a pirate in whom no confidence can be put, not only taking, burning, and destroying ships of all nations, but even the vessels belonging to the natives, which have his own passes, and for which he has annually collected large sums of money. Should he offer any sum of money it must be a very great one that will pay us for the many rich ships he has taken (which he cannot enumerate), besides the innumerable other smaller vessels; but we well remember the "*Charlotte*" bound from hence to China, belonging to Madras; the "*William*" belonging to Bombay, from Bengal; the "*Severn*" a Bengal

* For an account of the reduction of Gheria see Col. Biddulph's *Pirates of Malabar*, pp. 233, 251.

† The Angria Fleet at this time consisted of three three-masted ships carrying 20 guns each, nine two-masted carrying 12 to 16 guns, 13 gallivats carrying 6 to 10 guns, 30 others unclassified, two on the stocks, one of them pierced for 50 guns.

freight ship for Bussorah, value nine or ten lakhs of Rupees: the "*Derby*" belonging to the Hon. Company, with the grab "*Restoration*", value Rs. 5,22,743; the sloop "*Pilot*" and the "*Augusta*"; also the "*Dadaboy*" from Surat, the "*Rose*" from Mangalore, grab "*Anne*" from Gombroon, the "*Benjimolly*" from the Malabar Coast and the "*Futte Dawlat*" from Maskat*.

The reduction of this fortress was the occasion for an act of noble-mindedness shown by Admiral Watson.† Robert Clive (afterwards Lord Clive) was the Commander-in-Chief of the land forces while Watson and Pocock were in charge of the naval forces. According to the prevailing custom Clive was only entitled to a share equal to that of the Captain of a King's Ship. Clive refused to accept this arrangement. The Council of War at Bombay declined to depart from the customary rule and there was a deadlock. To quote the words of the author of the *Pirates of Malabar* "like Drake, who could rather diminish his own portion than leave any of his people unsatisfied, Watson undertook to give the Colonel such a part of his share as will make it equal to Rear-Admiral Pocock's, and this was duly entered in the proceedings."

* *Pirates of Malabar*, p. 241.

† Admiral Charles Watson was born in 1714 entered the Navy in 1728 as a volunteer per order on board the "*Romney*" passed his examination in 1734-35. As the nephew of the First Lord of the Admiralty he had rapid promotions through the subordinate ranks. In 1748 he was promoted to the rank of Rear-Admiral and in 1754 was appointed Commander-in-Chief in the East Indies. He took part in the reduction of Gheria with Commodore James and Robert Clive. He also joined Clive in reducing Calcutta and dethroned Surajul Daulah. In the Mir Jafar affair he had no hand and his signature was forged either by Clive or at Clive's order, as Watson had refused to be a party to the affair. He died at Calcutta on 16th August 1757, in the 44th year of his age. A monument to his memory was erected in Westminster Abbey.

But when the time of actual division came and when Admiral Watson true to his promise sent Clive a thousand pounds to make his share equal to Pocock's, Clive sent it back again. He was satisfied with the acknowledgment of his claim but would not take what came out of Watson's purse.*

In 1757, the pilot vessel "*Phoenix*" was lost near Bushire and the Superintendent proposed buying a sloop which had just been built for its owner. The Council, in view of the urgency of the matter agreed to purchase it for Rs. 5,181.†

In 1757, two schooners were built for Bengal and were ready to be sent to that Presidency.‡

At the same time it is recorded that a ship belonging to a merchant trading to Macao was repaired at the Docks; besides, several luggage boats were also built during these years.

It is recorded that the "*Revenge*" outsails everything she has yet met with.¶

The new dock having been completed it enabled the ships of Admiral Pocock's Squadron to be repaired.

At the request of Madras Authorities a sloop was ordered to be built for the west coast of Sumatra.**

With increased activities in shipbuilding the price of timber had doubled in the course of three years. It was,

* *The Pirates of Malabar*, pp. 242-43 and 249.

† P.D.D. Vol. XXX A, p. 245.

‡ Bombay Abstract Letters Received Vol. I B.

¶ Ibid.

** P.D.D. Vol. XXXI p. 338.

therefore, ordered that large teak timber could be imported for Government use only, private merchants getting their supply from Government Stores.*

The Dockyard was so full of work on account of the visits of the Royal Squadrons and also on account of shipbuilding at Bombay that when the Bengal Government sent orders for building some schooners and luggage boats it was proposed that the latter be built at Gandevi, if terms offered were reasonable. From the next entry it is recorded that they were so built.†

At this stage it will be of interest to note that due to the defeat of the Siddees (the Admiral of the Moghuls) in 1759 by the Nawab of Surat with the help of the English, the latter were appointed as the Moghul Admirals and they received the emoluments of the post as "Tanka" money till 1829.

In 1762, the Court of Directors issued strict instructions to Bombay by their letter of 22nd March, not to construct any capital ships without their previous approval, "unless by any accident one of the cruisers shall happen to be lost or rendered incapable of service" and then even not to exceed the dimensions of the "*Bombay*" grab which was breadth by the beam 30 ft. length by the keel 90 ft. and burthen 363 tons. These orders were forcibly reaffirmed by their letter of 6th April 1763.‡

By this time the Court were once again out to reduce expenditure and so by their letter of 16th April 1762, they

* Bombay Letters Received, Vol. I C.

† Ibid, Vol. I C, letter dated 4-4-1761.

‡ Bombay Despatches, Vol. II.

pointed out the heavy expenditure which was being incurred on the Marine and which they found to be so very burdensome.*

Upto this time (1762) military sepoy were drafted into the dock for service. This created dissatisfaction amongst them. The Government thereupon appointed a Committee consisting of the Superintendent of Police, the Marine Paymaster and the Marine Superintendent to report on the matter. On their reporting against such practice, it was resolved thenceforth that no sepoy were to be employed in the docks but men from outside were to be taken up or from men employed in other public works but the sepoy were not exempted from hauling vessels when required as hitherto.†

At this time Bombay Authorities experienced a dearth of competent officers for their ships and they wrote on 10th May 1763, to the Court that there was not a midshipman fit to be promoted and therefore requested them to send out a ship upon their own account, and the seamen to contract to serve a certain stated time in the Marine.

In this letter the Bombay Government informed the Court that they were also despatching to Anjengo the "*Luconia*" snow built at Bombay for them and the two boats with decks which were built at Surat for their service as the Bombay Dockyard was constantly employed in repairing ships of the Royal Squadrons. They further wrote that the Surat Boats were not properly finished and so they were completed here. It further appears that

* Bombay Despatches, Vol. II.

† Ibid

"the Company's ship "*Prince Henry*" was sent here from Surat for repairs."*

The want of cruisers was being felt at Bombay so that when the Manilla Authorities asked for the immediate despatch of armed vessels for the protection of their harbour and trade, the demand could not be met as the cruisers were all abroad except the "*Revenge*" which was in the docks for repairs.

In 1764 the Marine Paymaster and the Superintendent of Marine represented to Government the services which Lowjee and his two sons had rendered not only to the Government and to his Majesty's Navy but also to all private shipping and "which rendered them truly deserving of every encouragement." They therefore increased their salaries which were fixed as under: Lowjee Rs. 50, elder son Maneckjee Rs. 30, and younger son Bomanjee Rs. 25.†

The Directors in London confirmed these increased salaries by their letter of 22nd March 1765, and wrote :

"The pay you have established for Lowjee Master Builder and his sons we cheerfully acquiesce in as we have reason to think the father has hitherto been a good servant to the Company, very few complaints having appeared to his management in the Marine Yard. You may acquaint him that we expect that he and his sons will exert their best abilities for the interest of the Company as they will always meet with due encouragement from us."‡

* Bombay Letters Received, Vol. II.

† P. D. D. Vol. XLII A, 1764, p. 1.

‡ Bombay Despatches, Vol. II.

In this year, as appears from the official records, the President paid a visit to the Prince at Shahpore and was pleased to find him well disposed towards the English. At this interview the Prince requested the President to have a vessel built in Bombay. This request was granted as the Council did not like to give rise to umbrage, but it appears that there was some difference regarding its cost

"as such a vessel as he wants will far exceed the sum stipulated by him, the President must be ordered to apprise him thereof that he may not be surprised at such exceeding nor scruple paying it and he must at the same time endeavour to make a great merit of this our compliance with his request by telling him that nothing but the desire we have to convince of the Hon. Company's attachment of his interest could have induced us thereto whatever insinuation he may have to the contrary."^{*}

There was a dearth of carpenters and blacksmiths on the Island on account of increased shipbuilding, and therefore Surat Council was asked to engage thirty carpenters, if they could be had at Rs. 12 per month and provision.[†]

In 1768, on hearing that a cruiser of about 500 tons to carry 12 pounders was built, the Court in London protested against the building of so large a ship, their opposition being mainly on the paucity of suitable seamen to man the vessel.[‡]

By their letter of 25th April 1771, the Court asked Bombay to maintain a large stock of ship timber for the

^{*} P.D.D. Vol. XLII, 1764, p. 521.

[†] Ibid. Vol. XLII B, 1764, p. 542.

[‡] Bombay Despatches, Vol. III.

service of the Marine so that vessels could be built and repaired with seasoned timber and issued positive orders that such timber was to be used in building and repairing ships of the Company only and on no account be applied for repairing vessels of private parties.*

In 1772, the Bombay Council carefully reviewed the strength of the Marine Force as the political situation had much improved, particularly by the elimination of the power of the Angrias. The President (William Hornby) thought that a force consisting of 21 cruisers would be adequate to meet any situation as there were no more enemies to encounter than existed in 1757 when the number of cruisers was 16. Against this the Superintendent of Marine, John Watson, proposed 26. In view of this difference of opinion the subject was further considered and some old vessels were sold off and the number of Commanding Officers in the Marine was reduced to one Commadore and five captains. It was further resolved that no vacancy of either a Captain or a Lieutenant be filled until those on the supernumerary list had been provided for.†

The Court in London, having been informed of the zealous service of their Master Builder Lowjee at Bombay wrote in their letter of 7th April 1772:

"We have given several instances of our approbation of the good conduct of Lowjee, your shipbuilder, and having been informed that he continues to deserve encouragement, we send by the ship "*Speaker*" a Silver

* Bombay Despatches. Vol. III.

† P.D.D. Vol. LXI A, 1772, p. 39



Rule presented to Lowjee in 1754.

See Page 139



Rule presented to Lowjee in 1772.

See Page 130



MANECKJEE LOWJEE (1720-1792),
second Master Builder jointly with his brother, Bomanjee (1722-1790).

See Page 152

Rule* which you are to present to him together with a shawl in our name as a fresh mark of the high opinion we entertain of his good service to the Company."†

On receipt of this further mark of approbation, which was received by him in the later part of 1773, Lowjee conveyed his thanks to the Bombay Council by his letter of 10th January 1774, in which he wrote:

"Having learned the "*Hawke*" is despatched to Europe, I venture to address your Honours these few lines in order to request you will please embrace this the earliest opportunity of conveying to the Hon. Company my most grateful thanks for the distinguishing mark of their favour with which they have been pleased to honour me in the present of a Silver Rule. This public testimony of their good opinion is doubly flattering and agreeable to me because it convinces me that my long service of 50 years is approved by them as good and faithful, it leads me hope that the encouragement shown by the Hon. Company be hereafter continued to my sons whose zeal and assiduity in their service I firmly trust will deserve it. I cannot conclude this address without returning your Honours also my most sincere thanks for the mark of your consideration for me evinced in the public manner in which you were pleased to convey to me the token of the Hon. Company's favour, as it thereby rendered doubly honourable and distinguishing."‡

* The Silver Rule bears the following inscription: "A Memorial from the East India Company for the long and faithful services of Lowjee their Master Builder at Bombay, 1772."

† Bombay Despatches, Vol. IV.

‡ P.D.D. Vol. LXV A. 1774, p. 22.

Lowjee died on 3rd July 1774, and the Bombay Council in their letter dated 10th November in communicating this news to the Court wrote:

"Lowjee Warria, many years Master Builder here, died in the month of July last in a very advanced age. He has been succeeded in the post of Master Builder by his eldest son, Maneckji Lowjee.* His other son Bomanji has succeeded his brother as First Foreman in the Marine Yard; both of whom are in every way qualified for the stations to which they have been promoted."†

Thereafter, the two brothers submitted an application for an increase in their salaries in which they referred to their large families and of the difficulty in supporting them and in which they assured their employers of their devoted services which they had rendered up to that time and which they would continue to render with fidelity and diligence.

The Bombay Council in viewing this application with favour took into consideration the fact that the Hon. Court had frequently recommended this to their notice which their services had always merited. As they themselves were satisfied of the justice of what the brothers had represented in their petition, they resolved to increase their pay to Rs. 60 and Rs. 45 respectively.

* Khan Bahadur Patel in his *Parsi Prakash* gives the dates of the births of Maneckjee and Bomanjee as 1712 and 1714. These appear to be incorrect. From family papers it appears that the dates of birth of the two brothers were 1720 and 1722.

† Bombay Letters Received. Vol. IV.

During the year 1774, two pilot vessels for Bengal were ordered to be built.

On 21st September 1774, the ship "*Nancy*" built for Capt. Alexander Faulkner was launched.*

In 1777 the Superintendent of Marine urged the construction of four schooners to replace the old gallivats found unfit. The latter were ordered to be sold, the new ones were to be built upon the same plan as the schooners built for the service of Bengal.

In 1778 the Governor-General-in-Council ordered two new schooners to be built for Bengal. When they were almost completely built they reversed their orders and consequently with some alterations they were taken up in the Bombay Marine.†

In the same year (1778) the ship "*Brittania*" of 749 tons burthen was built for the Company at Bombay. This was the first ship built at Bombay of such dimensions and the Bombay Council presented a gratuity of Rs. 1,500 to the Builders.‡

During the same year the ship "*Royal Admiral*" belonging to the Bengal Government was sent for repairs.§

When the "*Brittania*" reached England, the Court was so satisfied at its construction that they issued directions by their despatch of 27th May 1779, "to put another upon the stocks of nearly the same dimensions which is to be finished with all convenient despatch" and

* P.D.D. Vol. LXVI A, p. 130.

† Bombay Letters Received, Vol. VI, letter dated 30-4-1779.

‡ P.D.D. Vol. LXXV A, p. 200.

§ Ibid. p. 260.

by their despatch dated 27th October 1779, they appointed Capt. Joseph Smith to her command.*

This subject was again referred to by the Court in their letter of 5th July 1780, in which they wrote: "We think this ship may in time be usefully employed as an armed ship for convoy; or should the Governor-General and Council be in want of such a ship, a requisition from them must be complied with" and they added that Capt. Joseph Smith, the Captain appointed by them had proceeded to India overland in April 1780.†

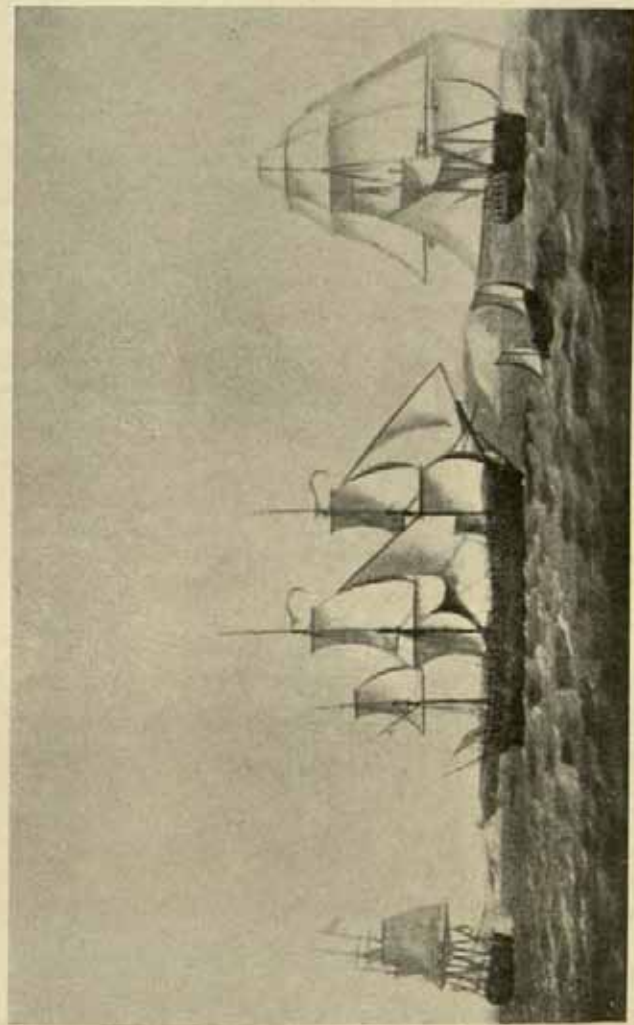
This ship was not completed till 1784 on account of the demands made upon the Bombay Dockyards by the urgent work of heavy repairs to the ships of the Royal Squadron under the command of that famous Admiral of the Blue, Sir Edward Hughes, Bart. It was named the "*Admiral Sir Edward Hughes*" and was launched in the latter end of March 1784. Her first voyage was to Bengal. It appears that command was given to an officer of the Marine and thus Capt. Joseph Smith was replaced, as we find from a claim of compensation lodged by him with the Bombay Government.‡

It is to be noted that in the list of ships built at Bombay given by Capt. C. R. Low in the *History of the Indian Navy* and also in the lists given by John Phipps in his book *A Collection of Papers Relating to Shipbuilding in India* the name of the ship "*Sir Edward Hughes*" does not appear.

* Bombay Despatches, Vol. V.

† Ibid.

‡ Bombay Letters Received, Vol. VIII, letter dated 28-6-1784.



H. C. S. Sirellou.

Published by the courtesy of the Authorities of the Victoria and Albert Museum, Bombay.

See Page 138



FRAMJEE MANECKJEE (1750-1804),
third Master Builder jointly with Jamsetjee Bomanjee (1756-1821).
See Page 169

The ship was so well built that she was purchased for the Royal Navy in 1808 after having performed eight voyages between India and England and was named the "*Tortoise*".

Similarly, the "*Marquis Cornwallis*" was purchased and renamed the "*Akbar*".

In 1781, the President at Bussorah by letter of 5th December 1779, to the Court of Directors communicated the desire of the Badsha of that place to get six gallivats built for him at Bombay. The Bombay Government was of the opinion that "it was preferable to build these gallivats to stationing two of the Company's Cruisers in the gulf at the expense of the Turkish Government". It was therefore resolved that these be constructed according to the description given by them.*

In a quaint old work, called *The Oriental Navigator* (2nd edition, 1801) there appears a notice of the loss, off Bombay, of the frigate "*Revenge*" in one of the gales that are occasionally experienced just before the first break of the South-West Monsoon. On the 19th April 1782, the "*Revenge*" in company with the "*Royal Adelaide*", sailed for Anjengo, but, experiencing the full fury of the gale, the latter returned to Bombay harbour. The "*Revenge*" commanded by Capt. Hardy, described as "an able seaman, and his ship the first in the Bombay Marine" was not seen after the 20th of April, and is supposed to have foundered in the terrific gale then blowing in which the Royal sloop of war, "*Cuddalore*" and "*Fletcher*", transport, also went down and the "*Nancy*" transport and "*Essex*"

* P.D.D. Vol. LXXVIII A. 1781, p. 47.

Indiaman, were dismantled. The same writer says: "A part of the main mast of the *"Revenge"*, which had been carried away a little above the deck, was found and brought to Bombay, and, by some particular mark, known by the builder "

The workmen in the Dockyard at Bombay were kept fully occupied with work on the repairs of the ships of the Royal Squadron under the command of Admiral Sir Edward Hughes* during the period he was there and he was more than satisfied with the exertions of the two Builders, Maneckji and Bomanjee Lowjee. In his letter dated 20th March 1781, to the Lords of the Admiralty he referred to the considerable repairs carried out at Bombay to the ships of his squadron and stated "these fine ships will want no essential repairs for two years to come if no unforeseen accident happens to any of them."†

In another letter of 25th April 1781, to the Court of Directors the Admiral wrote:

"The two Parsi shipbuilders Maneckjee and Bomanjee and their two sons Framjee and Jamsetjee, have been of the greatest utility, in repairing the several ships of the Squadron both now and on every former occasion and it is a truth that without the assistance and superintendence of these, in their profession very able men, the labour and assistance of more than five hundred useful Black Artificers would be lost or of but little effect towards the repairs of the ships.

* Admiral Sir Edward Hughes, born 1720, present at the capture of Portobello 1739, Cartagena 1741, Louisburg 1753, Quebec 1759, Commander-in-Chief in the East Indies 1773-7, captured Negapatam 1781 and fought five fleet actions with the French under De Suffrein 1782-3. Died 1794.

† Admiralty Records 1/164 p. 60.



SIR EDWARD HUGHES, K. B.
Admiral of the Blue Squadron.

See Page 156



Gold Medal presented to Bomanjee Lowjee by Vice-Admiral Sir Edward Hughes K. B. in 1783. Similar Medal was presented to Maneckjee Lowjee.

See Page 162



Reverse of the Gold Medals.

As it is I cannot too much praise their indefatigable zeal and attention and recommend it in a particular manner, that you will bestow some signal mark of your regard on that family, in return for their praiseworthy service which will prove an incitement to others to bestow the same care and diligence in their several stations."*

About the durability of the ships built at Bombay, Abraham Parsons wrote :

"Ships built at Bombay are not only as strong, but as handsome and are as well finished as ships built in any part of Europe ; the timber and planks of which they are built so far exceed any in Europe for durability that it is usual for ships to last fifty or sixty years; as a proof of which I am informed that the ship called the "*Bombay*", grab of 24 guns (the second in size belonging to the Company's Marine), has been built more than sixty years ago and is now a good and strong ship."†

On the same subject the following extract from the *History of the Indian Navy* (I, p. 176) will be of interest :

"In the year 1775 the Head Builder of the Bombay Dockyard was Mr. Maneckjee Lowjee one of the famous Parsi firms of shipbuilders of whom, perhaps, the most remarkable was his nephew, Mr. Jamsetjee Bomanjee, who built for the British Navy some line of battleships and several frigates which were remarkable for their strength and seaworthy qualities. Some estimate of the durability of the work of these eminent Parsi builders who were for more than a century associated with the Bombay Marine and the Indian Navy, may be

* Certified copy of an extract from the letter of Sir Edward Hughes Bart. dated 25th April 1781 to the Court of Directors.

† *Travels in Asia and Africa* by Abraham Parsons.

gathered from the history of the "*Swallow*" (called after a cruiser of the same name) built by Maneckjee Lowjee, and launched at Bombay on the 2nd April 1777. After serving in many seas, and in the Indian, Royal and Danish Navies, for a period of more than half a century, the "*Swallow*" ended her career, not in a ship-breaker's yard, but on a shoal in the Hooghly. She was one of those crafts of which the old "*Bombay*" grab was perhaps, as regards longevity, the most remarkable specimen. Briefly, the "*Swallow's*" career, from the cradle to the grave was as follows:— She was first employed as Company's packet and made several trips between India and England: was then taken into the Bombay Marine, and after a short time returned to the Packet Service, in which she continued for many years. She was commanded by the following officers: Captains Bendy, Hall, Penny (while in the Marine), Anderson, Curtis, Clifton, and Luurd: and during the period she was employed as a packet, the following public characters were passengers on board her:— Lord Macartney, when returning to England from his Government of Madras; Lord Cornwallis, on his appointment to India as Governor-General, and on his return from Calcutta; Sir John Shore, on retiring from the office of Governor-General; Mr. Petrie, from the Council at Madras; and various other functionaries of rank. About the year 1880, the "*Swallow*" not being required as a packet, was sold to the Danes, fitted in London, and went to Copenhagen, whence she is supposed to have proceeded to the West Indies; but while there, was seized by a British Man-of-War for a breach of treaty, and condemned as a prize. She was cut off from her anchorage by a sloop of war after a severe action, in which the British ship lost a number of her crew. She was then purchased into the King's ser-

vice, became the "Silly" sloop of war, and was latterly commanded by Capt. Sheriff; after serving some time in the West Indies, she was, on her passage home, dismasted and received other damage in a violent gale of wind. On her return to England, she was sold out of the King's service, and bought by some merchants in London; made three voyages to Bombay, her parent port, as a free-trader, and was lost on the James and Mary Shoal in the Hooghly on 16th June 1823."

In this year (1781), an unfortunate incident happened which, had it not been dealt with by the Bombay Government and by the Admiral, Sir Edward Hughes, perhaps would have changed the history of the Dockyard and would have led to the severance of the connection of the Lowjee family with the Company. It arose from the unfortunate demeanour of two of the officers of H.M.S. "*Sea Horse*", Lt. Trubridge and Mr. Mccloud, towards the artificers working on this ship. It appears from the records that a carpenter was suspected of having stolen a few nails and for this the officers had the man flogged. Thereupon the rest of the workmen left work and reported the incident to the Master Builder. The latter then went aboard the ship to enquire into the incident and when Lt. Trubridge admitted having got the carpenter flogged, the Master Builder objected to such a high handed procedure and told the officer that he had no right to punish a man belonging to the Marine Yard and that he should have handed over the man to a Justice of the Peace. The officer it seems lost his temper and struck Bomanjee Lowjee with his fist. This caused trouble between the sailors and carpenters on board the ship, and as a result all workmen left the Yard.

The Master Builder immediately thereafter submitted a memorial under date 26th July 1781 to the Bombay Government objecting to such behaviour on the part of the officers of the "*Sea Horse*" and asked them to redress the wrong they had received at their hands and respectfully submitted that "unless they could be supported in their station with reputation they must with reluctance request permission to quit the place and the employment they held under the Company."*

The Bombay Government immediately wrote to Capt. Montague, the Commander of the "*Sea Horse*"† but his reply was unsatisfactory. They thereupon lodged their complaint with the Admiral, Sir Edward Hughes, as follows:

"Sir,

As you will please observe Capt. Montague avows the carpenter was punished by his orders, we beg leave to submit to you the impropriety and ill tendency of such conduct and which, indeed, is evinced by the consequences that ensued. We shall not remark on the doctrine advanced by Capt. Montague but as the powers he has assumed and avowed are not warranted by any authority and cannot fail to produce detriment to His Majesty's and the Company's Services, we doubt not, you will see the propriety of giving such orders as will prevent the exercise of such powers being repeated in any future instance."‡

* P.D.D. Vol. LXXVIII B, 1781 p. 449. Also Bombay Letters Received Vol. VII.

† Lord Nelson served as a midshipman on board H.M.S. "*Sea Horse*" and was in Bombay during 1775-1776.

‡ P.D.D. Vol. LXXVIII B, p. 456. Also Bombay Despatches Vol. VI.

The Admiral immediately addressed the Council "to the Builders I will, the first leisure time I have, write a healing letter and make every other recompense in my power and I hope with your friendly assistance the matter may be accommodated without their quitting the Company's Service."* The matter appears to have ended there as can be gathered from the Bombay Government's letter to the Court dated 6th October 1781, in which they state that the Admiral has given very ample and obliging satisfaction to the Builders.

Bomanjee had acquitted himself well and the manner in which he handled the unfortunate incident added yet more lustre to his name.

During 1782, owing to a gale, the Marine suffered several losses reported by Bombay Government in their letter of 6th October to the Court:

"By these accidents our marine is so much reduced and disabled that we have not a sufficient number of vessels for the common services of this Presidency, much less for the various demands to which we are exposed in time of war, nor will our circumstances and want of timber permit of our taking immediate measures for replacing the vessels that have been lost,"†

A new water boat was also required to be built to replace that lost in the gale. At the same time the request of the Commander of H.M.S. "*Essex*" for three guns to replace those thrown overboard during the gale was refused as they could not be spared.*

* P.D.D. Vol. LXXVIII B, p. 679.

† Bombay Despatches Vol. VI.

‡ P.D.D. Vol. LXXVIII A, p. 189, Vol. LXXIX B, p. 285.

During this year the "*Greyhound*" gallivat was found to be worn out and unfit for service and so was sold out for Rs. 1,015 after all stores and guns had been removed.*

From a letter of the Bombay Council to the Court dated 18th January 1783, we find that during the next year, Admiral Hughes' Squadron again arrived at Bombay for repair. The work was so heavy that the Admiral left three ships of his squadron at Goa, the "*Hero*," "*Monmouth*", and the "*Sceptre*", the Portuguese Government having promised to give every assistance for their repair.†

The repairs at Bombay were carried out to the entire satisfaction of the Admiral; the Government and Sir Edward Hughes were not dilatory in expressing their appreciation of the exertions of the Parsi Master Builders and their zeal in carrying out the heavy work. Sir Edward presented Gold Medals‡ to the two Builders Maneckji and Bomanjee Lowjee on his behalf and on the 10th March 1783, wrote the following letter to the Governor in Council recommending them for special reward:

"Sir & Gentlemen,

The very essential and important services rendered to His Majesty's Squadron under my command at this

* P.P.D. Vol. LXXX A. 1782.

† Bombay to Court dated 18-1-1783.

‡ The medal presented to Maneckjee bears the following inscription: "The Gift of Vice Admiral Sir Edward Hughes, K. B. to Monacjee Lowjee for Services rendered the Nation."

On the medal presented to Bomanji the inscription is as under: "The Gift of Vice Admiral Sir Edward Hughes, K. B. to Bomanjee Lowjee for Services rendered the Nation." On the reverse of the medals is a depiction of the "Superb, 1783."

Memorial of the Lowjee Family, p. 16, also *Parsi Prakash* I, p. 64.

time by the two Parsi Master Builders, Maneckji and Bomanjee Lowjee who have not only exerted themselves to the utmost by day and night but have induced the whole of the native artificers to equal attention in the refit of His Majesty's Ships deserve the greatest praise and every reward in my power to give; but as the established rules of the different departments in His Majesty's Service put it out of my power to reward them fully as I wish and they deserve. I beg leave to lay before you a mode not only to reward them for their present great services rendered to the nation at large and the Company in particular, but also for former obligations that both acknowledge they justly owe to them which if granted will undoubtedly bind them and their children effectually to the future service of the Nation and the Company.

The mode that I submit to your consideration with my request that it may be agreed to, if you think it consistent, is to grant to this family of the Lowjees so long as they shall continue in the Company's service as Master Builders a portion of the Company's Batty annually that after defraying the expense of cultivation will produce to them forty morahs for the support of their numerous family, their present allowance being greatly unequal to that purpose.

Should this mode of rewarding the past and securing the future services of these deserving men meet with your approbation, I shall not fail to write to the Court of Directors in the most urgent terms as well as interest His Majesty's Principal Servant to procure the confirmation of the grant of the ground to the family of the Lowjees.

Yours etc.

(Sd.) Edward Hughes.*

* Admiralty Records. Secretary. 7/759.

The fleet under the Command of Sir Edward consisting of 17 ships of the line, besides frigates, sailed for the Coromandel Coast on 20th March 1783, completely refitted and all coppered.*

The Bombay Council fully concurred with the Admiral's opinion regarding the services of the Builders and wrote on 30th September 1783, to the Court of Directors asking them to confirm the grant and added:

"A recommendation made to us in so strong a manner demanded our utmost regard, besides we consider the Master Builders as entitled to every reward in our power to confer on them, and therefore we unanimously resolved to comply with the Admiral's request, conditionally until your pleasure is known and do most earnestly request that you will be pleased to confirm this grant to the family of Lowjees for ever, which the Admiral has promised us, he shall second by writing to your Honours himself in the most urgent terms on their behalf."

This was the first Inam Grant to an individual on the Island and for the simplicity of the language employed therein, it is worth quoting:

"This is to certify that Vice-Admiral Sir Edward Hughes, K.B., and Commander-in-Chief of His Majesty's ships and vessels in the East Indies, having by letter under date the 10th day of March, 1783, pointed out the great services rendered the nation at large, and the United East India Company, by Monackjee Lowjee and Bomanjee Lowjee, the two Master Builders, at this presidency, and having also strongly recommended to us to confer on them a

* Bombay Letters Received, Vol. VII.

certain portion of ground on this island, which will yield annually 40 morahs of toca batty, this is to certify that the said Monackjee Lowjee and Bomanjee Lowjee have accordingly been put in possession of certain batty grounds in the district of Parell, with their foras and purteneas of the side grounds, which will yield the above quantity of toca batty; and that they are to be kept in possession of the same, without molestation until the pleasure of the Honourable Court of Directors is known."

Given under our hands, in Bombay Castle this 29th day of December, in the year of our Lord 1783. Signed W. Hornby, R. W. Boddam, R. Gambier, John Torlesse, Robert Sparks, C. Bouchier, R. Church, James Morley and Alex. Collander."*

For some unknown reason the grant was not confirmed by the Court of Directors until in their Revenue letter dated 28th April 1795, in disposing of certain objections taken by some inhabitants of Parell in their Memorial, they state:

"Observing by your advices of 30th September 1783, and 10th February 1784, that you were induced to issue the before mentioned grant to the two Master Builders and their sons at the earnest recommendation of the late Sir Edward Hughes as a reward for the essential and important services they had rendered the nation and the Company in particular in refitting His Majesty's Squadron and as we ourselves have borne frequent testimony of their merits, we hereby ratify and confirm the said grant with a due proportion of foras and purteneas to their family and descendants."†

* *Memorial of the Lowjee Family*, pp. 48-49.

† *Ibid.*, p. 50.

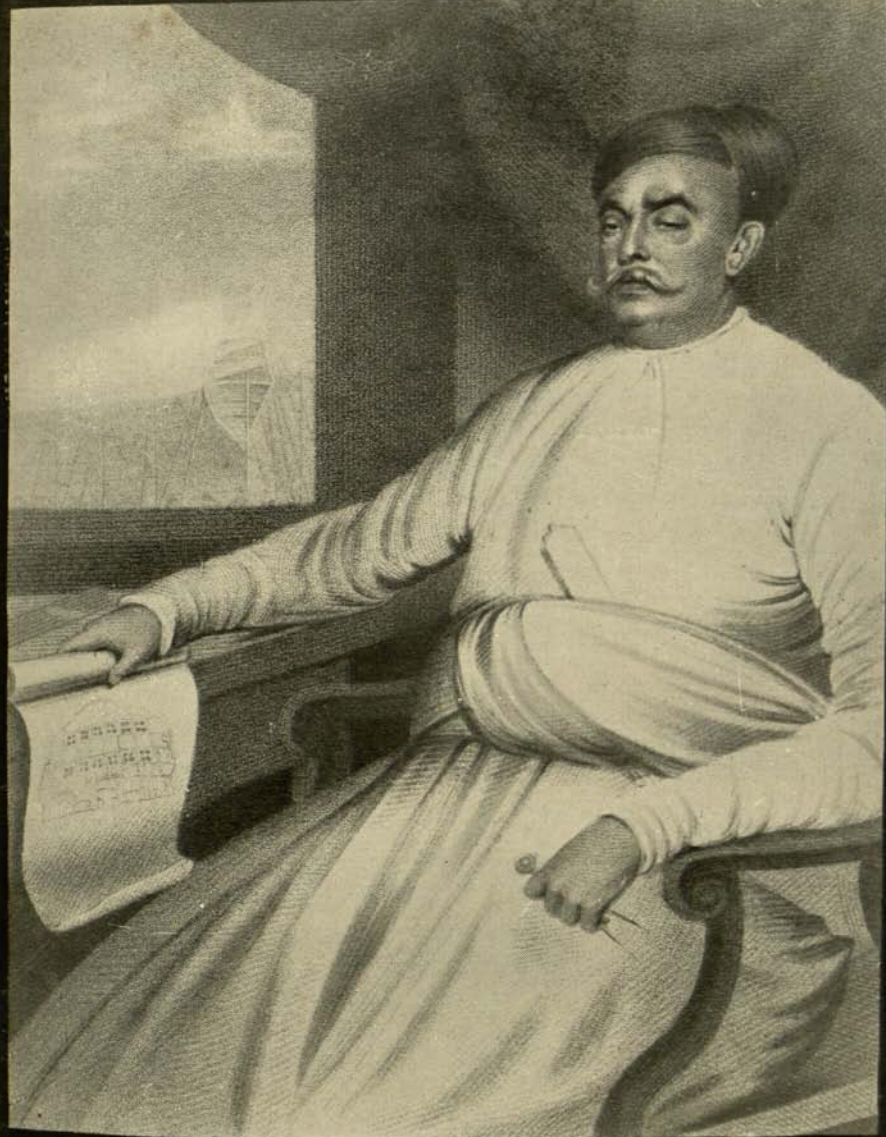
Sir Edward Hughes continued to take interest in the Builders and the following is an extract from his letter of 20th June 1788, addressed to Maneckjee and Bomanjee Lowjee:

"You may be ever assured of all the patronage and friendship in my power, which you have so justly merited by your great exertions for the benefit of those Squadrons of His Brittanic Majesty I had the honour to command in India and which I shall not fail making known to any Commander that may be sent there while I live, as I have done to Government since my return, upon every occasion and opportunity that has come in my way to speak of it."*

The Court of Directors had also noticed with satisfaction the services of the Builders for we find from the following extract from the Despatch of the Court dated 8th April 1789, that they, of their own accord, thought fit to recommend a special allowance to them for building and repairing private merchant ships :

"We have repeatedly expressed our satisfaction of the services of Lowjee our Shipbuilder and have sent him trifling presents as marks of our approbation. We have every reason to suppose he continues to exert himself in his particular line of business; and as is our intention that his merit should not pass unrewarded, we think it but reasonable that he should reap some benefit by the building and repairing private merchant ships in the Company's Yard on account of his labour and attendance on such occasions. We do not settle what proportion he should receive, that point we submit to your determination, being fully

* Memorial of the Lowjee Family, p. 16.



James D. A. Nash

Engraved by W. Haines

*To Vice Admiral Sir Edward Pellew Bart. this Print of
Jamsetjee Bomanjee, Master Builder in the Dock Yard at Bombay,
is with Permission respectfully inscribed by his most obedt. humble servt.
Edward Nash*

London April 1810

Jamsetjee Bomanjee (1756-1821),
third Master Builder jointly with Framjee Maneckjee (1750-1804).
See Page 169



Rule presented to Framjee Maneckjee in 1804.

See Page 200



Rule presented to Jamsetjee Bomanjee in 1804.

See Page 200



Reverse of the two rules.

persuaded that it will be such as a meritorious and faithful servant to the Company has claim to accept."*

The Bombay Council in their letter of 24th December 1789, to the Court said that they had directed the Marine Paymaster, Storekeeper and the Master Attendant to assist them with their opinions whether a tax on private vessels to be built or repaired in the Dockyard was feasible or what other mode would answer the end proposed. "They had submitted to us their proposals to a commission of 3% on Marine Bills as the proposed gratuity to Maneckjee." It appeared, however, to the Bombay Council that a tax of 3% would press rather hard on the owners, they therefore thought that 2% would amount to a very handsome consideration for the Builder and ordered it to be collected accordingly. The Builder returned his grateful acknowledgement, for this favour.†

In the same letter they refer to the serious loss the Marine had sustained by fire of the "*Bombay*" grab on 29th July 1790, and stated that she burnt with such rapidity that all assistance was ineffectual and that Lt. Luther with 15 of the crew, 11 of whom were Europeans, perished thereby. "The ship towards morning drifted up the harbour over to the Maratha Shore near Ballapore where she burnt to the water's edge, and some days afterwards was delivered on requisition to Poona with the few stores which had not been consumed." She was built at Bombay in 1739.

The Bombay Council appointed a Committee to ascertain the cause of the fire. The report submitted by

* Memorial of the Lowjee Family. p. 17. Also Bombay Despatches. Vol. X.

† Bombay Letters Received. Vol. IX.

it was considered unsatisfactory and was referred back to them for their further consideration. The Committee submitted that the loss of the grab might possibly have been averted if a proper watch had been on duty at the time and that all the Officers had been on board. They further recommended to discontinue the dangerous practice, though sanctioned by long usage, of covering vessels with cadjan whilst laid up in the Monsoon.

In consequence of this mishap, the Bombay Council thought it right to order out two cruisers, one of 32 guns and the other of 28 to be built, and the matter was referred to the Governor-General-in-Council. The proposal was, however, turned down by that authority on account of the presence of a squadron in India and the great calls upon the finances of the Bombay Government.*

On 8th February 1792, principal Bombay Merchants submitted a memorial to Bombay Government in which they referred to the depredations made by Sanghanians and other piratical tribes on the sea to such an extent that small vessels and boats could not pass between Bombay and Surat and other ports on the coast and in view of the approaching season for bringing cotton, etc., they urged for the assistance of Government to destroy these pirates.† This subject was also taken up by the Insurance Society and the Bombay Government brought it to the notice of the London Authorities by their letter of 10th March 1793, by pointing out the inadequate strength of the Marine Force. In this letter they stated that they represented to

* Bombay Letters Received, Vol. IX.

† P. D. D. Vol. C A. p. 207.

the Supreme Government the weak condition of their Marine stating that five of their principal cruisers were employed on foreign service in consequence of the express commands of the Court of Directors, two of the largest grabs were employed in protecting the important trade between Bombay and Surat so that only one grab was left for the protection of the vessels sailing up and down the Malabar Coast and this was despatched on receipt of authentic information about the depredations. *

In the same year, the Master Builders reported want of efficient carpenters and 50 to 60 were ordered to be procured from Surat.†

Bomanjee died on 25th April 1790 and Maneckjee on 8th April 1792, being succeeded by their sons Jamsetjee Bomanjee and Framji Maneckjee. The Court of Directors in approving these appointments in their letter of 19th February 1794, stated that they had received a letter of 7th September 1792, from the new Builders that they may be assured of their protection and hoped their conduct would be as satisfactory as that of their fathers and grandfather.‡

It was during the period that followed their appointment that shipbuilding at Bombay attained its highest reputation, particularly under Jamsetjee Bomanjee who was a born naval architect. During the next four years nothing appears in the records regarding shipbuilding.

* Bombay Letters Received, Vol. X.

† P. D. D. Vol. C A. p. 220.

‡ Bombay Despatches, Vol. XIV.

In 1796, it was decided to build two ships of respectable size as a result of the enquiry instituted by the Bombay Government into the state of the Marine Department on the instructions of the Supreme Government by their letter of 10th March 1793. In recording this the Bombay Council in their letter of 18th December 1796, to the Court wrote:

"On the 19th October last we received the Governor-General's sentiments on this subject, that having attentively considered our observations on the advantages and expense attending to the addition of another frigate to our Marine Establishment, the Governor-General was of opinion that the advantages could at all times be compensated for the expense, whilst during a war, a ship of the proposed dimensions might be of the greatest eventual utility. They approved, therefore, of an additional frigate being built of the size for carrying 18 pounders on her main deck and they should recommend to your Honourable Court to send out annually a supply of seamen as suggested by the Superintendent for serving in the Company's Marine as well as to increase the pay of the European Seamen from Rs. 9 to Rs. 12 per month."^{*}

In 1798 a schooner for the Bengal Pilot Service was built, as per the Governor-General's letter of 3rd May 1797. The cost of building was Rs. 33,766, "an expense far short of the ordinary cost of such vessels in Bengal."[†]

In this year the London Authorities decided to strengthen the Bombay Marine and gave instructions for the building of a ship "to carry 28 eighteen pounders on

^{*} Bombay Letters Received, Vol. XIII.

[†] Bombay Despatches, Vol. XVI, letter dated 23-4-1798.



REAR ADMIRAL SIR THOMAS TROUBRIDGE, BART.

From an original Picture by Sir William Beechey, R. A. in the possession of the Earl of St Vincent.

Drawn by W. Evans. Engraved by Miss M. Bourlier.

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PETER RAINIER ESQ.
Admiral of the Blue.

From an original Picture in the possession of the Hon'ble Basil Cochrane.
Engraved by C. Turner, for Capt. Brenton's Naval History.

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her main deck and carronades on her spar or upper deck of such weight as may be best adapted to the size of the ship which we are of opinion should be equal to carry altogether 54 or 60 guns and to have flush upper decks which would be a great convenience either in mercantile or warlike operations."

The Court further wrote:

"Under the present situation of your finances we do not think it expedient to give immediate orders for building more than one vessel of the above description which with the "*Bombay*" frigate will we trust be competent to the objects in view. If hereafter it should appear requisite to make an addition to the Marine Force of vessels of the larger size we conceive it may be done in such a manner as to combine the advantage of a commercial with those of a warlike or political plan by employing such vessels during peace in the transportation of cargoes to and from Europe and in war adding them temporarily to your Marine Establishment. This is a subject which will engage our future attention: and as to the ship ordered to be built when finished we direct that it be put under Jury Masts loaded with a cargo of pepper and sent home under the command of an able and experienced Captain to be coppered and completed with stores, guns and ammunition."

They further gave reasons for thinking that large vessels should be constructed in the Bombay Dockyard at smaller expense than previously.

As a result of these instructions, the Superintendent of Marine, Mr. Dundas, by his report dated 31st January

* Court to Bombay. letter dated 1-8-1798, Bombay Despatches Vol. XVIII, p. 87.

1799, submitted plans with the Master Builder's estimate of costs for a ship carrying twenty 24 pounders carronades and two long guns 9 or 6 pounders.*

This marked the commencement of the most important period in the history of shipbuilding at Bombay, when the question of the construction at Bombay of ships for His Majesty's Navy was first taken up. At the same time another most important question was ventilated—the relative durability of oak and teak in ships.

About 1770-1771, public attention was seriously called to the shortage of oak timber throughout the United Kingdom. A Committee of the House of Commons investigated the subject and the evidence obtained by it went directly to establish the apprehension of great scarcity of oak timber of sufficient size for shipbuilding; but, strange as it may appear (possibly in order not to excite or alarm) the Committee moved the House to leave that part of the order discharged which required them to give an opinion.† However, the subject must have become so serious that in 1772 the Company was prohibited from building any new ships until the fleet tonnage had been reduced to 45,000 tons, nor were they permitted to employ any ships built after 18th May 1772, but they were permitted to build any vessel in India or the colonies or to charter any vessels so built. This reduction was effected in 1776.‡

* P. D. D. Vol. CXXXVIII A. 1798, p. 215.

† W. T. Money's *Observations on the Expediency of Shipbuilding at Bombay*, p. 10

‡ *Oriental Commerce*, Milburn Introduction, p. LXV.

However, the scarcity of oak timber which was shelved twenty years before, was once again brought to the fore in 1791 by Mr. T. Nichols, Purveyor of the Navy in a letter to the Earl of Chatham, then First Lord of the Admiralty, wherein he asserted that there had been a great decrease of large timber in the kingdom during the last few years owing to vast quantities being used up in the King's and the private yards. In 1792, a report of the Commissioners appointed to inquire into the state and condition of the woods, forests and land revenues of the Crown was laid before Parliament and it was established that the scarcity of oak timber was real. Still, the shipbuilders of London refused to accept this fact. They, however, suggested that oak timber of lesser size should be used in building ships for the Company, the larger size to be reserved for construction of ships of the Royal Navy. Besides owing to public agitation the Act of 1793 partially threw open a part of the trade to private individuals.*

In 1795 due to the war with Holland, fourteen of the Company's largest ships were transferred to the State. In that year there was a great scarcity of grain in England, and the Company took up 5,000 tons of shipping to proceed to India for rice. In August 1795, the Company with the concurrence of His Majesty's Ministers wrote to the Government in India requesting them to afford every encouragement to private individuals to send rice and other grains to England, engaging that

* W. T. Money's *Observations on the Expediency of Shipbuilding at Bombay* pp. 14 & 15.

ships so employed would be allowed to carry cargoes from England on their return to India. In this way large quantities of rice were imported into England and it is recorded that between June and August, 1800, twenty India-built ships returned to India with cargoes worth over £6,13,000 and the cost of their repair, outfitting and supplies in England amounted to over £2,02,000.*

This led to a strong agitation in England against the employment of India-built ships for trade between the two countries. This movement was evident in 1792 but the opinion for various reasons considerably differed after 1795.

It will be of interest to note Dr. Taylor's remarks on this subject :

"The arrival in the Port of London of Indian produce in India-built ships created a sensation among the monopolists which could never have been exceeded if a hostile fleet had appeared in the Thames. The shipbuilders of the Port of London took the lead in raising the cry of alarm; they declared that their business was on the point of ruin and that the families of all the shipwrights in England were certain to be reduced to starvation."

In an old work entitled *Impolicy of Employing India Built Ships in the Trade of the East India Company*, published in 1809, there are reports of tumultuous meetings of shipwrights and other trades connected with the shipbuilding industry, held to protest against the employment of India-built ships and, on their behalf, a letter was addressed to Henry Dundas (afterwards Lord

* *Oriental Commerce*, Milburn Introduction p. LXVII.

Melville). In his reply of 1st July 1797, he disagreed with the opinion that had been expressed and stated that the idea of prohibiting India-built shipping from proceeding to Great Britain was not only in itself an act of great injustice but would in its tendency have an effect on the interest of the shipbuilders in the River Thames directly the reverse of what they seemed to apprehend, and further stated :

"The injustice of the proposition consists in depriving a great description of the subjects of Great Britain of a right undoubtedly belonging to them. The British Territories in India are under the sovereignty of Great Britain, and the ships built there are equally entitled to all the privileges of British-built shipping, as those built in the West Indies or Canada, or any other foreign dependency of the Empire; and I have never heard that the shipbuilders in Great Britain have set up a claim to prohibit any of the shipping in those quarters, from bringing home the produce of their own territories in ships of their own building, if they found it convenient to do so, and yet it is obvious that the same plea of interest and supposed injury would equally apply."

In this long letter the writer concludes :

"From an anxiety that there should be no misunderstanding upon this very important subject, and with a view to quiet the minds of a very useful and meritorious class of men, I have perhaps detailed my sentiments with more minuteness than may appear to be necessary, the result of my opinion is, that the regular shipping of the East India Company ought to be kept up, at an extent equal to, nay greater than what it ever was, but it is an egregious error to

suppose that this can be done by giving way to the unfounded alarms which have been taken up on the subject of India-built shipping, the very reverse would be the consequence of adopting these inconsiderate suggestions which have been recently brought forward."

This agitation continued for some years.

In 1800, Mr. Dundas,* in his letter to the Chairman of the East India Company wrote on the trade and India-built shipping submitting his views and asked them to submit their opinion. In this also the writer emphatically expressed his conviction on the desirability of bringing home produce of India in India-built ships.

Thereafter the Court submitted this letter to a special Committee, and the latter submitted three reports expressing their opinion against extending private trade facilities and employment of India-built ships.

The Court to a certain extent showed its willingness in favour of these proposals.

It is necessary to take note of the fact that due to the high price of grain, the Company with the concurrence

* *Henry Dundas, First Viscount Melville* : He was born on 28th April 1742 and was elected member of Parliament in 1774 becoming a Privy Councillor on 31st July 1782. He was constituted a member of the Board of Control on 3rd September 1784. On 24th December 1802, he was created Viscount Melville of Melville in the county of Perth and in 1804 became First Lord of the Admiralty.

As a member of Parliament and of the Board of Control he rendered valuable services and took great interest in Indian affairs. He defended the cause of India-built shipping. In later years he was involved in troubles and was charged with misdemeanour and was deprived of his seat on the Privy Council. Subsequently he was acquitted by the House of Lords. He was found not guilty of any misappropriation of money but he was apparently negligent in the matter of supervision.

He died at Edinburgh on 28th May 1811, at the age of 70.

and approbation of his Majesty's Ministers again directed their Government in India in 1799 to load ships with rice and other grains, and later in the same year offered further concessions to India-built shipowners to ship to England one-fourth part of the cargo in commodities other than grain. As a result of this, twenty India-built ships carried food and substantially assisted to relieve the scarcity in England.

In 1802, to meet the increased demands of private traders, the Company decided to offer 5,000 tons of shipping to private traders in India, to bring the goods in ships built either in England or in India.*

In the third report of the special Committee of the Court, referred to above, a reference is made to the conduct of British and Indian shipowners in 1795, to the detriment of the latter. In this connection, the following from the speech of Mr. Hume at a meeting of the Court of Proprietors, delivered on 27th March 1816, is of interest: that the discretion given to the Directors in the hiring of ships had been the occasion of the loss of millions to the Company. In 1773, it was found by the Committee, appointed to enquire into the Company's affairs, that instead of hiring only 56 vessels the Directors had taken up 83 vessels. In 1781, the Directors were forced to submit to any terms which the shipowners were pleased to ask them. In 1783, the existing owners came to the Directors with the ultimatum: "Our ships alone are fit for your purpose, you cannot sail without our consent, and we will not hire our vessels for less than £37-10*sh.*

**Oriental Commerce*, Introduction LXXXV.

per ton." The Directors resisted this demand, and offered the shipowners £32 which were refused. Thereupon the Directors advertised, and in one week, tonnage to an immense amount was offered. The managing owners were thunderstruck at this, and accepted the rate of £33 per ton.

On 22nd June 1786, a resolution was passed by which the Directors were precluded from taking up any ship below 800 tons. There were no ships in England of over 800 tons, except such as were built by the owners. The Company was consequently forced to pay the rates demanded by the shipowners. In 1792, an attempt was made to put an end to this unjust system but the attempt failed. However, this failure led to victory, for next year, on the recommendation of Mr. H. Dundas, the Court were asked to modify the system. This led to an overhaul of the system of hiring ships, the Court resolved to accept the lowest tender offered to them. This system proved to be of great financial benefit, saving millions of pounds.*

History has established beyond doubt that vessels built at Bombay, by the Parsi Master Builders, whether for the Navy or for private owners, were vastly superior to anything built anywhere else in the world and examples of vessels being fully tight and serviceable over a century after their construction is an indication of their serviceability. This was not, however, permitted to be recognised at the time, largely because of the potential effect of such recognition upon British and European

* *The Asiatic Journal*. Vol. 1, May 1816. pp. 473-476.

shipyards. It was first denied that the ships were superior but when that truth became established, proof was sought to show that the ships were built by European shipwrights. Even this was not established. The various quotations hereafter are of interest leading up as they do to unanswerable conclusions.

It is now recognised that teak (*tectona grandis*) is the finest of all timbers for naval purposes and is excelled by none because of its complete resistance to water and worm. The teak used in the Bombay Yard was that obtained from the Malabar littoral forests which extended from slightly north of Bombay to Travancore. These forests have now been virtually exhausted and little large timber remains, except in Travancore and the extreme south. The climatic conditions are ideally suitable for the tree with the result that Malabar teak is in many respects superior to Burma teak, generally acknowledged as the best.

In response to the growing clamour against Indian shipbuilding a Select Committee of the House of Commons under the Chairmanship of Sir Robert Peel collected evidence on issues relating to the East India shipbuilding. John Hillman, one of the British shipbuilders, stated that their industry depended on East Indies trade, and it would be killed, if ships continued to be built in India. He said, "an India-built teak ship, after she has performed six voyages, is equal to one of ours, after she has performed three."

Another shipbuilder, James Hughes, said that employment in the Thames was falling off, as ships were

built in India. They are apprehensive of Indians as ship-builders whose workmanship, they admit, "is of superior kind."

Mr. Allan Gilmore, a merchant, stated that the freight was lower, and more reasonable by an India-built ship, than by any other one, and if India-built shipping were to be excluded from English ports, the position of the merchant exporters would be infinitely worse.

James Walker, another merchant and shipowner, admitted that a cheap ship was a great advantage for he knew that an India-built ship would last much longer than a British ship and that the workmanship of the Indians was of a very superior order.

Thomas Todd, a mast-maker, contended that a mast built on the Thames would hardly last for more than two or three voyages, while Indian masts were quite sound after five or six voyages.

John Molmere gave his opinion that blocks made in India were far superior to those made in Britain.

Despite this unanimous evidence, the British Parliament enacted a law that English crew should be employed on Indian ships, and the Captain should also be an Englishman. The Indian Government, not to be outdone in discrimination, laid a 15 per cent duty on goods imported in India-built ships in 1811-12, and half that amount on goods brought in British-built ships. Laws were further enacted that only British ships should import goods from south and east of the Cape of Good Hope.

The frigate "*Cornwallis*", built for the Company in 1800 by Jamsetjee Bomanjee, was found to be so beautifully constructed and of such strength, that the Admiralty purchased it. This was not the only instance where the Admiralty purchased Bombay-built ships. The "*Swallow*" launched in Bombay on 2nd April 1777, was first purchased by the Bombay Government and after a most exciting career was taken up by the Royal Navy and named "*Silly*" sloop of war. Similarly, the "*Born*" built in 1793 for a private merchant was purchased by the Admiralty in 1795 and was renamed "*Hindostan*". The "*Bombay*" built in 1793 and the "*Kaikusroo*" in 1799 were also purchased by the Royal Navy in 1808 and 1806 respectively and were renamed H.M.S. "*Ceylon*" and H.M.S. "*Camel*".

The battle over the respective merits of oak and teak continued and amongst those who entered the lists in favour of teak were W. T. Money, Superintendent of Marine at Bombay and Mr. A. L. Mackonachie. W. T. Money published a treatise on the subject in London in 1811 entitled "*Observations on the Expediency of Ship-building at Bombay*"* in which he exhaustively dealt with the subject. Earlier Mackonachie had submitted a paper to the Right Honourable Henry Dundas under date 3rd June 1795.

Mr. Money has shown how oak contains a powerful lignic acid which corrodes and consumes the very metal (iron) which is employed to unite and secure it in the

*In this book the author has given the portrait of the then Master Builder Jamsetjee Bomanjee as a mark of respect he bore towards him.

various forms into which it is converted for the purposes of naval architecture, and therefore to discover some means of protecting from the corrosive action of the acid of oak, and thus to increase the durability of ships has long been a desideratum with nautical men and has long but unavailingly engaged the researches of science, whereas teak "abounds with oleaginous particles, the best and certain defence of iron from corrosion by the action of the acids." The prevailing idea that teak was heavier than oak was far from true, since teak from Malabar the author stated, weighed one quarter less than oak, while teak from other places weighed equal to oak. Mr. Money had also shown by testimony that teak was not disposed to splinter to the same extent as oak and quoted from the letter of General Abercrombie "I can now vouch that the effect of shot upon teak is far less dangerous than upon oak, on board the "*Ceylon*" there were very few men wounded by splinters."*

Mr. Money also showed from the replies given to the Commissioners of Land Revenue respecting the average duration of ships of war, that the period for those built in the Royal Yards was 15 years and for those constructed in the private yards 10 years.†

As against this, the author quotes a number of instances of teak-built ships which were found to be in perfect order after 50 to 60 years and more. The Turkish flagship at Bussrah was built by Nadir Shah

* W.T. Money's *Observations on the Expediency of Shipbuilding at Bombay*, p. 44.

† Ibid. pp. 48, 49 & 50.

before his march on Delhi and so it must have been constructed in 1738 at the latest and yet in 1802-03 when it was docked in Bombay for repairs, her timbers were found to be perfectly sound. *

Similarly, according to the testimony of Mr. Nicholas Hankey Smith, the Company's Resident at Abooshiher, he had seen one of the teak vessels built by order of Nadir Shah which had been sunk by the Arab crew and which had been under water for more than 20 years when being broken up the planks and cotton in her rabbit work were found as fresh as if the ship had been recently built. †

And similarly the ship "*Milford*" of 679 tons, belonging to Pestonji Bomanji Wadia of Bombay, built in 1786, after constant employment in the trade with China and with Europe for 24 years, received her first thorough examination in 1810 when it was not found necessary to shift a single timber. ‡

Mr. Mackonachie, after referring to the scarcity of oak timber in his paper wrote: "The question, however, is not whether the British territories in India are to be patronised at the expense of the landed interest at home but whether we are or are not to experience a fatal want of oak timber and become dependent on other powers for the means of supporting our Navy," and further he wrote: "Shall we trust the foreign powers of Europe for a supply of an article indispensably necessary of which a

* W.T. Money's *Observations on the Expediency of Shipbuilding at Bombay*.
p. 65.

† Ibid, pp. 65-66.

‡ Ibid, pp. 66-67.

thousand causes may deprive us, or shall we look for this supply from our own territory in India where the commodity in itself is infinitely superior in quality and may be procured at considerably less expense." He then expatiates on the superior qualities of teak and cites instances of Indian-built teak ships which are found to be in perfect order even after 40 and 50 years. He cites the instance of the ship "*Shah Alam*" of about 800 tons belonging to a Surat merchant Chillaby which was built about 1760 and cost about Rs. 1,10,000. In 1781-82 she was captured by Sir Edward Hughes' Squadron when sailing under Dutch colours and was sold for £7,200. After being repaired and coppered she was sold to Chillaby the original owner for Rs. 95,000 in 1786-87, and Mr. Mackonachie states that though 40 years of age, she is as insurable for any given voyage as the ship which was launched yesterday. He then refers to the particular mode of building ships at Bombay as follows :

"The bottoms of these ships are half as thick as those of the same kind built in England. The planks are rabbetted as high as the second or third plank above the bands. In the rabbet joint or seam is poured boiling hot dammer, a kind of pitch, then a covering of fine, clean cotton wool, and when the bottom of a ship is planted, it is difficult to perceive any seam. They are, of course, never caulked. The bolts are mostly square, and over their heads are laid a sort of composition to make the surface smooth; then a coat of chunam or lime mixed with hair over that sheathing of teak plank, then the blankets boiled in dammer or tar and over all the copper."

The writer estimated that a teak-constructed ship of war would last 30 years against only 11 3/4 years, the figure stated in the report of the Commissioners of the Navy as the life period of an oak constructed ship of war. He further estimated that if 14,000 tons of shipping were annually built of teak, it would effect an annual saving of £3,85,791.*

The author then referred to the cost of shipbuilding at Bombay and stated that they might be built at Bombay for £14 or £15 per ton equal in every respect to those which will cost in England £17-17-6.

The following extract from the "*Asiatic Journal*" of 1839 is of interest :

"As a proof of the extreme durability of teak and its adaptation to the purposes of shipbuilding a piece of teak wood was forwarded to the Chamber of Commerce by a gentleman in the Civil Service. After more than 20 years submersion the specimen was perfectly sound. It had been taken from a boat sunk in 1818 off the Port of Cambay and from which the river of Myhee having during the last year shifted its channel, was left so near the surface that the owner was enabled at low tide to get her afloat. The boat, when the accident occurred, was returning to Cambay.

She belonged to Atmaram Boledur, a merchant of the place, and had then been built five years. She is new to all appearance, sound and has neither suffered in nail or timber by her long submersion."

The year 1800 was an important turning point in the history of shipbuilding at Bombay when a frigate of a

*Marine Records Miscellaneous Vol. 1 pp. 79, 81.

larger class was built here. The first ship to be built of this type was the "*Cornwallis*" which was completed and launched in 1800.

On her arrival in England she evoked praise from all naval authorities and attracted the attention of the Lords of the Admiralty who purchased this ship for the Royal Navy and renamed it "*Ackbar*".

The expression 'Black Fellow' in reference to Indians was in common use by some Europeans and was naturally resented by many men who were in no sense inferior and most certainly superior in point of intellect and professional abilities in the arts and crafts to those who used the expression. It was, however, greatly resented by Jamsetjee, the Builder who felt it so much that, according to Lt. Col. John Brigg's book, he had carved on the Kelson of the "*Cornwallis*" the words, "This ship was built by a d-d Black Fellow A. D. 1800". These words were carved in such a manner that they were not noticed till many years later, when the ship returned to the Bombay Docks and Jamsetjee himself pointed them out to his friends.

From the early admiralty records it is noticed that in order to carry into execution a plan prepared for building a ship of the line and a frigate at Bombay for His Majesty's Service, copper bolts sheathing and other materials which could not be conveniently obtained in India were sent to Bombay and the authorities duly informed of this.

The Admiralty at this time were faced with a serious shortage of ships with little possibility of the European

shipyards being able to assist them and therefore sent out to India, Burma and Prince of Wales Island draughts of vessels to be built there together with all the iron and metal which was to be used and which could not be obtained locally. Bombay was asked to build a ship of the line and a frigate, Calcutta a ship of the line, and Burma and Prince of Wales Island each a frigate.

In the year 1802, the following comprised the ships of the Bombay Marine:

The frigate "*Cornwallis*" of 56 guns, built at Bombay 1800 and named after the Governor-General, and "*Bombay*" 38 guns, 1793. Sloops of war: "*Mornington*" 22 guns, launched at Bombay, 1799 named after the Governor-General: "*Teignmouth*" 16 guns, also built in 1799 named after Sir John Shore and "*Ternate*", 16 guns built 1801. The 14 gun brigs "*Antelope*" and "*Fly*" were added to the service in 1793. The snows "*Drake*" 18 guns 1787, "*Panther*" 14 guns 1778, "*Viper*" 14 guns, "*Princess Augusta*" 14 guns 1768, "*Princess Royal*" 1768, "*Comet*" 10 guns 1798, "*Intrepid*" 10 guns 1780, ketches "*Queen*" and "*Rodney*" 14 guns each.*

Besides these vessels, there were prizes, and others purchased into the service for special or temporary uses such as the "*Swift*", "*Star*", "*Alert*", "*Assaye*", and others. Several small crafts and pattenmars armed with guns were included in the fleet, the whole forming a fleet of no inconsiderable size.

At the same time a despatch from the Company to the Bombay Council dated 5th May 1802, communicated "the wish of His Majesty's Ministers that the Company

**History of the Indian Navy*. Vol. I, p. 215.

should undertake to build a ship of the line and frigate annually at Bombay of teak timber and the desire of the Company to ascertain by actual experiment how far it was practicable to comply with the wish." *

To this the Bombay Council replied by their letter of 25th November 1802, that the measure was practicable and they submitted an estimate for a 74 gun ship and a frigate costing Rs. 3,06,900 and Rs. 1,70,000 respectively.

The first frigate to be built under this scheme was named the "*Pitt*" and launched in 1805. The *Asiatic Annual Register* of 1805 recorded the event :

"A beautiful frigate, the "*Pitt*" the first ever built in India for His Majesty's Service has been launched from the Dockyard. Between 11 and 12 o'clock, the appointed signal being given, she moved majestically in the water amid acclamations of a great concourse of spectators and under a salute from the saluting battery. From the stillness of the night and the ships being finely illuminated the whole effect was uncommonly grand."†

Unfortunately some days before this ceremony took place, Framjee Maneckji, one of the builders in the Bombay Dockyard, died on 15th December 1804. The Bombay Government in their letter to the Court of 26th February 1805, in forwarding the application from the builders for an increase in their salaries, with the recommendation of the Superintendent of Marine stated:

"It is proper to notice that the pecuniary statements contained in it appear to be well furnished and that as

* Bombay Letters Received, Vol. XIX.

† *Asiatic Annual Register* for 1805, p.98.

to the professional zeal and merits of the Builders there is but one opinion, viz. that neither will be exceeded: whilst in consideration of long and highly approved services of this family we beg to point out as objects worthy of your Honourable Court's notice the widow and the family of the late Framjee Maneckjee an old and attached servant of the Honourable Company."

In this letter the Bombay Authorities pointedly referred to the financial status of the builder and wrote that the builders were far from wealthy in comparison with the condition of their brothers in mercantile business.

In a letter dated May 30th 1802, to Jamsetjee, Admiral Sir Thomas Troubridge* wrote:

"Although you have forgot me, I well remember you, and have ever been forcibly struck with your abilities and I have pledged myself that you will build us a 74 gun ship, and a frigate, which shall be a pattern to an English builder. I have no fear but you will fully justify my assertion. Long before this reaches you, the draft for building will have been presented, and I hope begun upon. I am aware it will require your influence to prevail on the artificers to reside on Butcher's Island, but you can easily accomplish it,—the firm attachment all castes have to you and your family insure success."†

*Sir Thomas Troubridge Bart. was born in 1758. Entered the Royal Navy on 8th October 1773 and posted to the "*Seahorse*" frigate (the same vessel as Lord Nelson served in). On 13th May 1780, he was appointed Midshipman on the "*Superb*", flagship of Sir Edward Hughes. In March 1801, he became a Lord of the Admiralty. In 1804 he was given the rank of Rear-Admiral and in 1805 was appointed to the command of the East Indies Squadron. He left in the "*Blenheim*" on 12th January 1807 accompanied by the "*Jaca*" frigate and the "*Heron*" brig. On 1st February 1807, they got into a cyclone and nothing further was heard of them.

†*Memorial of the Lowjee Family*. pp. 18-19.

In another letter dated 14th June 1802, he wrote:

"I am favoured with your letter of 12th December, but the one of 15th November has never reached me. You will find I had anticipated your wishes respecting the building men of war at Bombay and the plans must have long since been in your possession having been forwarded by the Company's overland despatch. I had also written you on the subject, pledging myself for your ability and exertion and that I was sure the ships you built would be models for our people to copy from. In short, I said everything in my power which your merits richly deserve, and anything I can do for you or your family, will give me great pleasure. Pray let me know how many ships of the classes you now have plans for can to a certainty be built for us annually..... Mr. Dundas is not yet arrived in England; any assistance I can render your family with the Company will give me great pleasure. I sincerely hope the "*Cornwallis*" will soon be home, that our builders and surveyors may have ocular demonstration, though they appear perfectly satisfied with, from what I have told them; as a proof, they have not sent anyone out to superintend the work, having a thorough confidence from my statement of your ability and integrity to perform the work well and of the best materials; be assured you will have every support from the Admiralty."

And in another letter of 16th November 1803, he wrote:

"I am very anxious to hear you have begun our two ships, I am deeply pledged for your ability and exertion and I know you will do all that is possible to meet the wishes of the Company and British Government and be assured you will be rewarded. We have numberless offers of building at Bengal line of battleships, but I have no opinion of the people who

are to perform the work, or the Pegue teak; I therefore rest entirely on you; I have seen and know you are fully equal to it and I have pledged myself you will produce ships that will eclipse those built in England."

This was indeed high praise, coming as it did from one of the Lords of the Admiralty.

An equally high opinion was expressed by another Admiral of the Fleet, Peter Rainier† who addressed a letter to the Governor, Jonathan Duncan and his Council under date 12th February 1804.‡

* *Memorial of the Lowjee Family*, pp. 19 and 20.

† Admiral Rainier was born in 1741. He entered the navy in 1756 and served on H.M.S. "Oxford." He saw active service in 1758. In June 1760, he was moved to the "Norfolk," bearing the flag of Rear-Admiral Charles Steevens, at the siege of Pondicherry and afterwards of Vice-Admiral Samuel Cornish at the reduction of Manila. During 1764-68 he was probably employed under the E.I.Co. In 1774 he was appointed to the "Maidstone" commanded by Captain Alan Gardner in the West Indies. In 1777 he was promoted to the command of the "Ostrich" sloop which in 1778 captured a large American privateer after a hard fighting action in which he was severely wounded. In approval of his bravery the Admiralty advanced him to post rank on 29th October following. In January 1779 he was appointed to the "Burford" of 64 guns in which he went out to the East Indies in the Squadron under Sir Edward Hughes and took part in all the operations of the war, including the reduction of Negapatam and Trincomalee and five several actions with Bailli de Suffrein. After this Rainier was put on half pay. In 1790-91 he commanded the "Monarch" in the Channel. Early in 1793 he joined the "Suffolk" of 74 guns in which he went out to the East Indies as Commodore and Commander-in-Chief of the Squadron taking with him a large convoy without having touched anywhere on the voyage, a circumstance then considered extraordinary. In 1795 he was promoted to the rank of Rear-Admiral and in 1799 to that of Vice-Admiral. He remained Commander-in-Chief till 1804, during which time he assisted at the reduction of Trincomalee in 1795 and in 1796 took possession of Amboyna and Banda Neira with enormous booty and the Admiral's share of which laid the foundation of a princely fortune. In the Trafalgar promotion of 1805 he was advanced to the rank of Admiral, was returned to Parliament in May 1807, as a member for Sandwich and died a bachelor at his house in Great George Street, Westminster, on 7th April 1808, leaving by his will one-tenth of his property towards the reduction of the National Debt.

‡ *Memorial of the Lowjee Family*, pp. 20-22.

"Honorable Sir,

During the period in which I have had the honor to command His Majesty's Squadron in India, which now embraces a space of nearly ten years, I have necessarily had frequent occasion to visit your Presidency, as the only station to which the naval force in this country can resort, with a certainty of deriving a prompt and ample supply of those manifold and extensive wants which the nature of the maritime service at all times requires.

In bearing a due testimony to the zeal and alacrity which have distinguished those departments under your Government, with which my situation has led to frequent and important intercourse, it may I trust, be permitted to me to bring more pointedly to the notice of your Honorable Board, the very able and meritorious assistance at all times derived by my squadron from the exertions of the Builders' Department, under the immediate management of Jamsetjee Bomanjee, and Framjee Monackjee and their sons, Nowrojee Jamsetjee and Nowrojee Framjee.

It is wholly unnecessary for me, Honorable Sir, to enlarge on the great ability displayed by those men (but particularly Jamsetjee Bomanjee) in the various branches of their professional duties, or to state to you their value to this most important naval station, as the numerous specimens they have already exhibited of their talents in the science of naval architecture will always form their best panegyric. I cannot, however, pass over unnoticed a further essential merit they possess, and which those who have had less occasion than myself to view them in the discharge of their duties, might frequently not attract particular notice. I allude to their indefatigable zeal, activity, and

perseverance, on those occasions where the nature of the service has called for more than ordinary energy and exertion on their part; and I can with truth assert that their conduct has not only claimed my highest approbation, but likewise been productive of a great national benefit.

Thus impressed with a sense of the important assistance rendered by these men to the naval department in India, I have already borne testimony thereof in my correspondence with the Honorable the Lords Commissioners of the Admiralty. I also feel it a duty incumbent on me to recommend them to the particular favour and protection of your Government, and to suggest the policy of conferring on them some public mark thereof, as a distinction that may at once prove gratifying to themselves, as well as the means of securing a continuance of their fidelity and attention to the duties of their departments. If I may be allowed to point out in what manner this distinction could be most effectually bestowed, I would recommend that Government should assign to them a small portion of batty ground, either on this island, or that of Salsette, to be considered as an hereditary possession, which, I have reason to believe, would be received by them as a very flattering and honorable assurance of the countenance and approbation of Government.

I have the honour to be,

Honorable Sir,

Your most obedient humble servant,

(Signed) PETER RAINIER."

"*Trident*", Bombay Harbour.

The 12th February, 1804.

On the 17th January 1806, the Secretary to the Admiralty enclosed an extract from a letter from the Admiral, Sir Edward Pellew * representing the character and diligence of the Master Shipbuilder at Bombay and signified his Lordship's directions to the Board to propose increase to his pay. The Board in consequence resolved to recommend the Admiralty to allow the Master Builder one guinea per day instead of 6sh. 3d. per day when employed on Admiralty's work which was duly carried into effect.

Sir Edward Pellew thereafter submitted papers relating to the desirability of increasing allowance to the Master Builder at Bombay in view of great increase in work. This suggestion was considered and sanction was given to pay Rs. 200 per month to the Head Builder and Rs. 150 to his assistant.

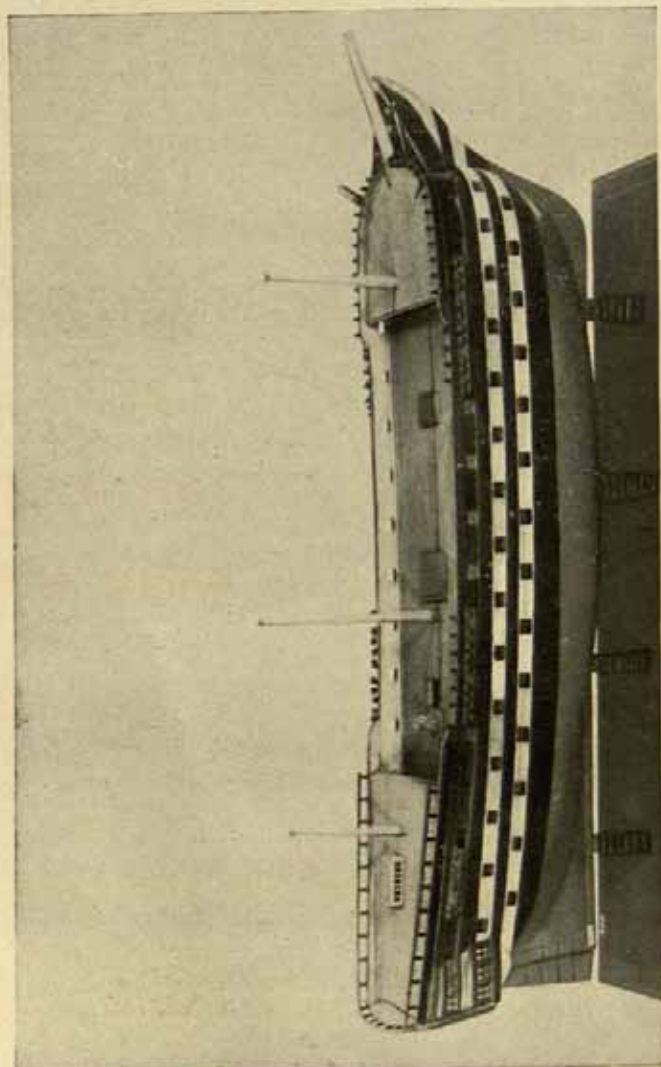
On 24th March 1807, the "*Salsette*", the second frigate to be built for the Royal Navy was launched by Admiral Sir Edward Pellew. The Silver Nail ceremony took place on 20th May 1806. She was of 887 tons and carried 36 guns. Four days later the Master Builder commenced work on the keel of the 74 gun ship.†

* Edward Pellew (Viscount Exmouth) was born on 19th April 1757. He entered the Navy in 1770. He gallantly fought the French Privateers and this led to his promotion to the Command of the "*Hazard*" sloop. On 23rd April 1804, he became a Rear-Admiral and was appointed Commander-in-Chief in the East Indies. He was promoted to the rank of Vice-Admiral on 28th April 1808. On 14th June 1814 he was raised to a peerage and became Baron Exmouth of Canouteign. On 4th June 1814, he became the Admiral of the Blue and on 2nd January 1815, he was created K.C.B. and later on a G.C.B. He died on 23rd January 1833.

† Bombay Letters Received, Vol. XXII, 20-4-1807.



EDWARD PELLEW VISCOUNT EXMOUTH, G. C. B.
From the original by Sir T. Lawrence, P. R. A. in the possession of Edward
Hawker Locke Esq.
See Page 194



Charles Grant, East Indiaman.
Model in the National Maritime Museum, Greenwich.
See Page 197

In January 1808, the Admiralty ordered the "*Salsette*" frigate to be surveyed and a special report to be made upon her construction in order that a comparison may be made between her and the ship built at home in His Majesty's Yard.

This report was received by the Admiralty in April 1808 and the surveyors stated that the work was well performed and as far as they could discover the ship was well put together and she was fitted agreeably to the plans of His Majesty's ship the "*Inconstant*", that the mode pursued in building her was conformable to English Ships (where hanging and lodging knees are made use of) except the mode of fastening the plank of the bottom which was secured with long iron nails driven through and turned on the ceiling and that all timbers with which she was built was teak.

This report was quite satisfactory as far as it went; but the real test of her strength came two years later, when Admiral Sir Edward Pellew wrote to Mr. W. T. Money under date Xmas day 1810:

"I beg you, my dear Money, to make Jamsetjee proud of his frigates. The "*Salsette*" sails as well as any of our frigates, stands up better, and had any other ship but her been frozen up in the Baltic as she was for nine weeks, Bathurst says she would not have stood the buffeting of the ice one day: whereas she came off unhurt. He says it was wonderful the shocks she stood during heavy gales. The old gentleman may be proud and pray remember me kindly to him."*

**Memorial of the Lowjee Family* pp. 26-27.

When Capt. W. Handerson, who was one of the officers on the "*Salsette*" frigate when she was frozen up in the Baltic in 1809-1810, came out to Bombay, he presented on 15th June 1819, a clock* to the Builder Jamsetjee for having been the means of saving his life with those of others on the "*Salsette*" which due to her strong build was the only ship which survived the ordeal. In acknowledging the present, Jamsetjee wrote back :

"If my acquaintance with the English language had been much more extensive and perfect than it is, I should have been still unable to convey to you the pride and gratification I feel at so disinterested and generous a testimony to the utility of my humble endeavours in the particular case you have alluded to."†

On the 18th March 1808,

"a beautiful new ship built by Rustomji Maneckji was launched from the slip at Mazagon of 800 tons, intended for the commercial service of the Honourable East India Company under a Royal Salute and proudly floated on her natural element under the auspicious designation of "*Thomas Grenville*".

She was later destroyed by fire.‡

This was followed on 14th May 1808,¶ by the launch of a ship of 1,250 tons for Messrs. Forbes & Company. She was christened the "*Bombay*" by Admiral Sir Edward Pellew "with a bottle of good English porter" in

*This clock was destroyed in the fire which took place on 8th March 1849 in which Nowrojee Jamsetjee suffered a very great loss.

†*Parsi Prakash* Vol. 1, p. 144, *Bombay Courier* dated 19-6-1819.

‡*Asiatic Annual Register* for 1808, p. 189.

¶James Douglas in the "*Glimpses of Old Bombay*, p.6 gives the date 4th May, 1800." This is incorrect.

the presence of Mr. W. T. Money, the Superintendent of Marine and a large assembly of spectators.*

A few months later on 15th October 1808, the ceremony of driving the Silver Nail was performed by the Governor in the keel of the ship "*Charles Grant*"† of 1,200 tons for the East India Company. The *Bombay Courier* in recording this event stated "There is no doubt she will do honour to the ascertained abilities of Jamsetjee the Master Builder, who is carrying on in the same Dock-yard the construction of two of the largest description of ships, one for the King and the other for the Company".‡

The interesting and quite unique ceremony of driving the Silver Nail was reported in the *Asiatic Journal* of January 1820 :

"The ceremony of driving the Silver Nail into the keel of the new 80 gun ship took place, in the presence of the Hon. the Governor, His Excellency the Naval Commander-in-Chief, the Superintendent of the H. C. Marine and their respective suits. They were received by the builders in their robes of ceremony, and a new hammer being presented to the Hon. the Governor, he gave the first stroke and was followed by the Admiral and Superintendent and the final stroke having been given by our venerable architect, Jamsetjee Bomanjee the party separated. This ceremony is as follows : When the keel is laid, the stern post set up, the stem ready to be fixed, the ceremony is performed. The day being appointed,

* *Asiatic Annual Register* for 1808, p. 200.

† On the abolition of the Charter she was purchased by Khurshedji Cowasjee Banajee.

‡ *Asiatic Annual Register* for 1808, p. 214.

the stem is suspended ready to be put in the mortise, the parties attend, the owner with his friends and sometimes the Governor and parties of ladies are invited, they are received in the Dockyard by the builders in their robes of ceremony, and a Parsi Priest attends who has the nail in his possession, which he keeps constantly holding over a pot of frankincense. The nail is six or seven inches in length and is in value of about 10 to 15 rupees: a certain quantity of sugar, sweetmeat and rose water having been provided for the occasion, the owner of the ship, preceded by the builders, approach the keel and the ceremony begins by an invocation (Sulee) from the Bunder Lascars, or perhaps from a few Arabs who volunteer on the occasion, to God and Mohamed; some verses from the Koran are also recited. The nail is then produced with a blessing from the Parsi Priest, it is put in the hole and driven down to the head by the hand perhaps of some fair lady; a piece of wood is put on the Nail, the stem is put into its mortise and firmly secured, when another invocation from the Lascars and crowd announces the stem to be fixed. The owner, the Governor or some Lady as may have been previously agreed on, now presents the shawls, six in number, to the builders by putting them over their necks. A sprinkling of rose water next is given to all the party, and the most distinguished of the visitors are marked on the forehead with a little red paint; sugar and sweetmeats are distributed to the people of the yard and the party disperses."

The London Authorities by their despatch of 2nd May 1806, directed the Bombay Government to increase the salaries of the Master Builder and his assistant. In this despatch they give a summary of the salaries paid to the

builder from which it appears that before 1789 the Head Builder received Rs. 278 monthly and his First Assistant Rs. 268 monthly exclusive of certain sums received by them from private merchants, plus Rs. 8 per day for attending to the repairs of the ships of His Majesty's Navy while in the docks. Thereafter their salaries were increased to Rs. 500 each but the extra allowance for repairs to the ships of the Royal Navy and private merchantmen was stopped. After referring to the financial condition the Court wrote :

"Under the present pressure of our finances we feel reluctant to authorise any additional expenses: but the services of a family of which the present builders are the fourth generation, which has been exclusively occupied in this branch of public employment, merit our consideration and certainly at the present period when we additionally feel the importance of eminent skill and ability in our Dockyard it is extremely desirable to ensure the attachment of these individuals; therefore, we have resolved to make the following additions to their allowances, which we authorize you to grant them from the receipt of these orders at your Presidency :

Jamsetjee Bomanjee from Rs. 500 to Rs. 700 per month.
Rustomji Maneckjee from Rs. 500 to Rs. 700 per month."

The Court further referred to their despatches of 31st August 1804 and 16th January 1805, in which they expressed the great satisfaction they felt at the services of the builders as reported by Mr. Dundas, Superintendent of Marine, and Mr. W. T. Money, his successor, and they

*Bombay Despatches Vol. XXVI p. 106.

added that they had resolved to present Silver Rules* to them as a mark of their approbation.†

The increased building activities in the year revealed a shortage of proper timber for the construction of ships for the Royal Navy and the Bombay Government, by their letter of 31st May 1805, proposed to the Court that they be permitted to construct two ships for the special purpose of bringing timber from the Malabar Coast which up to that time had been brought by battelas. The construction of the vessels was approved by the Marine Board, who took the opportunity to point out that this would ultimately prove advantageous from the financial point of view‡. The proposal was sanctioned by the Court by their letter of 2nd May 1806, the estimate being Rs. 81,000; Rs. 51,000 for hulls, Rs. 7,000 for masts and yards, and Rs. 23,000 for rigging and stores.¶

The Court by their letter of 5th June 1805, asked Bombay to build a ship for service on the coast of China,

*These Rules are preserved in the family. They bear the following inscription: "Presented by the Court of Directors of the United East India Company to Jamsetjee Bomanjee, one of their Master Builders in their Dockyard at Bombay in testimony of their approbation of his continued fidelity and long tried services and in encouragement to him and his family to persevere in that line of conduct, which has so often called forth the approbation of his superiors. At London, 1804.

The Honorable William Elphinstone (Chairman)

Charles Grant Esq., (Dy. Chairman),

Jonathan Duncan, Esq., Governor of Bombay.

Engraved on the Hinges: "*Brittania*". "*Sir Edward Hughes*". "*Bombay*". "*Cornwallis*". "*Mornington*".

The Rule presented to Framjee Manekjee is similarly inscribed.

†Bombay Despatches, Vol. XXVI.

‡Bombay Letters Received, Vol. XX.

¶Bombay Despatches, Vol. XXVI.

if the Select Committee at Canton requested them to do so. *

They further asked Bombay to attend to the Management of timber trade and not to leave it to Madras and suggested that Mr. Mackonachie may be employed to supervise this business on a salary.†

It appears from the correspondence that Mr. Mackonachie had submitted a proposal to the Bombay Council to entrust him with the construction of a 74 gun ship of the line at Beypore on the coast of Malabar, but this was strongly opposed by the Marine Board, the Superintendent of Marine and Admiral Rainier. The Court concurred with the Marine Board and stated in their letter of 3rd July 1805 :

"We are of opinion that should it even hereafter be deemed expedient to establish a dockyard at Beypore, it would be highly improper to confide to Mr. Mackonachie the Superintendence of such an important and novel undertaking in preference to all the professional men of approved abilities in our service."

By their letter of 22nd February 1806, the Bombay Council informed the Court that the Superintendent of Marine had applied to them for permission to build a vessel in lieu of the "*Fly*" captured last year. He was asked to submit an estimate of the cost and also a report on the ships of the Bombay Marine. Mr. Money submitted his report and gave a statement of the distribution of all vessels. He stated that the force was reduced by the loss of the "*Fly*" and the "*Intrepid*" and by the diversion of the

*Bombay Despatches. Vol. XXV.

†Court to Bombay, dated 3-7-1805.

"*Bombay*" and the "*Teignmouth*" to the service of the Bengal Government. Mr. Money referred to the orders he had received for stationing an armed boat at Bankote and directing another to watch the seas between that place and Bombay and stated that he would carry out that instruction. At the same time he pointed out that he had placed at the disposal of the President a number of small vessels for the protection of trade.*

In this report he referred to the captures of various trading vessels by the pirates to the northward and southward and stated that he was devising measures against recurrence of such losses. He pointed out that the main cause of this was due to the fact that many of the trading vessels had not availed themselves of the protection afforded by the cruisers, preferring to run the risk of capture and frequently falling into the hands of the pirates. Mr. Money therefore proposed to adopt coercive measures as resorted to in England of compelling the trade to sail under convoy by infliction of penalties in every instance of non-compliance with Government regulations.

He then gives particulars of ships now employed to convoy trading vessels from Bombay to Surat and vice versa.

The Bombay Council further informed the Court that they had authorized the construction of a brig in place of the "*Fly*" at a cost of Rs. 44,125 inclusive of a boat in place of the "*Baloon*" condemned on a survey.

The 74 gun ship "*Minden*" was completed by May 1810 and she was launched on Tuesday, 19th June. The

*Bombay Letters Received, Vol. XX and P.D.D. Vol. CLXXXXIV, p. 166.

following extract from the *Bombay Courier* of 23rd June 1810 describes her launching:

"On Tuesday last His Majesty's Ship, the "*Minden*" of 74 guns, built in the new docks of this Presidency by Jamsetjee Bomanji was floated into the stream at high water, after the usual ceremony of breaking the bottle had been performed by the Honourable the Governor Johathan Duncan. The day was unusually fine; and she proceeded from the dock to her moorings without damage or difficulty.

This interesting spectacle took place in the presence of some thousands of spectators, multitudes of whom had come from the neighbouring places attracted by the novelty and singularity of the scene.

In having produced the "*Minden*", Bombay is entitled to the distinguished praise of providing the first and only British ship of the line built out of the limits of the Mother Country: and in the opinion of very competent judges, the "*Minden*," for beauty of construction and strength of frame, may stand in competition with any man-of-war that has come out of the most celebrated dockyards of Great Britain.

For the skill of its architects, for the superiority of its timber, and for the excellence of its docks, Bombay may now claim a distinguished place amongst naval arsenals.* The cost of building this vessel was £ 57,466 (Rs. 4,61,673)."

Francis Key composed the National Anthem of the United States of America "The Star-Spangled Banner" on board the "*Minden*", when the man-of-war was in Baltimore. (U.S.)†

* *Asiatic Annual Register for 1810-1811*, p. 136.

† *One Hundred Bombay Notes* p. 79.

After the completion of the "*Minden*", Mr. Money thought it his duty, on surrendering his charge to the Naval Commissioner, to request his professional opinion of the first ship of the line ever built for the Navy out of England and Mr. Dundas favoured him with the following reply :

"In replying to your letter of yesterday's date, wherein you request I would state my opinion of the construction and finishing of His Majesty's Ship "*Minden*" with an earnestness and carefulness of enquiry, that I considered due to the undertaking ; at the period of forwardness I first viewed the ship, her principal timbers were all open to inspection ; with such timbers I could not but be highly delighted, as certainly very many of them I have not seen equalled in the building of any ship in England ; the mode of securing the beams by dovetailing them into strong clamping planks, (a method not used in the King's Yard) gave me such satisfaction, as much strength is thereby given to the ships. As the work was carried on towards completion, I continued daily watching the progress and must declare was at all times pleased with the solidity of the work, as well as with the manner of its being put out of hand ; and I can have no difficulty in giving it as my opinion that she will be found to be as well put together and as highly finished as any ship built for the British Navy.

I can only add my hopes that while the "*Minden*" remains a proud proof of what may be expected from Bombay she will add to that credit the Builder has already gained in the opinion of those who, having had opportunities, are capable of setting a just value on his abilities."*

**Observations on the Expediency of Shipbuilding at Bombay*, by W. T. Money. pp. 60-61.

Capt. S. W. Hoare was selected by the Commander-in-Chief, to command the "*Minden*" and to try out the merits of the first experiment of an Indian-built ship of the line, and the following comparative statement of the properties of the "*Russel*" which had long been a favourite in the Navy and particularly with the late Admiral Drury and of the "*Minden*" which had been fitted for his flag, was obligingly furnished by Capt. Hoare to W. T. Money.

RUSSEL:

In smooth water with all sail set, on a wind will go from five to eight knots but not stiff.

With top-gallant sails and much sea, will go from three to five knots, according to the swell: she plunges a great deal, and carries her helm a turn a weather.

Under her topsails behaves much the same, will stay under them in smooth water, and veers and stays well.

With the wind from one point, free to a beam, will go seven or eight knots. Her best sailing is with the wind abaft the beam; she will go eight or nine knots.

Before the wind she rolls easy; she carried her lower deck ports badly.

Height of ports when stowed for 6 months.

	Ft.	In.
Fore port ...	5	5½
Midship ...	4	3½
After ...	4	11½

MINDEN:

In smooth water with all sail set, on a wind will go from seven to nine knots, and does not complain with this sail.

Under top-gallant sails, and with much sea, will go from five to seven knots, according to the swell; and very easy, she carries her helm half a turn a weather.

Under her topsails behaves much the same, will stay under them in smooth water, and veers and stays well.

Her best sailing is before the wind; she will then go nine or ten knots; she rolls easy, and carries her lower deck ports well.

Height of ports when stowed for 6 months.

	Ft.	In.
Fore port ...	6	3½
Midship ...	4	9½
After ...	6	1½*

But even before this the Admiralty had found the ships built at Bombay to be so strong and well built that they purchased for the Royal Navy the "*Sir Edward*

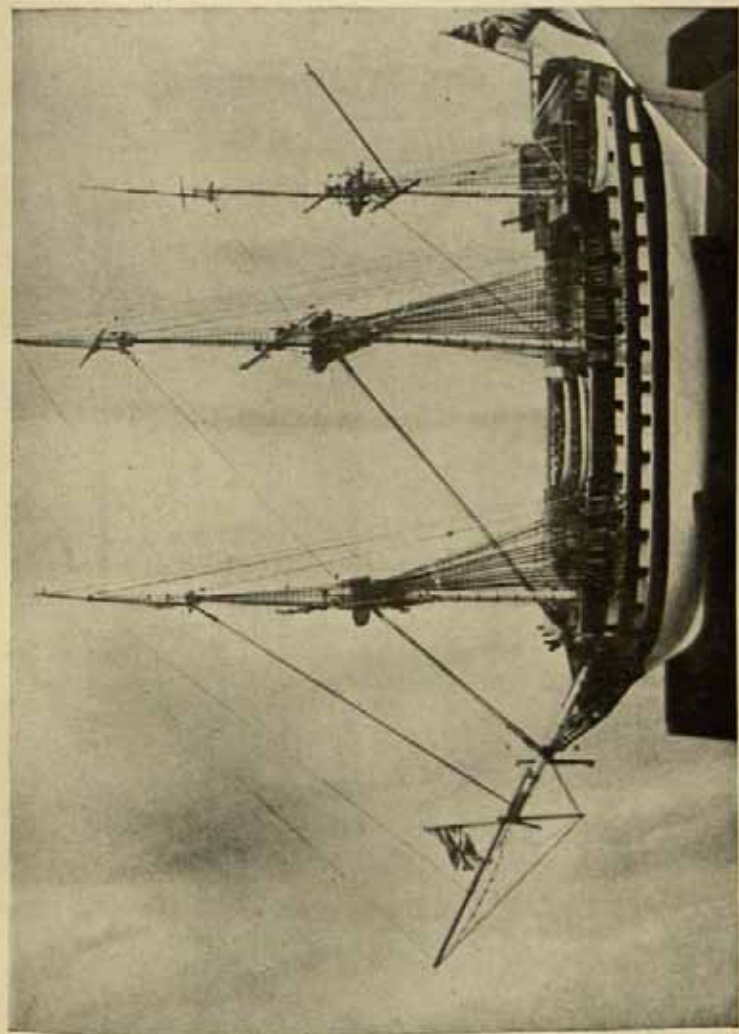
*Observations on the Expediency of Shipbuilding at Bombay by W. T. Money. pp. 62-63.

Hughes" and the "*Marquis Cornwallis*" and they were named the "*Tortoise*" and the "*Akbar*", respectively.

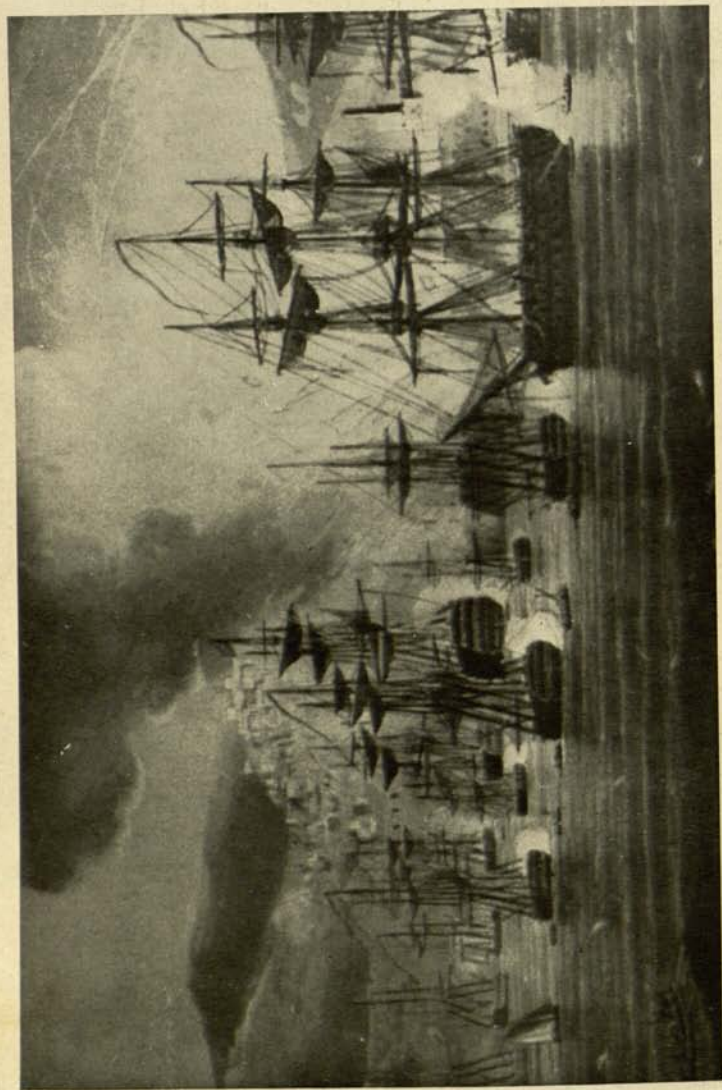
In a letter to the Builder dated 26th February 1813, Capt. McArthur Low of H.M.S. "*Minden*" wrote :

"I must acknowledge I have been remiss from my having first hoisted the pendant on board the "*Minden*" and continued to serve in her ever since. You might have expected that I would by an earlier opportunity have made known to you the opinion formed of her in England. That opinion as we all expected, was highly favourable. She was taken into the dock, carefully measured, the plank taken off in many places, and timbers strictly examined, the workmanship and materials throughout the whole structure were admired. The report made by the Surveyors of the Navy will not, I believe, note one fault; for they were not only satisfied but much gratified by the inspection. Being much on board, I had opportunity of hearing the opinions of most people belonging to the King's Yard at Portsmouth; they all, common shipwrights as well as their officers, expressed approbation. I have heard many of them declare, that no ship so highly finished, or composed throughout of material so good, had been launched from any of His Majesty's dockyards, or any yard in England, during the last fifty years; nor was the scarcity of good timber likely to admit such selection of that article for any one ship as was observable in the "*Minden*" for many years to come. We have found her in all circumstances answer extremely well—in my opinion better than any ship in which I have sailed hitherto.

The "*Minden*" excited general attention, and had many visitors of distinction on board while at Portsmouth. The great order in which she was kept by



Model of H. M. S. *Minden* of 74 guns.
Constructed by Mr. N. Lishman,
It is now in the possession of Mr. F. D. Wadia of Poona.
See Page 203



H. M. S. *Minden*

In the centre at the battle of Algiers.

From the original in the possession of Mr. N. Lishman.

See Page 203

Capt. Hoare drew flattering encomiums on himself and officers, and contributed not a little advantageously to the exhibition of this first grand and interesting specimen of the resources we have for the support of our maritime superiority in the forest of Hindoostan."

The *Asiatic Journal* of January 1817, states: "It is asserted on high authority that the "*Minden*" of 74 guns had fewer splinters than any other ship engaged in the conflict at Algiers. She was built of teak at Bombay, and we believe is the first† armed vessel constructed for our navy beyond the limits of British Islands."

The arrival of the "*Minden*" in England finally established the reputation of Jamsetjee as a great shipbuilder.

On the occasion of delivering over the "*Minden*" to the Naval Commissioner at Bombay, Mr. Money the then Superintendent of Marine, recommended in strong terms:

"the justice and expediency of bestowing on the Master Builder some substantial mark of favour of Government in reward of the long period of anxious toil during which that meritorious servant had devoted his professional talents to the production of the first ship of the line ever built for the British Navy out of England and pronounced by competent judges to be as well constructed and as highly finished as any that that Navy could boast." ‡

* *Memorial of the Lowjee Family*, pp. 27-28.

† A more correct description is that the "*Minden*" was the first ship of the line built under contract for the Admiralty outside the United Kingdom. At the same time a similar vessel was subscribed by the inhabitants of Calcutta, built at Kidderpore, and presented to the Admiralty. She was not, however, such a success and the Admiralty did not oblige by placing a further order for a vessel of that size with the Calcutta shipwrights.

‡ Bombay Letters Received Vol. XXV.

The Bombay Council, in their letter of 4th April 1811, thereupon wrote to the Court :

"In thus noticing the pretensions of the Master Builder and the very forcible and creditable appeal in his favour by which they are supported, we beg leave to refer to the sentiments which we respectively recorded on the occasion and to notice that, however deserving we may consider the individual who has thus justly become the object of the recommendations of his immediate superior, yet as this was one of those cases that admitted of a reference being made to that supreme authority from whose liberality either a complementary, honourary or substantial reward will be the most appropriately bestowed without involving us in the risk of incurring reproach for what might eventually be disapproved, we conceived it would on these united grounds prove at once the safest course for us to pursue, and the most acceptable to your Hon. Court, to refer Mr. Money's recommendation for your decision as being the most competent to determine what mark of your munificence to bestow, if any shall be considered as appropriate in so interesting an era in the history of Naval Architecture."*

In appreciation, the Lords of the Admiralty ordered a piece of plate to be presented to the Master Builder and a Silver Cup valued at £ 120 was sent to Bombay with their letter dated 28th March 1813, to the Resident Commissioner, Mr. J. Johnstone, to be presented to Jamsetjee, and this was duly done on 21st November 1813. †

This was a pleasing present to Jamsetjee who was extremely pleased at the recognition of his abilities as a

* Bombay Letters Received, Vol. XXV.

† Admiralty Records, Misc. p. 22.

shipbuilder by naval authorities in England for on its receipt he wrote the following letter :

"Deeply impressed as I cannot fail to be, with the strongest feelings of gratitude and respect towards the high authority from whence has emanated the distinction now conferred upon me through your hands, I am but ill able to express the pride and pleasure derived to myself and family on the present occasion. That the first ship of 74 guns ever built for his Britannic Majesty in this part of the world should have been constructed by me was in itself a matter of great gratification: but that my humble efforts in that work should have obtained, not only the approbation of many respectable professional men in India, but also that of the high authority which presides over the whole British Navy, cannot fail to make a lasting impression on my mind, and be carefully transmitted to my latest posterity.

Since the construction of the "*Minden*" I have built the "*Cornwallis*" and have nearly completed the "*Wellesley*" of 74 guns, and it will add to the pleasure I now feel under their Lordships' high approbation, if these latter works are not considered inferior to the first."

The cup bears the following inscription :

"This cup is presented to Jamsetjee Bomanjee by the Right Honorable the Lords Commissioners of the Admiralty in testimony of the sense they entertain of his diligence and skill in building for the service of his Britannic Majesty's Navy, the "*Minden*" of 74 guns"†

On the lid of the cup there is a replica in silver of the "*Minden*."

* *Memorial of the Lowji Family*, pp. 33, 34.

† The cup is still preserved in the family.

Though Jamsetjee was very proud of this tangible appreciation of his abilities, Lt. Col. Fitz Clarence (afterwards the Earl of Munster) who had been in this country during 1817-18 records the following on visiting the Dockyard on 4th February 1818:

"I was much delighted with the appearance of Jamsetjee Bomanjee and had a long conversation with him. I made the veteran Builder promise to give me his picture. He is to call on me to-morrow and to bring with him a piece of plate the Board of Admiralty presented to him on arrival of the "*Minden*" in England. Captain Meriton showed me a model * of that vessel which was built piece meal and at the same time as the vessel itself and every timber was added as the shipwright placed them on the vessel in the building dock."†

On the next day the author records:

"Jamsetjee called upon me this morning, having brought with him his (urn), a present from the Admiralty. It is a handsome piece of plate, but not very massy, with an inscription; and the handle on the top is the exact model of the "*Minden*" without her masts and has her name in very minute characters on the stern."

"Upon the whole it did not seem to me worthy either of the dignity of the donors or the merits of the donee. He presented me with an engraving of himself, a strong resemblance, which I will carry to England with me, as he is a character I highly respect."

* This model has not been traced.

† *Journal of a Route across India through Egypt to England*, pp. 328-331.

CHAPTER V

Timber Procurement

When Lowjee, the first Master Builder started the work of shipbuilding, no arrangement of any kind was in existence for the procurement of suitable teak and he was requested to go to the forests to the north of Bombay and complete arrangements. This was his first job.*

In 1738, the Bombay Council entered into a contract for the purchase of ships' timber with one Burjor Limjee and there are records of this gentleman supplying timber to Government in 1742-43. This arrangement would appear to be the outcome of Lowjee's efforts in 1736.

With the growth of shipbuilding on the Island the price of suitable timber gradually went up, and in order to protect their supplies Government were obliged to issue instructions to prevent a combine amongst timber merchants.†

By their letter of 23rd December 1778, the Court of Directors asked Bombay Council to establish a Marine Board and issued Rules and Regulations regarding the management of the Dockyard, under which the Board was to enter into contracts for purchase of timber.

This Board was to consist of the Master Attendant, the Commodore, and the Marine Storekeeper in addition

**Memorial of the Lowjee Family*, p. 24.

†Bombay Letters Received, Vol. II. Letter from Bombay to Court, dated 10-5-1763.

to the President and Members of Council. The post of the Superintendent of Marine was abolished.

In 1779, the Marine Storekeeper reported to the Council certain irregularities which he had noticed and certain alterations were made in the Rules.

In 1799, the Court of Directors asked Bombay to hold an enquiry into the supposed causes of a monopoly in timber and the connivance of the Master Builders, but Mr. Dundas, the Superintendent of Marine, expressed his decided opinion that such causes could never be satisfactorily established, with which the Bombay Council agreed.*

Again, in 1806-1807, on account of the high cost of timber and partly because of a report submitted by Captain Campbell to Government implicating the Master Builder on the suspicion of being concerned in the monopoly of crooked timber,† the Bombay Council appointed a Committee comprising the Superintendent of Marine, the acting Superintending Engineer, the Superintendent of Police, and a Naval Officer to investigate the charge. In their report they stated that the Builder's conduct had not only been absolutely straight but highly praiseworthy. The following quotation from their letter to the Court dated 20th February 1808, speaks for itself:‡

"The Committee having entered into a minute examination of the charges and suspicions thus brought

*Bombay Letters Received, Vol. XIII. Bombay to Court dated 13-6-1799.

†Crooked Timbers are used in great quantities in ship and boat building for knees, bends and crooks. The Port of Veraval on the Kathiawar Coast in modern times exports large quantities of such timber obtained from the Gir Forest where the Teak (*Tectona Grandis*) grows in a gnarled and stunted form.

‡Bombay Letters Received, Vol. XXII.

forward and entertained against the Head Builder, Your Honourable Court will no doubt be gratified on a perusal of the report to find the result, instead of impeaching, being highly corroborative of the integrity and zeal of the Master Builder in the promotion of the Company's interests, which have been materially advanced on the occasion on which he was suspected to have been collusively engaged, particularly adverted to in the concluding paragraph of the report, whence we have not failed to express the gratification we have experienced at observing that Jamsetjee Bomanjee had been able so fully to elucidate and to justify those purchases of timber for His Majesty's or the Honourable Company's use, which appear to have chiefly excited such suspicions, as must now be deemed to be sufficiently obviated under the facts stated in the Committee's report, revival of an idea long entertained and brought forward by the Late Superintendent (Mr. Dundas) though afterwards retracted by him that the Master Builder had long been engaged in the monopoly."

The Bombay Council further stated that up to then the Builders had taken upon themselves to act for the purchase of timber on behalf of individuals who had ships building in the Docks. This practice they now stopped "since his important duties as a meritorious shipwright and Builder are sufficiently extensive to engage all his time and attention."

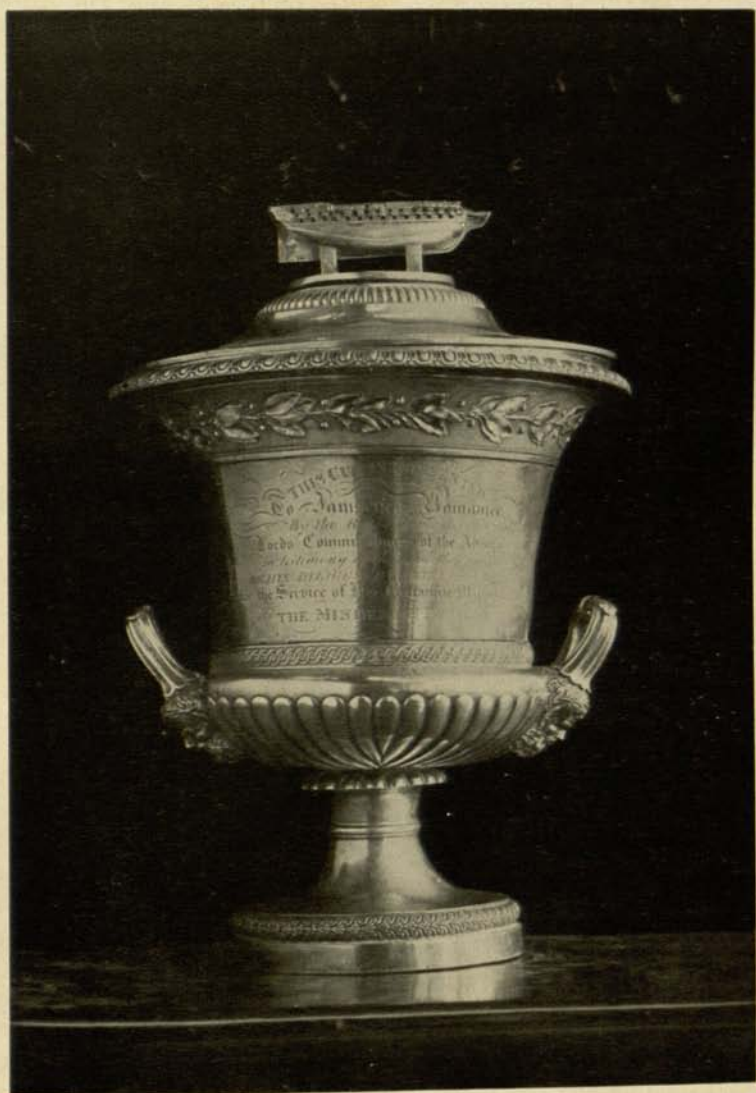
Jamsetjee had, of course, protested as soon as Capt. Campbell's charge came to his notice lest the Government's order might imply a censure on his conduct. The Bombay Government readily acquitted him from all blame

as the system had received the sanction of time honoured practice. They further wrote :

"In our point of view, the practice may no doubt have contributed to facilitate on several occasions the procurings of crooked timber as well for public as for private use and was in some measure unavoidably resorted to at a time when neither the European officers at your Dockyard nor the Marine Officers at the Port possessed a sufficient acquaintance with the means of procuring timber from districts then entirely under Maratha and Guicowar Governments; but the state of our local knowledge of these particulars having laid open these sources of supply, it is obvious that there can be no further occasion for the Builder's agency in these parts."

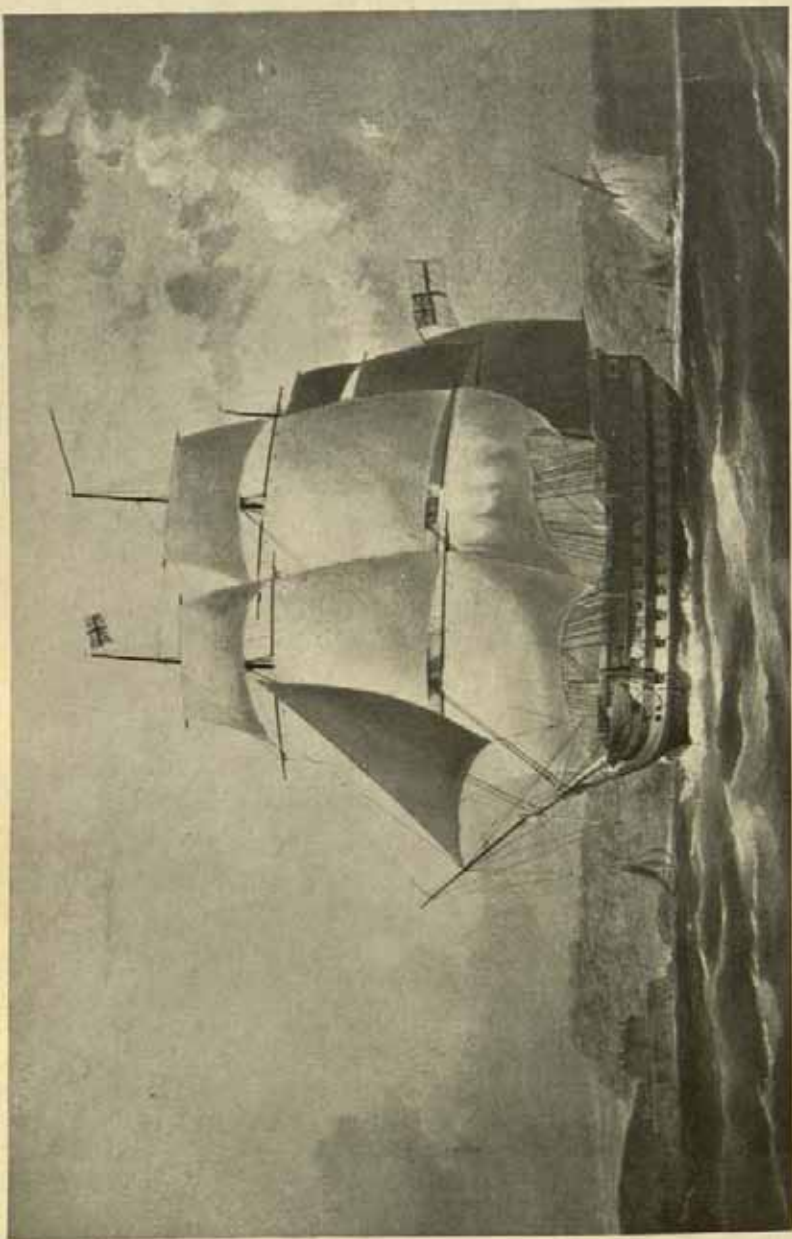
The following is quoted from Mr. Money's book :

"This trade (i. e. crooked timber trade) so valuable in a public point of view owes its rise to the zeal, activity and influence of Lowjee, the founder of the Dockyard in Bombay, who naturally sought the necessary materials for supporting his infant establishment, and improve the means of acquiring them to his successors, who have extended what he had so laudably and so fortunately commenced; and in particular his grandson, the present Master Builder, to the weight of whose personal character is to be attributed the revival of this important branch of the timber trade, after a long suspension, in consequence of a cessation of building, which enabled the Marine Department to effect the early completion of the "*Minden*", and the other ships which have been described and which will render the construction of the "*Cornwallis*" seventy four, just laid



Silver Cup presented by Lords of the Admiralty to
Jamsetjee Bomanjee in 1811.

See Page 209



H. M. S. Cornwallis, 72 Guns.

Going out of Plymouth Harbour.

To Capt. Sir Richard Grant, *This Print from the original in his possession, is respectfully dedicated by his obedient servant.*

Thomas G. Dutton.

See Page 216

down, and the prosecution of future shipbuilding, a task comparatively of easy execution."²

Lt. Col. Fitz Clarence (First Earl of Munster) in his work from which we have already quoted wrote :

"Indeed the history of the dockyard is that (and a most pleasing one it is) of the rise of a respectable, honest and hardworking family, as through several generations the Chief Builder has been a descendant from the first settler Lowjee ; and so incorruptedly and disinterestedly have they all acted in the discharge of their duty that none of them ever attained to affluence."

²Money's *Observations on the Expediency of Shipbuilding at Bombay*, pp. 68-69.

CHAPTER VI

The Zenith of Shipbuilding & Death of Jamsetjee

The *Calcutta Review* Vol. IV for 1845 in reviewing the book *Journal of a Residence in Great Britain* by Jehangir Nowrojee and Hirjibhoy Merwanjee wrote on the same point as under : *

"Remarkable as is the fact (of Parsi holding a monopoly of all departments in the Dockyard) being contrary of other departments of the State, we are not aware of any instance in which they have abused the almost unlimited confidence reposed in them. The opportunities to do so have been ample; for in an extensive Dockyard, where large sums of money, from the mercantile nature of its multifarious duties are in a continual state of transition, numerous avenues must lie open for the surreptitious accumulation of wealth. But the integrity of the Parsi has remained unsullied. This feature so characteristic of high moral principle, no less than the peculiar one, how that without European assistance, the ghebirs have continued to maintain their superiority as naval architects over every other class of natives in India, is a phenomenon not unworthy of examination, but one to which we cannot at this moment give a satisfactory solution."

After the construction of the "*Minden*" the Admiralty ordered construction of another ship of the line of 74 guns, the "*Cornwallis*" of 1767 tons. In the construction of this ship there appears to have arisen some misunderstanding between the Admiralty and the Company.

* *Calcutta Review* Vol. IV. 1845. p. 3.

Mr. Duncan, the Governor of Bombay on account of the absence of clear orders from the Court of Directors had allowed some of the timber selected for the men-of-war to be taken up for a Merchant Ship. When this information reached the Admiralty, they countermanded their former orders for construction; but when a satisfactory explanation was given to them regarding the delay, they asked the Bombay Authorities to proceed with the work. At the same time there was a suggestion by the Bombay Authorities to have two brigs, one of 382 tons and the other of 179 tons built along with the 74 gun ship.

The keel of the "*Cornwallis*" was laid on 19th October 1811, and she was launched on 2nd May 1813, the cost being Rs. 4,09,750 (£44,591).*

In communicating the news the Bombay Government wrote to the Court that according to the best judgment that could be formed, the ship would be likely to be approved by His Majesty's Government the same having been built of timber of the first quality and nothing was left undone in completing the work in a manner creditable to the person employed.†

The "*Cornwallis*" was the Flagship of Sir George Burlton in action with the American Sloop "*Hornet*" 1815 and carried the flag of Sir William Parker in the China War 1842, the Treaty of Nanking being signed on board. Fitted with a screw (1843,) she took part in the Russian War under G. G. Wellesley, 1855. She ended her career as a jetty at Sheerness.

* Bombay Letters Received Vols. XXVIII & XXIX.

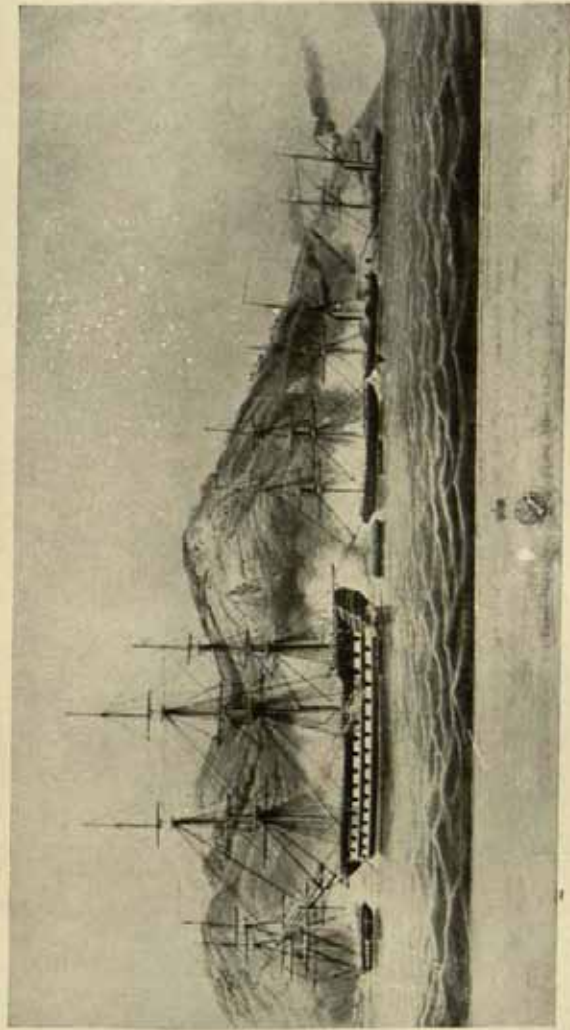
† Bombay to Court dated 2-4-1813. Bombay Letters Received Vol. XXVII.

The following is an account of the action with the "*Hornet*":

On 28th April 1815, the U. S. Sloop "*Hornet*" whilst on patrol sighted what she took to be a deeply laden East Indiaman, but on getting closer identified the vessel to be a ship of the line and an enemy and immediately put about to escape from the danger she had unwittingly exposed herself to. Captain James Biddle in command of the "*Hornet*" reporting the episode in his letter dated 10th June 1815, from San Salvador wrote: "By sundown I had perceived that the enemy sailed remarkably fast and was very weatherly."*

In his efforts to escape, Captain Biddle jettisoned first his sheet anchor, followed by his spare spars and rigging, scuttled the wardroom deck, but by seven the next morning despite all his efforts to lighten the ship, the seventy-four, now identified as the "*Cornwallis*" was in closer pursuit and displayed her colours at the peak and a Rear-Admiral's Flag at the mizzen top-gallant head. Capt. Biddle cut away the remainder of his anchors, broke up his launch and after throwing over the capstan - no mean feat - began on the guns and jettisoned them. Meanwhile the "*Cornwallis*" commenced firing, but apart from a few harmless hits, the result of four hours' fire and bad marksmanship produced no results. Meanwhile the American continued to jettison everything they could spare, moveable or immovable, and trimmed their ship in the fashion of a yacht. The lightened ship and a change of wind enabled the "*Hornet*" to draw ahead and she

* *Naval Actions of the War of 1812* by James Barnes, New York, 1896.



H. M. S. Wallis.

The view of the successful attack of Her Majesty's combined forces.

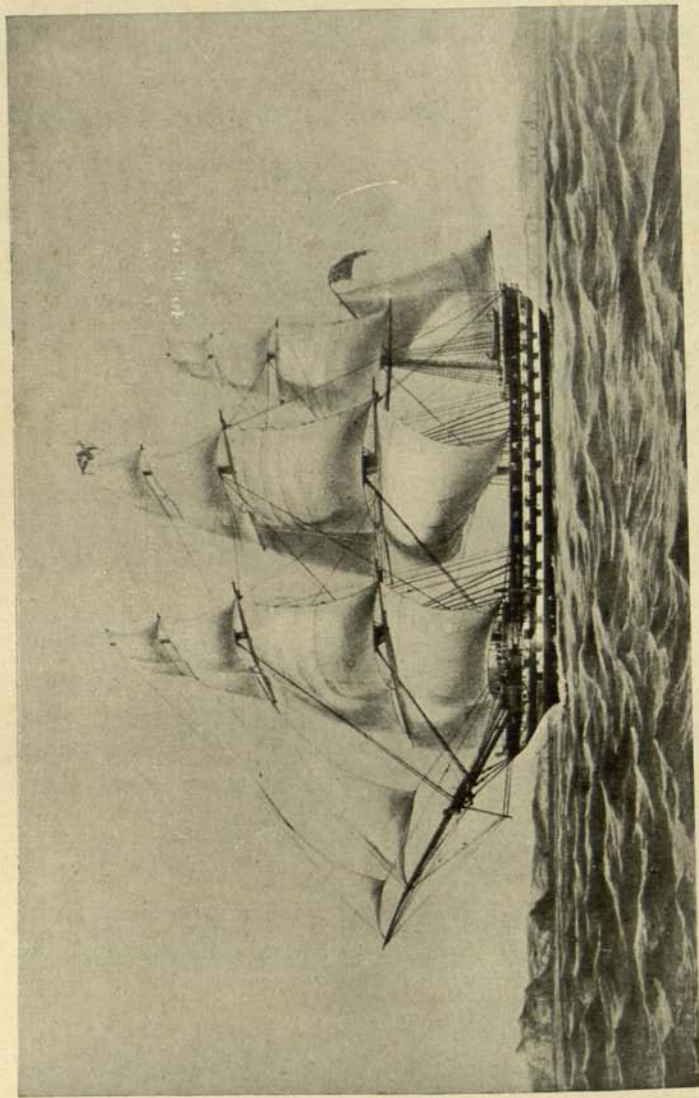
Under Vice-Admiral Sir William Parker, G. C. B. and Lieut. General Sir Hugh Gough, G. C. B. upon the Heights of Chusan, on 1st October, 1841.

Is with permission dedicated to His Royal Highness Prince Albert &c. &c., by His Royal Highness most faithful & devoted servant, R. B. Crawford.

Printed by the kind permission of Messrs, Thomas Parker.

During the world war II she was damaged by an enemy bomb in the Thames and was broken up.

See Page 219



H. C. S. Earl Balcarus East Indiaman, 1488 tons.

To Messrs. I. F. & S. Some, Capt. H. Morris and the officers of the ship.

This print is respectfully dedicated by their obedient servant, W. Foster.

See Page 222

succeeded after her gallant efforts in escaping. The "*Cornwallis*" by this action fired the last shot in the American War of 1812, and it is to be hoped, the last shot ever to be fired between the American and British Nations.

Further orders were received from the Admiralty to build a frigate of 36 guns and a sloop, and they were duly carried out.

The Admiralty further issued instructions to the Bombay Government to send timber frames similar to ships built at Bombay to be assembled in England and the "*Cornwallis*" took a duplicate teak frame with her to England when she first proceeded there. The same was done in the case of most other ships built for the Royal Navy.

Along with the construction of the "*Cornwallis*" another ship of similar dimensions was being built, the "*Wellesley*" of 74 guns and of 1745 tons which was launched on 24th February 1815. The cost being £37,988 or Rs. 3,51,262. This remarkable vessel renamed the "*Cornwall*" perished in the Second World War, 125 years later, still tight and seaworthy, as the result of an air-raid by enemy action.

Between the construction of these two ships of the line, the "*Victor*" brig of 384 tons and carrying 18 guns and the "*Sphinx*" brigantine of 239 tons carrying 12, were launched from the Bombay Docks on 29th October 1814 and 25th January 1815. Besides the above the "*Zebra*" brig and the "*Cameleon*" brigantine of the same

tonnage and carrying the same number of guns as the "Victor" and the "Sphinx" were launched on 18th November 1815 and 16th January 1816, followed by "Amphitrite" frigate of 1064 tons and carrying 38 guns which left the Builder's hand on 14th April 1816. Besides the above the following ships were launched as stated below. The "Melville" of 74 guns and 1767 tons launched on 11th February 1817, the "Trincomalee" of 38 guns and 1065 tons launched on 19th October 1817 still afloat in 1954 now renamed the "Foudroyant", the "Malabar"* of 74 guns and 1715 tons launched on

* *The Asiatic Journal*, Vol. VIII, July 1819, p. 89, records the following interesting details regarding the "Malabar": "On the night of December 28th, the "Malabar" of 74 guns, built for His Majesty's Navy, was floated out of the Upper Duncan Dock. The timbers of her frame and the planking without-board are on the old plan, but, on the new system, all the openings of her timbers are filled in and caulked so as to become, exclusive of the outside plank, a perfect cistern below the height of the orlop deck; and on the surface of this space, in lieu of planking or ceiling, as formerly, riders, or frame bends, are secured diagonally to the ship's frame from the keelson to the lower gun-deck distant longitudinally from each other about seven feet, between which are fastened two tiers of truss timbers nearly at the angle of 45 degrees. On the gun and upper decks truss planks are fastened between the ports for counteracting the invariable tendency of a ship to arch or hog. The plan of shelf pieces and thick waterways, as improved by Mr. Seppings, by introducing additional fastenings of circular dowels for attaching the ends of the beams there to, has been adopted; to which iron knees will be added, for securing the beams to the ship's side, on her arrival in England. The dimensions of the "Malabar" are, length on gun deck 174'3½", keel for tonnage 143'5" breadth, extreme 47'5", depth in her hold 19'11" burthen in tons 1715. We confidently believe, that for goodness and durability of material, and for neatness and efficiency of workmanship, this ship will be equalled by few and excelled by none and will be another proud instance of what can be effected by the artificers of India, when their labours are directed by such talent as distinguishes our venerable builder, Jamsetjee Bomanjee, aided by the joint superintendence of that able officer, Mr. G. Seaton, the King's architect at this presidency. The keel of another line of battleship, the "Ganges" will be immediately laid on the same blocks from whence the "Malabar" was floated, intended to be an 84 which will be 20 feet longer and 500 tons larger than the "Malabar." (*Bombay Courier* Jan. 2nd.).

28th December 1818, the "*Seringapatam*"* frigate of 38 guns and 1152 tons launched on 5th September 1819 and the "*Ganges*" of 84 guns and 2284 tons were the other ships and frigates built for the Royal Navy by Jamsetjee Bomanjee. The last ship to be launched during the lifetime of Jamsetjee was the "*Hastings*" frigate of 24 guns built for the Company's Marine on 2nd May 1821. *The Bombay Courier* of 5th May wrote :

"The "*Hastings*" is of somewhat less dimensions than the naval class of 28 gun frigates; and to speak of the beauty of her frame, the goodness of her materials and the excellence of her workmanship, we have only to say she was constructed under the immediate superintendence of the venerable Jamsetjee Bomanjee, the best eulogium that can be pronounced on her excellence and qualifications.†

The "*Ganges*" was launched on 10th November 1821, by which time Jamsetjee Bomanjee had passed away.

Besides the above, Jamsetjee built the following for the Company's service :

The "*Teignmouth*" sloop of war of 16 guns built in 1799.

* The following is from the *Asiatic Journal*, Vol. I. March 1820: On 5th September 1819, a new frigate, called the "*Seringapatam*" built for his Majesty's Service and pierced for 46 guns, was floated out of Bombay Dock. She is constructed on a theory calculated to combine the greatest stability with the least possible resistance to her sailing; and considered from the durability of the timber and the strength of building, to be one of the most formidable ships of War of her class, known. The carved work on the prow appears chiefly designed in compliment to the natives of Hindoostan, and represents the Mysore Rajah attended by his Kittasol bearer. (*Asiatic Journal*, Vol. I. March 1820).

† *Asiatic Journal*. Vol. XII, December 1821, p. 602.

The "*Ternate*" sloop of war of 16 guns, launched in 1801.

The "*Mornington*" sloop of war of 22 guns, launched in 1799.

The "*Antelope*" brig of 14 guns, launched in 1793.

The "*Fly*" brig of 14 guns, launched in 1793.

He also built a number of merchantmen for the Company and private owners, Europeans and Indians, of which the most famous were the "*Asia*" of 736 tons, the "*David Scott*" of 749 tons, the "*James Sibbald*"* the "*Charles Grant*" of 1246 tons. The "*Earl Balcarras*" of 1406 tons was built at Bombay in 1810 for the Hon. East India Company by Jamsetjee Bomanjee for the Bengal and China round voyage. She was the largest ship owned by them at the time. In 1832, she was sold to Thomas A. Shunter. After 52 years of service she became a receiving hulk on the West Coast of Africa. On the abolition of the Indian Navy in 1863, she was sold for £ 10,709.†

The following is taken from Captain C. R. Low's *History of the Indian Navy*, (Vol. II, p. 193):

The "*Buckinghamshire*" of 1700 tons was built in the Bombay Dockyard, of teak and copper fastened, for the

* The following extract from the *Asiatic Annual Register* of 1804, p. 77, is of interest: In November 1803 was launched, from one of the slips in the dockyard, another creditable specimen of the ingenuity of the native builders of Bombay. A vessel between 700 and 800 tons burthen, named the "*James Sibbald*," in compliment to a gentleman formerly in the Civil Establishment of this presidency. This vessel is entirely copper fastened, which adds to her value in as much as it renders her more durable.

† *The Old East Indiaman* (p. 337).

Honourable Company's Mercantile Service and probably a nobler ship never left the builder's hands. She got into the vortex of a cyclone within 60 miles of Vingurla. The hurricane raged with such unparalleled violence that one of her heavy cutters was torn from the davits and blown across the poop like a straw, and the poop ports having been forced in by the wind, the bulkheads of the cuddy were blown down. During the calm, while in the vortex of the hurricane, her decks were covered with dead and dying birds and probably few ships but those built by the Parsi shipbuilders at Bombay would have escaped destruction during an ordeal as terrible as that encountered by the "*Salsette*" frigate in the ice of the Baltic. The cost of the "*Buckinghamshire*" to the Company was no less than £93,000 and she was sold on the lapse of the Company's Charter in 1833 for £10,500.*

Capt. Frederick Adams of this ship expressed the following opinion in his letter to the Master Builder:

"I have much pleasure in acknowledging the good qualities of the "*Buckinghamshire*". From what I observed in my passage from Bombay, she steers admirably. She sails well, and is weatherly, if I could judge on a comparison with the "*Upton Castle*" from Bombay and the "*Hope*" country ship from Bengal, both considered good sailors, I have only to try her in blowing weather, and if she performs well she may be considered one of the finest merchantmen in the world."†

*It is not known who purchased this ship in 1833-34 but Framji Cowasjee Banaji was her owner from 1842 onwards till his death on 12th February 1851. Unfortunately, this beautiful ship was destroyed by fire on 4th March, 1851 near Calcutta.

†*Asiatic Journal*, November, 1817 Vol. IV, p. 533.

On the night of 10th February 1819, the new ship built for the Imam of Muscat was floated out of the old middle dock and received the name of the "*Shah Alum*." Mr. Meriton having been requested to perform the ceremony of naming her (contrary to the general opinion that she would receive her benediction from the hands of some Holy Seyed), hesitated a little about wine, knowing that the Mahomedans had prejudices against it. On making known his opinion to Mahamed Ali Khan, the Imam's agent at this place, he confessed that if that ceremony could be waived it would be pleasing to them; instead of wine, then the ship received her name under a copious effusion of rose-water and attar. The next morning she was saluted by all the Arab ships in the harbour. The length of keel, 141 ft., length of gun deck 158 ft., length over all 181 ft. 3 ins., breadth extreme 41 ft. 5 ins., depth of hold 6 ins., height of poop 5 ft. 9 ins., burthen 1111 tons; pierced for 56 guns.*

Under the expert hand of Jamsetjee Bomanjee the reputation of the Bombay Dockyard for building fine ships attained its zenith. His portrait bears testimony to his upright and independent character and he won the friendship and respect not only of the Officers of the Marine but also of the Admirals and high-ranking Officers who had come into contact with him during their visits to this country. The letters quoted in these pages illustrate the high esteem all had for Jamsetjee as a shipbuilder and in turn Jamsetjee had complete confidence in those for whom he worked. Largely due to the advocacy of Admirals

* *Asiatic Journal*, Vol. VIII, October, 1819, p. 394.

Troubridge, Rainier and Pellew, Jamsetjee's services as a shipbuilder were ultimately rewarded by the Company.

It would indeed be tedious to quote the testimonials given to Jamsetjee by the public servants and others besides those already quoted in these pages. We shall however just indicate here the high opinion entertained by those with whom Jamsetjee had worked for long. Mr. P. Dundas, Superintendent of Marine wrote in his letter dated 8th December 1801:* "I think it a duty incumbent on me, to declare to you how highly satisfactory your conduct has proved to me during the seven years I have been at the head of the Marine Department."

Mr. Robert Anderson who succeeded Mr. Dundas as Superintendent, in his letter dated 9th February 1805 stated:†

"I leave this testimonial of the high sense I entertain of the skill, ability and integrity of Jamsetjee Bomanjee, Master Builder of this Dockyard, which I have full reason to be certain call for my warmest eulogiums; and I may be permitted to write so, after having for seven years as Master Attendant and three years as Superintendent been a very frequent witness of his abilities."

W. T. Money in his letter dated 30th September 1810, paid the following graceful tribute to Jamsetjee:‡

"I cannot retire from the station in which I have so long been the witness of your eminent merits, without discharging an act of duty most grateful to my feelings, by requesting you to accept the cordial expression of

* *Memorial of the Lowji Family*, p. 17.

† *Ibid* p. 23.

‡ *Ibid* p. 30.

my public thanks for the great benefit this important department has derived, during my superintendency, from your unremitting zeal, professional talents and tried integrity.

I entered on the duties of my office, prepossessed with the most favourable sentiments of your respectable character, but experience has long convinced me, that those sentiments fell far short of what was due to your distinguished worth.

.....I am proud to bear testimony that great is the reward due to the exertion of your superior abilities, which for the credit of Bombay and the benefit of the British Navy, I sincerely hope may be frequently called forth to supply the best ships which any country can boast."

Mr. George Dundas, Commissioner of the Navy, in his letter dated 18th January 1812, wrote:

"These are to certify to whom it may concern, that during the whole time I remained in India, the conduct of Jamsetjee Bomanjee Lowjee, Master Builder in the Dockyards in Bombay, was such as to merit not barely my approbation, but my esteem. That he has gained my full confidence, inasmuch as I firmly believe that in all works performed by him for His Majesty's Naval Service he has acted conscientiously, impartial between the King's Government and that of the Honorable East India Company and I do fully consider that he is well entitled to every mark of credit and respect that can be shown to his situation."^{*}

The Builders' salaries were raised to Rs. 700 and, whilst this figure may at first sight appear handsome, the absence of any rules for granting pension to the families of the deceased builder forced them to make their own

^{*} *Memorial of the Lowji Family*, pp. 31-32.



H. M. S. *Trincomalee* renamed *Foudroyant*.

The last Bombay ship-of-the-line and the last wooden ship of the Royal Navy afloat. This and the following four photographs have been provided by Mr. N. Lishman.

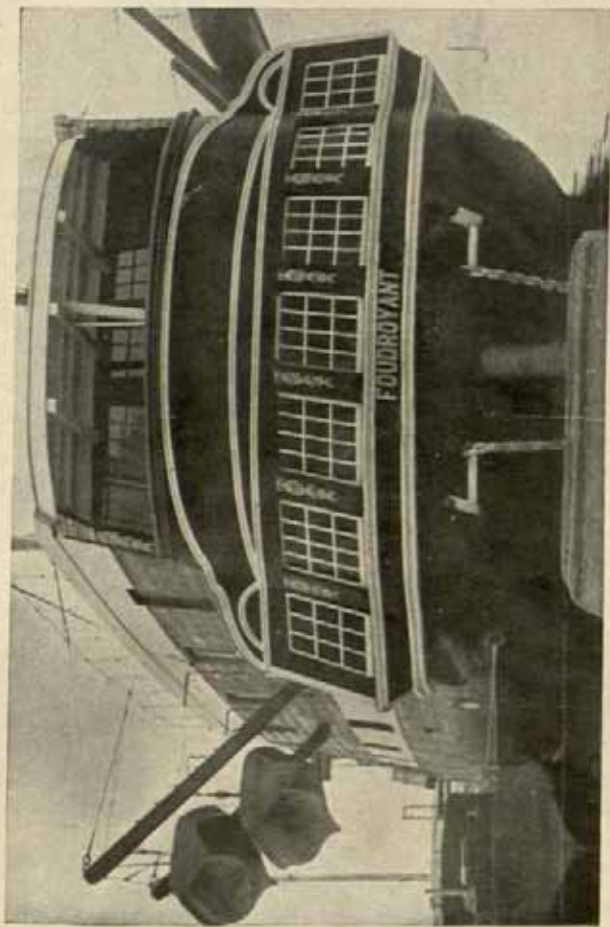
The photo showing the figure-head.

See Page 220



H. M. S. *Trincomalee*.

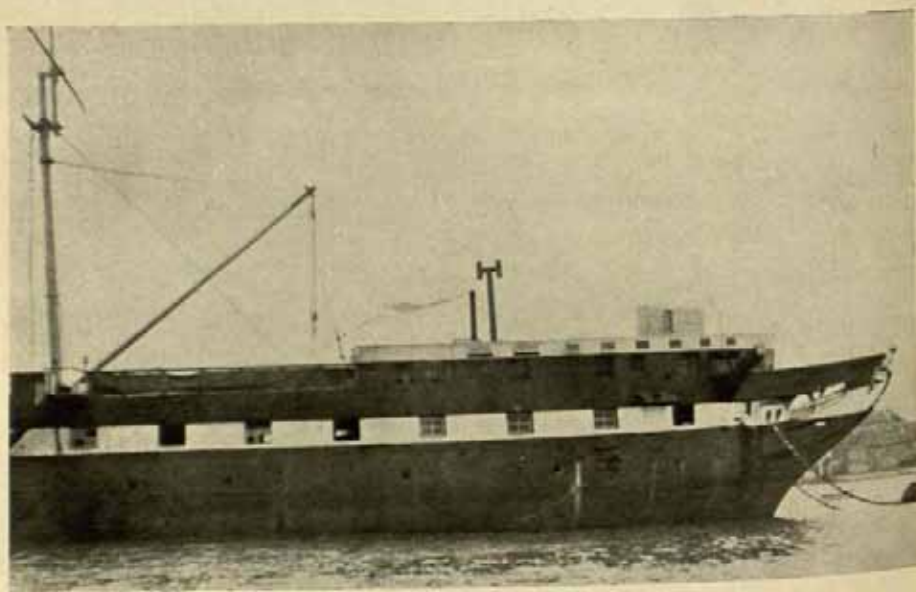
The lower capstan in the main deck showing a section of the ship's original cable and example of fluted posts.



H. M. S. *Trincomalee*.
Photo showing the stern gallery.



H. M. S. *Trincomalee*.
Photo showing the deck looking aft.



H. M. S. *Trincomalee*.
A broadside view of the front position of the vessel.

arrangements for the maintenance of their families. This private arrangement of looking after the large families of their deceased relatives was indeed very creditable to the persons who did so and continued during the period when Jamsetjee's son Nowrojee was the Head Builder.

This private arrangement of maintaining the families of the former deceased builders was referred to by the Superintendent of Marine, Mr. Henry Meriton in his letter to the Bombay Government dated 4th September 1821. (p. 243).

From a copy of an agreement dated September 1825 and confirmed in October 1828, by the then Head Builder Nowrojee Jamsetjee and the Second Builder Cursetjee Rustomjee, we find that both had agreed to subscribe Rs. 250 from their monthly salaries of Rs. 800 and Rs. 600 respectively, to the families of their predecessors, Framjee Maneckjee and Rustomjee Maneckjee, giving details of the distribution made amongst their widows and children. Apparently this arrangement had followed the practice which prevailed amongst their predecessors, Jamsetjee and Framjee.

In this agreement Jamsetjee's family is not shown as receiving any pension for the reason that his family was granted an annual Inam of Rs. 6,000 by the East India Company.

Admiral Peter Rainier had already recommended to the Governor of Bombay that a grant of land be bestowed on the families of the builders, which recommendation was subsequently supported by Admiral Sir Edward

Pellew, but by the time Jamsetjee submitted his memorial to the Court of Directors under date 4th August 1818, this had not materialised. In a previous memorial to the Government of Bombay the Builder had expressed his desire to retire on pension and asked for a grant of cultivated ground as Inam to the family. On being forwarded to London, the Court offered Jamsetjee a pension of Rs. 200 per month and a grant of uncultivated ground as Inam. When Jamsetjee was informed about this reply he submitted a further lengthy memorial declining to retire on a pension of Rs. 200 and to accept the gift of uncultivated ground. In this memorial he sets out facts regarding the Inam grant as under :

"In the early part of the year 1804, Admiral Rainier, impressed with a sense of gratitude of the services of your Memorialist and his colleague Framjee Maneckjee, recommended them to Governor Duncan for some special mark of public favour of Government and pointed out at the same time that a spot of Batty* ground either on the Island of Bombay or Salsette would be the most likely to prove acceptable with which however Government did not think proper to comply. Sir Edward Pellew on his visiting Bombay finding that Admiral Rainier's recommendation in favour of the builders had not been attended to, and that gallant Admiral being himself fully impressed with the value of the services of your Memorialist and his colleague, recommended them to the Marquis Wellesley,† for the gift,

* Batty ground-land upon which rice may be cultivated.

† The following letter was written by Marquis Wellesley to the Government of Bombay :

"Sir Edward Pellew has communicated to me a copy of Admiral Rainier's letter to the Governor in Council dated 12th February 1804 recommending to

(Continued on page 229)

which his predecessor had solicited for them from the Government of Bombay. Not long after this, Mr. Money, the then Superintendent of Marine sent for your Memorialist and his colleague and told them that he had been desired by Governor Duncan to ascertain what kind of reward would best satisfy them. Their reply was that they would be satisfied with a cultivated estate either on the Island of Bombay or the Island of Salsette of Rs. 5,000 a year produce. Mr. Money as well as your Memorialist were at this time unacquainted with the source from whence this enquiry came; Mr. Money reported the pretensions of your Memorialist and his colleague to Governor Duncan and at the same time recommended them for an addition of Rs. 1,000 annually as a reward for their services in building the Company's ships and cruisers; Governor Duncan, immediately after this acknowledged to Mr. Money that the order for the reward he was about to confer on the Builders had

your notice certain builders to assign to them a small portion of Batty ground in Bombay or in Salsette as an hereditary possession. Sir Edward has added the expression of his entire concurrence in the sentiments expressed by Admiral Rainier with regard to the meritorious services of the Builders and is extremely anxious to obtain for them the mark of favour which has been recommended by Admiral Rainier to your adoption.

I am not aware of any objection founded on the grounds of a public nature to such a grant nor of the precise description of land called Batty ground; but it appears to me to be extremely desirable to reward the zeal which the Builders have displayed in the discharge of their laborious duties with so much advantage to the public service and I am anxious to manifest the greatest respect to the recommendation of Sir Edward Pellow whose opinions are entitled to highest consideration. I request therefore that you will state to me as soon as may be possible your sentiments on the subject in order that necessary instructions may be issued to the Government of Bombay in case you should deem the authority of the Governor General in Council necessary to authorise you to make the proposed grant. It appears to me, however, that the question is of a nature which will best be decided by your authorities without further reference to this Government." (P. D. D. Vol. 201 A. p. 19).

come from the Marquis Wellesley and added that as he considered their pretensions to be very moderate he would immediately issue an order to the Collector of Salsette to report on the state of the different cultivated tracts of ground on the Island and other circumstances connected therewith. A short time afterwards Mr. Money told your Memorialist that Mr. Duncan had informed him that the report of the Collector was favourable and any grant of land to the Builders was preferably admissible as it would only be transferring the tenants from the Honourable Company to them and precisely upon the same terms. Mr. Money added that your Memorialist might consider the business as settled and that in the course of a few days he would be in possession of his estate. Your Memorialist is ignorant of the reason which induced Mr. Duncan to withhold the intended reward and to offer them through Mr. Money an uncultivated estate which they declined receiving from consideration already noticed. Mr. Money may be enabled to explain the circumstances to your Honourable Court.

Your Memorialist has been thus minute in his detail of facts in order to show how severely himself and his colleague and their family have suffered from the fortuitous circumstances of the noble Marquis having left India at the time he did and to which he earnestly implores the consideration of your Honourable Court."

Charles Forbes (afterwards Sir Charles Forbes Baronet) who was an intimate friend of the Builder and his family, wrote to Mr. Simon Holliday on the 12th February 1804, a letter which bears out the above facts.

In this letter Forbes, after stating facts regarding Admiral Rainier's recommendation stated :

"Considering the merits and respectability of these men it cannot but be regretted that their sole reward should be the small sum of Rs. 1,000 per month, amongst the whole forming an aggregate of about 70 persons to be supported therefrom. Of this sum the Company only pays about Rs. 4,000 annually the remainder being contributed by the merchants whose ships are docked. They are in fact worse off now than they were before Mr. Dundas got their pay fixed as Jamsetjee assures me. Finally, Jamsetjee has had 17 children by one wife of which the round dozen were alive until the other day that the death of his daughter broke in upon him. He is poor indeed but most independent as I explained to you the other day and will receive assistance from none of his family who are better off."

But apparently there was further delay. By a letter from Charles Forbes to P. Le Messurier on 10th July 1805, he was asked to expedite his report regarding lands to be given to the Builder and the concluding paragraph shows that the matter appeared to have reached a final stage.

"When it (the report) arrives, a grant will be made out and presented to the Builders in due form at the Government House along with the two elegant Silver Rules which the Court of Directors have sent out to them."

Mr. Le Messurier duly acknowledged this letter but there appears to have been a hitch regarding certain objections raised by the farmers as revealed by Jamsetjee's letter of 14th February 1806, to the Admiral, Sir Edward

Pellew. Therein Jamsetjee stated that Government had enquired of the Collector whether there would be any objections on the part of the cultivators to transfer their obligations to the Inamdar. Some objections were received and the Bombay Government apparently were undecided on the point. Jamsetjee, in his letter showed at great length that it entirely rested with the Government to transfer land to such persons whom they thought worthy and gave instances of such transfers. He then stated that the delay caused misunderstanding about them in public and concluded :

"This representation is already so long that I almost fear to say more although perhaps the matter will now be fully understood by your Excellency, I shall therefore conclude by requesting you to receive our most grateful thanks and acknowledgment for the kind interest you have been pleased to take in the success of our family on this occasion and it will, no doubt, be agreeable to you to know whatever may be the end of this matter that your much respected predecessor Admiral Rainier and three successive Superintendents of Marine have generously patronised and approved my humble efforts in the service of His Majesty and the Honourable Company."

But the matter was apparently shelved by the Bombay Government, as stated in the memorial and as if this was not enough even this memorial of 1818 remained unanswered until the Builder was on his death bed in August 1821. The thought of leaving his family in financial distress preyed heavily upon his mind and he was constantly referring to his memorial which remained unanswered. Seeing his distressed state of mind, his

brother Hormarjee Bomanjee saw his friend, Mr. Pendergast, who was a Member of Council and that gentleman suggested that Jamsetjee should submit a petition to the Governor without delay. The petition is reproduced below :

To,
The Hon'ble Mount Stuart Elphinstone, Esqr.,
President & Governor in Council,
Bombay.

The Humble Petition of Jamsetjee
Bomanjee the Hon'ble Company's
Master Builder.

Most humbly Sheweth.

That your Petitioner at length after a period of upwards of fifty years' servitude finds himself no longer able to do his duty nay he finds his dissolution so near at hand that he is with heart-rending reluctance forced to state to your Hon'ble Board that that employment which has occupied the efficient part of his whole life is now no longer in his power to manage, and he therefore bowing to mandates of heaven thus humbly and devotedly announces to your Hon'ble Board the (to him) most afflicting circumstances :

That your Petitioner has already had assurance (independent of the consoling confidence which he has ever cherished) that the Hon'ble Company ever mindful of real merit would never allow the family of their zealous and deserving votaries to remain in want after their death and therefore while he found himself capable of doing his duty he thought of nothing else but that his conscious duty having been his pride his happiness and the sole object of his worldly meditations both public and private.

That your Petitioner finding him borne down (after the whole of his adult life spent in his Majesty's and the Hon'ble Company's employ by the dispensations of Providence) he thus most humbly solicits of your Hon'ble Board that you will be graciously pleased to grant to him this request, namely, that your Hon'ble Board will grant to him such a permanent allowance for him personally, to dispose of to his family as your Hon'ble Board may deem his long and humble services to have merited he having paid such attention to his duty during the whole period of his servitude as prevented him from engaging himself in any other line of life by which he could have gained anything besides his pay and on account of the extensiveness of his family and the respectable scale upon which they were, (and ought to have been) maintained the whole of his pay has always been required for their support that your Petitioner at the close of a long and eventful life and servitude finds his family depending upon what he may be granted by his Hon'ble employers.

That your Petitioner's services being well-known he abstains from troubling your Hon'ble Board with recapitulating them, and as he feels his lamp so nearly extinguished as to leave him no prospect that he can convince so far as to know the result of the reference of his last memorandum of the 4th of August, 1818 to the Hon'ble Court of Directors he humbly implores that your Hon'ble Board will be graciously pleased to exercise in its august wisdom the same discretion which this Government did in Mr. Duncan's time upon the occasion of nearly a parallel case of Sir Miguel Delima-de Sousa, where the Hon'ble Board of Government then granted to that worthy veteran for his family in perpetuity a handsome yearly allowance which Sir Miguel had the happiness of leaving to his family

through the bounty of his Hon'ble employers before he closed his eyes for ever upon his family and this world.

That your Petitioner is aware that his memorial of the above date has been most kindly and condescendingly backed by the recommendations of this Government from which circumstances and information which your Petitioner has recently received from his friends in England he has great hopes that the Hon'ble Court of Directors will have taken his case into the most favourable consideration yet his anxiety for a depending extensive family preys so heavy upon his mind as to urge him to implore that your Hon'ble Board will be graciously pleased to enable him to close his eyes after seeing his family permanently endowed with such an annuity in perpetuity as your Hon'ble Board may deem his long services worthy of subject should your Hon'ble Board think proper to the approbation of the Court of Directors.

Your Petitioner now in descending to his shroud humbly prays that as his son Nowrojee is an experienced builder and one whom your Petitioner can conscientiously recommend to fill his situation from a reliance in his ability and integrity to give every satisfaction to his Hon'ble employers he and every other individual of the family who is in the employ may be protected.

Bombay.

30th August, 1821.

This was submitted to Mr. Frances Warden who was then the Chief Secretary to Government. Mr. Warden thereupon kindly took the same personally to the Governor

Mount Stuart Elphinstone with a copy of the former Memorial. The Governor immediately wrote a reply as under:

"My dear Warden,

You may assure Jamsetjee that the land recommended in the Government's letter of 7th October 1818, shall immediately be granted subject, ofcourse, to the Court's approval.

Yours truly,

(Sd.) Mount Stuart Elphinstone

30-8-1821.

On receipt of this information, Jamsetjee wrote his reply which is reproduced below:

"To,

Francis Warden, Esq.,
Chief Secretary to Government,
Bombay.

Honoured Sir,

The promptness with which His Excellency our Noble Governor and the Members of the Council have complied with my last wishes and the celerity with which you have condescendingly forwarded to me through my brother Hormarji the welcome communication have calmed my dieing moments and smoothed my descent into my tomb.

My dissolution, Sir, is now quivering upon my dieing lips yet it would be refusing myself an unpurchasable consolation were I not to indulge myself even in acknowledging with my last breath the gratitude I owe to that upright and intelligent character, the present worthy Superintendent. His valuable advice has in numerous instances been of the most important use to me while I have often experienced the most heartfelt gratification by the readiness with

which he has uniformly concurred in my humble opinions.

My breath is going, and you and the Service have my dying blessing. My life has been devoted to the service and all I now pray for is that I will be remembered by the Honourable the Government Board to the Honourable the Court of Directors. May the all directing Providence prosper you all. God prosper you. Adieux, Adieux, Adieux.

30th August 1821. 3 P. M. (Sd.) Jamsetjee Bomanjee."

The following minute was made by the Governor :

"Having been informed that this ancient servant of the Company is now on his death bed and that he was in the greatest distress at the prospect of leaving his family unprovided for and most anxious to be assured before his death that his Memorial would be complied with, I had no hesitation in promising that he should immediately receive the land recommended by Government in October 1818 subject to the confirmation of the Honourable Court. In this I am confident my colleagues will concur. To the application of his son's succession I gave no reply.

30th August 1821. Sd. Mount Stuart Elphinstone."*

After signing the above letter Jamsetjee passed away at 3 P.M. the next day.

*Though the Inam Grant was confirmed by the Court of Directors, due to certain difficulties they were not made till 1828 and 1849. The Inam of lands which would give the benefit of assessment to the extent of Rs. 2,000 was conveyed to Nowrojee Jamsetjee and his two brothers Muncherji Jamsetjee & Dosabhoy Jamsetjee in 1828, but some difficulty was experienced in selecting suitable villages on the Island of Salsette conveying the assessment of Rs. 4,000 and it was only on 9th February 1849, that the villages of Juhu and Villeparle were conveyed to the three brothers. These two villages are still owned by the descendants of Nowrojee Jamsetjee.

The Superintendent of Marine Mr. Henry Meriton in his official letter No. 268 of 1821 to Government wrote as under :

"Honourable sir,

It is with deep concern I have to report to the Honourable the Governor in Council the death of our very venerable Head Builder Jamsetjee Bomanjee who departed this life at 3 o'clock yesterday afternoon after an illness of some weeks.

In reporting the demise of this most respectable man, it is only necessary to say that he had served the Honourable Company for more than half a century, many years of which in the highly responsible situation of Head Builder in their Dockyard and this Presidency and such has been his zeal, his talents and faithful discharge of his duties as to be beyond any eulogium I could offer. It remains therefore only for me to add the expression of my sincere concern for the loss of this very valuable man.

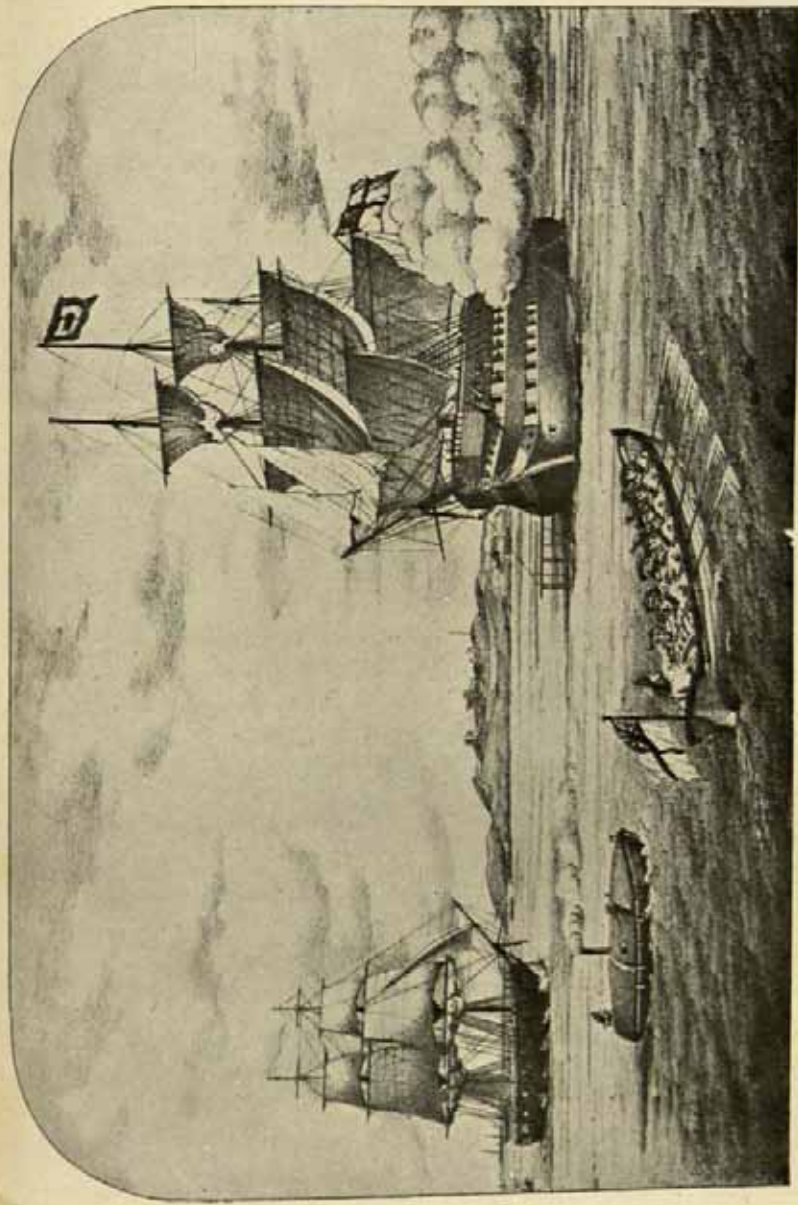
I shall in course of two to three days have the honour to submit a scale of promotions in the Building Department incidental to the death of Jamsetjee Bomanjee.

(Sd.) Henry Meriton,
Superintendent."

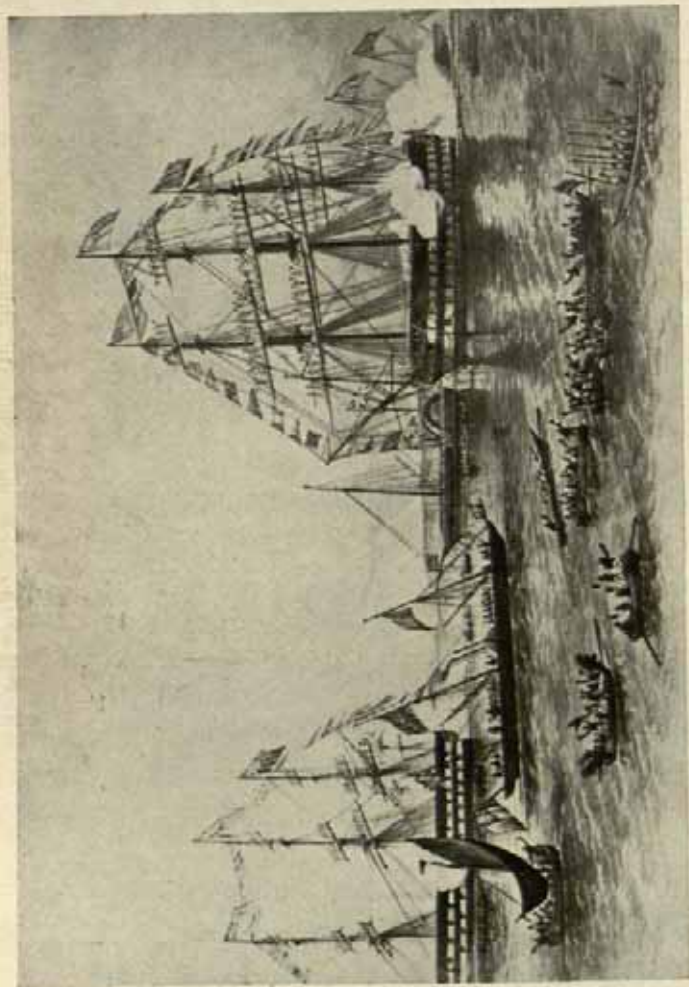
1-9-1891.

The Bombay Government in their letter to the Court dated 14th November 1821, wrote as under :

"It is with great concern we communicate to your Honourable Court the death on the 31st August last of the venerable Head Builder Jamsetjee Bomanjee after an employment of more than fifty years in the public service."



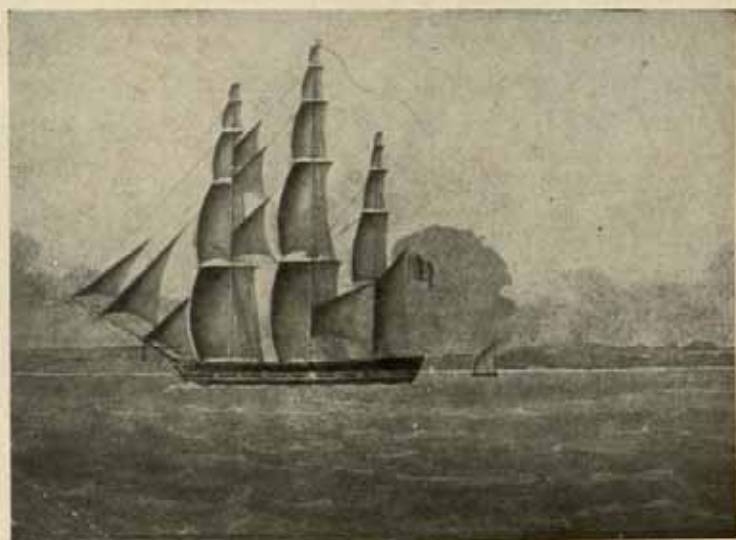
H. M. S. *Ganges* at Target Practice.
The last of the sea-going sailing flagships.
See Pages 221 & 236



H. M. S. Ganges
Her Majesty Queen Victoria's Tour. From the Fleet in Harbour of Cork
on 3rd August, 1849.

By the courtesy of Messrs. Thomas Parker.

See Pages 221 & 236

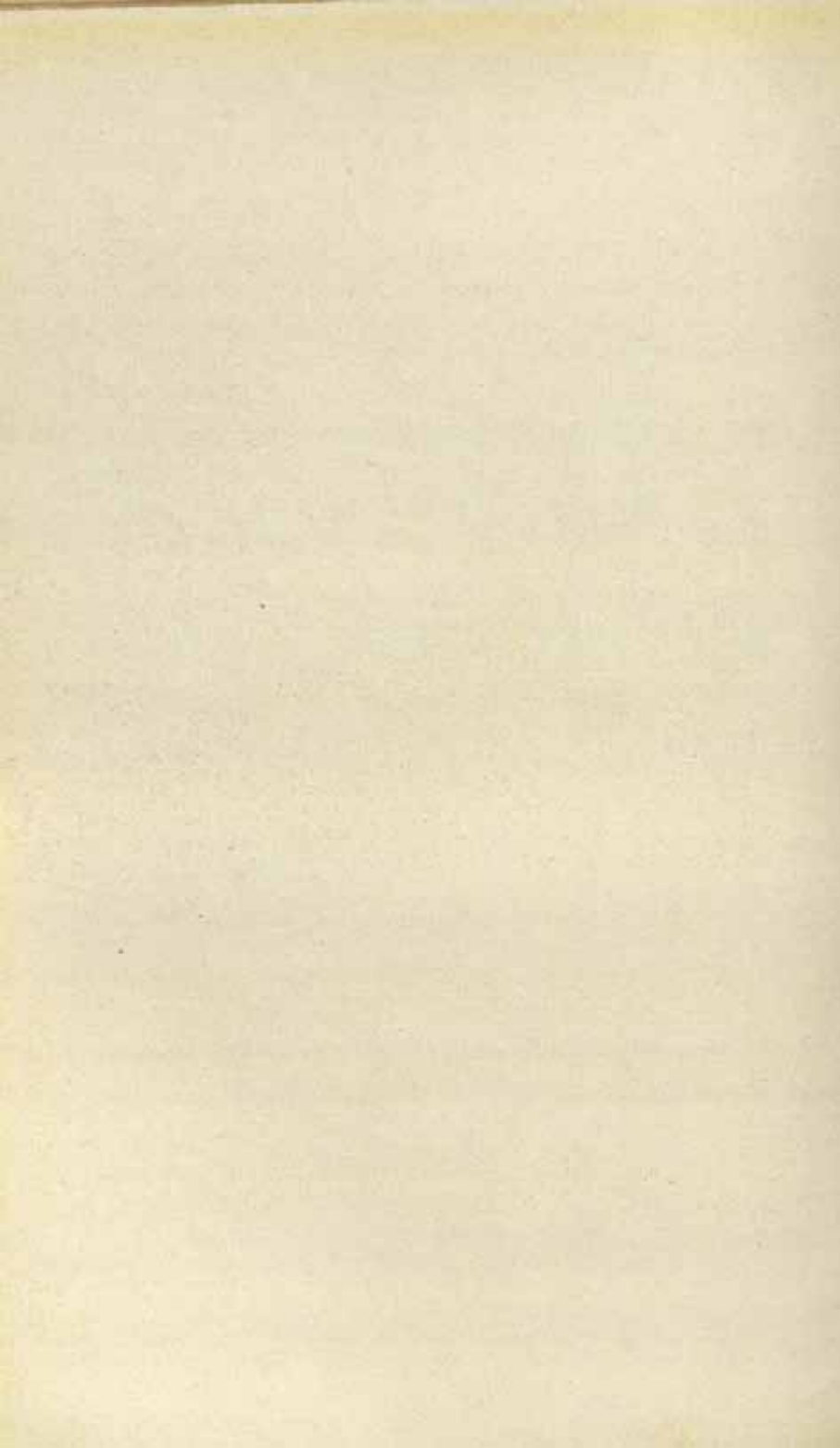


H. C. S. *Ternate*

“View of the H. C. Cruizer *Ternate*, Capt. Davidson,
off Mangalore.”

From the original in the possession of the late Mr. Furrokh E. Bharucha.

See Page 222





EAST INDIAMAN *Herefordshire* (1813)

Bequeathed by the late

ADMIRAL SIR ARTHUR MOORE, G.C.B., G.C.V.O.

This picture, painted by W. J. Huggins in 1815 shows the East Indiaman *Herefordshire* off Margate. The *Herefordshire* was built in Bombay 1813. As is so common with such pictures, painted to the order of the owner or builder, the same ship is shown in three different positions.

Like other East Indiamen, the *Herefordshire* was owned privately but was chartered by the Honourable East India Company, to whose specifications she had been built. She was of 1,342 tons burden, carried a crew of 130 men and was armed with 26 guns.

Crown copyright. From an exhibit in the Science Museum, South Kensington, London.

11
Francis Wardlaw Esq.
(Chief Secretary to Govt)
Bombay
Hon. Mr. Secy.

The promptness with
which his Excellency our noble
Governor & Members of Council have
complied with my last wishes,
and the ability with which you
have understandingly forwarded
to me the welcome communications
have calmed my dying moments
and smoothed my descent into my tomb.

My breath is going fast
and you and the service have my
dying blessing. My life has been
devoted to the service and all
I now pray for is that I will
be remembered by the Hon. Council
to the Hon. the Court of Directors.
Adieu, God prosper you all; adieu.

Bombay
2^d August 1825 }
3^d Aug. } Yours for ever J. Bomanjee

They then refer to the letters that had passed between them and state :

"This most affecting address from so faithful a servant we respectfully lay before your Honourable Court and willingly comply with Jamsetjee's request in bearing testimony to his long, zealous and valuable services and earnestly recommend to your honourable Court the confirmation of the grant."

The Bombay Council further informed the court that Nowrojee Jamsetjee, the son of the late Builder, who was reported to be well qualified by the Superintendent of Marine for the post, was appointed Head Builder on a salary of Rs. 800 and Cursetjee Rustomjee as first assistant builder on a salary of Rs. 600 with an additional allowance of Rs. 80 as a draughtsman.

The Bombay Courier of 8th September 1821, in an obituary notice wrote :

"Jamsetjee Bomanjee seemed to feel no repose but when in the face of his duty or happy but when in the Dockyard. Ezegit monumentum oere perrenius."

As already stated he was a man of great independence of character. He was scrupulously fair and honest in all his actions as the following incidents will show :—

His younger brother Ruttonjee Bomanjee was employed in the Dockyard till about 1812. This gentleman was a man of literary tastes and a scholar of Persian and Zend as is recorded by Mr. J. A. Pope in his translation of *Arda-Virafnama*. This naturally led him to devote less attention to his duties in the dockyard and Jamsetjee in

order to maintain discipline in his department asked him to retire from service which he did.

Another incident was a case in which one of the leading Parsi timber contractors who wanted to pass off a gold chain in a parcel of fruits which he brought as a present to Jamsetjee. The latter suspecting something wrong asked the person to open the parcel outside his room. The merchant saw that his game was up and before he could succeed in taking back the parcel, Jamsetjee, it is stated, threw his shoe at the man and turned him out of the house.

CHAPTER VII

Nowrojee Jamsetjee Wadia, Master Builder*

Continuing what by this time had become an institution Nowrojee, the son of Jamsetjee Bomanji was appointed to the high post of Master Builder, and like his ancestors, was well qualified to carry on the fine family tradition.

He was born on 11th September 1774 and at the age of 16, entered the Dockyard service in 1790. On the death of Framjee Maneckjee he became Second Builder in 1805 and in 1808 when for the first time the post of Draughtsman of the Dockyard was created, Nowrojee was appointed to it. In their letter of 8th March 1808, the Bombay Council wrote to the Court.[†]

“The extensive business of shipbuilding which is now in prosecution in the Honourable Company's Dockyard and which in all probability will materially increase, demands at various times the employment of a draughtsman and as Nowrojee Jamsetjee, the Master Builder's son, has been reported by the Superintendent of Marine to have made such progress in that line as to render him particularly useful and to be in all respects a very deserving character, worthy by his assiduity and talents of the countenance and

*For the benefit of those not versed in Parsi names, surnames were not used at that time and individuals were known by a combination of their own names and that of their father, e. g. Nowrojee Jamsetjee being Nowrojee son of Jamsetjee. It later became the practice to adopt as a surname the name of an illustrious ancestor of the family or the traditional vocation of the family. Thus the present surname “Wadia” is a corrupt derivation of the word vadia which may be described as a person engaged in carpentry boat-building.

†Bombay Letters Received, Vol. XXIII.

encouragement of his superiors and having accordingly recommended on these public grounds that application might be made to your Honourable Court to constitute him Draughtsman to the Dockyard with such moderate salary as might be deemed suitable to the office, we have the honour to submit Mr. Money's proposals to the consideration and decision of Your Honourable Court."

Maria Graham* in her book *Journal of a Residence in India* wrote :

"He (Lowjee) has transmitted his talents with his place to his grandson Jamsetjee who is now at the head of the Dockyard, where I visited him, and was conducted by him all over the "*Minden*", the first line of battleship ever built,† with the pride of a parent exhibiting a favourite child. It was singular enough at first to see all the shipwrights in white muslin dresses. They are all Parsis. Jamsetjee is a clever workman but his son Nowrojee has more science and I am told that his draughts have great merit. This young man testified the greatest desire to visit the Great English Yards but his father cannot spare him from Bombay."‡

The salaries of the Head Builder and the Second Builder were the same, viz., Rs. 700 per month and reference has been made to the private arrangement of giving pensions to the families of the deceased Head Builders. On the death of Jamsetjee, the Superintendent of Marine, Mr. Henry Meriton in his letter dated the 4th

*Maria Graham was the daughter of Admiral George Dundas.

†Outside England specifically for the Royal Navy.

‡Maria Graham's *Journal of a Residence in India*, p. 44.

September 1821, to the Bombay Government made the following proposals regarding salaries :

Head Builder, Nowrojee Jamsetjee, Salary ...	Rs. 800-0-0
Second Builder, Cursetjee Rustomjee, Salary ..	600-0-0
First Assistant Builder, Byramjee Framjee,	
Salary ..	57-8-0
Second Assistant Builder, Maneckjee Nowrojee	
Salary ..	57-8-0
Third Assistant Builder, Ardesir Ruttonjee,	
Salary ..	25-0-0

In suggesting the above, Mr. Meriton wrote :

"I beg to observe in all former instances on the death of the Head Builder it has been usual to appoint the Second Builder to the situation and the junior branches on the building department to use in succession. I, therefore, conformably with this ancient custom respectfully beg to submit for the consideration of your Honourable Board, the above scale of the Builders' establishment for conducting the duties of the Dockyard in that department."

Mr. Meriton explained why he had fixed the salary of the Head Builder at Rs. 800 and that of the Second Builder at Rs. 600 instead of Rs. 700 paid before to each. He wrote :

"This (the latter) has always appeared to me at variance with general usage as in most cases the salary of the Head of a Department was more than that of the subordinate officers. But on enquiry I find the second builder Nowrojee Jamsetjee contributed a very large part of his salary (probably three-fourths) to the maintenance of the family of former Builders (Framjee and Rustomjee). As therefore Nowrojee will still have to contribute to the maintenance of the aforesaid family and Cursetjee Rustomjee will not be

expected to contribute to any great extent and to preserve that distinction between the Head and the Second Builder so necessary to the welfare of the Dockyard and under the belief that the proposed establishment will be acceptable to the favourable consideration of your Board."

This creditable arrangement of providing for the families of the late Builders continued during the lifetime of Nowrojee as appears from family papers. We do not know what happened in later years as no information is available.

On Nowrojee's assumption of office, the "*Ganges*" built by his father during his lifetime was launched on 10th November 1821:

"On the evening of the 10th November" wrote the *Bombay Courier*,* "was floated out of the upper Duncan Dock, a new ship built for His Majesty's Navy, rated at 84 guns, but pierced for 92, having previously received the name of "*Ganges*" from our excellent Governor the Hon'ble Mount Stuart Elphinstone; on which occasion were present the members of Government, His Excellency Cande de Rio Parda, Portuguese Governor-General, and other distinguished personages. The night being tranquil and light and the tide favourably high, this magnificent ship was floated into the harbour with the silence, good order and facility, which so strongly marks the department under whose management the service was performed.

This being the first ship built in this country on Mr. Sepping's plan, namely round stern, diagonal decks, etc. the utmost skill of our native builders and

* Of November 17th.

artificers was required: and we venture to state, that for excellence of workmanship and durability of material, the "*Ganges*" may challenge the whole British Navy. It will be remembered that the construction of the "*Ganges*" commenced under the management of our late venerable Builder Jamsetjee Bomanjee and it is sincerely to be regretted, that excellent man did not live to witness her completion. We are aware that this ship does not exhibit the high polish of pannels and mouldings in the appartments of accommodation, but still she is finished comfortably with the directions of the officers of the crown.

We subjoin the dimensions of this noble ship, and from her burthen we are induced to believe her the largest vessel ever yet seen on this side of the Cape of Good Hope.

We understand, the "*Ganges*" is to be taken to England by the Captain, officers, crew and establishment of His Majesty's Ship "*Liverpool*."

His Majesty's 84 gun ship "Ganges."

	ft.	ins.
Length from fore part of the stern to the after part of stern port. ...	199	6½
Extreme breadth with five inches bottom planks. ...	51	6½
Height of the wing transom ...	30	6½
Keel for tonnage ...	160	11½
Burthen in tons ...	2272	
Amount of the guns on each deck:		
Gun Deck ...	32 in No. 32 pounder.	
Upper Deck ...	32 in No. 24 pounder.	
Quarter Deck ...	4 in No. 24 pounder.*	

* *The Asiatic Journal*, Vol. XIV, July 1822, p. 99.

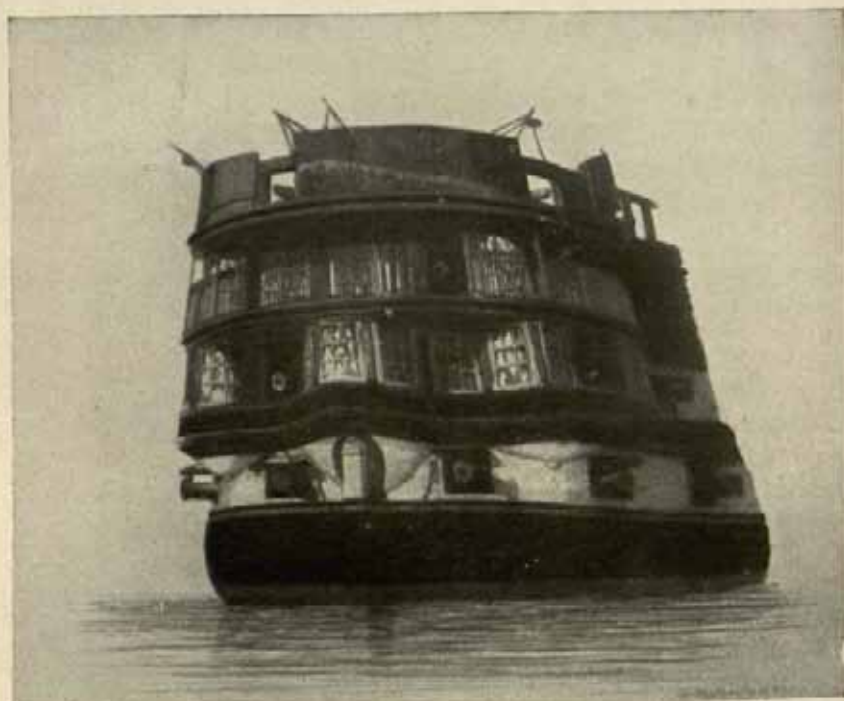
The following is a brief Official Admiralty History of the "*Ganges*", 2nd Rate, 2284 tons 84 guns. Built at Bombay 1821. Launched 10th November 1821. Commissioned at Portsmouth 31st May 1823 for service on the Jamaica Station. Afterwards served on the South American Station, the Lisbon Station and in the Mediterranean. Participated in the Syrian Campaign of 1840. On June 25th 1857, commissioned at Sheerness for service as Flagship of the Pacific Squadron. On her return to England in April 1861, she had during this commission sailed over 60,000 miles. From 1866 to 1899 she was employed as a Training Ship for boys at Falmouth, in November of the latter year being transferred to Harwick where she remained as part of the Training Establishment for boys until 1906 when she was renamed "*Tenedos III*" and became part of the Boy Artificers' Establishment at Chatham. In 1910 she was removed to Devonport and renamed "*Indus V*" forming part of the establishment and workshop for supernumerary artificers and Boy Artificers. In 1922 she was renamed "*Impregnable III*" and added to Training Establishment for Boys at Devonport. She was sold out of the services in 1929 and broken up in 1930. She was the last sailing flagship of the Royal Navy.

The first large ship built by Nowrojee was the "*Asia*" of 2239 tons rated at 84 guns but pierced for 86, being built on the same plan as the "*Ganges*" and having the same round stern. She was launched on 17th January 1824, by

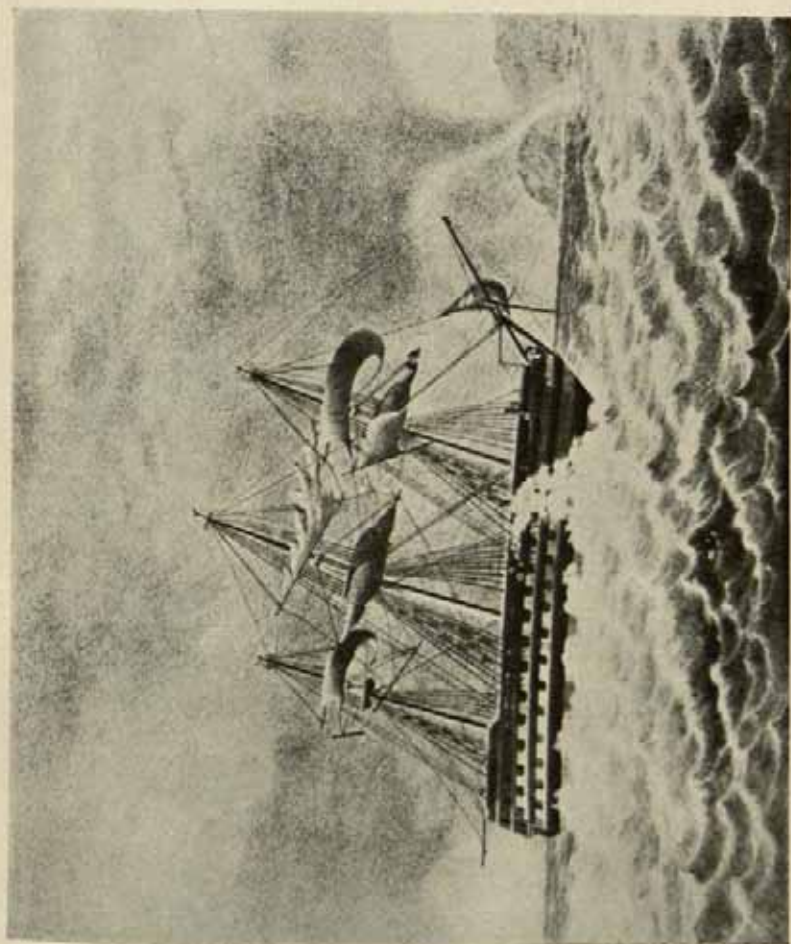


NOWROJEE JAMSETJEE (1774-1860),
fourth Master Builder.

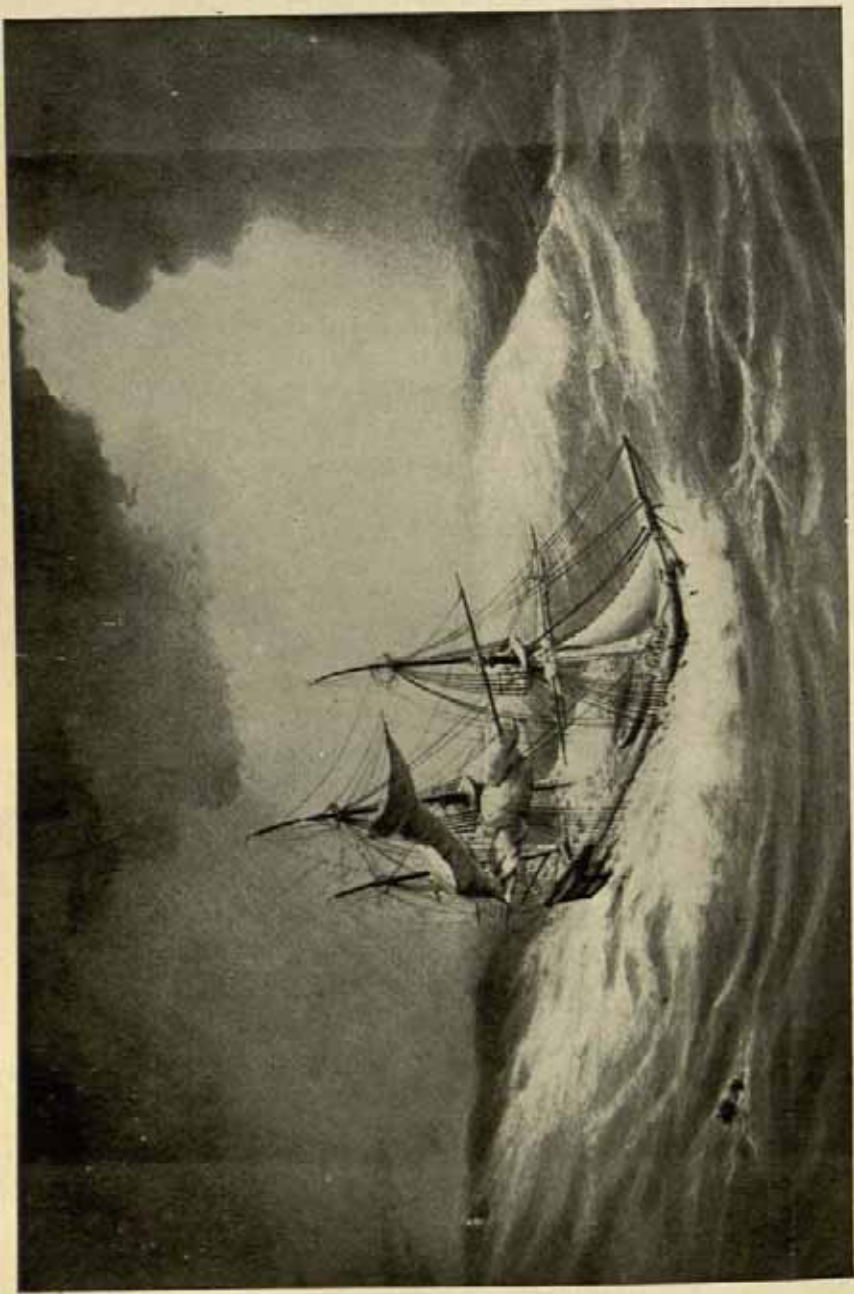
See Page 241



The (Circular) Stern of His Majesty's ship *Asia* 84 Guns.
One of the ships in the engagement at Navarino.
See Page 246



H. M. S. Asia.
See Page 247



H. M. S. Asia, 84 Guns.
In the Gale of Decr. 6th 1847, in Lat. 48.0. N.-Long. 8.50 W.
From a drawing by Lieut. Gay Colin Campbell of the Asia.

Commodore Grant, the Naval Commander-in-Chief. The *Bombay Courier* of 24th January, wrote :

"The best and most faithful account that can be given of the "*Asia*" is that she stands as high in the opinion of professional judges as any ship that has been floated out of Bombay Dock before her and is an incontrovertible proof that the skill, talent and zeal of the late highly respected Head Builder Jamsetjee Bomanjee have descended to his son Nowrojee Jamsetjee with all their primitive force and excellence."

This ship was the Flagship of Admiral Codrington at the Battle of Navarino,* about which Admiral Sir Pulteny Malcolm, wrote to his brother, Sir Charles Malcolm, some years after: "Tell my old friend Nowrojee what a glorious part the "*Asia*" sustained in the battle of Navarino and how proud I am of his success as a Builder."

This was followed by the launch of a sloop of war, the "*Elphinstone*" of 387 tons and carrying 18 guns. On 21st December of the same year a ship of 742 guns, the "*Caledonia*"† built for the house of Forbes and Co. was launched by Mr. Henry Meriton the Superintendent of Marine who complemented the Builders on the professional skill exhibited by them. She was reported "an uncommonly fine vessel and judges consider her to be one of the best constructed of any that have been built for the Merchant Service in Bombay."

This was followed by the construction of a number of other vessels small and large. On 18th July 1825, the

*In 1927, the Greek Government celebrated its centenary by issuing a stamp of the "*Asia*."

†The "*Caledonia*," was lost in a typhoon in the China Sea on 29th July, 1836.

"*Amherst*" of 420 tons and 18 guns was launched, subsequently transferred to the Bengal Service, followed by the "*Clive*" as fine a specimen as has yet been seen of the class of vessels to which she belongs" and "*Coote*" of similar tonnage for the Company, besides the ship "*Liverpool*"* of 1715 tons for the Imaum of Muskat and several others.[†]

On 17th March 1828, the "*Bombay*" 2nd rate of 84 guns was launched by the Governor Sir John Malcolm who, in presenting shawls to the Builders, remarked about their perseverance in a course which had for a lengthened period rendered their families conspicuous for talent and zeal in the public services.

The "*Bombay*" was destroyed by fire on 22nd December 1867 and the following is an account of her end:

"A despatch from Admiral Elliot and several officers' private letters give us full particulars of the destruction of the "*Bombay*" late the Admiral's flagship, which was burnt off Montevideo, with the loss of nearly a hundred lives, on the 22nd December. The Admiral had removed on board another ship that very morning, and the "*Bombay*" came out of the port and put to sea for target practice. She was about 14 miles away, when a man handing the shells in the shell-room perceived a little jet of steam coming up from the after-hold and immediately gave the alarm. This was between 2 and 3 o'clock. The pumps were instantly set to work, and all worked well. But the men were

*The "*Liverpool*" was intended to be a gift to the King of England, by the Imaum but the Government of Lord William Bentinck did not approve of the idea. Ultimately the vessel was sent to England after being refitted in Bombay in 1835.

†*Bombay Courier*, 23-7-1825.

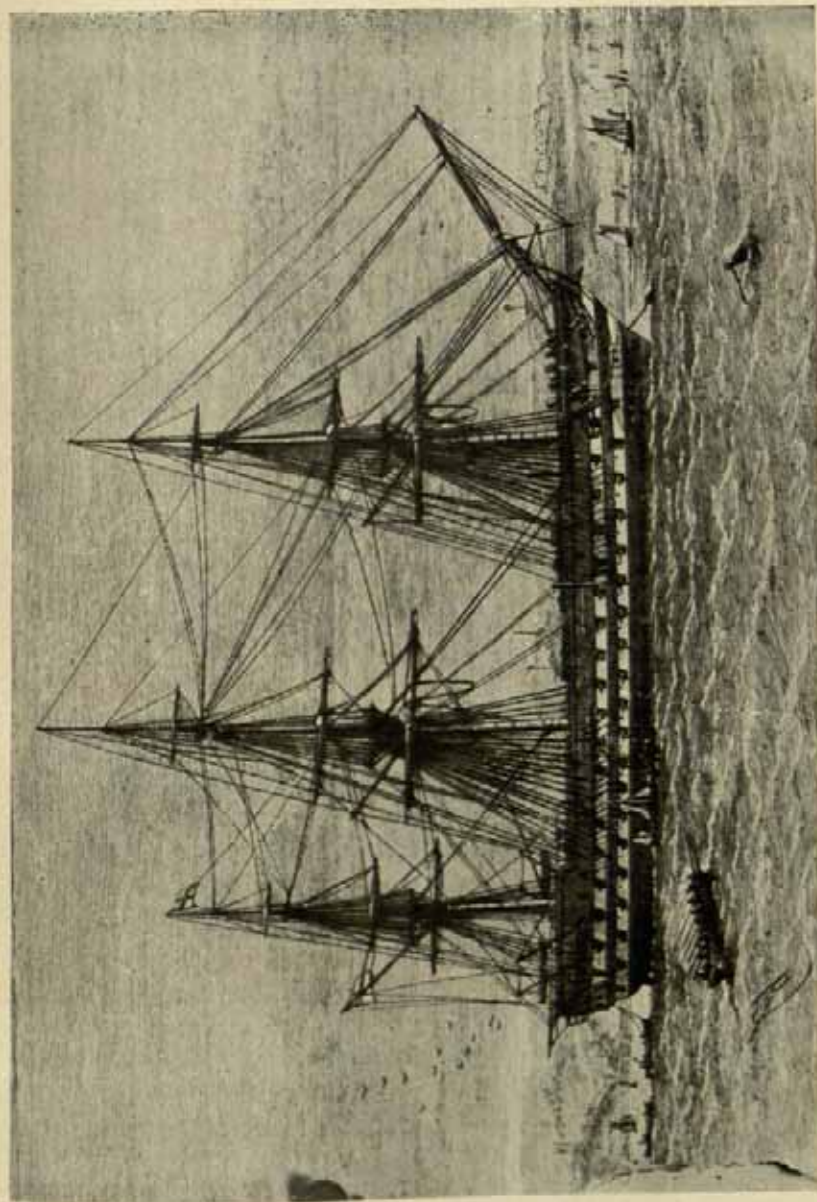
suffocated and could hardly remain to work them, and the fire could not be kept under. On one side of the fire was the spirit-room, on the other the magazine. The spirit-room took fire, the casks burst and the spirits ran all over the ship which became one mass of flames. The order was given to lower the boats and escape. Some boats could not be lowered from the tackle being on fire. However, most of them were got out, but had to be kept at a good distance from the ship on account of the fire; therefore, all had to jump into the water and swim off to reach the boat. All the officers could swim more or less; many of the men could not; which accounts for the great loss of life among them. Lt. Sterling was an hour and a half in the water before he could be picked up. Many of the men clinging to the bits of the ship were killed, it is believed, by the cables falling down red hot among them, and by the melted lead of which there seems to have been a great deal in various parts of the ship. This melting lead falling down on them made them loosen their hold of whatever they were holding by and go down. The great anchors, too, when their ropes were burnt, fell and crushed them. The main mast went over at a quarter to four, only three-quarters of an hour after the first alarm of fire. By five o'clock all the survivors had got away from the ship. The magazine blew up about 7 o'clock and the ship went down leaving not a vestige behind. Not an article of any sort was saved, but the clothes in which the officers and crew jumped into the sea, and most of them had thrown off jackets, to jump in and swim. The behaviour of the men was perfect all through. The origin of the fire is quite unaccounted for. The regulations about fire and matches were very strict. No petroleum or inflammable oils were used on board. The afterhold

contained biscuits and salt pork but nothing of a more dangerous character. The "*Bombay*" was under sail at the time the fire was discovered. Had she been steaming, there would have been a much better chance by turning on the engines and getting the fire under. The weather was, happily, very fine, and the boats could therefore be reached and filled in a way that would have been impossible in rougher weather such as they had almost invariably had up to that time. The "*Bombay*" was too far away from Montevideo for the fire to be early discovered there; but about 5 o'clock it was telegraphed by the "*Stromboli*" to Admiral Elliot who went off in her towards the scene. He arrived in time to see her blow off. They got back to Montevideo about 10 o'clock at night. Admiral Elliot had time only to write a hurried despatch.

By a telegram from Lisbon, it appears that the "*Herschel*" steamer arrived there on the 25th instant with Capt. Campbell and five hundred and twenty-five officers and men lately belonging to the "*Bombay*" but Dr. Smallhorn, the Medical Officer, Lt. Franklin, the Boatswain, and about 90 of the crew were drowned."

A large number of other vessels, for the Royal Navy, the Company, and private merchants were built during 1828 and the following years. One such merchantman "*Hormasjee Bomanjee*" of 757 tons was launched by the Governor.

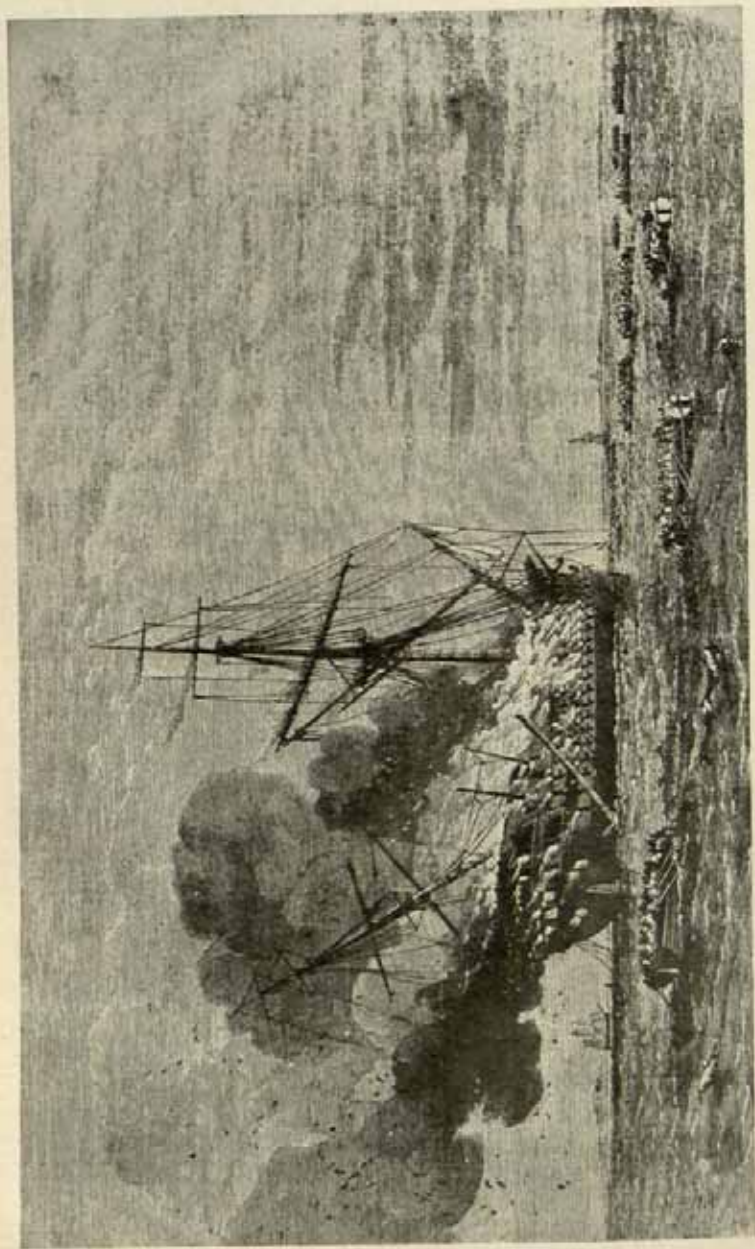
Amongst these vessels, a brig of ten guns named the "*Euphrates*" of 255 tons, was launched on 30th June 1828. She took part in the capture of Karachi, Bushire and Mohmara and in the defence of Aden against Arab attacks from 1839 to 47. She also performed good service in surveying and other duties from 1848-62. She



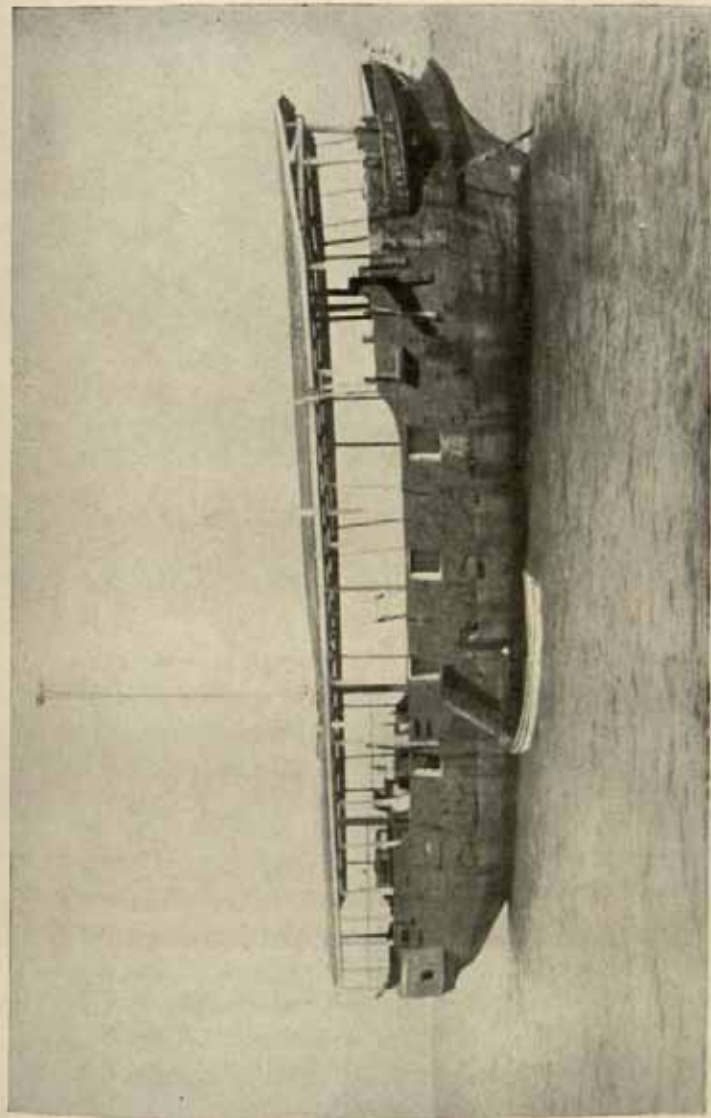
H. M. S. *Bombay*.

From the original provided by Mr. D. A. Pai.

See Page 248



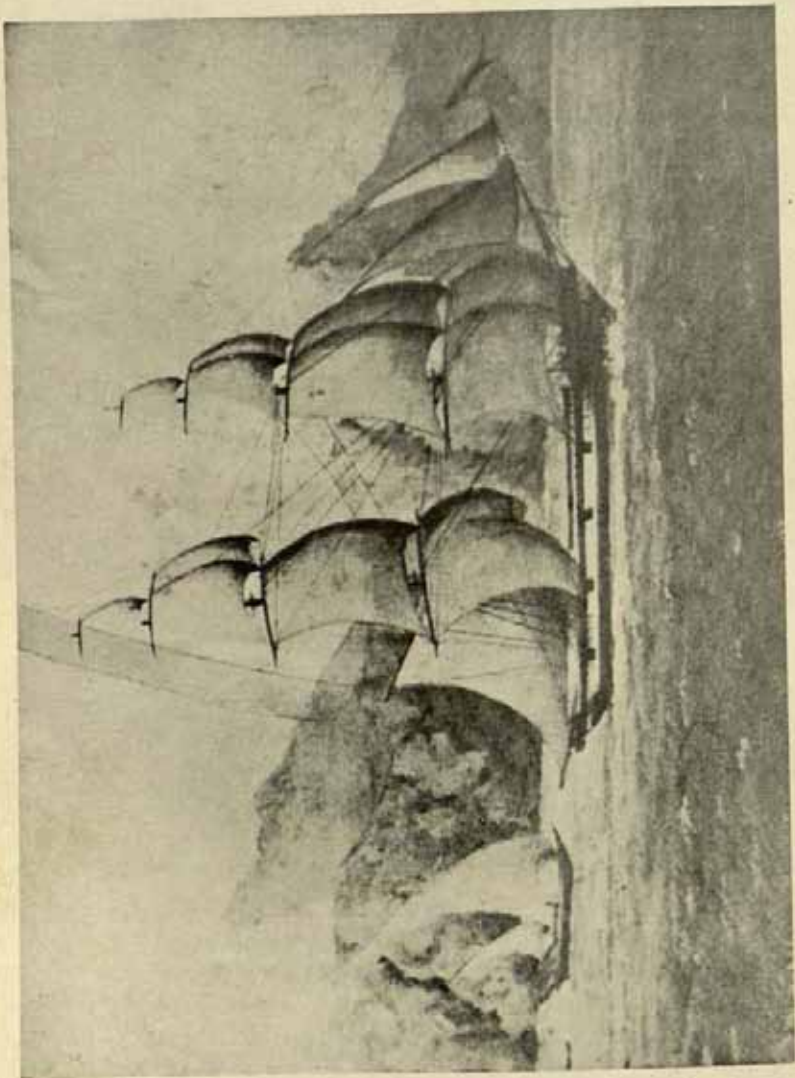
Burning of H. M. S. *Bombay* off Montevideo.
From the original provided by Mr. D. A. Pai.
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H. C. Brig *Euphrates* 10 guns built in Bombay Dockyard under the superintendence of Mr. Nowrojee Jamsetjee Wadia in 1928, took part in the captures of Karachi, Bushira and Mohmara, in the defence of Aden against Arab.

From a photo sent to the author by Messrs. Cowasji Dinshaw & Bros; Aden.

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H. C. Brig *Tigris*
Published by the courtesy of the Authorities of the Victoria and
Albert Museum, Bombay.

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was put out of commission in 1862 and shortly afterwards arrived at Aden as light-ship where she remained till broken up in 1911.

In the next year a brig of similar tonnage, viz. 258 tons was launched from the Mazagon Docks on 20th April 1829 and was named the "*Tigris*".

"her dimensions being 93 ft. in length "between perpendiculars," 26 ft. extreme breadth and with a height between decks of 5 ft. 10 ins. She was commissioned by Commander John Sawyer, who, early in August, proceeded in her up the Persian Gulf, and succeeded in effecting the direct passage against the south-west monsoon in 19 days, instead of sailing by the long, circuitous route known as the Southern passage,—'a feat of seamanship', writes Captain Tanner 'then known to have been often attempted but never before accomplished by any navigator.' For this service the Bombay Government expressed their high gratification, under date the 27th June 1830." *

The following will be read with interest :

"On the 6th of August 1836, the "*Tigris*" struck on a patch of coral rock, about one mile to the north of Cape Croker (not laid down in the charts), and was only saved from going to pieces by the strength of her teak timbers. The surf broke clean over the gunwale, and she lost her rudder, fore-foot, the whole of her false keel, and 20 ft. of her main keel. On the following day, the "*Tigris*" was steered into Raffles Bay by her head and after-sails. In 1824 a settlement had been formed here (and also at Port Cockburn in Melville Island) by Sir Gordon Bremer, of H.M.S. "*Tamar*", which was abandoned in March, 1829, owing

* *History of the Indian Navy*, Vol. 1, p. 501.

to the unhealthiness of the climate and the hostility of the natives. The only remains of the settlement were the debris of the fort and some railings. The "*Tigris*", after having fitted a temporary rudder, and repaired other damages, proceeded, on the 17th of August, to Coupang, in the island of Timor, and thence to Batavia and Bombay, where she cast anchor on the 7th of November."*

In the same year, a small schooner of 6 guns, the "*Royal Tiger*," was constructed in the Bombay Dockyard and three years later in 1832 a sister schooner named the "*Shannon*" was added to the service.

On 14th March 1831 the "*Calcutta*" 2nd rate of 2298 tons for His Majesty's Navy was launched. It was christened by Lady Malcolm. The following quotations from the *Asiatic Journal*, Vol. VI, September-December 1831, is of interest :

"She is a beautiful piece of workmanship greatly admired by all sea-faring as well as scientific men. She is fastened upon Sir R. Sepping's principles and has a round stern. Though nominally an 84, she can easily, in case of need, carry 96 guns. No ship that was ever constructed can prove a more valuable addition, or be a greater ornament to the British Navy. This is the fourth line-of-battleship of a similar size, which the Bombay Dockyard to the imperishable and eternal honour of Nowrojee, the builder and his worthy predecessors has sent forth into the mighty world of waters. I heard with regret that it would be the last for a long time, probably for ever which would be built here."

**History of the Indian Navy*. Vol. II p. 28.

"Sir Charles Malcolm, in presenting to Nowrojee and his assistants the handsome shawls destined on so remarkable an occasion for their necks, assured them he felt the highest satisfaction at the splendid manner in which the "*Calcutta*" had been completed and regret at thinking it was the last probably they would be employed to build. He said no ship could surpass this one in question. That the Bombay Dockyard had produced some of the finest men-of-war he had ever in the course of his naval career met with. That if ever another war broke out—and how soon that might be no one could foretell,—the "*Calcutta*" would, he did not hesitate to predict, grace the annals of Naval Warfare and resound to the credit of Nowrojee and Cursetjee, the builders."

However, the fears of the Commander-in-Chief of the Indian Navy regarding this ship to be the last to be built for the Royal Navy, did not turn out to be quite correct. One more was built, the "*Meanee*" launched in 1848.

The Superintendent of Marine, Mr. Henry Meriton, on his retirement in November 1825, addressed two letters dated 10th and 12th November respectively to Nowrojee Jamsetjee the Master Builder, and to the Governor in Council which are given below:

"To,

Nowrojee Jamsetjee, Head Builder in the Bombay

Dockyard,

Dear Sir,

As I am retiring from the important situation that I have lately filled as head of the Bombay Marine, I cannot quit that station without expressing my sentiments on the subject of its Dockyard.

I take occasion to remark that I found the building establishment highly efficient under the management of your late venerable and highly respected father Jamsetjee Bomanjee.

It would be superfluous in me to dilate on the qualifications of the venerable architect as he has sent forth sufficient instance of his skill in naval construction to make any remark unnecessary. But it remains for me to bear testimony of his unremitting zeal and attention in performing those duties which occurred under my superintendence and I beseech you to believe that I hold his character in grateful remembrance.

The loss of this excellent man would have been most severely felt, had you not been left to supply his place, and I hold it due to the department, to the public, and to yourself, to declare that the Bombay Dockyard had lost nothing of its celebrity or its excellence in the construction of those ships which have been sent forth under your management nor has your zeal and ability been less conspicuous than your cordiality of operation under my superintendence.

The following list of vessels constructed in the Bombay Dockyard during my administration in the Marine, viz. :

5	Line of Battleships	} For His Majesty's Navy.
4	Frigates	
4	Sloops of war	
3	Cruisers	} For the East India Company.
10	Pilot brigs	
2	Light vessels	
1	Large Indiaman	
4	Merchant Ships	

will better testify the consequences of the Bombay Dockyard establishment than any arguments of

mine. And it is with great pleasure I learn that orders have been received for the continuance of the construction of ships for His Majesty's Navy, an event upon which I sincerely congratulate yourself and the whole of the Building Establishment.

I cannot take leave on this subject without expressing my satisfaction about the conduct of the subordinate officers of your department. And it will be a pleasurable part of my duty to bring the same to the notice of the Government.

In taking leave of this subject I beseech you to accept my best wishes for your health and prosperity.

Believe me, dear sir,

Yours very faithfully,

Bombay,

10th November, 1825. (Sd.) HENRY MERITON*

"To,

The Hon'ble Mount Stuart Elphinstone,
President and Governor in Council.

Honorable Sir,

Being on the eve of my departure from Bombay I feel it an indispensable part of my duty, to express to the Honorable the Governor in Council my high satisfaction with the officers at the head of the building department.

In the first instance with the late venerable builder Jamsetjee Bomanjee, and latterly with his son, Nowrojee Jamsetjee, as well for their talent and zeal, as for the cordiality of their operations; and in bringing

* *Memorial of the Lowjee family* pp. 35-36.

this subject to the notice of Government, I trust I shall be excused for expressing a hope that the latter officer may stand as high in the estimation of his Honorable employers as did his venerable and highly respected father.

I learn with much satisfaction, that orders have been received for the continuance in Bombay Dockyard of ships for His Majesty's Navy, an event upon which I congratulate your Honorable Board as a measure tending to the constant employment of a valuable class of men, and the ultimate prosperity of the Dockyard.

In offering my opinion of the merits of the late and present head builders I cannot pass over the exertions and attention of the present second builder Cursetjee Rustomjee whose zeal, talent and attention, have been such as to deserve my fullest approbation and who with the junior branches of the builders' department give such high promise of future excellence as to ensure for many years the success and credit of the Dockyard.

I have the honor to be,

Honorable Sir,

Yours most obedient humble servant.

(Sd.) HENRY MERITON

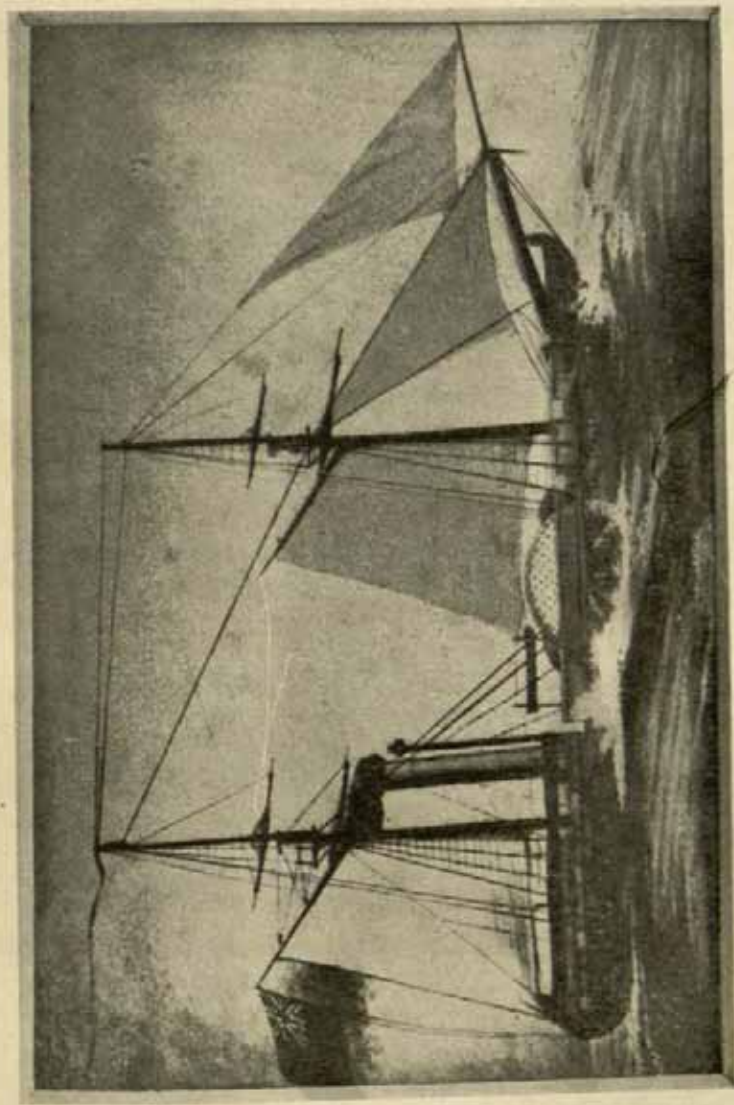
Superintendent." *

Superintendent's Office,

Bombay, 12th November 1825.

In 1831 the Court of Directors sent out two Silver Rules for the Master Builders, Nowrojee Jamsetjee and the first Assistant Builder Cursetjee Rustomjee. At a Darbar held on 28th December 1831, these Rules were

* *Memorial of the Lowjee Family*, pp. 36-37.



H. C. S. *Semiramia*.

Published by the courtesy of the Authorities of the Victoria & Albert Museum, Bombay.

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Rule presented to Nowrojee Jamsetjee in 1831.

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Centenary Commemoration
Stamp of the *Asia*. Issued
by the Government of Greece
in 1927.

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presented to the two gentlemen by Mr. John Romer the Senior Member of the Council along with two shawls each of the value of Rs. 400.

The Rule presented to Nowrojee Jamsetjee bears the following inscription :

"Presented by the Court of Directors of the United East India Company to Nowrojee Jamsetjee in testimony of their approbation of his fidelity and services as Head Builder in their Naval Dockyard at Bombay.

London 1831.

Wm. Astell, Esq., M. P., Chairman.

Robt. Campbell, Esq., Deputy Chairman.

Sir John Malcolm, G.C.B., Governor of Bombay."

Engraved on the hinges :

"Asia—Bombay—Calcutta—Hugh Lindsay Steamer."

When the Lords of the Admiralty resolved to build battleships and frigates at Bombay, they thought of sending out an European shipwright but due to the strong advocacy of Admirals Troubridge, Pellew and others who had come into intimate contact with the Parsi Builders at Bombay, the idea was given up. The Admiralty did, however, send an officer to see that plans submitted by them were carried out and this officer was known by the name of the Commissioner of the Navy. This procedure was customary when ships were built on contract and to-day the same procedure applies. The Superintendent (or Commissioner) works in close collaboration with the Builder and the two consult the whole time. At no time, however, does the Superintendent interfere with the func-

tions of the Builder. His duties are solely to see that the vessel is built according to the plan and specifications. The first officer so appointed was Mr. George Dundas. No official reference to this officer appears in the records but he gave a testimonial to Jamsetjee Bomanjee under date 18th January 1812.* He was succeeded by J. Johnstone, who in his letter to the Court dated 20th March 1813, suggested that a Master Shipwright be sent out. This idea was supported by the Bombay Government who in their letter of 2nd April 1813, to the Court wrote :

"Notwithstanding the favourable opinion we entertain of the talents of our principal native shipwright and of some of his relatives who hold situations subordinate to him in the Dockyard, yet it appears to us that there is still a want of that scientific knowledge which is so important to Naval Architecture and which can only be partially acquired in this country. We have in a distinguished degree all the advantage which practical knowledge can supply from the valuable experience of the Master Builder and approved service of his son but if we are to continue building for His Majesty's Navy to the extent of our resources, it will be of such essential consequence to combine science with practice in the prosecution of this great National work that we are induced to recommend that some scientific men may be sent out for this purpose."†

They, therefore, asked the Court to send out :

"a person not an ordinary shipwright of a dock-yard but a man of a superior description who after a regular course of instructions in those branches of

* *Memorial of the Lowjee Family*, p. 32.

† *Bombay Letters Received*, Vol. XXVII.

mathematics which are especially connected with Naval Architecture, had had opportunity of a practical application of the science he has acquired."

As a consequence of this, one Mr. Joseph Seaton, foreman of shipwrights at Deptford was appointed Master Shipwright at Bombay on 3rd January 1814, but the post of Commissioner of the Navy was continued till 1817 when we find the Admiralty writing to the Commissioner: "We approve of your suggestions with the exception of continuing a Commissioner at Bombay during peace on the expediency of which we do not concur." From this it appears that the post was abolished in 1817.

The Master Shipwright, Mr. J. Seaton, appears to have been succeeded by Mr. J. Pollexfen in or about 1822 and continued in that position until 1829. It appears that the Admiralty addressed a letter to the Master Shipwright in 1829 to discontinue shipbuilding for His Majesty's Service after completion of the construction of H.M.S. "*Calcutta*." They further called for the opinion of the Commander-in-Chief of the Indian Navy and other officers as to the capability of the Master Builder at Bombay to finish construction of the "*Calcutta*" since the post of Master Shipwright was abolished.

Mr. G. Pollexfen who was Master Shipwright upto then and who had now been appointed acting Naval Store-keeper at Bombay, by his letter dated 24th April 1829, requested Sir Charles Malcolm the then Commander-in-Chief of the Indian Navy to express his opinion on the abilities of the builders at Bombay to complete the construction of the "*Calcutta*".

Sir Charles in reply wrote :

"I have great pleasure in giving the opinion you require of Nowrojee the Head Native Builder from every observation which I have made of his talent as a shipwright since I came into office. I think him as capable of finishing the "*Calcutta*" from her present state and from the plans and drawings which you say he has as any Builder in H. M.'s Yards in England."*

During the time Nowrojee presided at the Dockyard some important changes took place in the administration of the Dockyard. One of these was the introduction of labour on contract instead of the former system of daily muster labour. When this new method of employment was introduced the dock workers resorted to a strike but which, due to the exertions of the Master Builder, was speedily ended. In this connection, Captain Robert Cogan, the Comptroller of the Dockyard, wrote on 8th September 1829 to Nowrojee in conveying thanks from Government as under :

"In reference to your letter of 3rd August 1829, representing that the workmen in the Dockyard had struck work, I am directed to inform you that a copy of your letter having been forwarded to Government with the Superintendent's remarks thereon, the Honourable the Governor in Council has been pleased to signify that you are entitled to the highest praise for your conduct on the occasion of abolishing the chip system in the Dockyard, as well as for your efforts to subdue the discontent excited among your workmen and the Governor in Council offers his thanks for your praise-worthy and useful exertions."

*Admiralty Records, Navy Board. 2017.

This change in the system appears to have lessened the cost of shipbuilding, for in a report dated 26th December 1834, by the Superintendent of Marine to Rear-Admiral Sir Charles Malcolm, the Commander-in-Chief of the Indian Navy, it was said that the introduction of the new system of contract labour was of great importance as it replaced daily muster labour working under an inefficient control, and consequently the cost of building a ship of the line for the Royal Navy and also for the Company would be much reduced. Captain Cogan then submitted figures for constructing a ship of the line similar to the "*Calcutta*" and stated that as it was universally admitted that a Bombay teak-built ship was fifty percent superior to vessels built in Europe, he was of the opinion that if these facts were generally known, the Bombay Dockyard would have more employment than they could perform, particularly as the reduction in building for the Royal Navy must be a matter of real national importance. The Superintendent further wrote: "As regards merchant vessels I do not hesitate to say that the best description of vessels can be built for £12 per ton, which is much less than substantial vessels can be built for in Europe" and he then took the opportunity of bringing to the notice of the Commander-in-Chief

"the indefatigable zeal and exertion of the Builders in introducing the new system of contract labour, as it would have been quite impossible to have effected it without the whole exertion of individuals possessing the powerful influence they do over the different classes of artificers and it can only be through the agency of persons possessing such influence that can render

efficient an establishment where the quantity of labour fluctuates so much and where no fixed establishment is maintained to meet contingencies."

After the launch of the "*Calcutta*" of 84 guns for His Majesty's Service, a number of ships and steamers were built under the superintendence of Nowrojee. On 19th July 1837, the "*Rajasthan*" of 600 tons was launched when the *Bombay Courier* wrote: "It has rarely happened to us to view so symmetrical an object as this new effort of our Bombay artisans; it is considered a perfect model of a merchantman and was completed in the short space of 6 months."

It was during the thirties that a new class of fast sailing clippers came into existence in Bombay and also at Calcutta. These were built specially to carry opium to be smuggled into the Celestial Empire. Amongst these were the "*Lady Grant*", the "*Sir Herbert Compton*" and the "*Ardaseer*" built for Khurshedji Cowasjee Banaji and launched by Sir Charles Malcolm on 30th June 1836. Basil Lubbock in his *Opium Clippers* quotes from *The Englishman* of Calcutta:

"We are informed that the "*Lady Grant*" is the very extreme of sharpness indeed to those unacquainted with the lines of a sharp built vessel: the "*Lady Grant*" looks as though she had only wings and legs. There cannot be a doubt that on a fine steady breeze her ladyship must clip along in grand style, a regular racehorse."

The same author writes:

"The "*Lady Grant*" was described as teak-built with a fir bulwark, and square-sterned with top gallant

forecastle and sunken cabin abaft. She had six gunports a side but very little ginger bread, having no quarter-galleries and a billet-head instead of a figure-head."

"*Sir Herbert Compton*" was built to the order of Aga Mohamed Rahim Sherazee. She was built of teak, copper fastened to the walls, with 2 decks, poop and topgallant fore-castle, square stern and single quarter galleries and a billet head in the same style as the "*Lady Grant*."

In 1838 Khurshedji Cowasjee Banaji, Framji Pestonji Patuck and Muncherjee Framjee Cama became joint owners with Sherazee. In 1850 the ship became the property of Cama & Co.

Regarding the use of these clippers in the opium trade Lubbock writes :

"It was commonly believed in the East that the effects of opium extended far beyond the ruin and degradation of those who used it.

Men, even of education, declared that those who bought and sold it, those who carried it, in fact all those who handled it and lived by its means, were brought under its evil bane, so that sooner or later the curse of the drug fastened itself upon them in some way or other.

As for the merchants who engaged in it, though they amassed enormous wealth, bad luck haunted them and their ends were often tragic in the extreme.

Yet equally true is it that you cannot touch pitch without being defiled, and in some mysterious way the terrible drug certainly did leave its mark upon those who derived the most worldly profit from it."*

*"The Opium Clippers," Basil Lubbock p. 28.

CHAPTER VIII

Introduction Of Steam.

The following is taken * from *The London and Paris Observer* of 8th August 1839, which gives an account of steam vessels in India :

"Early application of Steam to the purpose of propelling vessels through the water was suggested by Jonathan Hulls about 1740 and the great experiment which proved successful was made by Fulton in 1807, on the Hudson River ; but it appears from a publication entitled, *Notes on the Western States* by James Hall that John Fitch, a native of Philadelphia, had the merit of carrying Hull's suggestions first into effect. In 1785 the writer John Fitch, a watchmaker in Philadelphia, conceived the design of propelling a boat by steam. He was both poor and illiterate, and many difficulties occurred to frustrate every attempt which he made to try the practicability of his invention. He applied to Congress for assistance, but was refused; and then offered his invention to the Spanish Government, to be used in the navigation of the Mississippi; but without any better success. At length a Company was formed, and funds subscribed for the building of a steam-boat; and in the year 1788, his vessel was launched on the Delaware. Many crowded to see and ridicule the novel, and, as they supposed, the chimerical experiment. It seemed that the idea of wheels had not occurred to Mr. Fitch; but instead of them, oars were used, which worked in frames. He was confident of success; and when the boat was ready for the trial, she

*"A Collection of Papers relative to Shipbuilding in India" by John Phipps
London, 1840, pp. 258-60.

started off in good style for Burlington. Those who had sneered began to stare; and they who had smiled in derision, looked grave. Away went the boat, and the happy inventor triumphed over the scepticism of an unbelieving public. The boat performed her trip to Burlington, a distance of 20 miles but unfortunately burst her boiler in resounding to the wharf at the place, and the next tide floated her back to the city. Fitch persevered, and with great difficulty procured another boiler. After some time the boat performed another trip to Burlington and Trenton, and returned on the same day. She is said to have moved at the rate of 8 miles an hour; but something was continually breaking and the unhappy projector only conquered one difficulty to encounter another. Perhaps, this was not owing to any defect in his plans, but to the low state of the arts at the time, and the difficulty of getting such complex machinery made with proper exactness. Fitch became embarrassed with debt, and was obliged to abandon the invention, after having satisfied himself of its practicability. This ingenious man, who was probably the first inventor of the steam-boat, wrote three volumes, which he deposited in manuscript sealed up, in the Philadelphia Library, to be opened thirty years after his death. When or why he came to the West, we have not learned but it is recorded of him that he died and was buried near the Ohio. His three volumes were opened about 5 years ago (about 1834) and were found to contain his speculations on mechanics. He details his embarrassments and disappointments with a feeling, which shows how ardently he desired success and which wins for him, the sympathy of those who have heart enough to mourn over the blighted prospects of genius. He confidently predicts the future success of the plan, which in his hands failed only for the want of pecuniary means. He prophesies that in less than a century, we shall see our western rivers swarming with steam boats; and expresses a wish to be buried on the

shores of the Ohio, where the song of the boat-man may enliven the stillness of his resting-place, and the music of the steam engine, soothe his spirit. What an idea! Yet how natural to the mind of an ardent projector, whose life had been devoted to one darling object, which it was not his destiny to accomplish! And how touching is the sentiment found in one of his journals: 'The day will come when some more powerful man will get fame and riches from my invention; but nobody will believe that poor John Fitch can do anything worthy of attention.'

According to Lindsay's *History of Merchant Shipping* it was not until 1819 that the British Admiralty became alive to the importance of steam navigation nor were they likely, even then to have awakened from their slumbers had not Lord Melville and Sir George Cockburn urged on the Government the great value of steam power for towing their men-of-war. In that year (1819) the first steam vessel was built for the Royal Navy. She was named the "*Comet*" and her dimensions were 115 ft. in length, 21 ft. in breadth, and 9 ft. draught of water, being propelled by two engines of 40 H. P. each.

The first steam vessels to be built in India were at Calcutta. From an account given in John Phipps' *Papers relative to Shipbuilding in India** it appears that about 1817 or 1818, Capt. Davidson of the Bengal Engineers brought to Calcutta an 8 H. P. engine:

"It had an iron boiler and was designed for a river boat; but it was neglected and remained in a godown until Major Schalch purchased it for a dredging boat,

*pp. 201—202

which Messrs. Kyd & Co. were employed to build for Government in 1822. The "*Plato*", the name she afterwards bore was furnished with a double set of buckets to dredge on both sides. These were taken off and paddles were substituted on the breaking out of the Burmese War, when she was fitted out as a floating battery. Though her speed was only 4 knots much benefit was derived from her in the passage of troops over creeks and estuaries of that coast."

Her original form was that of a large flat-bottomed, and square at both ends but when fitted out as described above, a false bow was attached to her and other alterations were made. She was sold on the termination of the war and the engine being removed, the vessel became a coal depot for Messrs. Alexander & Co. and was finally sunk in the gale of May 1830.

The first vessel propelled by steam in India was a boat built by Mr. William Trickett for the Navab of Oudh at Lucknow, the plans and the engine for which were brought out by Mr. Henry Jessop in 1819 and when fitted in the boat gave her a speed of 7 to 8 miles an hour.

The first steamer to be built at Calcutta was the "*Diana*". This was a speculative venture of Mr. J. T. Roberts, a member of the Factory at Canton. His idea was to get a steamer built by the Court of Directors to be employed on the Canton River but the Court did not approve of the idea so Mr. Roberts thought of getting her built on his own account. With this idea he ordered out a pair of 16 H. P. engines with a copper boiler and other requisites for a fast vessel of about 110 tons, which he sent out in frame. The whole arrived at Canton in 1822

but it appears Mr. Robert's health gave in and he reshipped the whole thing to Calcutta where the same arrived in June 1822 and was offered to Government for Rs. 65,000. This was declined. It was however taken up by some merchants at Calcutta for floating a company with a capital of 65 shares of Rs. 1,000 each. It was then found that the English Oak frame was unsuitable and a new teak frame was substituted at an additional cost of Rs. 10,000. She was launched on 12th July 1823, at the dock of Messrs. Kyd & Co. In April 1824, she was purchased by Government for Rs. 80,000 soon after the Burmese War. She was dismantled in 1836 and her engines were transferred to a new boat also called the "*Diana*". This was followed by the construction of three other steam vessels, the "*Irrawaddy*", the "*Ganges*", and the "*Hooghly*" at Kidderpore but they were all river steamers. The first sea going vessel propelled by steam was the "*Enterprise*" of 500 tons built in England having two 60 H. P. engines with copper boilers extending across the ship and with 7 furnaces each 7 ft. in length. On her arrival at Calcutta she was purchased by Government.

According to Capt. Low, author of the *History of the Indian Navy*, the first proposal for the establishment of overland steam communication was made in 1822; the idea appeared so chimerical at the time that the *Asiatic Journal* of May 1822, sarcastically wrote:

"Capt. Johnstone has suggested a plan for opening an intercourse with India by means of steam vessels and the details he has furnished respecting it are so specious and all the obstacles in the way of its success

are so admirably disposed of that it is astonishing the projector has not been deluged with contributions or subscriptions already and that a steamer is not unloading in the Port of Suez".

Lt. Johnson, R. N. was commissioned to proceed to Calcutta with the object of forming a company for working one or more vessels, on the Suez line but the scheme fell through. A proposal was then made to run steamers by the old route of the Cape of Good Hope and funds were obtained by subscription in order to carry out an experiment.*

It was Mr. Mount Stuart Elphinstone, the then Governor of Bombay, who was the first to make a distinct official proposition for the establishment of steam communication between Bombay and England via the Red Sea and in 1826 he renewed the proposal but the Court of Directors were unwilling to act upon the suggestion.†

It was not until 1829 that the first steamer was built at Bombay, during Nowrojee's tenure of office. She was named the "*Hugh Lindsay*" and was of 411 tons burthen carrying 4 guns with two 80 H. P. engines. The "*Hugh Lindsay*" was launched on 14th October 1829 by Mrs. Wilson in the presence of Sir Charles Malcolm, the Commander-in-Chief of the Indian Navy. She was put under the command of Commander John Wilson and sailed for Suez. The voyage was accomplished in 21 days and 8 hours and she returned to Bombay in 19 days and 14 hours. By this event the feasibility of running steamers between Bombay and Suez was established but the question of the

* *History of the Indian Navy*. Vol. I. pp. 520-521.

† *Ibid.* pp. 525-526.

establishment of overland route was still hanging fire. This however led to further discussion, for we find a meeting of the citizens of Bombay was held on 17th April 1830, under the chairmanship of Mr. Crawford and the idea was approved. This meeting was attended by Indians, and Jaganath Sunkarseth and Framjee Cowasjee both spoke in favour of establishing such a service for the benefit of Europeans and Indians alike.*

The subject appears to have been shelved, for the next reference to it appears on 14th May 1833, when a public meeting of Europeans and Indians was again held at the Town Hall at which the Chief Justice of Bombay Sir Herbert Compton, presided. Once again, the subject of a steamer service was discussed and a further step was taken by the appointment of a committee to promote the scheme and to collect funds. Two Indians were appointed to the Committee—the Master Builder, Nowrojee Jamsetjee, and the Second Builder, Cursetjee Rustomjee,—along with some Europeans and a subscription list was opened, but nothing appears to have resulted from this, for a meeting of the subscribers was convened on the 21st October 1836, to wind up the business and to return the money already collected to the subscribers, the amount being Rs.78,500.†

Construction of steam vessels was continued in the Dockyard. In October 1839, the "*Victoria*", a steam sloop of 705 tons and 230 H P. carrying 5 guns was launched. The Silver Nail ceremony took place on 13th June 1839 and it was stated that "she will turn out a

**Parsi Prabash* Vol. 1 p. 225.

†*Ibid.* pp. 256 & 298.

capital vessel, much superior to all plying either as packets or cruisers". This turned out to be correct for she proved to be the fastest of steamers then on the seas. This was followed by the launch of the "*Auckland*" of 946 tons on 9th January 1840. A sloop of war for the Imam of Muskat was launched from Mazagon Dock on 1st November 1841 and named "*England*".

The Times of India of the 10th August 1939, reproduced a note from the *Bombay Times* of the 10th August 1839, which runs as follows :

"We mentioned in our last that the material of 4 iron steamers had arrived, and were immediately to be put together here; of these, we understand only two are on Government account, the others having been sent to the care of this Government by the makers, Messrs. Forrester & Co., of Liverpool on their account, but to be available for the public service if required. They are to be set up immediately in the Mazagon Dockyard, the Government advancing the funds for the purpose."

According to the *Bombay Times* as quoted in the *History of the Indian Navy* * the strength and condition of the Indian Navy in 1841 was as under :

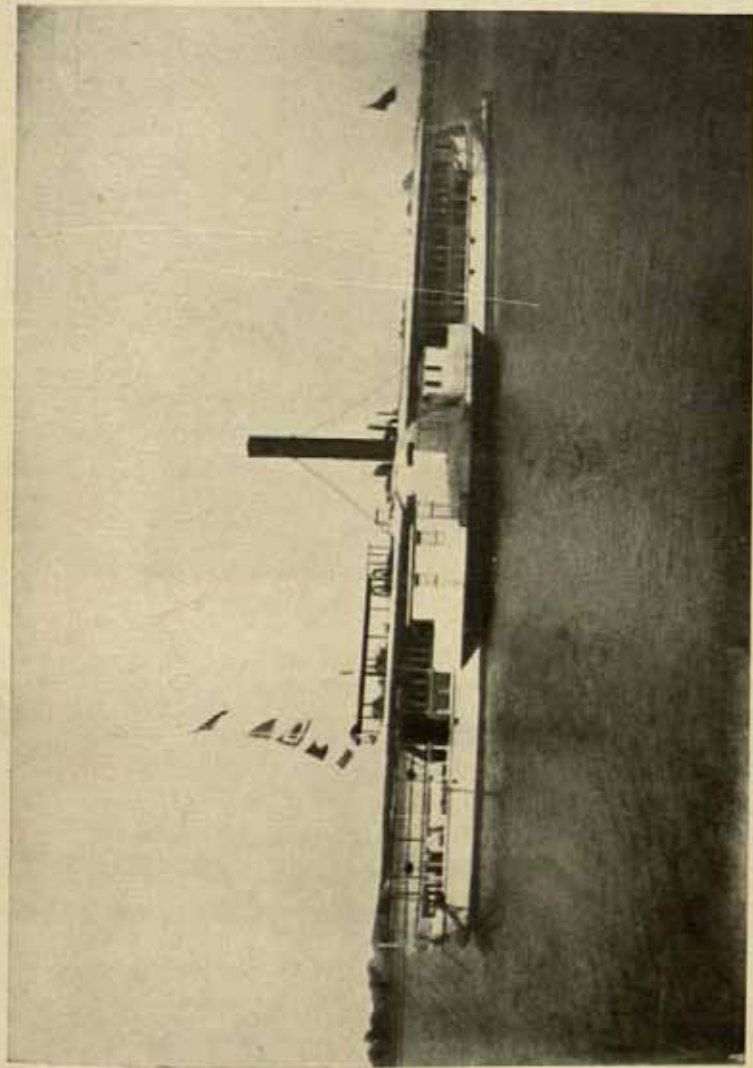
"Beginning with the ordinary sailing vessels of the Company's Navy, they in all amounting to fifteen in number of an aggregate burthen of 3419 tons and an aggregate armament of one hundred twenty-eight guns, consisting of one ship (which, however is dismantled, and used as a hulk), three sloops of war, of about 400 tons burthen, and an armament of eighteen 32-pounders each, four brigs of 258, 255, 192 and 179 tons respectively of ten and six light guns ; six schooners of 70 to

* *History of the Indian Navy* Vol. II. p. 137.

157 tons, two of which are armed with long 32-pounder guns, the others with four 6 pounders each; and two light cutters. These, though not apparently a very formidable fleet, are smart light teak-built craft, chiefly employed in protecting the trade along the coast. They are at present greatly overworked, especially those stationed in the Red Sea and Persian Gulf, and heavy complaints are made of their being under-officered, the Directors having, in 1838 and 1839, reduced the establishment from 7 captains, 12 commanders and 45 lieutenants, to 4 captains, 8 commanders and 40 lieutenants, among whom are shared the duties of 15 sailing vessels. Seven large steam vessels of from 700 to 900 tons are now afloat; besides two of 900 and 1,000 tons, nearly ready. Seven armed iron steamers on the Indus and 4 on the Euphrates of from 40 to 70 H.P. each. Each vessel has a detachment of 3 Marine Battalions on board. A system of instruction in naval gunnery is carried on, similar in detail to that pursued on H.M.'s ship "*Excellent*" also a school of navigation and engineering.

The "*Semiramis*" a fine steam frigate was launched on 26th February 1842. Her dimensions were: length 189 ft., breadth 34 ft. and depth of hold 21 ft. Her burthen was 1040 tons and her steam power about 250 H.P. She was fitted with two 68-pounder pivot guns and six heavy guns on the main deck though subsequently this armament was changed for six 8-inch guns.*

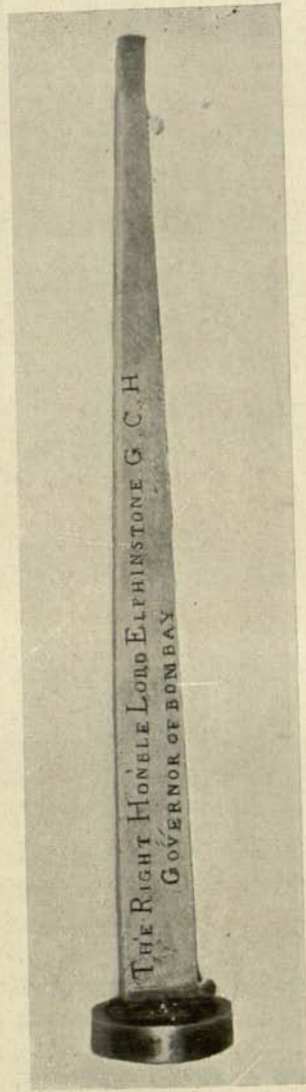
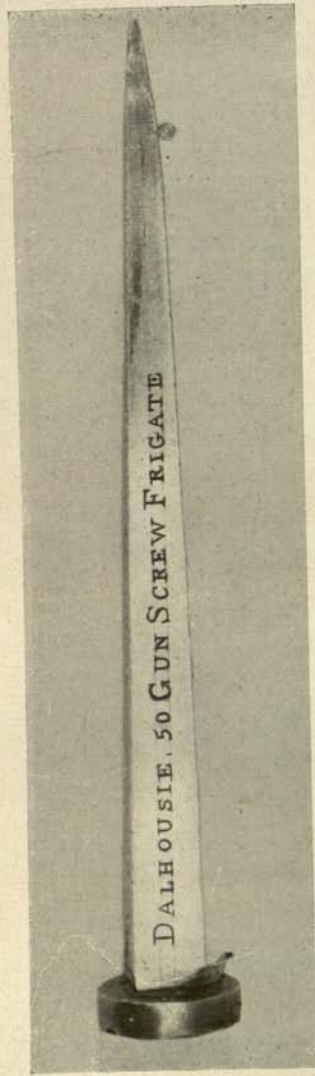
**History of the Indian Navy*, Vol. II. p. 169.



H. C. S. *Jhelum*.

She was claimed to be the oldest paddle steamer in the world and her engines are exhibited in a Museum in Karachi.

See Page 282



The name of the *Dalhousie*, 50 Gun Screw Frigate cannot be traced in any of the lists of ships built at Bombay but the silver nail is in the possession of one of the members of the family and the photos have been taken from the same.

Two facets have been reproduced above, and the other two are as under:

"Built by Cursetjee Rustomjee Esq.; in the Bombay Dockyard 1856" and "Rear Admiral Sir H. J. Leeke R. N., Commander-in-Chief I. N."

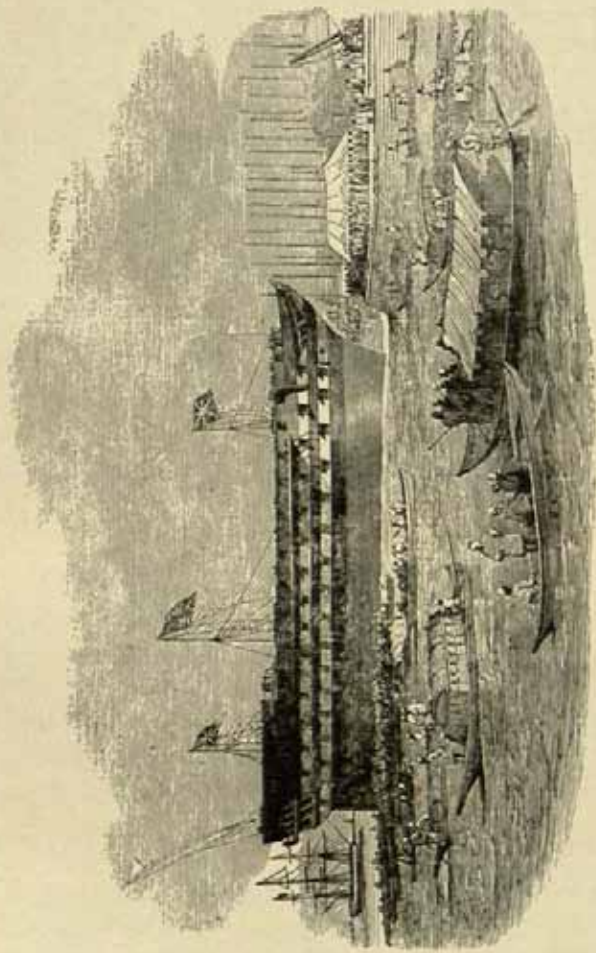


CURSETJEE RUSTOMJEE (1788-1863),
fifth Master Builder.

Taken from the *Illustrated London News* of 6th Jan., 1849.
See Page 273



CURSETJEE RUSTOMJEE (1788-1863), fifth Master Builder.
See Page 273



Launch of the H. M. S. *Meander*
Taken from the *Illustrated London News* of 6th Jan., 1849.
See Page 277

CHAPTER IX

Retirement and death of Nowrojee Jamsetjee. His Successors Cursetjee Rustomjee and Jehangir Nowrojee

In May, 1843 Nowrojee Jamsetjee expressed his wish to retire upon pension. The Bombay Government in transmitting his memorial to the Court of Directors strongly recommended his claims to the Court's liberality.*

In reply to this, the Court by their letter of 17th January 1844, wrote :

"We have attentively considered the memorial of Nowrojee Jamsetjee and although we are unable to comply with its prayer to the full extent, the circumstances therein set forth are such as to entitle the memorialist to the special indulgence and liberality of his employers on his retirement from the situation of Master Builder in your Dockyard where he has been serving for a period of more than 52 years continuously with great credit to himself and advantage to Government.

The marine regulations do not, as you observe, make provision for the claim of servants to which Nowrojee belongs, but on reference to the rules established some years since by the Government of India for the grant of supernumerary pensions to the superior classes of subordinate European and Native officers in the Civil Department we perceive that on retirement from office after upwards of 30 years of active service a pension not exceeding one half of the salary or authorised allowances of the individual calculated upon an average of the five years preceding the date of application for pension may be

*Bombay Marine Proceedings for 1843. Range 413, Vol. XXXVI

allowed and it appears to us that those rules might be very properly applied to the case of Nowrojee Jamsetjee whose great age and infirmities have rendered him incapable of further active employment.

We, therefore authorise you to admit him to the full benefit of those rules and that with the view of marking the high sense we entertain of the long and valuable services rendered by that meritorious public servant, we have moreover resolved to give to Nowrojee Jamsetjee upon retirement a special pension of Rs. 150 per month and a donation of Rs. 5,000 which you will accordingly pay to him."

On the original record the following remark is found:

"I would rather give him a special pension of Rs. 300 during life. This arrangement is too detailed to be handsome or generous to a very remarkable man." This remark appears under the initials "A.G." and it seems to have been made by Mr. A. Galloway who was a member of the Court.

Nowrojee enjoyed his pension for over 16 years and died on 1st November 1860 at the ripe old age of 86—a life well spent. As the President of the Parsi Punchayet for a long period he rendered conspicuous services to his community and in no less a degree as a leader of Indian society of his day. On hearing the news of his death, Commodore Wellesley ordered the Dockyard to be closed and the flags to be hoisted half-mast on all vessels in the harbour.*

This was indeed high honour paid to the memory of an individual outside the ranks of high officials and as far

**History of the Indian Navy*, p. 524.

as is known this was the only instance when flags on the ships in the harbour were flown half-mast in honour of a private individual.

The *Telegraph and Courier* in taking note of his death paid the following tribute to his memory :

"Plain and unpretending in his habits, and homely and simple in his manners, it was singular that he should have been held in such high estimation by a community so remarkably fond of ostentation and display. But it was his worth they admired, and his unaffected zeal in furthering and promoting every scheme calculated to be productive of good. His genuine worth, his sincere piety, and his high sense of justice, were ever conspicuous, and people of all castes and persuasions fully appreciated those qualities which, both instinct and reason, teach men of all nations most to admire".

Nowrojee Jamsetjee, the fourth Master Builder was the last person to enjoy all the rights and privileges attached to the office. After his retirement there was an all-round decline in shipbuilding in Bombay.

To ensure that the art of shipbuilding be continued on the Island and the reputation of the Yard maintained several eminent people including C. Malcolm, Commander-in-Chief of the Indian Navy, John Sappings, the surveyor of shipping of the East India Co. at Calcutta and others urged Nowrojee to send some members of his family to England to study the art. In 1838 he sent his son Jehangir and his nephew Hirjibhoy Merwanjee to England in care of his old friend and well-wisher, Sir Charles Forbes, Bart. After studying for nearly 3 years they returned in 1841.

and were posted as first and second Assistant Builders. At that time these two posts were occupied by Beramjee Framjee and Ardaseer Ruttonjee. On the return of Jehangir and Hirjibhoy, Government however reduced the salaries of the two former occupants, a step which hurt the old incumbents who had by that time served in the Dockyard for 35 and 30 years. Both Beramjee and Ardaseer appealed to Government to reconsider their position but their appeal to the Governor in Council and to the Directors did not find favour. They were, however, allowed to retire on full pension.

In 1844 Nowrojee was succeeded in the office of Master Builder by Cursetjee Rustomjee who was born on 21st October 1788 and who joined the Dockyard in 1799, at the tender age of 11 years only. On the death of Jamsetjee Bomanjee in 1821, he became the Second Builder.

Amongst the handiworks of Cursetjee was the "*Ferooz*" a steam frigate of 1440 tons launched on 18th May 1848.

"She was a noble ship, 240 ft. in length, 64 ft. beam with engines of 550 H.P. and carried 8 heavy guns.....The "*Ferooz*" was of the same class as the "*Ajdaha*" and the "*Moozuffer*", but was incomparably a stouter ship, being built of teakThe strength of build of the "*Ferooz*" was put to a test not less severe than that encountered by the "*Salsette*" frigate.

When the "*Ferooz*", under command of her first Captain, Commander Frushard, after conveying the Governor-General, Lord Dalhousie, from Scinde to Bombay, Ceylon, Straits Settlements, Moulmein and

Calcutta, was on her way down the Hooghly, under charge of a branch pilot, she ran aground on the "James and Mary", probably the most dangerous quicksands to be found in any river; she was aground 6 days and 5 nights, and, eventually was carried over them by the action of the "bores", with which each flood-tide sets in. This marvellous escape from destruction was, undoubtedly, owing to the excellence and strength of her build, and the "*Ferooz*" came off with slight damage to her sheathing, and the breakage of her rudder pintles. There are few recorded instances of vessels having escaped submersion in "James and Mary" sands, after grounding upon them even for one tide."*

In the same year, the "*Nerbudda*", a brig of 420 tons carrying 16 guns was launched. "She was" in the words of the author of the *History of the Indian Navy* "a beautiful craft, of 420 tons, and 119 ft. in length, with 33 ft. beam, and being fitted out, sailed, on the 29th of February 1848 for England. The sailing qualities of the "*Nerbudda*" were remarkable, and she arrived at Portsmouth on the 2nd of June, making the passage in ninety-three days."†

The following extract is taken from the *Illustrated London News* of 6th January 1849 (Pages 11-12) regarding the launch of the *Meanee* built by Cursetjee Rustomjee:

"A Bombay Correspondent has favoured us with the following account of the launch of this magnificent vessel:

In March 1840, Sir James Graham, the first Lord of the Admiralty, in giving an account of the strength

* *History of the Indian Navy* Vol. II, pp. 200-201.

†Ibid, p. 200.

of the Royal Navy, mentioned that there were two line-of-battle ships then building in India, but which had not at that time been named, leading to the inference that those were on the point of coming on the strength of the navy. The "*Meanee*" was not laid down till two years afterwards. The other line-of-battle ship is not commenced; and notification has now been given that no more vessels will for the present be built in India for her Majesty's service. In 1841 and 1842 three sets of slips were built for the reception of line-of-battle ships. Enormous quantities of teak had for some time before this been collecting for the use of the dockyard; the war-steamers "*Semiramis*", (1100 tons, and 350 H. P.) and the "*Ferooz*" (1500 tons and 500 H. P.) being in process of construction, along with the liner already named, and the brigs the "*Jumna*" and the "*Nerbudda*".

The keel of the "*Meanee*" or, as she was originally intended to be called, the "*Madras*", having been laid down just after the rains in 1842, the native ceremony of driving the silver nail into the keel was performed in November, in presence of the Governor, Sir George Arthur, and His Lady; the Commander-in-Chief, Sir Thomas McMahon, and his family; the Superintendent of the Indian Navy, Sir R. Oliver; the Judges of the Supreme Court, and other distinguished persons in the Presidency. The ceremony consists in driving a silver nail with a silver hammer, into the stem of the ship, with sundry invocations in the native language, calling for the blessings of the Almighty on the future ship. The head builder immediately afterwards covers the head of the nail with a wooden plug. The ceremony concludes by the Governor conferring a present of shawls on the master-builder and his two chief assistants, with

betel nut and leaves ornamented, and rosé-water sprinkled over those present, to whom bouquets of flowers are also presented by the master builder.

The building of this magnificent vessel now proceeded steadily and auspiciously, and as rapidly as so stupendous a work could be supposed to proceed. In 1840, Mr. Layhard, ship-builder to her Majesty, and his assistant, Mr. McKenzie, arrived in Bombay with plans from the Lords of the Admiralty, and managed all the arrangements. Those gentlemen having found it necessary in 1845 and 1846 to return to England because of sickness, were succeeded by Mr. Turner and his assistant, Mr. Ladd, under whom matters were brought to an auspicious conclusion in November, 1848. The whole work was performed by natives, of whom 600 were at one time engaged on the "*Meanee*" alone, while 500 were at the same time employed on the "*Nerbudda*" and the "*Jumna*"—there being in the end of the year 1847 no fewer than 2000 native workmen employed in the Bombay Dockyard at the same time in building or repairing ships of war. The "*Meanee*" was originally named the "*Madras*"; on Lord Ellenborough being appointed First Lord of the Admiralty, under Sir R. Peel's Government, after his recall from India, the name was changed to that which she now bears, in honour of the victory near Hyderabad, won by Sir Charles Napier on the 19th February 1843; when his Lordship was Governor-General. The figure-head, representing a native of Madras, had been prepared before the alteration occurred and still remains, though no longer appropriate to the vessel.

At Bombay, spring tides rise to the height of 16 and 18 feet during the day and night, repeatedly being highest during the day, when the sun is to the North

of the line, or from April to September and during the night when the sun is to the South of it, from September to April, or during the cold weather season. The arrangements requiring to be made for the launch of such a ship were so many and so complex, that the day-tide was fixed on for this occasion, and it turned out lower by nearly two feet than the night tide; as it was considered, and as it appeared correctly, that there would, even with this, be water quite sufficient to float off the ship, the 11th November was accordingly fixed on for the great operation in question. On the day preceding the vessel was raised off her blocks and placed in the cradle; some 2000 tons of timber work having thus been lifted by the force of wedges. By nine o'clock on the morning of Saturday all the roads and avenues leading to the Dockyard were seen crowded with people, anxious to witness the launch, of whom there must have been upwards of 100,000.

A long line of tents was ranged from opposite the head to beyond the stern of the vessel, and about twenty yards away from her. These were left open in front, and provided with tiers of benches, rising one over the other, for the accommodation of visitors. The ship herself was decorated with flags, as were nearly all the vessels in harbour. The light house and the flag-staff at Malabar Point, as well as the flag-staff of the Commodore, were decorated likewise. By half-past nine the company were nearly all assembled. Exactly at ten the Hon. the Governor, Lady Falkland, and suite, made their appearance; and everything being in readiness and the tide beginning already to turn at five minutes after ten the dog-shores were knocked out, and the "*Meanee*" at once glided along the ways and entered water. The ways had been carried

about 200 feet out to sea, so that the vessel was almost completely afloat before she left them; her change, as she glided out, slightly inclined to a perfectly horizontal position, was scarcely perceptible. She was allowed to run for nearly half a mile out, when she was brought up by a hawser, and towed by the sailors on board till opposite the entrance of the graving-dock, where she was to be received next tide. It afforded a favourable augury of the speed of the vessel, and of the scientific nature of her construction, that, on entering the water she scarcely occasioned any ruffle or surge, and that no swell or perturbation was apparent as the sea closed up behind her; though some three thousand tons of water must have been displaced by her, the displacement was so gently effected as scarcely to occasion a swell. After the launch was over, a party of about 300 partook of an elegant dejeuner, provided for them by Commodore Hawkins. All the arrangements were as perfect as might be, and the most made, by the excellence of the accessories, of a spectacle which in itself was peculiarly imposing. The following are the dimensions of the "*Meanee*":

	Feet	Inches.
Length of the Gun Deck ...	190	-
Ditto of Keel for Tonnage	155	3
Extreme Breadth ...	56	9
Breadth for Tonnage ...	56	-
Ditto Moulded ...	55	3
Depth in Hold ...	23	4
Burthen ...	About 2,600 tons."	

Besides constructing the "*Meanee*" a number of steamers and steam frigates were built under the direction of Cursetjee Rustomjee amongst which the following were

conspicuous: the "*Zenobia*" of 1003 tons launched in 1851, the "*Jhelum*"* of 499 tons and 2 guns, and the "*Falkland*", launched in November 1853. The latter "was a perfect model of a small ship of war and with her square spars and tapering masts having a tauntness almost of a 36 gun frigate was the admiration of the Bombay harbour."[†]

The "*Assaye*" and the "*Punjab*" were the last of the frigates to be built for the old Indian Navy of the Honourable East India Company and were built on the model of a French paddle steamer on the plans of Oliver Lang. They were launched on the 15th March and 21st April 1854 respectively.

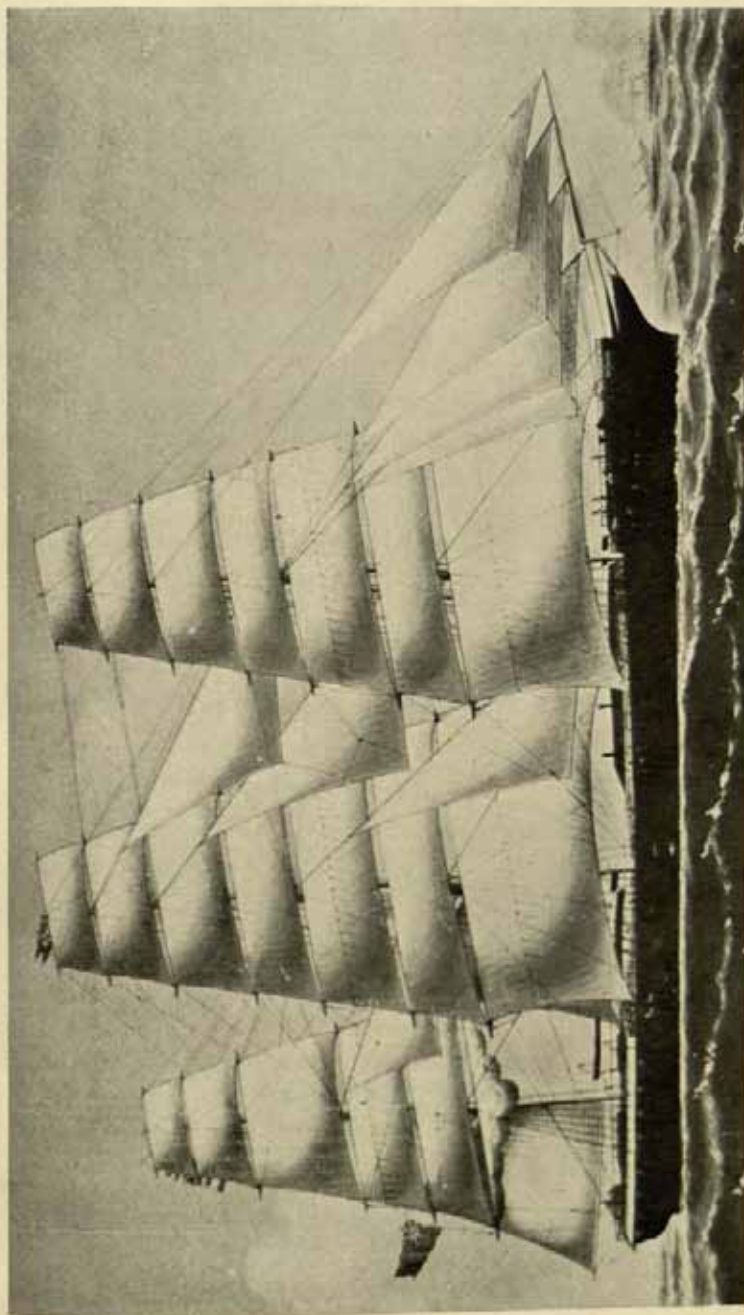
The following were their measurements, which were laid down in 1852 by Cursetjee Rustomjee Wadia, the 5th Master Builder :

	Tons	Length overall	Length regd.	Beam	Depth	Guns	Engine H.P.
" <i>Punjab</i> "	1745 net	285	250	39.6	25	10	700
" <i>Assaye</i> "	1800 gross	277	250	39.6	25	10	650

The "*Punjab*" successfully weathered the great hurricane of 1st November 1854 at Bombay. The "*Punjab*" took the 10th Hussars to Crimea in 1854. Both vessels took part in the Persian War 1855-56, the

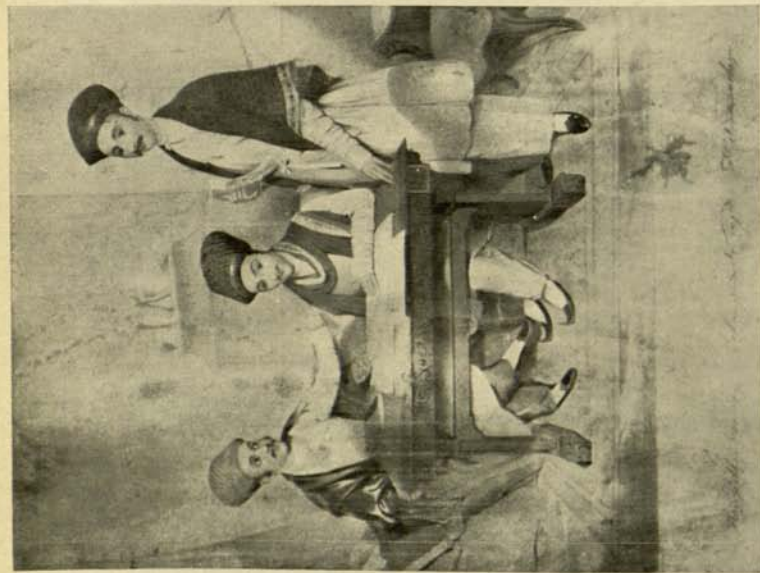
*1851. "*Jhelum*": Iron River Steamer. Laid down 18-2-1851 on Gridiron slip; launched 31-5-1851; length 145 ft., breadth 27 ft., depth 7 ft.: 60 H.P., 499 44/94 tons B. M., engines by Maudsley Sons & Field, London, 1850. She was originally one of the Indus River Flotilla of the Indian Navy and was later transferred to the Punjab Government. In 1873 she was given up by the Punjab Govt. and made available for the use of the Commissioner of Sind in place of the "*Satellite*". In 1886 she was lent to the Forest Department for the transport of timber and handed back to the Commissioner of Sind in 1888. From 1888 to 1933 she was maintained for the Commissioner's use for the purpose of visiting the riverain territory of Sind. Broken up at Karachi in 1934. Engines exhibited in a Museum in Karachi. At the time she was put out of commission it was claimed that she was the oldest paddle steamer in the world.

[†]*History of the Indian Navy*, Vol II. p. 295.

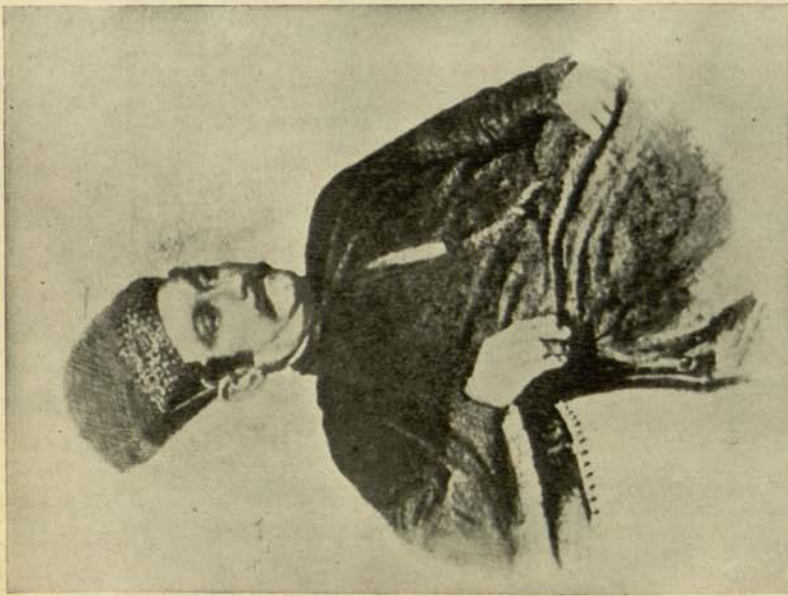


H. C. S. *Punjab* was purchased by John Willis and was known as the *Tweed*.

See Page 283



HIRJIBHOY MERWANJEE, JEHANGIR
NOWROJEE AND DORABJEE MUNCHERJEE.
Photograph taken in England in 1840.
From the original in the possession of the late
Mrs. Meherbai Maneckji Seervai, daughter of
Hirjibhoi Merwanjee.
See Page 286



JEHANGIR NOWROJEE (1821-1866),
sixth Master Builder.
See Page 290

"Assaye" distinguishing herself at the capture of Mohamra. The "*Punjab*" was at Calcutta during the Mutiny of 1857 and a detachment from the vessel was sent to Dacca where midshipman A. Mayo was awarded the V. C. Both vessels were sent to London for conversion to screw steamers in 1862, but were purchased by John Willis, one of the most famous of clipper shipowners and owners of the famous "*Cutty Sark*", who converted them to sailing vessels. The "*Punjab*" was renamed the "*Tweed*", given a fine new figurehead representing Tam O'Shanter and placed under the command of Willis's favourite Captain W. Stuart who commanded her from 1863 to 1877. Both vessels assisted in the laying of the Indo-European Cable and the "*Tweed*" made a record passage to Bombay in 77 days. The "*Assaye*" was sold and wrecked on her return from India.*

* *Wreck of the "Assaye" East Indiaman:*

This splendid homeward-bound Indiaman, built at Bombay, 1856, as a paddle-steamer for the Indian Government, but latterly belonging to Messrs. C. De Bourke & Co. went ashore in Rose Bay, near Galley Head on the South coast of Ireland during the heavy gale on the night of Saturday, the 20th, ult., and went to pieces on Sunday evening. There was but one life lost, but an immense destruction of property, as the whole of the cargo consisting of cotton, wool, jute, and flax seed, valued at upwards of £250,000 was strewn along the coast for miles. The "*Assaye*" had experienced heavy gales for a week before, and by the Captain's reckoning, she was 50 miles off the land when she encountered this terrific storm, in which was carried away, the truss of her mainyard. In consequence of this damage, the ship would not obey her helm when the Capt. attempted to wear her, on first sighting the land; and she soon broke ashore upon an iron bound coast. The Commander was drowned whilst endeavouring to get ashore with a line in order to save the rest of his crew. He had actually landed on the point of rock where she first struck, but was almost immediately washed off by a tremendous sea and never seen afterwards. The remainder of the crew, 48 in number were saved by means of the rocket apparatus, most admirably worked by the coastguard, assisted by some of the country people. The "*Assaye*" up to this time had had a most favourable voyage having left Bombay on November 11. She had on board the mail and despatches from St. Helena when she sailed on December 15, and these have been all lost. About half the cotton and 100 bales of wool have been saved, but in a damaged state; the remainder of the cargo and the ship herself are a total loss, but being fully insured at Lloyds and at the several marine offices in London, Liverpool, Manchester, and Glasgow, the loss will fall upon the underwriters.

The "*Tweed*" affectionately known as Willis' Wonder made many trips to Australia and China and on her first passage to Melbourne made the trip in 83 days," a record which has not been improved upon even by such classical fast sailors as the "*Cutty Sark*". During this voyage she logged as much as 300 miles in a day and on other voyages logged 360 odd miles in a day, an average of 15 knots per hour. Basil Lubbock in his book *The Blackwall Frigates** writes of the "*Tweed*":

"Some ships seem to have the finger of God in their design, the supreme of man's craftsmanship in their building and the touch of genius in their character. Such ships stand out above all their contemporaries. Old seamen speak of them with affection of lovers. Poets sing of them. Chanteymen glorify their qualities and their deeds in hundreds of verses. Journalists pigeon-hole the pages of their log books as if they were public men. And those who have sailed in them lord it regally over their fellows and begin every yarn with the stock phrase, 'When I was in the old so and so'.

These divinely inspired ships sail like witches, come unscathed through the severest storms, bring up fair winds and break up calms, coin money for their owners, and are never sick or sorry from their launch to their demise.

Of such was "Willis' Wonder" the "*Tweed*" which for the first eight years of her existence was the paddle wheel frigate the "*Punjab*" of the Indian Navy. Some of the passages of the "*Tweed*" were as follows :

1875 Port Jackson to Lizar	...	...	86 days.
1875 London to Sidney	...	...	82 days.
1875 Sidney to Dungeness	...	...	69 days.

* Pp. 211-212 also pp. 232-235.

1876 London to Sidney 87 days.
 1876 Sidney to Hongkong 50 days.

In 1877 Capt. Byce took over command of the "*Tweed*" when she did the trip to Sidney in 81 days. In 1855 Capt. Moore left the "*Cutty Sark*" to take command of the "*Tweed*".

In 1888 she was dismantled off Algoa Bay and was afterwards broken up there. Her frames and timbers may still be seen forming the roof of a church at Port Elizabeth."

Cursetjee Rustomjee retired in 1857 on a special pension. He had received a Silver Rule from the Court of Directors in 1831 and a set of instruments in 1851.

Some difficulty was now experienced in appointing a successor. Right from 1736 until 1857 the post of Master Builder had been held by members of the Lowjee Family. To quote the *Telegraph and Courier*: "For a century and a half, son had succeeded father, not by hereditary right, as is the case with titled rank, but by virtue of approved ability and tried worth and during the whole of that time their history has been progressive, their energies never having for a moment flagged."

As previously stated Nowrojee sent his son Jehangir and his nephew Hirjibhoy (who had both joined the service in 1834) to England. They left Bombay on 29th March 1838 in the "*Buckinghamshire*."

Nowrojee was anxious that these youngsters should study and make themselves efficient as shipwrights and at the same time wanted them to see that their religious faith was not interfered with. At that time that great

friend of India, and particularly of the Wadias. Sir Charles Forbes, Bart. was leaving and Nowrojee sent these young men under his care. Nowrojee's letter dated 28th February 1838 to Sir Charles is of great interest :

"My feelings both as a parent and as a Parsi are so strong and unequivocal that no inducement, I assure you, could prevail upon me to sanction their departure save the conviction that their religious sentiments whilst under your auspices, would be preserved from the interference of strangers and the assurance that you would occasionally condescend to make enquiries respecting the progress of their education and general conduct would be a source of inexpressible satisfaction and is comparatively the only consideration that would compensate their absence in a far distant country."

The youths were accompanied by an elderly friend of Nowrojee, Dorabji Muncherji Nanjivora and two Parsi servants to look after them and prepare their meals. It is to be noted with satisfaction that although they stayed as the guests of a clergyman of the church of England, their religious beliefs were always respected and never interfered with. During their long stay, they always had meals prepared by their Parsi servants as it was considered outrageous at that time to touch food prepared by outsiders.

Just before their return, they published a book, dedicated to Sir Charles Forbes, describing their sojourn in England.

It was therefore a matter of keen disappointment when, on the retirement of Cursetjee Rustomjee the

Commander-in-Chief of the Indian Navy, Commodore G. G. Wellesley C. B. proposed to the Bombay Government that the post be given to an European to be sent out from England. On receipt of this despatch the Court of Directors declined to accept this suggestion and wrote:

"With respect to the suggestion of Commodore Wellesley that the post of Master Builder should be filled by a competent person to be sent from Europe, we are not disposed except upon substantial ground thus to supersede the Parsi Builders who have been from their childhood trained in the Public Service in the Dockyard at Bombay and who as a class have been for years remarkable for their skill as shipwrights, especially when we find it reported to Government by the Commodore's letter dated 27th September 1857, para 4, that the present first assistant, Mr. Jehangir Nowrojee, bears a very high character and is quite equal to undertake the duties of Master Builder.

We observe that subject to our decision you have appointed Mr. Jehangir Nowrojee to officiate as Master Builder of the Dockyard on Rs. 700 a month. This arrangement has our approval but under the circumstances it is our desire that the appointment of Mr. Jehangir Nowrojee should be considered as probationary for a year, at the expiration of which time you will report to us whether the arrangement has worked satisfactorily. It should also be borne in mind that Mr. Jehangir Nowrojee (with his relative, Mr. Hirjibhoy Merwanjee, the second assistant builder) came to England some years ago for the purpose of receiving instructions in naval architecture and studied that science in the Royal Dockyard at Chatham under Mr.

Fincham, Master Shipwright there, who gave very satisfactory certificates as to the competence of both these Parsi gentlemen on their return to Bombay."

At the end of 1858, Commodore Wellesley himself wrote in his report to Government dated 18th November:

"I have great pleasure in stating that during this period Mr. Jehangir Nowrojee has fully sustained the high character he has always borne, and that I am perfectly satisfied with the manner in which he has conducted the duties of his Department.

It certainly did appear to me desirable that the Indian Navy should have the benefit of the experience of recent changes and improvements in building and fitting ships in England which only a person associated with them could institute here. And, as moreover, dissatisfaction had been expressed at the cost of repairs which have been carried on under the supervision of the Parsi builders and upon the necessity of which no one but a professional man could judge, the opportunity, I considered, might be taken of the retirement of the late Master Builder to introduce a successor from England.

I feel bound, however, to state after an experience of 16 months in the management of the Dockyard during which time my best endeavours have been directed to detect and check any waste or unnecessary expenditure that so far as I am capable of judging that a charge of this nature cannot be sustained. Under these circumstances, I would submit for the favourable consideration of your Lordship-in-Council that the officiating Master Builder, Mr. Jehangir Nowrojee be confirmed in the appointment."

But by this time shipbuilding activities in the Dockyard had been much reduced and the East India Company had ceased to exist. In 1861 it was decided that the defence of India against a serious attack by sea, as well as the naval services required in the Red Sea and upon the eastern coast of Africa should be taken over by the Royal Navy and that the Indian Navy should be reduced to a smaller service, for protecting Indian ports, for suppressing the slave trade and piracy in the Persian Gulf and transporting troops and stores. In the same year the Indus Flotilla was reduced to 6 steamers and 6 flats and the Dockyard establishment was reduced by one-third.

On 12th June 1862, Commodore G. G. Wellesley proceeded to England. His period of service expired on 7th July of the same year and he retired. Captain James Frushard was appointed Commander-in-Chief of the Indian Navy in his place with the proviso that his appointment was to continue till further orders.*

It was now apparent that the end of the Indian Navy was fast approaching and by the despatch of the Secretary of State for India dated 28th November 1862, the Indian Navy was abolished.

The Bombay Government issued their farewell order under date 22nd April 1863. In accordance with this order, on 30th April of the same year the Indian Navy ceased to exist. At noon on that day all officers and seamen of the ships yet in commission were assembled on board the flagship "*Ajdaha*" when Commodore Frushard

**History of the Indian Navy*, pp. 541-545.

read the order, as the clock struck twelve, a salute of eleven guns was fired from the battery at the Apollo Pier. In honour of the Commodore's broad-pendant, the "*Company's Jack*" the distinctive flag of the Indian Navy was then hoisted at the Castle flagstaff and saluted with twenty-one guns and as the boom of the last gun sounded, it was hauled down, the broad pendant of Commodore Frushard and the pendants of all the Indian Naval vessels in harbour were struck and the Indian Navy ceased to exist. In the words of the author of the *History of the Indian Navy* "on landing from the flagship, Commodore Frushard was received with a personal salute of eleven guns and thus passed away the last vestige of power belonging to a service which had exercised undisputed sovereignty over the seas."

During the time (1857-1866) Jehangir was Master Builder, some 19 small ships and gun boats and vessels were built amongst which were the steamer "*Clive*" launched on 3rd May 1859 and the gun boat "*Hugh Rose*" launched on 18th September 1860. He had joined the Dockyard in 1834. For his professional abilities he received flattering testimonies from Captain Lynch, Rear-Admiral Henry Leeke and Commodore G.G. Wellesley who at one time wanted to have a European shipwright to preside over the Dockyard establishment. We shall not here refer to the high praise received from all these gentlemen, but shall only quote the testimony given by Commodore Wellesley :

"My connection with H.M. Indian Navy having terminated, I cannot resist taking this opportunity of expressing to you my best thanks for the very able

manner in which you have fulfilled the responsible duties of Master Builder of H. M. Dockyard at Bombay during the five years I was in command of the service. Your professional ability to fill satisfactorily so important a post was well known before you were called on to assume it and it is my pleasing duty to place on record my opinion that you have proved yourself entitled to the highest approbation for the invariable attention and zeal which you have devoted to the service of the State. I cannot speak too highly in praise of the manner in which the efficiency of the vessels' condition has been attended to in your department by which in the most economical manner they have been fitted for the duties required of them. In bidding you adieu with the expression of a hope that your talents may long be usefully employed in the service of the state."

In 1859 Jehangir took a lead in suggesting the formation of a fund for giving pensions to employees in the Dockyard. Several attempts were made before this time to induce Government to make some provision for the lower grades of employees, like carpenters, mechanics, etc. But Government was not prepared to accept this responsibility. Some money was collected but the death of Nowrojee Jamsetjee gave an opportunity to his friends and admirers to commemorate his memory and funds were raised and named as "Dockyard Artisans Pension Fund in Memory of Nowrojee Jamsetjee Wadia", and a proper deed of Trust was executed in 1884.

Jehangir was appointed a Justice of the Peace in 1860. He also received thanks from the Government for his work during the critical years of the Indian Mutiny, etc.

and for building several vessels for Government. His services to the French Mercantile Marine received high approbation from the French Government who presented him with a gold chronometer watch on 17th December 1863.

In 1864, he was appointed by Government as surveyor of "steam ships."

Jehangir passed away in the prime of his life on 21st February 1866 at the early age of 45.

On the following day the Acting Superintendent of Marine, W. C. Barker, in his communication to the Governor in Council informed them of the demise of Jehangir and paid the following tribute:

"In him the Government have lost a faithful and zealous servant and one whose loss is deeply felt by every one associated with him in public duty or otherwise.

Government are too well aware of the faithful and zealous manner in which the deceased discharged his duties during a career of nearly 35 years, for me to expatiate thereon but I cannot conclude this official notice of his death without adding my personal testimony from personal and intimate acquaintance with the deceased for many years past that in all matter of duty wherein I have been associated with him I ever found him most zealous in the interests of Government.

In respect to the memory of this old and faithful servant of Government, I have ordered the Dockyard to be closed this day but have given instructions to the Heads of Departments to carry on any emergent work

they may have in hand which I trust will meet with the approval of his Excellency the Governor in Council."

On the death of Jehangir, *Rast Gofar*, a weekly newspaper, edited by Kaikhushroo N. Kabraji, lamented the fact that at this time, 1866, there was only one member of the Lowjee family in the Dockyard to continue the line in the profession of Master Builders. In an editorial the paper stated that more money could be earned in other trades and mercantile pursuits, still it was in the profession of shipbuilding that the Lowjee family had distinguished themselves and added a glorious chapter not only to the History of the Parsis, but in the History of India.

Whilst the Dockyard establishment was reduced by a third on the abolition of the Indian Navy in 1863, the cut was more severely applied to the Builders' Department. At this time, there were four members of the Lowjee Family employed in the Dockyard. They were Jehangir Nowrojee, Master Builder; Hirjibhoy Merwanjee, first Assistant Builder; Rustomjee Ardaseer, second Assistant Builder; and Jamsetjee Dhunjibhoy, third Assistant Builder.

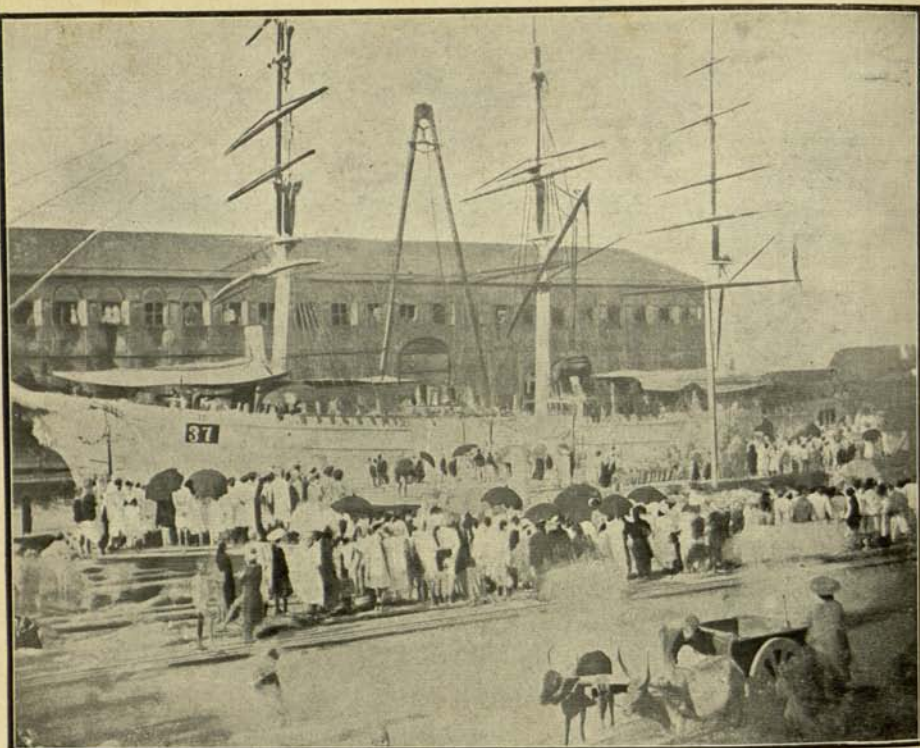
The Master Builder was told that two of them would have to resign. As a result of this Hirjibhoy Merwanjee and Rustomjee Ardaseer retired. At this time, due to the American Civil War, Bombay City was passing through a period of extraordinary opulence and so Hirjeebhoy Merwanjee joined the firm of his brother, Dosabbhoy Merwanjee & Co., which had extensive business relations

with England and America. And Rustomjee Ardaseer joined the firm of his father-in-law, Rustomjee Jamsetjee Jejeebhoy, the great multi-millionaire and philanthropist of his time, leaving Jehangir Nowrojee as Master Builder and Jamsetjee Dhunjibhoy as his Assistant.

On the death of Jehangir, Jamsetjee stepped into his shoes as Master Builder.

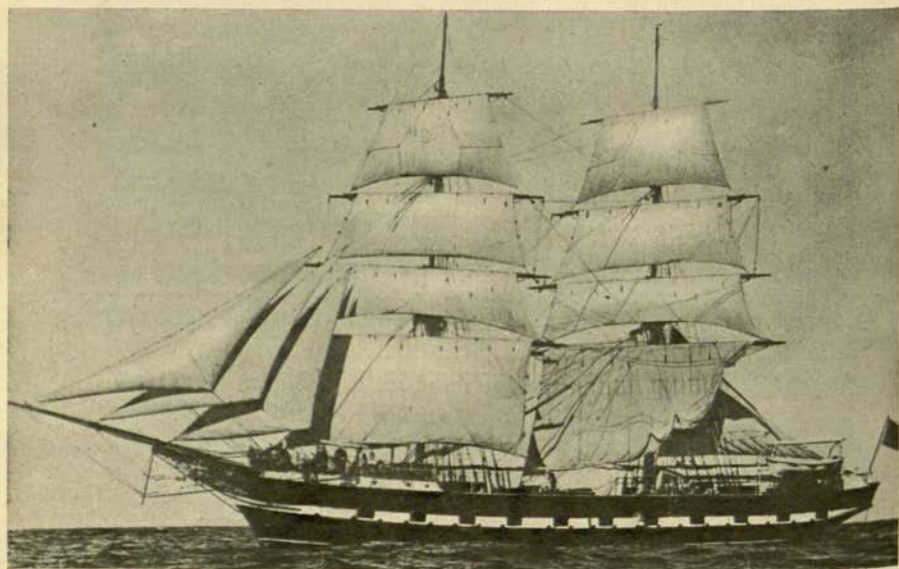


JAMSETJEE DHUNJIBHOY (1829-1893),
seventh and the last Master Builder.
See Page 295



Transport of troops and elephants to Abyssinia, 1867.

See Page 295



The Pilot brig *Fame* for the Bengal Service.

See Page 296

CHAPTER X

Seventh and the last Master Builder—Jamsetjee Dhunjibhoy

Jamsetjee Dhunjibhoy was born on 13th March 1829. He joined the Dockyard in April 1844. In his letter dated 16th April 1849 the Superintendent of His Majesty's Navy, George Turner, wrote to Commodore S. Lushington that during the three years he was in the Dockyard, these three young men, Rustomjee Ardaseer, Jamsetjee Dhunjibhoy and Jamsetjee Nowrojee, who were under him, made good progress in their lines, especially in drawing and some specimens of their work had been submitted to the Surveyor of the Navy.

In the same year Jamsetjee was appointed draftsman. In July 1855, on the death of Nanabhai Nowrojee Wadia, he was appointed Sub-Assistant Builder. On the recommendation of Sir Henry Leek his pay was increased. During this year he built a yacht, the "*Water Queen*" for Commodore Lushington, and in appreciation of this he received a gold watch from that gentleman.

In 1863, on account of the reduction made in the Builders' Department, Jamsetjee became Assistant Builder under the Master Builder Jehangir Nowrojee. In February 1866, on the death of Jehangir, Jamsetjee was confirmed as Master Builder, there being no other member of the family in the Dockyard at the time.

In 1867 he was complimented on his work during the time of the Abyssinian Expedition and he also received thanks from the military department and a gift of Rs. 1,000. Next year (1868) his salary was increased.

On the occasion of the visit of the Duke of Edinburgh in 1870 and of the Prince of Wales in 1875 he was specially thanked for his exertions.

In 1872, the Harbour and Pilotage Board presented him with a Silver Rule for his services as surveyor, and in 1874 he received a medal of honour of the first class in silver for his services to the French Marine.

In 1877 he was created a Khan Bahadur, and next year he once again received special thanks from Government on account of the assistance he rendered in connection with the Malta Expedition.

He submitted plans for the lock gates for the Prince's Docks which were approved by the authorities in England and they were constructed according to his plans. Between 1866 and 1885, the year he retired, he built a number of vessels, pilot-boats, and launches and his last vessel, was the "*Investigator*", launched in 1881, the Silver Nail ceremony having been performed in December 1878. The Bengal Pilot brig "*Fame*" still afloat in 1951, was built under his direction. In 1883 a move was set on foot to abolish the post of Master Builder and that of Constructor was proposed to be established. This was carried out in the next year; and Jamsetjee was appointed to the post on 27th February 1884.

On 1st January 1885, Jamsetjee retired and the connection of the Lowjee family as Master Builders with the Dockyard came to an end, after exactly 150 years.

Upto the middle of the 19th century, the elders of the family serving in the Dockyard took pains to see

that several younger members of the family were entered as ordinary apprentices, with the result that there were always some of the younger generation obtaining training and gaining experience. They took naturally to the family vocation, with the result that there was always a younger man competent to step up and the Master Builder's post was retained in the family, not by any hereditary right as the *Bombay Courier* of November 1860 stated, but by sheer ability. Unfortunately after 1850 the younger generation was not brought up in this manner. The causes were several. Encouragement from Government to the shipbuilding industry was gradually declining and there was a growing desire on the part of the higher authorities to bring out Europeans as Master Builders. Such efforts failed when Jamsetjee Bomanjee was Master Builder due to the support which Admirals Troubridge, Rainier and others gave to the Lowjee family; and again in 1858 when Commodore Wellesley proposed to deprive Jehangir Nowrojee of his right. He only failed because of the attitude of the Court of Directors of the East India Company. From correspondence between Nowrojee Jamsetjee and Jehangir Nowrojee with friends in England in the fifties it appears that the fear was felt that some officials were desiring a change, though these friends were sanguine that such a step would not be taken. Twenty-five years later it turned out to be true. It was because of this movement that the young members of the family were not induced to join the Dockyard; and there can be no doubt that the riches to be obtained from trade greatly attracted them. As already quoted *Rast Gofstar* wrote

on the death of Jehangir in 1866 that fortunes could be amassed in trade and commerce but it was in the art of shipbuilding that the Wadias had distinguished themselves. They had brought fame, respect and honour to their family not only in India but in Europe, and it warned the family to see that the younger members be induced to join the yard and follow the tradition, otherwise their long and illustrious connection would come to an end. On the retirement of Khan Bahadur Jamsetjee Wadia the same distinguished editor lamented the ending of the connection.

Government granted Inam land on the island ad-measuring about 300 acres to Jamsetjee, and it is significant that all the three Inam grants were granted to the Lowjee family.

With the retirement of Jamsetjee the uninterrupted connection of the Lowjee family for over a century and a half came to an end. And it may safely be asserted that it was a glorious chapter in the history of any industry.

At this time there were two members of the family employed in the Dockyard in junior positions, and we shall trace their careers hereafter.



HIRJIBHOJ MERWANJEE (1817-1885).
Assistant Builder.
See Page 299



RUSTOMJEE ARDESHIR (1828-1893).

Assistant Builder.

See Page 300

CHAPTER XI

Assistant Builders, Hirjibhoy Merwanjee & Rustomjee Ardaseer

Hirjibhoy was born on 24th July 1817. He joined the Dockyard in 1834. In 1838 he went to England along with his cousin Jehangir Nowrojee to study shipbuilding and with Jehangir he published a book describing their stay in England. He returned in 1841 and was then appointed Assistant Builder in the Dockyard. A new steamer was built by him at Tank Bunder (Mazagon) which was launched on 28th May 1854. In 1857 the authorities of the Indus Flotilla Company, at Karachi found difficulties in launching a steamer built there and approached the Bombay Government to depute some one to assist them. Hirjibhoy was sent there and he successfully launched the vessel on 18th November. On this occasion Captain E. Danielle I.N., in his letter dated 24th November 1857 to Hirjibhoy expressed his sincere thanks for the trouble he had taken in overcoming a number of difficulties which prevented the launching by the Karachi authorities. He also conveyed these sentiments to the Commander-in-Chief of the Indian Navy. The Commissioner of Scinde also conveyed the thanks of his Government to him.

In 1849, Government appointed him a member of the Committee to enquire into the causes which led to the destruction of wood by white ants.

On the abolition of the Indian Navy in 1863 he retired on pension but his services were required again in

September 1867, when, at the time of the Abyssinian War, he was appointed temporarily Deputy Master Builder on a salary of Rs. 700. He continued to act in this position until July 1868. His services were again taken up in 1878 at the time of the Malta Expedition.

On retiring in 1863, he joined his brother's firm of Dosabhoy Merwanjee & Co. which had extensive trade relations with England and America. In 1868 he joined the firm of W. & A. Graham & Co. as salesman and broker where he served until his death. For his temporary services in the Dockyard he received special thanks from Government.

Besides his official duties Hirjibhoys took a keen interest in civic affairs. He was a member of the Parsi Chief Matrimonial Court. He died on 26th March 1883. Nearly 250 employees of the Dockyard followed his remains to the Tower of Silence, and Messrs. Grahams closed their offices as a mark of respect to him.

Rustomjee was born on 13th March 1828. He joined the Government Dockyard at Bombay on 1st April 1844 in the Steam Factory as a draftsman, pattern-maker and fitter, as an apprentice without pay for one year and then started life on a small salary. Thereafter he was transferred to the Builders' Department as a draftsman and continued in that office until the end of 1849. He was appointed Sub-Assistant Master Builder on 24th July 1855 along with Jamsetjee Dhunjib, on the death of Nanabhai Nowrojee Wadia. This post he held until 23rd May 1860 when he left Bombay for England for further studies and experience. He returned on 14th March 1861.

While in England he visited the Royal Dockyards as well as a number of manufacturing towns and obtained certificates of competency as a Master Shipwright from Woolwich, Deptford, Sheerness, Portsmouth, Devonport and Pembroke, and as Marine Engineer from Woolwich, Portsmouth and Keyham. He was elected a member of the Institute of Naval Architects in 1860, being the first Indian to obtain this distinction. Sir Charles Wood, Secretary of State for India was very pleased with his progress in England and sent a very complimentary letter to the Government of Bombay on his return to India.

On the abolition of the Indian Navy in 1863, Rustomjee had to resign as the number of Naval Architects in the Government Dockyard was reduced and therefore he, together with his senior, Hirjibhoj Merwanjee Wadia left the Dockyard Service. During the Abyssinian War he was once again called upon by Government to join the Dockyard which he did on 1st September 1867 as Assistant Master Builder. He continued to hold this post until his retirement on 30th June 1883. During this period he acted twice as Master Builder. He rendered useful services at the time of the Persian Expedition in 1855, the Abyssinian Expedition in 1867, the Malta Expedition in 1878 and the Afghan Expedition in 1879-80.

Rustomjee, like his father, took great interest in constructing steam vessels. A small steamer of 80 tons "*Lowjee Family*" was built under his supervision and was launched by his father, Ardaseer Cursetjee on 16th February 1851. He also rendered useful service in laying Electric Telegraph Cables and helped the Engineers-in-

Charge in 1853. He was the Manager and Trustee of the Dockyard Artisans Pension Fund started to commemorate the memory of the former Builder, Nowrojee Jamsetjee Wadia (1774-1860).

He received the present of a shawl from Government on the launching of the gunboat "*Clyde*" (300 tons) in 1859; he also built a small launch "*Margarette Crawford*" for Rustomjee Jamsetjee Jejeebhoy which was launched on 9th April 1864, by the hands of his daughter, Miss Dinbai Rustomjee Wadia (afterwards Mrs. Dinbai Framji Batliwalla). In 1865 he established a Charitable Dispensary at Thana in memory of his grand-father, Cursetjee Rustomjee Wadia, at a cost of Rs. 28,000. In 1880 he was appointed a J. P. and in 1884 he was given the personal title of Khan Bahadur by the Viceroy, the Marquis of Ripon. He retired on 30th June 1883 and died ten years later on 12th September 1893.

CHAPTER XII

Last members of the family employed in the yard

We shall now trace the careers of the two junior members of the family who were employed in the yard at the time of the retirement of the last Master Builder.

Rustomjee Jehangir Wadia :

He was born on 16th February 1843. In 1864 he went into business line. After the death of his father he joined the Dockyard in 1867. He served the Dockyard for over 23 years, being engaged in preparing drawings and making the necessary calculations and laying off innumerable vessels amongst which were the "*Manora*", the "*Bhavnagar*" and the "*Investigator*".

Due to reorganisation in the administration of the Dockyard he retired on pension in 1891. He died on 3rd August 1914.

Bomanjee Sorabjee Wadia :

He was born on 27th September 1858. He joined the Government Dockyard on 3rd March 1879. The following extract from a memorial dated 30th March 1914 submitted to the Government relates some facts regarding the change brought about in the administration of the Dockyard :

"The Bombay Government had just handed the Dockyard administration over to the Government of India. Large schemes of reorganisation were under contemplation. The post of Superintendent of Marine was abolished, and that of the Director of Indian Marine substituted. The last Superintendent of Marine,

Captain G. O'Brien-Carew, was about to vacate his place and Captain Harry Brent was appointed Director of Indian Marine. To bring the yard in line with the Dockyards at home, the post of Constructor was created as the head of both the shipbuilding and engineering branches of the Dockyard. The posts of Master Builder and his Assistant were superseded by those of Chief Builder (now Assistant Constructor) and Builder Foreman. Mr. Robert Barnaby, the first Constructor had just arrived and had begun his work."

Bomanjee worked as an apprentice for $3\frac{1}{2}$ years and subsequently was taken up as a draftsman on 1st July 1882. He was admitted to the permanent establishment as a foreman on 1st September 1887. In 1892 he went to England and visited dockyards at Chatham, Devonport and Portsmouth, gaining further experience. On his return to Bombay in 1893 he was appointed Shipwright Surveyor to the Port by the Government of Bombay. In 1907 he received the title of Khan Sahib.

During his stay in England he was appointed a member of the Institute of Naval Architects. He was also appointed Acting Assistant Constructor in 1908 and in 1912 as Constructor. He retired on 26th September 1913 when the Dockyard employees presented him with an address and a purse of gold.

A year later, on the outbreak of the First World War, his services were taken up by the firm of Dhunjibhoy Bomanjee with whom he worked for some years.

He died on 9th July 1938.

CHAPTER XIII

Dhunjibhoy Rustomjee

Amongst other members of the Lowjee Family who had distinguished themselves as shipbuilders was Dhunjibhoy Rustomjee born on 14th December 1799. At the early age of 12 he joined the Dockyard service in 1812 under his father, Rustomjee Maneckjee Wadia, who was Head Builder in the Mazagon Dock. After the latter's death, he worked under his elder brother Cursetjee Rustomjee for some years, at the same place.

In 1829, he went to Cochin, as shipbuilder and built the following: the "*Oriental*", the "*Adelaide*", and the "*Rejina*". He returned to Bombay in 1834 and worked there until 1837 when he went to Calcutta and worked as a builder in Howrah Dock, repairing some ships and built a gun-boat for the Company. In 1838 he joined the Kidderpore Docks as Master Builder and built the following ships: the "*Syren*", the "*Framjee Cavasjee*" and the "*Rustomjee Cavasjee*" of 764 tons.

He was also engaged in building at Calcutta, some of the fast running clippers, specially built for the purpose of carrying opium to be smuggled into China.

Dhunjibhoy returned to Bombay in December 1842, and on 20th July 1843 was appointed Master Builder of the Mazagon Docks, then owned by Aga Mohmad Rahim Shirazi. Here he built several vessels, amongst which were the "*Queen Victoria*" for the Imam of Muscat launched by Lady Arthur, the wife of the Governor, on 22nd

December 1844, the "*Sir Jamsetjee Jejeebhoy*" for Jeejeebhoy Dadabhoy & Sons launched on 12th December 1848 and the "*Mount Stuart Elphinstone*" for Cawasji Jehangir Readymoney, launched on 15th February 1854 by Mrs. Russel.

On 1st January 1847 when the P. & O. Co. purchased the Mazagon Moghul Dock, Dhunjibhoy continued as Master Builder until his death.

Dhunjibhoy distinguished himself as a shipbuilder. The following extract from the *Bengal Englishman* of 15th July 1839 regarding the launch of the "*Rustomjee Cavasjee*" is of interest :

"On Saturday last (21st July 1839) pursuant to a public notice that there was going to be a launch and a tiffin at Kidderpore Dock, several hundreds of persons assembled in the yard, ready to do honour by their cheers, and their potations to the auspicious event. A splendid tiffin with wines, ices, etc., had been supplied at the charge of the liberal Secretaries to the Docking Company, and was laid out on three tables in one of the spacious working galleries under a canopy of flags, most tastefully arranged. Sir John Peter Grant with his eldest son and daughter, Sir H. Seton the Advocate-General; Col. Powney and a number of distinguished members of the Civil and Military services, with their ladies and families, partook of the tiffin and ever and anon turned their eyes from the good things before them to the noble vessel..... At half-past 2 o'clock, Rustomjee Cavasjee, Esq., accompanied by his son Maneckjee Rustomjee, and Mr. Dhunjibhoy Rustomjee, the highly respectable builder, advanced to the head of the table and announced to Sir John Peter Grant that

the vessel was ready to receive her further appellation at the hands of his daughter Miss M. P. Grant."

A shawl was then presented by the owner, by the hands of Sir John Peter Grant to the very skilful and successful builder, Mr. Dhunjibhoj Rustomjee Wadia.*

The following letter dated 28th June 1845 addressed to Mr. Maneckjee Rustomjee Banajee speaks well of his abilities :

"My dear Maneckjee,

With reference to the conversation I had with you yesterday, it affords me great pleasure to be able to say something of my friend Dhunjibhoj Rustomjee, formerly Superintendent of Docking Company's Yard at Kidderpore and Master Builder. I can assure you that I always found him most attentive and obliging. If my opinion as a seaman will avail anything, I should say he is a perfect master of his profession and he has rendered me and the Government essential services in fitting out a large fleet of transports for the China Expedition in 1840, several of which had to be docked and heavy repairs and alterations made. These duties he always performed with expedition and great attention to all my orders and suggestions in docking and undocking. I always found him master of the duties he had to perform and in conclusion I should say that he is a complete master of his profession in all its branches. Nothing will give me greater pleasure than that of hearing of his greater welfare. I know no man in Calcutta more capable of taking charge of a Dock than my friend Dhunjibhoj Rustomjee and remain my dear Maneckjee,

Yours sincerely,

(Sd.) J. R. Brown.

Late Agent for Transport China Expedition."

**The Old Country Trade of the East Indies*, W. H. Coates, p. 60.

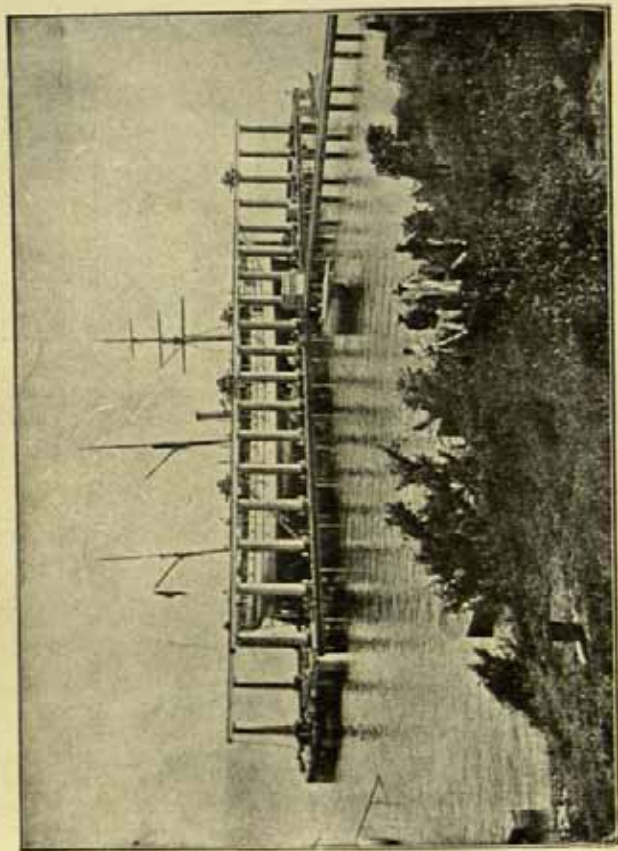
During the period he was at Calcutta, a large expeditionary force was sent to China and these ships were repaired and refitted to convey the forces. In this work, Dhunjibhoys' abilities as Master Shipwright were not less conspicuous than those of the other members of his family at Bombay.

On his way from Calcutta to Bombay in December 1842, in the ship "*Alavali*" owing to stormy weather, the ship was wrecked and he along with Dadabhoy Rustomjee Banajee (owner of the ship), Hormasjee Behramjee Rana, and a number of other Parsi passengers, and a crew of over a hundred had to take shelter in a small coastal village, where they had to remain for over three months. They returned to Bombay in the steamer "*Sir James Rivet Carnac*", despatched by Mr. Dadabhoy's uncle, Framjee Cavasjee.

Dhunjibhoys died in harness on 4th August 1854.



ARDASEER CURSETJEE (1808-1877).
Chief Inspector of Machinery.
First Indian Fellow of Royal Society elected in 1841.
See Page 309



Hydraulic Lift at Hog Island.

See Page 325

CHAPTER XIV

Ardaseer Cursetjee

We have so far dealt with one branch viz., ship-building. Let us now consider one case in which a member of the Lowjee Family distinguished himself in mechanical engineering. He was Ardaseer Cursetjee born on 6th October 1808. His father Cursetjee Rustomjee (1788-1863) was Master Builder in the Dockyard from 1844 to 1858.

As regards his education nothing is definitely known but it is apparent that he must have received the best available at the time before he entered the Dockyard as an apprentice in 1822, when he was only 14.

We learn from his own writing that about the year 1830 he began to study the theory and practice of steam engines and to devote much of his time to the study of Marine Engineering. With the permission of Government he was placed under Capt. Mc. Gillvary, the Chief Engineer of the Bombay Mint, where he worked for some time and acquired proficiency in that branch of Engineering. To quote his own words :

"My enthusiastic love of science now led me to construct, unassisted a small steam-engine; of about one horse power. I likewise endeavoured to explain to my countrymen the nature and properties of steam; and to effect this point I had constructed at a great expense in England, a marine steam-engine, which, being sent out to Bombay, I succeeded with the assistance of a native blacksmith in fixing in a boat of my own building."

This was the steamer "*Indus*", which was launched on 16th August 1833. *The Bombay Courier* of 17th August 1833 stated,

"this steamer was built by a very promising young Parsi shipbuilder; she draws only 2 ft. 2 in. abaft and 2 ft. 3 in. forward, with her engine and machinery on board; so that, with eight days coal and people on board, she will not probably draw more, on a level keel, than 2 ft. 6 in. which light craft will enable her conveniently to go nearer the shore than a common bunder boat."

This was the first private steamer built on the Island, there being only one other steamer, the "*Hugh Lindsay*" also built at Bombay for the East India Company by Nowrojee Jamsetjee, the Master Builder. The "*Indus*" was subsequently purchased by the Bombay Government.

Ardaseer brought up the same native blacksmith to manage this steamer and drive and keep in order the engine without any assistance from Europeans and, to quote his own words, "this faithful native has worked the boat upwards of five years without a single accident or injury to the engine."

The great interest Ardaseer took in the engineering line led him to introduce Gas Lighting in Bombay. On 10th March 1834, he lighted his bungalow and gardens at Mazagon with gas when the Governor of Bombay, the Earl of Clare, visited the place. People from all parts of the town had gathered to see this novel experiment. So great was the crowd that it was with some difficulty the Governor's carriage could pass. According to *The Bombay Gazette* of 15th March, there were twenty-eight

lights in the Bungalow apart from a number of such lights in the compound. Before departing, the Governor, it is recorded, presented a Dress of Honour to the host.

Ardaseer was also the first to introduce Steam Pumps on the Island. *The Bombay Gazette* of 15th April 1834 wrote :

"We have much pleasure in bringing to the notice of the public the ingenuity of a young Parsi gentleman of this place, named Ardaseer Cursetjee. This young man has for some time been engaged in studying works of steam machinery and gas and has in the progress of his experiment set up a small steam engine in his garden at Mazagon which served to raise water from a well in his premises sufficient to supply a small fountain, thereby demonstrating to his countrymen the great advantages which may be derived from the introduction of steam as a means of irrigating garden lands and improving the agricultural resources of the country."

It is to be remembered that at that time in constructing the necessary machinery and articles, there was no foundry or means of getting such works properly executed and yet the apparatus was found to be as complete as if the same was constructed in England. This led him to maintain a small foundry at his premises at Mazagon in order to make him proficient in the foundry business. He made great many wrought iron tanks for ships, among which several had a capacity of five thousand gallons of water.

With the starting of the Elphinstone Institution in Bombay, professors in different branches of learning were

brought out from England. One of them, Mr. Orlebar, Professor of Mathematics, became acquainted with Ardaseer. Witnessing his knowledge in practical mechanics, Mr. Orlebar applied to the Bombay Government to allow Ardaseer to assist him in instructing the students specially in mechanical and chemical sciences, to which Government readily consented.

By this time, steam navigation had considerably increased and difficulty in carrying out repairs to steamers was experienced. It was noticed that few of the European engineers could withstand the Indian climate and a few others proved troublesome. Ardaseer was quick enough to realise the advantage of further studies in this branch of science. With the object of giving the benefit of his studies in England to his countrymen "in a branch of science which has greater influence upon the interest of mankind than all the discoveries of many past centuries", he determined to proceed to England to study steam power as an aid to the luxuries of civilized life.

With this object in view, he applied to the Governor, the Earl of Clare, to allow him to accompany His Excellency to England, but he was asked to wait for some time. He thereafter went to China for a change.

In 1838, with the sanction of the Bombay Government Ardaseer made arrangements to proceed to England but sudden illness prevented him from proceeding. Next year, however, Ardaseer was able to carry out his wish with the sanction of the Government of Bombay.

On September 12th 1839, he left his home late in the evening for S. S. "*Berenice*" and went on board with

Capt. Cogan of the Indian Navy and the steamer left the shore early next morning. He had decided to go by the overland route and Suez was reached on 7th October.

The overland journey is described very graphically by Ardaseer in his book * published in England in 1841, and many interesting details are given therein, but it will be out of place in this sketch to note all but a few, leaving the reader to refer to the original.

It is important to note the religious prejudices which then existed even amongst the Parsis, the chief of which was to take food cooked by Parsis only and not to dine with non-Parsis at the same table. Hence travel to England meant expenses not only for his own but also for the servants of his community. Apart, however, from expenses it gave rise to other difficulties at times, mainly to find apartments for cooking by servants.

At Cairo, the author describes Ebrahim Pasha's garden of Roda "wherein flourish all sorts of English fruits and vegetables together with the choicest East India fruits." The head gardener was an Englishman named Mc. Cullock, who had been in India to collect plants for the garden.

The next place of interest visited by the author was Boolak, the Northern Harbour of Cairo, and the Cotton Mills.

At Alexandria, our author could not find a separate lodgment and had to stay in a room in a French Hotel

**Overland Journey from Bombay to England and of a Year's Residence in Great Britain by Ardaseer Cursetjee.*

in which no arrangement could be made to get his food prepared by Parsi servants and he had to satisfy his hunger by taking bread, butter and milk. It was ultimately arranged by the kindness of the French Consul to have his meals prepared by a Parsi servant of a French boat.

Here the author visited the dockyards and full details are given of the different workshops and of shipbuilding. He was offered a Government boat to visit the Egyptian Fleet and on reaching the first ship of the line, he was received on board with a military guard and band.

Malta was reached on the 23rd October but the passengers were kept in quarantine for twenty days and were released on 12th November.

Leaving that place on the 14th, he arrived at Gibraltar on the 20th November.

The author reached Gravesend on 2nd December and Blackwall the next day and on landing, the first person to whom he paid a visit, was that great friend of India, Sir Charles Forbes Bart. at his residence at No. 9, Fitzroy Square, London.

He went to India House on the 6th and was introduced to the Chairman of the East India Company, Sir Richard Jenkins and to the Secretary, James Cosmos Melville.

On the next day, he went and saw Sir William Symonds, the distinguished Surveyor of Her Majesty's Navy for whom he had brought letters of introduction for advice as to the future course of studies.

With the approval of the Court of Directors, Ardaseer placed himself under the care of Messrs. Seawards, whose works being close to the Thames afforded him additional advantage of seeing the improvement in progress in the river and its banks.

The Court of Directors granted a special allowance of Rs. 300 per month in addition to his salary at Bombay during the period of his stay in England.

Thereafter, he worked energetically devoting all his energy to acquire qualifications as a Marine Engineer and in allied lines in different factories, visited different dockyards and obtained high compliments from all under whom he worked.

During his stay in England, he made a number of calls on several retired officials and he had also the privilege of being introduced to eminent personages like the Marquis of Northampton (President of the Royal Society), James Walker (President of the Institute of Civil Engineers), Sir Robert Peel, Sir John Hobhouse and Mount Stuart Elphinstone. Along with his two cousins, Jehangir Nowrojee and Hirjibhoy Merwanjee, he was present when the address on behalf of the citizens of Bombay was presented to Sir Charles Forbes by a deputation headed by the Right Hon. Sir Alexander Johnstone (The Retired Chief Justice of Ceylon).

Besides pursuing his studies in his particular subject, he got himself in touch with important institutions in engineering line. Within a week after his arrival in England, he visited the Polytechnic Institute where he

spent a good deal of his time in inspecting models of various improvements in mechanical science. Shortly afterwards his name was placed on the free list of members of the Institute. He was also elected Associate Member of the Civil Engineers Association. He regularly attended its meetings and earned the good opinion of its President, James Walker.

On 6th May 1840, he was elected Member of the Society of Arts and Science and in September of the same year he was appointed a Member of the Mechanical Section of the British Association.

There are a few other points of interest narrated in his book which may briefly be touched here as throwing interesting light on the author's ideas on some subjects.

It was a strict custom amongst Parsis never to keep their heads uncovered and so when on a visit to a friend's place he saw a young Parsi boy * with his head uncovered, he wrote: "I was sorry to find so perfect a child as to have entirely forgotten our language and sit talking without a cap and his servant (Parsi) was doing the same."

During his stay in England he never took his meals cooked by non-Parsis and on this account on more than one occasion he refused invitations to dinner from his European friends. Thus he declined invitations for dinner from Mr. Bayley the Deputy Chairman of the East India Company and Sir John Hobhouse, the President of

*The boy referred to above was Kaikhushroo Framji Patuck who died on 8th June 1851 by a negligent act of a chemist's assistant and under an Act of Government passed in 1840 his body was subjected to Post-Mortum. This was the first instance amongst the Parsis under the act and created great commotion amongst them.

the Board of Control and when Mr. Walter, the proprietor of the *Times of London* invited him to spend some days as his guest, he sent his servant to prepare his meals.

On visiting the Royal Mint, the author was "much disappointed as it was much inferior to the Mint at Bombay."

He was fortunate enough to be present on the occasion of the marriage of Queen Victoria on the 10th February 1840 and saw illuminations on public buildings in London which he described as a truly splendid scene, "the most brilliant lights being jets of gas within coloured glass shades."

In the same year he was invited to a Soiree of the Royal Society by its President, the Marquis of Northampton when he had an opportunity of meeting Sir Robert Peel, the Dukes of Argyll & Buccleuch and other leading members of the society.

On a visit to the Governor of Greenwich Hospital, who was absent, he was received by Mrs. and Miss Flamming when the former presented him with a seal made from the wood saved from the wreck of the "*Royal George*."

He visited the Houses of Parliament on 29th June 1840 when he saw the ceremony of administration of oath to a peer, Lord Keane and had an opportunity to listen to the speeches of the Lord Chancellor, Lord Brougham in the Lords and to those of Mr. Gladstone and Lord John Russel in the Commons.

He was presented to the Queen at a Levee on 1st July 1840. He writes :

"About 10 a. m. I called upon my excellent friend, Sir Charles Forbes, who was kindly solicitous about my costume and that of my servants and at about 1 p. m. Sir Charles placed his carriage at my disposal. We reached St. James' Palace and having waited for a short time I was conducted to the Presence Chamber by Sir John Hobhouse and was formally introduced to Her Majesty, who was seated, Prince Albert standing on her left hand and the Earl of Uxbridge (Lord Chamberlain) on her right."

His views on some matters are of interest. He considered the drivers of cabs and other public vehicles "an imposing and insolent set of men" who took every advantage, especially of foreigners and "another nuisance of London is the dirty state of the roads compared with those of Bombay."

Of shopkeepers and tradesmen he states : "I cannot help remarking that they have generally an unfair practice of speaking against one another in the same line of business which is the cause of great embarrassment to foreigners as they cannot have confidence in dealing with them." On 1st June 1840, he received a summons to attend a Committee of the House of Commons to give evidence upon the opium question and gave it against the Opium Policy of the East India Company; and he records with satisfaction that the same had the approval of that tried friend of India, Sir Charles Forbes.

After completing his course of studies just when he was thinking of returning to Bombay, an advertisement

appeared in the *Times of London* in its issue of 10th July 1840, in which the Court of Directors invited applications for the post of Chief Engineer and Inspector of Machinery at the Steam Factory at Bombay. Thereupon Ardaseer applied for the post. After taking into consideration a number of applications received by them the Court selected Ardaseer for the post—a no mean achievement for an Indian to successfully compete for a post with Europeans in their own homeland when no facilities were available to Indians to acquire proficiency in science.

Ardaseer returned to Bombay by the "*Buckinghamshire*" in the beginning of 1841 and assumed charge of his post on 1st April of the same year.

He achieved the honour of being elected the first Indian as Fellow of the Royal Society. For nearly a century it was generally believed and accepted as a fact that Shrinivas Ramanujan, the great mathematician was the first Indian to be elected a Fellow. It was only in 1944 that Prof. A. V. Hill, the Secretary of the Royal Society, stated that the first Indian to achieve this great distinction was Ardaseer Cursetjee.

The following copy of Certificate received from the Secretary of the Royal Society is of interest:—

Ardaseer Cursetjee Esquire, Shipbuilder of Bombay, lately in England having undertaken the journey of this country at his own expense in order to perfect himself in the knowledge of the Steam Engine as applicable to Navigation and to acquaint himself with the arts and the manufactures of Europe with the view of improving his own country and his

countrymen, a gentleman well versed in the theory and practice of Naval Architecture and devoted to scientific pursuits having introduced lighting by gas into Bombay where he perfected a small gas establishment aided exclusively by native workmen; having also at his own charge built a vessel of sixty tons to which he adapted a Steam Engine sent out from this country, and manufactured and fitted every other part of the machinery and navigated the vessel entirely with native workmen and enginemen, chiefly instructed and trained by himself; and having otherwise promoted science and the useful arts in his own country to which he has just returned, having while in England, obtained the appointment of principal Inspector of Steam Machinery to the East India Company, being desirous of becoming a Fellow of the Royal Society.

We whose names are hereto subscribed of our personal knowledge consider him as deserving of that honour, as likely to become a valuable and useful member..... And we beg to recommend him from his peculiar situation, and the proofs he has given of his desire to extend natural knowledge in India.

Dated this twenty seventh day of March, 1841.
James Walker, W. Cubett, John Macmeille, James Horne, Joshua Field, W. H. Sykes, Sir John Barrow, Admiral F. Beaufort and Sir Edward Sabine.

It is of interest to note that this appointment as Chief Engineer and Inspector of Machinery in the Bombay Dockyard led the *Bombay Times* to raise its protest and the *Bombay Gazette* to applaud the action of the Court of Directors. The former wrote: "We doubt the competency of a native, however able or educated to take charge of such an establishment as the Bombay Steam Factory with

a body of English workmen to be directed, superintended and controlled by a native." On the other hand the *Gazette* wrote: "It is no small honour to the native community that the merits and abilities of this gentleman should have enabled him to carry off the prize from the multitude of competitors."*

The significance of the remarks of the *Bombay Times* was due to the fact that Ardaseer was placed in charge of an establishment in which there were more than one hundred Europeans working under him. "His path was not one of roses for a long time but his natural kindness soon made him a favourite with all those placed under him as he meted out justice to all irrespective of colour or creed."[†]

He occupied the new post until 1st August 1857, when he retired from service.

His other activities may be briefly stated.

In 1837 he was selected a Non-Resident Member of the Royal Asiatic Society of England.

When the Freemason's Lodge in Bombay under the Scottish Constitution—the Lodge Rising Star of Western India No. 342—was founded, mainly through the exertion of Mr. Maneckjee Cursetjee in 1843, Ardaseer Cursetjee joined it with Aga Ali Mohomed Shustree, Haji Hasam Ishfani and Mohomed Jaffer.

In 1850, he was elected Vice-President of the Bombay Mechanics Institute.

**Asiatic Journal* Vol. XXXIII 1840, p. 342.

[†]*Minutes of Proceedings of the Institute of Civil Engineers.* (Vol. LI, pp.271-74).

On 16th February 1851 he launched a steamer the "*Lowjee Family*" built by his son Rustomjee Ardaseer at the Mazagon Dock. It was of 80 tons. The important fact to be noted in this connection is that all the materials were manufactured at the foundry he had at his residence at Mazagon.

In September 1851, he went to England for a second time for reasons of health and with the permission of the Court of Directors visited a number of cities to see the different improvements in machinery. He visited America and selected various wood-cutting machines for the factory at Bombay. His great hobby was to introduce novelties in the city of his birth and thus he was the first to introduce the sewing machine and show its working and was the foremost in introducing photography and electro-plating in Bombay. He returned to Bombay in 1852.

In 1855 he was elected a Justice of the Peace.

The Commander-in-Chief of the Indian Navy, Sir Henry Leeke in giving publicity to the acceptance of his resignation, stated :

"The Commander-in-Chief cannot part with so valuable a Public Servant without an expression of the high estimation in which he holds the services of the Chief-Engineer and Inspector of Machinery whom he has ever found ready by his influence and example to aid in various reforms of the Dockyard Factory."

The Court of Directors in their Despatch of the 29th June 1858 wrote :

"We have examined with great interest the Memorial of Mr. Ardaseer Cursetjee in which are set

forth his services for a period of 35 years in the Bombay Dockyard as well as the circumstances so creditable to himself under which he obtained his qualifications as an Engineer and in 1840, while in this country, he competed for and obtained appointment of Chief Engineer and Inspector of Machinery in your Steam Factory which appointment he has ever since held with the full confidence and approbation of three successive Commanders-in-Chief of the Indian Navy. We have resolved as a special case that he be allowed a pension of Rs. 400 a month from the date at which you have permitted him to retire."

An interesting fact to be noticed is that during the period of his employment in the Bombay Dockyard his father was Master Builder and his two sons were also employed in the Builders' Department as juniors. One of his sons, Rustomjee Ardaseer Wadia, subsequently became Assistant Builder and retired in 1883.

In 1859 he paid a third visit to England.

In 1861 he was appointed Superintending Engineer of the Indus Flotilla Co. at Karachi and remained there for about two years and resigned on account of his health. He, thereafter, returned to England and settled down at Richmond, passing the remaining years of his life there. He died on 16th November 1877.

APPENDIX A

THE HYDRAULIC LIFT AT HOG ISLAND

This description was largely written by Commander H. C. Beauchamp, R. I. M. from notes prepared by his father, who served with the same service. "Hog Island" is a spit of land, not strictly an island, situated at the head of Bombay Harbour opposite to Elephanta Island. The water is very deep with a rocky shore, but is swept by very rapid tides which sweep down the creek and swirl around the point making the spot, where the lift was built, dangerous for navigation. The old pier was used for many years as an anchorage for weekend yachtsmen and the iron pillars of the lift still remain, but gradually subsiding into the water. How the Hog Island came to be possessed of such an extraordinary name is a question which puzzles many. There are no hogs on the "Island"—nor is there anything to show that at any time was the island populated by swine. The derivation was, therefore, possibly taken from the old custom of hogging or cleaning a vessel with hog bristle brushes: although the term "hogging" is generally meant to describe what happens to a vessel when it runs ashore and is supported at the centre only, the ends falling, causing the keel to break, "thus hogging the vessel." The origin of the name will in all probability remain a mystery.

This Hydraulic Lift was—in the latter part of the nineteenth century—one of the most interesting specimens of engineering skill ever constructed. On September 16th 1872 the Governor of Bombay opened the Hydraulic Lift of Hog Island. The immense machine was looked upon as the most gigantic affair of the kind that had ever been erected and even now that there are not to be found in the world many lifts so powerful. It lost much of its power by neglect and the ill-usage it sustained when

abandoned by Government as a failure. The story of the construction of the lift, its opening, its trial and abandonment, (though somewhat serious for Government) is interesting and almost amusing. It was originally meant as a dry dock for vessels belonging to Government—particularly troopships—and was supposed to be powerful enough to raise 25,000 tons, so that there was not a ship afloat at that time, which could not have been raised high and dry without the slightest trouble and danger. The Dockyard Authorities were very chary about it at first and it was not until after a heavy and careful test would they take it over from the contractors. The lift being pronounced a success was considered worthy to take its place amongst the wonders of the World and bring the number up to ten. Therefore, one day, (towards the end of 1872) the Governor of Bombay and a large number of guests were invited over to Hog Island to view this wonder. The party came across from Bombay in the large vessel with which the great power of the lift was to be illustrated. The experiment, however, did not prove a success. It was the intention to run the ship right under the lift and raise it out of the water with the Governor and party on board. Instead of being lifted out of the sea, they were nearly sent into the sea. Whether it was that some miscalculation was made in the direction of the current or that the speed of the vessel was not slackened on approaching the shore, we cannot say. But certain it is, the steamer instead of floating neatly between the columns, ran down two of the outer pillars with such force as to knock holes in them and damage her own bow. From this time the lift was looked upon with suspicion (not on its own account—for its power was not doubted) on account of the difficulty in approaching it in a tide-way. Ultimately Government decided to abandon it. The pontoon was floated ashore and left to go to pieces, for aught any—one cared.

Fourteen years later, in 1886, the P. & O. S. N. Co. finding they had not sufficient accommodation in their Dock at

Mazagon, not only for their own vessels, but for vessels they were asked to repair, turned their eyes to this neglected lift. Negotiations were opened and an agreement arrived at. The P. & O. secured a lease of the lift at a nominal rent of Rs. 10 per annum for a period of five years, the Company being required to keep the lift and buildings in working order. It was handed over on 11th October 1886, Government reserving the right to use the lift for any of their own ships whenever necessary.

When Hog Island was visited, the lift was found in a sad state. The pontoon was lying high and dry on the shore, its bottom having rotted with disuse and partially fallen out, having only the girders intact. Government, however, undertook repairs up to Rs. 1,20,000—a costly operation and handed over the lift to the Company in working order, although it was not by any means what it had been when it was new. When first opened it was supposed to have a lifting power of 25,000 tons, but the engineer in charge would not risk a weight of more than 7,000 or 8,000 tons, which however was quite enough and more than necessary for the heaviest vessel ever brought to the lift to be docked and repaired.

A little way up the shore stood the engine house, which housed the two hydraulic pumps. A well of fresh water supplied the huge tank on the roof of the engine house, from which the pumps supplied the lift; but during the dry season when there was a scarcity of water, great inconvenience was felt, the Company having to send across supplies by water boats especially constructed for the purpose. It may be guessed from this that the greatest economy was necessary in the use of water and when it had been pumped to the lift and performed its duty of raising and lowering a ship, it had to be returned, at least the major portion of it, to the tank to be used over again. Besides the store sheds there was a workshop with a few small machines where small repairs could be made to save the necessity of sending them to the workshops at Mazagon.

From the pumps in the Engine House, pipes led across to a bridge alongside the lift, and from the pipes smaller ones led all round the outside of the pontoon to the rams inside the pillars and by working the valves inside the valve-house situated on the bridge, the pontoon was raised or lowered at will by the pumping in of the water, or by releasing the pressure, which latter operation allowed the water to flow back through the pipes, causing the pontoon to sink. The pontoon, it should be mentioned, rested on girders 12 feet deep, it weighed 1,600 tons and measured 380 feet by 84 feet. 30 tons of water were required to raise a ship; but the most remarkable thing about the operation was the small quantity of coal that was burned in the boilers for the pumping of the water necessary to lift and lower a ship. The average was about $3\frac{1}{2}$ tons, the smallest quantity that has ever been used was 2 tons 15 cwt. and the most 5 tons 5 cwt. The process of raising was an interesting one. First of all it was necessary to obtain the shape of the vessel's bottom to place what are called the bilge blocks in position on the pontoon, so that the ship might rest securely when high and dry. The bilge blocks being laid, the pontoon was sunk and the vessel slowly floated between the pillars. The pumps were put in motion, the pontoon gradually rose and with it lifted the vessel right out of the water, and there she rested just as she would in a graving dock on shore. The necessary repairs being completed, the ship was lowered by opening the valves, the pontoon sank below the water, leaving the vessel afloat. The whole thing seemed very simple.

Only two Europeans dwelt on Hog Island; the Engineer and his assistant, while 20 to 30 Indian workmen also dwelt there in huts. As the five years lease expired on the 10th October 1891 the P. & O. Company asked to remain as yearly tenants, but Government did not agree and the lift was taken over at the expiry of the five years lease.

It was advertised for sale and the tender of Adamally Sultanally for Rs. 79,999 was accepted on the 9th August 1892. and the lift was broken up.

N. LISHMAN.

APPENDIX "B".

List of Vessels Built in the Bombay Dockyard.

This list, compiled by N. Lishman Esq. has been verified from many sources. From 1736 it has been verified from John Phipps' *Collection of Papers relative to Shipbuilding in India*, which was taken from an original account under the signature of the Head Builder of the Dockyard. From 1839 to 1848, the list has been verified with Capt. Low's *History of the Indian Navy* Vol. I, and from 1848 to the present time, from the Dockyard records. The list of Bengal Pilot vessels has been verified by that service, who also ascribe the ships "*Charles*" and "*George*" of 1716 to Bombay, but were more probably built at Surat; although a few vessels were built at Bombay before the establishment of the Dockyard in 1736.

The following abbreviations have been used :

H. M. S. His Majesty's Service (Royal Navy).

H. C. S. Honorable Company's Service.

B. P. S. Bengal Pilot Service.

P. M. Private Merchant.

Year	Name	Description	Guns	Tons	Owner	Remarks
1736	<i>Drake</i>	Schooner	14	...	H. C. S.	Sold 1755.
..	<i>Success</i>	Grab	..	...	..	...
1737	<i>Prince Augustus</i>	..	..	200	..	For Madras.
1738	<i>Resource</i>	..	..	...	..	...
1739	<i>Bombay</i>	..	24	...	..	Burnt in Bombay Harbour 29-7-1789. 90' x 30' x 12'8"

Year	Name	Description	Guns	Tons	Owner	Remarks
1740	<i>Louisa</i>	Sloop	—	...	B. P. S.	Launched 21-2-1741. Sold 1755.
..	<i>Restoration</i>	Grab	20	...	H.C.S.	Launched 12-8-1740.
1741	<i>Defence</i>	Ketch	14	...	..
..	<i>Porto Bello</i>	Sloop	...	...	B.P.S.	
1742	<i>Bombay</i>	..	...	...	..
..	<i>Success</i>	Ship	...	...	H.C.S.	
1743	<i>Brilliant</i>	Brigantine	...	...	Madras	Launched July 1743.
1747	<i>Shaw Pedro</i>	Grab	...	...	P.M.	
1748	<i>Bonnetto</i>	Sloop	...	107	B.P.S.	Sold 1786.
..	<i>Grampus</i>	..	...	105	..	Sold 1775.
..	<i>Dolphin</i>	..	...	60	..	
..	<i>Luconia</i>	Snow	...	...	H.C.S.	For Anjenjo.
1749	<i>Nesbitt</i>	Ship	...	...	P.M.	
..	<i>Hawke</i>	Sloop	...	...	B.P.S.	
..	<i>Seahorse</i>	..	...	108	..	Sold to French, 1786.
1750	<i>Bombay</i>	Grab	32	363	H.C.S.	90' x 30' x 14½'.
..	<i>Mary</i>	Ship	...	...	P.M.	
1751	<i>Indian Queen</i>	..	...	...	..

Year	Name	Description	Guns	Tons	Owner	Remarks
1752	<i>Cuddalore</i>	Schooner	...	...	B.P.S.	Lost 1775.
1753	<i>Penny</i>	Ship	...	...	P.M.	
"	<i>Syren</i>	Snow	...	...	B.P.S.	Sold 1769.
1754	<i>Eagle</i>	"	16	...	H.C.S.	
"	<i>Euphrates</i>	Ship	...	...	...
"	<i>Revenge</i>	Ship	16	...	H.C.S.	Launched 22-9-1755, Lost in gale near Bombay, 1782.
"	<i>Success</i>	Ketch	14	...	"	
1756	<i>Diligence</i>	Snow (Schooner)	...	101	B.P.S.	
1761	<i>Carnac</i>	Schooner	...	...	B.P.S.	Sold 1767 (30th March.)
1762	<i>Plassey</i>	"	...	...	"	Sold 1773 (24th February.)
1763	<i>Swift</i>	"	...	...	"	Converted into a State Yacht.
1764	<i>Restoration</i>	Ship	24	...	H.C.S.	
"	<i>Wallace</i>	"	...	...	P.M.	
1765	<i>Speedwell</i>	Schooner	...	107	B.P.S.	Sold 1785.
1767	<i>Governor</i>	Yacht	...	...	H.C.S.	
"	<i>Phoenix</i>	Schooner	...	113	B.P.S.	Sold 1788.
1768	<i>Princess Royal</i>	Grab	14	...	H.C.S.	
"	<i>Queen</i>	Ketch	"	...	"	

Year	Name	Description	Guns	Tons	Owner	Remarks.
1768	<i>Princess Augusta</i>	Grab	14	...	H.C.S.	
..	<i>Hunter</i>	Ship	..	...	..
1769	<i>Griffith</i>	..	...	...	P.M.	
..	<i>Alexander</i>	..	...	...	..
1770	<i>Sky</i>	Cutter	...	...	...
..	<i>Swallow</i>	Ketch	14	...	H.C.S.	Lost in 1776.
..	<i>Phoenix</i>	..	..	...	..
..	<i>Syren</i>	Ship	...	...	..
..	<i>Wolfe</i>	Gallivat	6	...	..
..	<i>Russell</i>	Schooner	...	111	B.P.S.	Captured in 14-1-1796 by French in Balasore Roads.
..	<i>Triton</i>	..	...	102	..	Condemned & sold 19th January 1798.
1772	<i>Brittania</i>	Ship	...	...	P.M.	
..	<i>Louisa</i>	..	...	...	..
..	<i>Harland</i>	Schooner	...	132	B.P.S.	Lost 1778.
1774	<i>Royal Charlotte</i>	Ship	...	...	P.M.	
..	<i>Nancy</i>	..	...	...	..
1775	<i>Salvey</i>	..	...	...	..	Sold to Arabs.

Year	Name	Description	Guns	Tons	Owner	Remarks.
1775	<i>Betsy</i>	Snow	14	...	H.C.S.	
..	<i>Byramgore</i>	Ship	...	...	P.M.	Lost in 1785.
..	<i>Tannah</i>	Schooner	...	142	B.P.S.	Captured by French 1781.
..	<i>Caranga</i>	..	...	139	..	Lost 1777.
1776	<i>Indus</i> (<i>Industry</i>)	..	...	140	..	Captured by French 1782.
..	<i>Nerbudda</i>	..	...	140	..	Sent to Madras 1782.
1777	<i>Swallow</i>	Ship	14	200	H.C.S.	Lost in Hooghly near Fulta 1823.
..	<i>Brazil</i>	Snow	..	...	..
1778	<i>Amphitrite</i>	..	..	...	..
..	<i>Bencoolen</i>	..	..	...	..
..	<i>Panther</i>	..	..	181	..	
..	<i>Brittania</i>	Ship	...	747	...	Lost in 1805.
..	<i>Seahorse</i>	Pilot Vessel	...	...	H.C.S.	
..	<i>Mermaid</i>	Pilot Vessel	...	...	..
1780	<i>Hermanis</i>	Ship	...	...	...
..	<i>Defence</i>	Luggage Boat	...	189	...	
..	<i>Intrepid</i>	Snow	16	...	H.C.S.	

Year	Name	Description	Guns	Tons	Owner	Remarks
1780	<i>Hornby</i>	Ship	...	...	P.M.	Burnt in Bombay Harbour.
1784	<i>Admiral Sir Edward Hughes</i>	..	...	...	H.C.S.	Sold to R. N. 1808 renamed " <i>Tortoise</i> "
1785	<i>Hastings</i>	Brig	...	170	B.P.S.	Sold 1818, Lost 1823.
1786	<i>Milford</i>	Ship	...	655	Pestonjee Bomanjee	Lost in Hooghly (before 1840).
1787	<i>Cornwallis</i>	Brig	...	170	B.P.S.	Captured by a Privateer in Balasore Roads 19-12-1796.
..	<i>Seahorse</i>	..	...	170	..	Sold 1821.
..	<i>Shaw Ardeseer</i>	Ship	...	868	P.M.	Burnt in Bombay Harbour, (before 1840).
..	<i>Juno (Johanna)</i>	Snow	...	170	B.P.S.	Lost on the expedition to the Andamans 1788.
..	<i>Jay</i>	..	...	70	...	
..	<i>Cartier</i> *	Brig	...	170	B.P.S.	Captured by French 29th Oct. 1796.
1788	<i>Cyrene</i>	Ship	...	...	...
..	<i>Tweed</i>	Brig	...	170	B.P.S.	Sold 1815.

*John Phipps p. 133. 14th January, 1796-Captured by the French in Balasore Roads.

Year	Name	Description	Guns	Tons	Owner	Remarks
1789	<i>Tajbax</i>	Ship	...	...	Pestonjee Bomanjee	Lost in French War.
"	<i>Shaw Muncher</i>	"	...	...	P.M.	Lost in China Sea.
"	<i>King George</i>	"	...	...	"	Burnt in China Sea.
"	<i>Bomanear</i>	"	...	...	Pestonjee Bomanjee	Lost in Hooghly.
"	<i>Hannah</i>	"	...	...	P.M.	Lost in China Sea.
1790	<i>Lowjee Family</i>	"	...	926	"	Burnt in Bombay Harbour on 24-6-1849.
"	<i>Ranger</i>	Brig	...	160	B.P.S.	Sold 1805.
1792	<i>Sarah</i>	Ship	...	935	P.M.	Lost in the French War.
"	<i>Born</i>	"	...	1250	"	Sold in 1808 to H.M. Govt. Renamed " <i>Hindustan</i> "
1793	<i>Stromboli</i>	Bomb-Ketch	12	68	H.C.S.	
"	<i>Bombay</i>	Frigate	38	639	"	See H. M. S. " <i>Ceylon</i> "
"	<i>Antelope</i>	Brig	14	199	"	
"	<i>Fly</i>	"	"	176	"	
"	<i>Upton Castle</i>	Ship	...	675	P.M.	Burnt at Saugor 16th Feb. 1817.

Year	Name	Description	Guns	Tons	Owner	Remarks.
1794	<i>Ganges</i>	Brig	...	150	B.P.S.	Burnt 1796.
..	<i>Hooghly</i>	"	...	147	..	Sold & lost.
1795	<i>Alert</i>	"	12	85	H.C.S.	Lost 1798.
1797	<i>Asia</i>	Ship	...	736	..	Sold to H.M. Govt. renamed " <i>Drake</i> " frigate 1808.
1798	<i>Comet</i>	Brig	16	115	..	Lost at Sea on 22nd Nov. 1880.
..	<i>Philip Dundas</i>	"	...	187	B.P.S.	Lost off Madagascar. Cost Rs. 33,764.
..	<i>Scauby Castle</i>	Ship	26	1216	H.C.S.	
1799	<i>Teignmouth</i>	Sloop	16	257	..	Condemned in Rangoon War.
..	<i>Mornington</i>	"	24	438	..	Sold by Auction.
..	<i>Kaihusroo</i>	Ship	...	1045	P.M.	Sold to His Majesty's Govt. renamed " <i>Camel</i> " (<i>Dromedary</i> .)
..	<i>Seringapatam</i>	"	...	336	..	
1800	<i>Marquis Cornwallis</i>	Frigate	56	1363	H.C.S.	Sold in 1804 to H.M.'s Service renamed " <i>Ackbar</i> ".
..	<i>William</i>	Ship	...	393	P.M.	

Year	Name	Description	Guns	Tons	Owner	Remarks
1801		Yacht	...	82	H.C.S.	For Governor.
"	<i>Ternate</i>	Brig	16	257	"	Sold at Public Auction (before 1840).
"	<i>Supply</i>	Waterboat	...	67	"	
"	<i>David Scott</i>	Ship	...	749	P.M.	Sold in England.
1802	<i>Tajbux</i>	"	...	737	Imaum of Muscat	
1803	<i>Pack-Horse</i>	Luggage boat	...	161	H.C.S.	
"	<i>Alexander</i>	Ship	...	746	P.M.	Lost upon the Bill of Portland, 1814 (15).
"	<i>Charlotte</i>	"	...	672	"	Afloat 1840.
"	<i>James Sibbold</i>	"	...	640	"	Sold in England & renamed " <i>Doris</i> ".
"	<i>Cambrian</i>	"	...	705	"	
"	<i>Estombole</i>	"	...	441	"	Sold to an Arab.
1804	<i>Admiral Rainier</i>	Luggage boat	...	102	H.C.S.	
1805	<i>Prince Of Wales</i>	Sloop	14	248	"	Sold by auction (before 1840).
"	<i>Pitt</i>	Frigate	36	872	H.M.S.	Renamed " <i>Doris</i> ".
1806	<i>Mercury</i>	Sloop	14	185	H.C.S.	Lost at sea 1833.

Year	Name	Description	Guns	Tons	Owner	Remarks
1806	<i>Nautilus</i>	Brig	14	185	H.C.S.	Wrecked early in 1834.
..	<i>Sylph</i>	Schooner	6	78	..	
1807	<i>Benares</i>	Brig	16	230	..	Cost Rs. 56,247.
..	<i>Salsette</i>	Frigate	36	902	H.M.S.	
1808	<i>Bombay</i>	Ship	26	1228 ⁸⁶ ₉₄	H.C.S.	China Service. Cost £28 3 sh. per ton. Ended her career in Bombay after 1870.
..	<i>Thomas Grenville</i>	..	..	889	..	Later a free trader. Destroyed by fire in 1843.
1809	<i>Charles Grant</i>	..	..	1246	..	China Service.
..	<i>Aurora</i>	Sloop	16	217	..	
..	<i>Yestal</i>	Brig	14	159	..	Condemned in Rangoon War.
..	<i>Ariel</i>	..	10	160	..	Lost on 12-3-1820.
1810	<i>Psyche</i>	..	12	180	..	Sold at Public Auction to Arabs and wrecked on Providence Is-land, 1835.
..	<i>Thetis</i>	..	10	185	..	Fitted as a light vessel. 1834-35.

Year	Name	Description	Guns	Tons	Owner	Remarks.
1810	<i>Minden</i>	3rd Rate	74	1681	H.M.S.	
..	<i>Earl Balcar- ras</i>	Ship	26	1406 ⁷⁵ / ₉₄	H.C.S.	China Service. Cost £ 27: 2: 3 per ton. (Rs. 241). Sold 1863. Sur- vived for 70 yrs.
1811	<i>Minerva</i>	..	..	985 ³⁵ / ₉₄	..	China Service. Cost £ 28: 11: 1 per ton. (Rs. 254).
..	<i>Hannah</i>	..	...	457	P.M.	Sold in England.
1812	<i>Ann</i>	..	...	788	Pestonjee Bomonjee	
..	<i>Hereford- shire</i>	..	26	1277	H.C.S.	Free Trader. 1837. Ended her career in 1869.
1813	<i>Buffalo</i>	Luggage Boat	...	59	..	
..	<i>Nerbudda</i>	Prow	...	...	..
..	<i>Taptee</i>	...	...	...	..
..	<i>Ernaad</i>	Timber- Ship	...	557	..	Auctioned sail- ing out of Cal- cutta, 1839.
..	<i>Cornwallis</i>	3rd. Rate	74	1769	H.M.S.	
..	<i>Eliza</i>	Pilot Vessel	...	189	B.P.S.	Sold into Coun- try Trade, 1831 called "Will Watch"
..	<i>Cecelia</i>	..	...	191	..	Sold 1838.

Year	Name	Description	Guns	Tons	Owner	Remarks
1814	<i>Thames</i>	Bomb-Ketch (Luggage boat)	...	102	H.C.S.	
..	<i>Victor</i>	Sloop	18	384	H.M.S.	
..	<i>Caroline</i>	Frigate	36	575 ²⁴ / ₉₄	Imaum of Muscat	Cost Rs. 215 or £21:3:9 per ton.
..	<i>Flora</i>	Brig	...	186	B.P.S.	Sold 1836.
..	<i>Guide</i>	..	...	189	..	Sold 1837 and called <i>Sir William Wallace</i> .
..	<i>Sophia</i>	..	...	..	..	Lost 1818, Cost Average Rs. 75,000.
1815	<i>Torch</i>	Light Vessel	...	174	..	Cost Rs. 65,872:3.*
..	<i>Wellesley</i>	3rd. Rate	74	1745	H.M.S.	
..	<i>Zebra</i>	Sloop	18	385	..	
..	<i>Brigantine</i>	..	10	339	..	
..	<i>Sphynx</i>	..	12	239	..	
1816	<i>Supply</i>	Water Boat	...	...	...
..	<i>Planet</i>	Light Vessel	...	174	B.P.S.	Cost Rs. 69,179. Sold 1838 and re-named " <i>Bright Planet</i> ".

*Converted into Harbour Master's Depot at Calcutta.

Year	Name	Description	Guns	Tons	Owner	Remarks
1816	<i>Cameleon</i>	Sloop	12	239	H.M.S.	
"	<i>Amphritrite</i>	Frigate	38	1064	"	
"	<i>Buckinghamshire</i>	Ship	26	1349	H.C.S.	China Trade. Cost £38:10:11 per ton. Destroyed by fire near Calcutta on 3-3-1851.
1817	<i>Henry Meriton</i>	Brig	...	190	B.P.S.	Sold 1838, renamed " <i>Sir William Wallace</i> ."
"	<i>Melville</i>	3rd Rate	74	1767	H.M.S.	
"	<i>Trincomalee</i>	Frigate	46	1065	"	Renamed " <i>Foudroyant</i> " afloat 1954.
1818	<i>Malabar</i>	3rd Rate	74	1715	"	
1819	<i>Seringapatam</i>	Frigate	38	1152	"	
"	<i>Shah Allum</i>	"	56	1111	Imaum	181'3" x 41'5".
"	<i>Jane</i>	Brig	...	170	B.P.S.	In the Pilot Service, 1839.
1820	<i>Vigilant</i>	Schooner	6	72	H.C.S.	
1821	<i>Bombay</i>	Gunboat	...	...	"
"	<i>Hastings</i>	Frigate	24	566	"	
"	<i>Ganges</i>	2nd Rate	84	2289	H.M.S.	
1822	<i>Madagascar</i>	Frigate	46	1164	"	
"	<i>Nausery</i>	Brig	...	164	Imaum	

Year	Name	Description	Guns	Tons	Owner	Remarks.
1822	<i>Palinarius</i>	Sloop	8	192	H.C.S.	
1824	<i>Elphinstone</i>	..	18	387	..	
..	<i>Asia</i>	2nd Rate	84	2289	H.M.S.	
..	<i>Caledonia</i>	Ship	...	742	P.M.	China Trade.
..	<i>Clairmont</i>	..	...	328	..	Lost in China Sea, 1838.
1825	<i>Amherst</i>	Sloop	18	420	H.C.S.	Launched 18-7-1825.
..	<i>Sea Horse</i>	Brig	...	188	B.P.S.	In the Pilot Service, 1839.
..	<i>Mermaid</i>	..	...	"	..	Round Stern. Lost in a gale in April 1847*.
1826	<i>Clive</i>	Sloop	18	420	H.C.S.	
..	<i>Liverpool</i>	3rd Rate	74	1715	Imaum	Presented to King William IV.
..	<i>Mount Stewart Elphinstone</i>	Ship	...	611	P.M.	Free Trader, 1837.
1827	<i>Goote</i>	Sloop	18	420	H.C.S.	Lost on 1-12-1855.
1828	<i>Panna (Pownah)</i>	Pattamer	6	43	..	
..	<i>Bheema</i>	..	..	55	..	

*Belonging to Cursetjee Nusscrwanjee Cama.

Year	Name	Description	Guns	Tons	Owner	Remarks.
1828	<i>Euphrates</i>	Brig	10	255	H.C.S.	Broken up in 1911.
..	<i>Bombay</i>	2nd Rate	84	2285	H.M.S.	
..	<i>Hormusjee Bomanjee</i>	Ship	...	757	P.M.	Lost in China Sea, on 24th July 1836.
..	<i>Sir Charles Malcolm</i>	..	...	866	..	China Trade.
1829	<i>Hugh Lindsey</i>	Steam-Sloop	4	411	H.C.S.	First Steamship built at Bombay.
..	<i>Tigris</i>	Brig	10	258	..	
..	<i>Royal Tiger</i>	Schooner	6	120	..	
..	<i>Andromeda</i>	Frigate	46	1166	H.M.S.	
1831	<i>Calcutta</i>	2nd Rate	84	2298	..	
1832	<i>Shannon</i>	Schooner	6	87	H.C.S.	
..	<i>Earl of Clare</i>	Ship	...	904	P.M.	China Trade.
1833	<i>Ruparel</i>	Water Boat	...	...	..	Lost in the sea near Jambusar in 1846 belonging to Nusserwanjee Karani.
..	<i>Sultana</i>	Ship	12	312	Imaum	
..	<i>Jamsetjee Jejeebhoy</i>	..	...	555	P.M.	Lost at Quilon 1836-7.
..	<i>Shaik Mamoody</i>	Brig	...	236	Nizam	Hyderabad Govt.

Year	Name	Description	Guns	Tons	Owner	Remarks
1833	<i>Two Sisters</i>	Brig	...	277	P.M.	Built for a Batavia Merchant.
1834	<i>Taje</i>	Schooner	...	205	Imaum of Muscat	
..	<i>Mahi</i>	..	3	157	H.C.S.	
1835	<i>Nerbudda</i>	Cutter	2	49	..	
..	<i>Margaret</i>	..	..	61	..	
..	<i>Maldiva</i>	..	...	23	..	
..	<i>Cardiva</i>	..	...	27	..	
..	<i>Mootnee</i>	River craft	...	42	..	For River Indus.
..	<i>Taptee</i>	Brig	...	172	..	Pilot Vessel for Bombay.
..	<i>Nausery</i>	..	...	179	Imaum	
..	<i>Lady Grant</i>	Clipper Brig	...	239	P.M.	Built for Opium Trade. Lost at sea after April 1843.
..	<i>Sir Herbert Compton</i>	Ship	...	346	..	China Trade.
..	<i>Bombay</i>	Schooner	...	62	..	
1836	<i>Ardaseer</i>	Clipper Ship	...	422	P.M.	China Trade. Destroyed by fire on 10-4-1851 on the way to Calcutta *
..	<i>John Fleming</i>	Ship	...	524	..	London Trade.

*Belonging to Cursetjee Nusserwanjee Cama.

Year	Name	Description	Guns	Tons	Owner	Remarks
1836	<i>Megna</i>	Brig	..	201	B.P.S.	Elliptical stern.
..	<i>Saugor</i>	..	...	200	..	.. ..
1837	<i>Krishna</i>	..	...	..	..	Launched 4-1-1837.
..	<i>Rajasthan</i>	Ship	...	600	P.M.	London Trade.
1838	<i>Cauvery</i>	Brig	...	200	B.P.S.	
..	<i>Colleron</i>	..	...	..	..	In the Pilot Service, 1839.
..	<i>Constance</i>	Schooner	3	182	H.C.S.	
..	<i>Snake</i>	Iron River Steamer	...	40	..	Carried 1 gun.
1839	<i>Mary Gordon</i>	Ship	...	350	P.M.	China Trade (Furdonji Limji) 3 masted.
..	<i>Victoria</i>	Steam Sloop	4	714	H.C.S.	179' x 28' x 10'
..	<i>Comet</i>	Iron River Steamer	2	204	..	Erected from parts impor- ted from England fa- bricated by Forrester & Co., Liver- pool.
..	<i>Meteor</i>	..	..	149	..	
1840	<i>Planet</i>	..	..	397	..	
..	<i>Satellite</i>	..	..	335	..	
..	<i>Medusa</i>	Steam Sloop	3	432	..	Lost on 9-12-1853.
..	<i>Ariadne</i>	Steam Sloop	..	..	..

Year	Name	Description	Guns	Tons	Owner	Remarks
1840	<i>Auckland</i>	Steam Frigate	6	946	H.C.S.	
1842	<i>Semiramis</i>	..	..	1031	..	189' x 34' x 21' 250 H.P.
..	<i>5 Coal-Boats</i>	...	...	...	P&O Co.	
..	<i>Colaba</i>	Light Vessel	...	...	H.C.S.	For Bombay.
1843	<i>2 Coal-Boats</i> <i>1 Mud-Boat</i> <i>1 Flat-Boat</i>	..	...	...	P&O Co.	
..	<i>Pluto</i>	Iron Steamer	...	...	...	Launched 12-9-1843 from Lower Old Bombay Dock.
1844	<i>Bridge of Boats</i>	Nos. 1 to 60 with Platform	...	...	...	For River Indus.
..	<i>Napier</i>	Iron River Steamer	3	445	H.C.S.	Launched 11-9-44, No. 1 slip.
..	<i>Conqueror</i>	..	..	259	..	Launched 12-11-44, No. 2 slip.
..	<i>Meanee</i>	..	2	208	..	Launched 6-12-44, No. 3 slip.

Year	Name	Description
1845	<i>Sutlej</i>	River Accommodation Boat. Built on No. 2 Slip. Launched 10-1-45; 299 tons. (H.C.S.).
"	<i>Ravee</i>	River Accommodation Boat. Built on No. 3 Slip. Launched 31-10-45. 208 46/94 tons. B.M.(H.C.S.).
"	<i>Beas</i>	River Accommodation Boat. Built on No.1 Slip. Launched 3-10-45. 446 44/94 tons. B.M.(H.C.S.).
"	<i>Grapler</i>	Buoy Vessel, for Hooghly. Launched 14-11-45. (H.C.S.).
1846	2 Coal Boats 1 Water Boat.	(H.C.S.).
1847	A Steamer	500 tons, for the Company. Possibly named " <i>Berenia</i> "
"	Coal Boat	For Aden.
1848	<i>Ferooz</i>	8 guns steam frigate. Burthen 1447 67/94 tons B.M. Laid down in upper Duncan Dock 29-10-45. Floated out 18-5-48. Length bet. perps. 221 ft., upper deck, 226' 6" overall 253 ft., breadth ext. 37', moulded 36' 2", hold 23' 500 H.P. (H.C.S.).
"	<i>Nerbudda</i>	12 gun brig for H.M.S. Laid down 1- 11-43 as " <i>Goshawk</i> ". Launched 5-2-48. 419 87/94 tons B. M. 119' x 33'.
"	<i>Jumna</i>	16 gun brig for H.M.S. Laid down as " <i>Zebra</i> " on No. 3 Slip. Launched 7-3-48. 549 24/94 tons B.M. (H.M.S.).

Year	Name	Description
1848	<i>Meanee</i> (<i>Madras</i>)	80 gun 2nd Rate Ship-of-Line. Laid down on 18-4-42. Silver Nail driven by Lady Arthur & Lady McMahon 11-1-43. Launched by Lady Falkland 11-11-48. Length 190'2", breadth 56'11", Tonnage B.M. 2591 14/94. (H.M.S.).
..	Pilot Vessel	For Bombay. (H.C.S.).
1849	Pilot Vessel	Schooner of 80 tons. (H.C.S.).
..	Steamer	619 tons. (H.C.S.).
..	Schooner	60 Candies for the Collector of Customs. Built in the boat shed.
1850	<i>Nerbudda</i>	Cutter of 60 tons for the Company.
..	Ferry Boat	(H.C.S.)
..	Coal Boat	
1851	<i>Falkland</i>	Iron Paddle Steamer. Laid down 9-12-50. Launched 4-4-51. Length 220'. Breadth 33'. Depth 7'9". Draft fd. 1'9", aft 1'10". 160 H.P. 1159 66/94 tons. B.M.
..	<i>Indus</i>	Iron River Steamer; Laid down 20-1-51. Launched 17-4-51. Length 151'. Breadth 27'. Depth 7'9". Dr. 1'5½" 100 H.P. 522 70/94 Tons B.M. (H.C.S.)
..	<i>Jhelum</i>	Iron River Steamer. Laid down 18-2-51 on gridiron slip, launched 31-5-51. Length 145'. breadth 27'. depth 7': 60 N.H.P.: 499 44/94 tons B.M. Engines by Maudsley

Year	Name	Description
		<p>Sons & Field, London 1850. She was originally one of the Indus Rover Flotilla of the Indian Navy and was later transferred to the Punjab Government. In 1873 she was made available for the use of the Commissioner of Sind in place of the "<i>Satellite</i>". In 1886 she was lent to the Forest Dept. for the transport of timber and was handed back to the Commissioner in Sind 1888. Until 1933 she was maintained for visiting the riverain territories in Sind. Broken up in Karachi 1934 and engines erected in a Museum there. Claimed to be the oldest paddle steamer in commission at the time she was broken up. (H.C.S.).</p>
1851	<i>Chenab</i>	<p>Iron River Steamer: launched 13-9-51; length 145', breadth 27', depth 7', tonnage 499 44/94 tons B.M. same as <i>Jhelum</i>. (H.C.S.).</p>
..	<i>Zenobia</i>	<p>Steam paddle frigate: 6 guns. Laid down No. 2 slip 27-12-48; Silver Nail by Lady Faulkland 21-3-49; Launched 1-5-51. Length bet. perps. 192' 8", ext. 226' 6", L. Deck 206 ft., breadth ext. 33', moulded 32', over paddle boxes 53'. Dep. hold 21' 3". 270 N.H.P., 1003 tons B.M. (H.C.S.).</p>
1852	Schooner	<p>For the Collector of Customs. Laid down September, 1851. Launched 6-4-1852. 146' x 27' x 7'. H.C.S.</p>

Year	Name	Description
1852	Pilot Boat	Laid down 15-7-51; Launched 29-1-52 (H.C.S.).
„	Native Boat	For Mr. H. R. Burn. Launched 24-1-52. (Note: most of the yachts of the Bombay Yacht Club were lateen rigged) (H.C.S.).
„	<i>Lady Falkland</i>	Iron Steamer of 120 tons for Mr. Callianjee Shroff. Laid down 31-12-51. Launched 5-5-52. (H.C.S.).
„	<i>Cursetjee</i>	Iron Rover Flat for the Indus. Length 100' x 21' 4" x 5' 6". Laid down 7-6-52. Launched 11-12-52. (H.C.S.).
1853	<i>Falkland</i>	12 gun brig corvette. Laid down 15-7-52. Silver Nail 24-8-52, Launched 16-11-52. 494 54/94 tons B.M. (H.C.S.).
„	3 Mail Boats	For the gulf of Cambay, 36' x 10' 8" x 4' 3". Launched 25-2-53.
„	<i>Augusta</i>	Schooner, 2 guns; Laid down 14-5-1853. Launched 3-12-53. 114 39/94 tons B.M. (H.C.S.).
1854	<i>Ethersey</i>	Iron River Flat. 112' 6½" x 22' 10" x 7'. 273 tons B.M. (H.C.S.).
„	Pilot Boat	For Aden. 28' 4" x 2' 10½". H.C.S.
„	<i>Assaye</i>	Steam Paddle Frigate for I.N. 10 guns. No. 1 slip. length extreme 280', bet. perps. 250 ft. breadth. Moulded 38' 3"

Year	Name	Description
1854	<i>Punjaub</i>	ext. 39' 6" at paddle boxes 63' 10". Hold 25'. Laid down 3-5-52. Silver Nail 16-2-52. Launched 15-3-54 by Lord Elphinstone. 1,800 tons, 650 N.H.P. Sold to John Willis with the <i>Punjaub</i> (H.C.S.). Steam Paddle Frigate, 10 guns. Sold to John Willis and renamed after engines removed " <i>Tweed</i> " and known as " <i>Willis' Wonder</i> ". Reputedly the fastest sailing ship. Extract from Builders Register - "Building; Steam Vessel of 1,800 tons. No. 2 as per superintendent's order dated 7-1-1852. No. 30. The <i>Punjaub</i> . Draught 9' 6" fd. 10' 3" aft. commenced Tuesday 3-2-52. New ground slip. Keel laid down 8-3-52. Silver Nail driven 31-3-52 at 5.30 P.M. by Miss L. H. Bellamy. Launched 21-11-54, 1,800 tons. H.C.S.
..	Schooner	For John Cassel Esq. Laid down 9-12-53. Launched 7-7-54.
1855	<i>Goolanar</i>	Steamer: Laid down 13-11-54, launched 24-11-55. Length 150', breadth 17', hold 7' 6". Dr. 4' 9". 215 tons. Engines from " <i>Netocus</i> " (H.C.S.).
..	Barge	For the Governor, of 51 tons. Laid down 19-6-55. 70' x 12'6" x 3'9".
..	Barge	For the Commander in Chief, Indian Navy. 26 tons. 55' x 12' x 3'7". Laid down 7-7-55.

Year	Name	Description
1855	<i>Emily</i>	Pilot Schooner. No. 1 slip 11-1-55. Launched 11-10-55. 72' x 16'6" x 7'3" Dr. fd. 4'9" aft 5'0". 90 tons. (H.C.S.).
1856	<i>Georgiana</i>	Pilot Schooner as above. Launched 9-1-56. (H.C.S.).
..	<i>Charlotte</i>	Pilot Schooner. Laid down 17-9-55. Launched 7-5-56. 93' x 19'7" x 8'9". Dr. fd. 5'3" aft 5'8". 167 tons B.M. (H.C.S.).
1857	<i>Lady Canning</i>	Steam-Sloop. Engines from the " <i>Hugh Lindsey</i> ". Laid down 24-11-55, launched 24-3-57. 175' x 24'8" x 14'. Dr. 8'6". 4 guns. 527 tons B.M. (H.C.S.).
..	<i>Mary</i>	Pilot Schooner. Same dimensions as " <i>Charlotte</i> ". Laid down 12-11-55, launched 12-1-57.
..		1 Cargo Boat, 2 Dredging vessels, 2 Bunder Boats, 1 Water Boat, 2 Pilot Boats and 2 Warp Boats for Karachi. (H.C.S.).
..	<i>Winchester</i>	Iron Dredger, launched 14-3-57. (H.C.S.).
..	Iron Dredger	No. 2. Launched 3-10-57. (H.C.S.).
..		1 Water Boat, 2 Bunder Boats. (H.C.S.).
1858		2 Pilot Boats & 2 Warp Boats of 30 tons each for Karachi. (H.C.S.).
1859	<i>Clyde</i>	Gun Boat. 3 guns. Length overall 130'3". bet. perps. 125'. Breadth extreme 23'

Year	Name	Description
1911	<i>Dolphin</i>	Bombay Pilot Vessel; schooner; Length extreme 109'6" Bet. perp. 104'5". Breadth 18'5". Depth 10'5". tons gross 148.31. Reg. 120.03. Sold 1933 into the country trade and trading to Maldives
..		Yard craft. Hopper barge no. 11. Steel. 110' x 25'.
1914	<i>Shat-El-Arab</i>	Composite light ship for the Shat-El-Arab River in the Persian Gulf. 75' x 20'.
1917	<i>Sindhi</i>	Composite Light ship for the Sind Coast 100' x 24'.
1918	<i>Lorelie</i>	Composite Twin Screw Motor Launch 78' x 15'.
1919	<i>Bombay</i>	Composite Steam Trawler 125' x 23'9" Machinery and Boilers from England.
..	<i>Kennerly</i>	Ditto.
..	<i>Salsette</i>	Ditto.
1925	<i>Elsie</i>	Steel Steam Launch for Yard. 82' x 15' Machinery and Boilers from England.
..	<i>Nancey</i>	Ditto.
1932	<i>Aqueduct</i>	Steel water boat 95'6" x 21' x 9'6". Machinery and boiler from England.

APPENDIX C

LIST OF VESSELS.

Built at Bombay for the Royal Navy including vessels built at the yard and subsequently acquired by the Royal Navy

Year	Name	Description
1777	<i>Swallow</i>	200 tons. Launched 2nd April. Built by Maneckjee Lowjee for the H. C. Packet Service and later known as the "Silly" (See pages 157-159 for her career.)
1784	<i>Admiral Sir Edward Hughes</i>	750 tons. Launched March 1784. Purchased by Admiralty in 1808 and renamed " <i>Tortoise</i> ".
1792	<i>Born</i>	5th rate, 54 guns. Built for private merchants and sold to H. M. Government in 1795. Tonnage B. M. 1250. Burnt in Rosas Bay, near San Sebastian, 1804. Renamed the " <i>Hindostan</i> ".
1793	<i>Bombay</i>	5th rate, 42 guns for the H. Co.'s Service and bought by the Admiralty, 1808 and renamed " <i>Ceylon</i> " 36 guns. Tonnage B. M. 630. Guard and flagship, at Malta, armament reduced to 22 guns 1835 to 1860. Broken up 1861.
1799	<i>Kaikusroo</i>	5th rate, 44 guns. Tonnage 1045 built for private merchants and bought by the Admiralty 1806. Renamed " <i>Howe</i> ". Name changed to " <i>Dromedary</i> " in 1808. Storeship 1813.

Year	Name	Description
		moulded 22'2". Depth hold, 9'3". 300 88/94 tons B.M. Launched 3-5-59.
1860	<i>Hugh Rose</i>	Gun Boat. 3 guns. Same as " <i>Clyde</i> ". Launched 18-9-60.
..	<i>Hyderabad</i>	Wooden flat in lieu of " <i>Mootnee</i> ". Launch- ed 29-11-60. 394 tons.
1862	<i>Ceylon</i>	Light vessel for the Little Basses Rocks. 101' 4" x 21' x 10'5". Launched 28-8-62. 181½ tons.
1863	<i>Dredger</i>	For Aden. 90' x 24' x 2'9". Dr. 231 tons. Launched 12-9-1863.
1864		Two boats for the B.I.S.N.Co.
1866		4 Iron Saddle Back barges for Port De- fence Works.
1867		8 Iron Saddle Back barges for Port Defence and 4 ditto for Mody Bay Reclamation.
1868		9 ditto for ditto and two iron trap barges of 100 tons.
..	<i>Colombo</i>	Light Vessel for Little Basses Rocks. 110'1' x 21'2" x 10'6". 198 tons. Launch- ed 14-11-68.
..	<i>Grappler</i>	Anchor Hoy for Harbour Board. 192½ tons.
1869		2 Iron Saddle Back barges for Mody Bay Reclamation.

Year	Name	Description
1870	<i>Nimrod</i>	Steam tug for Karachi. 141'6" × 26' × 14'6". Launched 2-4-70, 414 tons 250 N.H.P.
1872	<i>Bombay</i>	Outer Light Vessel. 110'1" × 20' 10" × 11', 201 77/94 tons. Launched 9-5-72.
1873	<i>Lots Wife</i>	Salt Revenue Cutter. Built and launched as " <i>Emily</i> " and name changed shortly after launching. Launched 22-12-73. 97'6" × 16' × 5'10". Reg. tons 45½. B.M. 102 12/94. Cost Rs. 30,000. Three masted lateen rig. Converted in 1933 to fore and aft schooner.
1875		Two hopper barges.
1876	<i>Flamingo</i>	Steam Launch for salt preventive service. 55' × 11' × 6' 10". 31 14/94 tons B. M.
1877		Cassion for Duncan Dock. Cost Rs. 1,07,000.
..	<i>Albatross</i>	Salt Revenue Cutter, 56'3" × 10'8" × 4'2". 19 tons. Lateen-rigged.
..	<i>Falcon</i>	Ditto.
..	<i>Sea Gull</i>	Ditto.
..	<i>Petrel</i>	Ditto. 46'7" × 10' × 3'5".
..	<i>Eagle</i>	Ditto. 56' × 10'8" × 3'1". 32 tons. B.M.
..	<i>Sea Hawk</i>	Ditto. 58'6" × 10'10" × 4'6". 36 tons. B.M. Transferred to Superintendent of Lights

Year	Name	Description
		and converted to Schooner Rig. in use 1935.
1879	<i>Osprey</i>	Salt Revenue Cutter, 48' x 9'10" x 4'8". 34 tons B.M.
..	<i>Bhavnagar</i>	Paddle Steamer for H. H. Raja of Bhavnagar. Launched 22-5-79. 141'4" x 18'8" x 8'6". 205 31/94 tons. B.M. Cost Rs. 65,000.
1881	<i>Investigator</i>	Wooden Paddle Steamer for the Survey Department R.I.N. Brigantine rigged. Length ext. 203', bet. perp. 180', breadth 25'10", hold 15'. Dr. 7'3" aft. 8'3" Speed 10½ knots at trials. Engines by Laird Brothers. Birkenhead. 583 85/94 tons. B.M. 165 N.H.P.
1882	<i>Tigris</i>	Iron Paddle Steamer. Length bet. perp. 130', ex. 135'6", breadth 18', hold 9'3". Dr. 4'6". Speed 9½ knots at trial on 27-3-82. Engines 60 N. H. P. by Perm & Sons, London. 205 40/94 B.M.
1883	<i>Rose</i>	Wooden Screw Steam Launch for Aden 47'9" x 12'3" x 5'6". Engines by Rennie, London. 15 N.H.P.
..	<i>Nancowry</i>	Wooden Screw Steamer, tender to "Investigator" for survey work Yawl rigged. 96'9" x 16'7" x 9', hold 7'1". Engines built at Dockyard. 25 N.H.P. 8½ knots.
..	<i>Careys Chicken</i>	Salt Revenue Cutter.

Year	Name	Description
1884	<i>Comet</i>	Steel Paddle Steamer for stations ship duties at Bagdad. 124'4" \times 20'½" \times 6'. Draught 3'. Engines built at Dockyard. 50 N.H.P. 182 tons B.M. Trials 21-4-84.
1885	<i>Julie</i>	Torpedo Steam Launch. 40' 9" \times 9' 2½" \times 4' 5" hold. Engines built at Dockyard. Speed 8½ knots.
1886	<i>Aqueduct</i>	Iron & Steel Water boat built in Upper Old Bombay Dock. 99' \times 20' \times 9'. Launched 10-12-86. Engines built at Docks, 40 N.H.P. Single screw 8 knots. 179 tons B.M.
1887	<i>Handy</i>	Torpedo Steam Launch for Rangoon. Wooden with iron strengtheners midships. 59' 5" \times 11' 6" \times 5' 3", draught 3' 8". Engines built at Dockyard. 30 N.H.P. Single screw 8 knots.
..	<i>Pickaxe</i>	Steam Launch for Executive Engineer, Karachi. Timber built 40' 9" \times 9' 2½" \times 4' 5", draught 3' 6½". Engines built at Dockyard. 7 N.H.P. 8 knots. Trials 3-5-87.
1889	<i>Panther</i>	Torpedo Steam Launch for Hooghly to replace " <i>Leopard</i> ." 99'9" \times 17' 6" \times 8' 10". Dr. 6'3". Engines by Dockyard. 60 N.H.P. Single screw, 10.3 knots. Launched 4-12-88. Trials 22-4-89.
..	<i>Fame</i>	Composite brig for the Bengal Pilot Service. To replace " <i>Cassandra</i> ." Length

Year	Name	Description
		Ext. 129 $\frac{3}{4}$ " Bet. perp. extreme 120', breadth extreme 26', moulded 25'2", depth 17'6", 320 tons. B.M. Launched 3-1-89. Converted to Light Vessel. Afloat 1952 at Reserve Light, River Hooghly.
1890	<i>Pari</i>	Steam Launch for His Highness The Gaekwar of Baroda. Timber 56' x 11' x 4' 3". Draught 3' 3". Engines by Dockyard. 12 N.H.P. 9.5 knots. Trials 11-6-90.
..	<i>Despatch</i>	Teak Wood Patrol Boat for Aden. 60' x 11' x 10' 6" Dr. 2' 8". Engines by Dockyard. 20 N.H.P. 10 knots. Trials 14-10-90.
..	<i>Defence</i>	Timber Patrol Boat for Royal Garrison Artillery, Bombay. 60' x 10' 6" x 2' 9" Dr. Engines by Dockyard. 20 N.H.P. 10 knots. Trials 17-11-90.
1892	<i>Repulse</i>	Timber Patrol Boat for Karachi. 60' x 11' x 10' 6". Same as " <i>Despatch</i> ". Trials 29-12-92.
1893	<i>Alice</i>	Composite Pilot Brig for B.P. S. Same dimensions as " <i>Fame</i> ". Lost in a cyclone.
1896	<i>Percy</i>	Composite Police Launch for Bombay 56' 9" x 10' 8 $\frac{1}{2}$ " Engines by Bellis & Co. 22 N.H.P., 130 I.H.P. 11.092 knots. Trials 2-6-96.

Year	Name	Description
1897	<i>New Robin</i>	Composite Steam Launch 54' 10" × 12' 2½". Engines by F. T. Harker. Stockton-on-Tees. 30.5 N.H.P. 7 knots. Trials 23-3-97.
1899	<i>Helen Gray</i>	Steel Steam Launch for Forest Dept. 55' 6" × 10' 6" Engines by Dockyard. 11 N.H.P. 14.45 knots. Trials 7-10-99.
..	<i>Aid</i>	Timber Steam Launch with steel bulk heads for Tenasserim. 52' 6" × 12'. Engines by A. G. Mumford. Colchester 10 N.H.P. 9 knots at trials 3-8-99.
..	<i>Iron Barge</i>	
1900	<i>Ditto</i>	
1901	<i>Curlew</i>	9 tons.
..		2 Steel Barges of 80 tons each.
..	<i>St. George</i>	Steam Launch for Madras 42 tons.
1902	<i>New Tickler</i>	80 tons.
..	<i>Alice</i>	Paddle Steamer for Indus River Commission, Karachi. Steel Side Paddle, 149' 3" × 23' 5" Machinery and boilers from England. 108 tons. Reg.
1903	<i>Madge</i>	Steel Side Paddle Steam Launch for Indus River Commission. Karachi-tender to "Ailee". 73' 8" × 12' 6". Machinery and boilers from England. 24 tons Reg.

Year	Name	Description
1903	<i>Miner Second</i>	Steel Twin Screw Steamer for R.I.M. 2 guns 87'11" x 17'11½". 120 tons.
1904		Two steel cable lighters and two steel cutters of 24 tons each.
1905	<i>Ethel</i>	Steam Launch of 32 tons.
1906	<i>General Brackenbury</i>	Target towing vessel for Bombay. Single screw steamer; steel; 107' x 20'. Hull and boiler constructed at Dockyard and Engines from England.
..		Five cruisers for the Persian Gulf; 75' x 14'6", 120 tons.
1907	<i>Bahrein</i>	Steel steamer, 81'8" x 14'6" Single screw. 120 tons.
..	<i>Mohomerrah</i>	Paddle steamer 72' x 13'.
1908	<i>General Ellis</i>	Target towing steamer for Royal Garrison Artillery Aden. 104'3" x 20'. Engines from England. 154 tons gross.
..	<i>Sakka II</i>	Water boat for Aden. Single screw. 94'5" x 21'. 120 tons.
..	<i>Lewis Pelly</i>	Single Screw steamer for Koweit. 85' x 14'6".
1911	<i>Elephanta</i>	Steam towing tug for R.I.M. Twin screw 125' x 26'. Hull and boilers built at the Yard. Engines from England. Gross tonnage 250.
..	<i>Diamond</i>	Motor boat, twin screw, teak, 70' x 11'.

Year	Name	Description
1911	<i>Dolphin</i>	Bombay Pilot Vessel; schooner; Length extreme 109'6" Bet. perp. 104'5", Breadth 18'5". Depth 10'5". tons gross 148.31. Reg. 120.03. Sold 1933 into the country trade and trading to Maldives
..		Yard craft. Hopper barge no. II. Steel. 110' x 25'.
1914	<i>Shat-El-Arab</i>	Composite light ship for the Shat-El-Arab River in the Persian Gulf. 75' x 20'.
1917	<i>Sindhi</i>	Composite Light ship for the Sind Coast 100' x 24'.
1918	<i>Lorelie</i>	Composite Twin Screw Motor Launch 78' x 15'.
1919	<i>Bombay</i>	Composite Steam Trawler 125' x 23'9" Machinery and Boilers from England.
..	<i>Kennery</i>	Ditto.
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1925	<i>Elsie</i>	Steel Steam Launch for Yard. 82' x 15' Machinery and Boilers from England.
..	<i>Nancey</i>	Ditto.
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Year	Name	Description
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1784	<i>Admiral Sir Edward Hughes</i>	750 tons. Launched March 1784. Purchased by Admiralty in 1808 and renamed " <i>Tortoise</i> ".
1792	<i>Born</i>	5th rate, 54 guns. Built for private merchants and sold to H. M. Government in 1795. Tonnage B. M. 1250. Burnt in Rosas Bay, near San Sebastian, 1804. Renamed the " <i>Hindostan</i> ".
1793	<i>Bombay</i>	5th rate, 42 guns for the H. Co.'s Service and bought by the Admiralty, 1808 and renamed " <i>Ceylon</i> " 36 guns. Tonnage B. M. 630. Guard and flagship, at Malta, armament reduced to 22 guns 1835 to 1860. Broken up 1861.
1799	<i>Kaikusroo</i>	5th rate, 44 guns. Tonnage 1045 built for private merchants and bought by the Admiralty 1806. Renamed " <i>Howe</i> ". Name changed to " <i>Dromedary</i> " in 1808. Storeship 1813.

Year	Name	Description
1800	<i>Marquis Cornwallis</i>	Convict Hulk at Bermuda (2 guns) 1844 to 1862. Sold about 1866. 4th rate, 1363 tons. Bought by the Admiralty 1804. Fitted as troopship 1805 and name changed to " <i>Akbar</i> " 1809. School ship at Liverpool 1852, broken up 1869. She was altered to a flush 2 decker of 60 guns in 1815. Tonnage B. M. 1388.
1805	<i>Pitt</i>	5th rate, 36 guns. Laid down 9-7-1803, Silver Nail driven 31st August, 1803, launched 17-1-1805. Tonnage 938 B.M. name changed to " <i>Doris</i> " in 1806, sold 1828.
1807	<i>Salsette</i>	5th rate, 36 guns. The first ship built at Bombay to the order of the Admiralty. Length lower deck 137 ft. Beam 38'9". Tonnage B. M. 902. Laid down 16-4-1806. Silver Nail Ceremony, 20-5-1806, launched 24-3-1807. Cost £ 27,922 or Rs. 2,48,195. Receiving Hulk at Portsmouth 1844-1870. Sold 1870. (See pp. 195-196.)
1810	<i>Minden</i>	3rd rate, 74 guns. The first ship of the line built of teak outside the United Kingdom to the order of the Admiralty. Cost £ 57,466 or Rs. 4,61, 673. Length gun deck 171ft. 4½ inches, beam 46ft., draught 22½ft. Displacement 2,942 tons. Tonnage B. M. 1721½. Laid down 28-3-1807.

Year	Name	Description
		<p>Building commenced 10-12-1807, Silver Nail Ceremony 1st January, 1808. Launched 19-6-1810. Same plans as the "<i>Invincible</i>" a fast sailer E. I. Station 1811. Captured Fort Marrack, Java. Spithead 1812, E. I. Station 1816, Mediterranean 1816-1820. Took part in Battle of Algiers 1816. In ordinary at Portsmouth 1820 to 1836, Lisbon and Mediterranean 1840 -Fitted out as Hospital ship 1842 and lay at Hongkong until sold in 1861 for £ 3,995.</p>
1813	<i>Cornwallis</i>	<p>3rd rate, 74 guns. Tonnage B. M. 1809. Laid down 27-10-1811 in the Duncan Dock. Silver Nail ceremony 12-11-1811. Launched 2-5-1813. Cost Rs. 4,09,750 (£44,591). Sent to England with a duplicate frame in April, 1814. Commissioned 14-11-1814 at Portsmouth as Flagship C. in C. East Indies. Engaged U. S. S. "<i>Penguin</i>" and "<i>Hornet</i>" in American War of 1815. Paid off 1816 and recommissioned Flagship C. in C. East Indies with expeditionary force for China, participating in attack on Segan & of Chepoo, Woosung, Shanghai and Chinkiang. Treaty of Nanking signed on board 29-8-1842. Paid off Devonport 1844. Converted</p>

Year	Name	Description
		to steam 200 h. p. & 60 guns and commissioned 1855 for service in Baltic. Bombardment of Sverborg. Bermuda 1855. Paid off Devonport 1856. Coast Guard service until 1864, when placed in reserve. Hulk at Sheerness 1865 where she still remains (1954).
1814	<i>Victor</i>	Brig sloop of 18 guns and 382 tons. B. M. Laid down 4-1-1814, launched 29-10-1814. Cost Rs. 54,834 (£6,169). Lost at sea 1845. Same design as the famous " <i>Coffin Brigs</i> ". So named because of their unseaworthiness.
1815	<i>Wellesley</i>	3rd rate, 74 guns. Length gun deck 175'10", beam 48'8", displacement 2917 tons, Tonnage B. M. 1745 54/94. Laid down 15-5-1813 in the Duncan Dock, Silver Nail ceremony 26-6-1813, launched 24-2-1815. Cost Rs. 285 or £2-1-9 per ton. Total cost £37,988 or Rs. 3,51,262. She took a duplicate frame to England with her. Served several years in commission as flag-ship China squadron during the war of 1844-46. Guardship in ordinary, Chatham (26 guns) 1850-62. Appropriated to replace old " <i>Cornwall</i> " as reformatory ship at Purfleet and name changed to " <i>Cornwall</i> " 1867. At

Year	Name	Description
		Purfleet till 1926 when she was removed to Denton $1\frac{1}{2}$ miles below Gravesend. Sunk during the World War II in 1940 by an enemy bomb which fell close to her whilst moored in the Thames.
1815	<i>Zebra</i>	Brig sloop of 18 guns, 385 tons, B. M. Cost Rs. 60,542 or £ 6,618. Laid down 9-11-1814, launched 18-11-1814.
..	<i>Sphinx</i>	Brig sloop of 12 guns, burthen 235 tons. Length deck 90'. Keel for tonnage 73'7", breadth 24' depth in hold 11'. Laid down 15-5-1814, launched 25-1-1815 from the Mazagon Yard. Armament 8,18 lb carronades, 2,16lb. guns. Cost £ 3,856 or Rs. 34,946.
1816	<i>Cameleon</i>	Brig sloop, 12 guns, same plans as " <i>Sphinx</i> ". Laid down 15-3-1815, launched 6-1-1816 from the Mazagon Dock. Cost Rs. 35,955. Foundered between 1850-1856. Another of the notorious " <i>Coffin Brigs</i> " built more for their speed than stability.
..	<i>Amphritrite</i>	5th rate, 38 guns, length gun deck 154', beam 40', original displacement 1447 tons. Tonnage B. M. 1077. Laid down in the upper old Bombay Dock, on 22-5-1814 and building resumed. Silver Nail ceremony

Year	Name	Description
1817	<i>Melville</i>	<p>11-8-1814, launched 14-4-1816. Cost Rs. 1,99,192 or £ 21,549. Cut down to a "24" in 1846. Displacement as cut down, 1215 tons. Sold about 1874.</p> <p>3rd rate, 74 guns, Length gun deck 176'1", beam 47'3" displacement 2928 tons. Tonnage B. M. 1768. Laid down in the Upper Duncan Dock 18-3-1815, Silver Nail Ceremony 28-6-1815, launched 17-3-1817. Took a duplicate frame with her to England (See "<i>Carnatic</i>"). After long service with the "<i>Minden</i>" as cruising store ship, sold at Hongkong in 1874. Cost Rs. 3,76,095 or £40,529.</p>
..	<i>Carnatic</i> (Dup. frame)	<p>3rd rate, 74 guns. Length load water line 176'1", beam 47'8" displacement 2917 tons. Tonnage B. M. 1970. Was a duplicate frame of the "<i>Melville</i>" and was re-erected at Portsmouth Yard. Launched at Portsmouth Dockyard 21-10-1823. Never commissioned. Powder depot at Milford Haven 1845. In service 1926.</p>
..	<i>Trincomalee</i>	<p>5th rate, 46 guns. Length 151'4", beam 50'6", mean draft 18'4", displacement 1447 tons. Tonnage B. M. 1066. Gross tonnage 987. Laid down 25-4-1816. Silver Nail 29-5-1816. Launched 12-10-1817. Cost £23,788</p>

Year	Name	Description
1818	<i>Malabar</i>	Cut down to a "24" in 1845, displacement as cut down about 1215 tons. R. N. R. drillship 16 guns 1860 to 1899. Sold 1900, and renamed " <i>Foudroyant</i> ". As a training ship for boys. Transferred to Plymouth 1932. Afloat at Portsmouth in 1954. 3rd rate, 74 guns. Length gun deck 178', beam displacement 2761 tons. Tonnage B. M. 1716. Laid down 25-2-1817 in the Upper old Duncan Dock. Launched 28-12-1818. Harbour service about 1820, coal hulk at Portsmouth 1855. Name changed to " <i>Myrtle</i> " in 1862; sold about 1913.
,,	<i>Seringapatam</i>	5th rate, 46 guns. Length 159'4", beam 41', draught 16'8" - 18'2" mean. Displacement 1531 tons, tonnage B. M. 1163. Laid down 23-10-1817, Silver Nail 4-12-1817, launched 5-9-1819. Receiving ship at the Cape, 8 guns, 1860-1874. Broken up 1874.
1821	<i>Ganges</i>	2nd rate, 84 guns. Length 199'6½", breadth 51'6½". Tonnage B. M. 2285. Cost £74,498. Laid down 13-3-1819, launched 10-11-1821. Took a duplicate frame with her to England (see " <i>Indus</i> "). Guardship Portsmouth 1823. Mediterranean 1840. Flagship of the Pacific Station 1857 to 1861.

Year	Name	Description
		<p>The last of the sea-going sailing flag-ship. Ganges Harbour, Brit. Colombia is named after her. Training ship for boys 1866 to 1899 then sent to Harwich. Renamed "<i>Tenedos III</i>" in 1906 and sent to Chatham as training ship for artificers. Transferred to Devonport and renamed "<i>Indus V</i>" in 1910. Became part of the boys training establishment as "<i>Impregnable III</i>" August, 1922. Sold out for breaking up October, 1929. The "<i>Ganges</i>" was built on the same lines as the "<i>Canopus</i>" except that she was given a round stern.</p>
1821	<i>Indus</i> (Dup. frame)	<p>2nd rate, 80 guns, Length 188'7", beam 51'2", displacement 3563 tons. Tonnage B. M. 2098. Said to have been laid down in 1817 in which event she was probably the duplicate frame of the "<i>Ganges</i>" re-erected at Plymouth and launched about 1841. Guardship of Reserve, Devonport 1866-1899. Training ship for Artificers. Sold 1900.</p>
1822	<i>Madagascar</i>	<p>5th rate, 44 guns. Length 159', beam 41', displacement 1531 tons. Tonnage B. M. 1167. Laid down 20-6-1821, Silver Nail 15-8-21, launched 8-10-22. Cost £ 38,355.</p>

Year	Name	Description
		Troopship 4 guns 1836. Receiving ship at Rio de Janerio, 10 guns, 1855, sold about 1863. Duplicate frame see " <i>Tigress</i> " built to the draught (slightly altered) of the " <i>Pietmontaise</i> " (ex " <i>Presidente</i> ").
1822	<i>Tigress</i> (Dup. frame)	5th rate, 44 guns. Length 159', beam 41', displacement 1540 tons. Tonnage B. M. 1167. A duplicate frame of the " <i>Madagascar</i> " and taken to England on board the " <i>Bombay</i> ". Frame re-erected at Plymouth. Broken up before 1845.
1822	<i>Manilla</i>	5th rate, 44 guns. Dimensions similar to those of the " <i>Seringapatam</i> ", " <i>Madagascar</i> " and " <i>Tigress</i> ". Length 159', beam 42', draught 18', displacement 1790 tons, tonnage B. M. 1215. Dismantled 1833. Took a duplicate frame to Britain.
1824	<i>Asia</i>	2nd rate, 84 guns. Length gun deck 196'4½", beam 51'5½", tonnage B. M. 2279. Length of keel for tonnage 192'5½". Pierced for 86 guns. Elliptical stern. Laid down 19-11-1821, launched 17-1-1824. Flagship at Navarrino. After serving as Flagship at Portsmouth for over thirty years was sold out in 1904.

Year	Name	Description
1824	<i>Vengeance</i> (Dup. frame)	2nd rate, 84 guns. Length between perps. 194'2", beam 52'2", mean draught 23'5", displacement 3390 tons, tonnage B. M. 2281. Sold about 1872. Duplicate frame of the " <i>Asia</i> ".
1826	<i>Imaum</i>	3rd rate, 74 guns. Length gun deck 180', beam 48'8", Tonnage B. M. 1889. Launched 10-11-1826. Built for the Imaum of Muscat and presented to King William IV in 1836. Renamed " <i>Liverpool</i> ". Receiving hulk at Jamaica, replacing " <i>Magnificent</i> " 1836. 6 guns, sold 1852.
1828	<i>Bombay</i>	2nd rate, 84 guns. Laid down 23-4-1826, launched 17-3-1829. Length 185', beam 52', tonnage B. M. 2348. Served about five years in commission as an "84". Reduced to a 70 gun ship, lengthened and fitted with a screw (800 N. H. P.) 1860-62. Accidentally burnt off Montevideo, 1867.
..	<i>Hindustan</i> (Dup. frame)	3rd rate, 74 guns. Length 185'7", beam 50'8", displacement 3242 tons. Tonnage B. M. (as built) 2056. Frame prepared in Bombay and sent to England with the " <i>Bombay</i> " (see also

Year	Name	Description
		<p>"<i>Tigress</i>"). Re-erected at Plymouth and launched 1844. Fitted for experimental squadron 1845. Served five years in commission, became tender to the "<i>Britannia</i>" 1st rate. Cadet school 1866. Hulk 1874.</p>
1829	<i>Andromeda</i>	<p>5th rate, 46 guns. Laid down 1-7-1827, launched 6-1-1829. Length 159', beam 41', displacement 1815 tons. Tonnage B. M. 1216. Same lines as "<i>Manilla</i>". Sold about 1856.</p>
1831	<i>Calcutta</i>	<p>2nd rate, 84 guns. Length 196'4", beam 52'2", mean draught 23', displacement 3590 tons. Tonnage B. M. 2348. Laid down 2-5-1828, launched 14-3-31. Became tender to the "<i>Cambridge</i>" 110 guns, gunnery ship at Sheerness, 1872. Hulk 1874 (armament in 1892, 3-4" quick firing guns). Sold to Castles & Co. and broken up in 1905. Same plan as "<i>Asia</i>", "<i>Bombay</i>" and "<i>Goliath</i>".</p>
..	<p><i>Goliath</i> (Dup. frame)</p>	<p>2nd rate, 84 guns. Duplicate frame of the "<i>Calcutta</i>". Tonnage B. M. 2280. Was taken to England with the "<i>Calcutta</i>" and re-erected there. Renamed "<i>Clarence</i>" while building. Training ship on the South Coast and accidentally burnt 1874.</p>
1839	<i>Royalist</i>	<p>Brig sloop, 10 guns, 249 tons.</p>

Year	Name	Description
1848	<i>Meanee</i> (<i>Madras</i>)	2nd rate, 80 guns. Length 190'2", beam 56'11", tonnage B. M. 2591 14/94. Laid down 18-4-1842 as " <i>Madras</i> ". Silver Nail by Lady Arther and Lady McMahon 11-1-1843. Launched by Lady Falkland 11-11-1848. Name changed to " <i>Meanee</i> " and sailed for England 4-4-1849 under the command of Captain Inglefield. Lengthened and converted to a screw ship (600 N. H. P.) at Chatham 1854. Fitted as Harbour vessel and machinery removed 1870. Was quarantine hulk at Hongkong in 1886. Sold at Hongkong 1905. She was built on No. 1 slip and was the largest and last vessel to be so launched in Bombay.
..	<i>Nerbudda</i>	Brig sloop 12 guns, 420 tons. Foundered between 1850 and 1860.
..	<i>Jumna</i>	Brig sloop 10 guns, 549 tons.
1849	<i>Australia</i>	Schooner, 82 tons.

APPENDIX D

FLAGS

The flag of the Indian Navy was the "Company's Jack"—a flag of red and white stripes with the Red Cross of England in the inner top canton. This flag was adopted by the Americans in 1775, though two years later it was changed into the familiar Stars and Stripes, with the Stars on a blue field taking the place of the Cross of England.

In the days when fleets consisted of large number of small vessels such as prevailed in the Tudor and Stuart Navies, there were, besides the Admiral in supreme command, a Vice-Admiral as second in Command, and a Rear-Admiral as third in command, each controlling his own particular group or squadron. These were designated centre, van and rear, the centre almost invariably being commanded by the Admiral, the Vice-Admiral taking the van and the Rear-Admiral the rear squadron. The flagships of centre, van and rear were distinguished by a plain red, white or blue flag, and so came into being those naval ranks of Admiral, Vice-Admiral and Rear-Admiral of the red, white and blue, which continued down to as late as 1864. To distinguish the white flag from the flag of truce, it bore the red cross of St. George. As the Admiral in supreme command flew the union at the main, there was no rank of Admiral of the red and it was not until November 1805 that the rank of Admiral of the red was added to the navy as a special compliment to reward Trafalgar.

About 1652, to distinguish individual ships in a group or squadron, each vessel carried a large red or blue flag according to whether it belonged to the centre, the van or the rear, each flag having in the left-hand upper corner a canton, as it is termed, of white bearing the St. George's cross. These flags were called ensigns, until 1707 when the bill for the Union of England and Scotland passed in the English Parliament, and the Cross of St. Andrew was added to St. George's Cross.

In 1801, when Ireland joined the Union, the flag assumed the style we know it to-day.

The "Union Jack" is more correctly the "Union Flag" and is only a "Jack," when flown on the Jackstaff of a man-o-war, the flagstaff at the bow of the vessel. In the Indian Navy the Flag of the Indian Republic becomes the "Jack" when flown in that position.

All these three ensigns belonged to the Royal Navy and continued to do so until 1864; but as far back as 1707 ships of the mercantile marine were instructed to fly the red ensign. As ironclads replaced the wooden vessels and the fleet became smaller the inconvenience of three naval ensigns was manifest and in 1864 the grades of flag officer were reduced again to Admiral, Vice-Admiral and Rear-Admiral and the navy abandoned the use of the red and blue ensigns, retaining only the white ensign as its distinctive flag. The mercantile marine retained the red ensign which they were already using, whilst the blue ensign was allotted to vessels employed on the public service, whether home or colonial. Apart from the Royal Navy, the Royal Yacht Squadron is allowed to fly the white ensign.

The white ensign has become the emblem of the Navies of the Commonwealth of free Nations of which India is a member and, in common with those countries, has adopted this white symbol which has by centuries of use become recognised as the van - the advance - position of the Navy.

N. LISHMAN.

APPENDIX E

World's Oldest Ship Afloat Was Built In Bombay Dock.*

London, March 2.

The oldest ship in the world today, still afloat and still in active use, is as sound in her timbers as she was when first launched in Bombay on October 18, 1817.

She took three years to construct and in one of her cabins there hangs a print of the head and shoulders of Jamsetjee Wadia, the man who designed and supervised her building and is looked upon as the greatest of the Wadia dynasty of master shipbuilders who ruled the Bombay dockyard for more than a century and a half.

The ship is the "Foudroyant," and she sways gently to the tide between her mooring buoys at the entrance to Portsmouth Harbour.

Today "Foudroyant", originally named the "Trincomalee," represents in spite of her age something new and exciting in ships afloat. From March until October parties of school-children, in batches of anything from 80 to 100, pour aboard for a week or a fortnight's holiday. They sleep in hammocks, follow a mild form of naval routine, and go for picnics and trips in the 18 boats and launches secured alongside. For a few days the old wooden walls of "Foudroyant" comprise their home.

Commander M. S. Spalding, Royal Navy (retired) and his wife, are the hosts to these youngsters, thrilled at the adventure of living aboard the last surviving frigate of Britain's sail-driven navy. Whether they appreciate that the wooden walls are teak, and not the traditional oak, and whether they ever link the berth now occupied by "Foudroyant" with the one she had in Bombay's docks 137 years ago, is a matter of speculation.

But Commander Spalding, looking at the portrait of Jamsetjee Wadia which hangs over his desk and which was received from one of Wadia's descendants last year,[†] says thoughtfully: "I think he would understand and like what is happening aboard now."

* Being a reprint from the *Evening News of India* of 2nd March 1955, by permission.

† The author himself had presented the portrait in question.

The money to keep the ship in commission is raised by appeals and by grants from various charitable trusts. The aim, in offering holidays to schoolchildren, is not in the remotest sense connected with recruitment into the Navy itself. Character-building rather than technical instruction is the chief object.

There is no restriction on the schools which can organise a "Foudroyant" course. For obvious reasons the great bulk of boys and girls are from this country, but some Commonwealth schools have managed to arrange a week or a fortnight's stay aboard, although none so far in India or Pakistan. Commander Spalding regrets this.

"I would like to see young Indians and Pakistanis arriving here," he says. "In a special sense it is *their* ship, a worthy and enduring symbol of the fine work done by really wonderful shipbuilders."

In this Commander Spalding speaks nothing but the literal truth.

"Foudroyant", ex-"Trincomalee", floating serenely in Portsmouth Harbour, has outlived generation after generation of ships, and, according to Mr. G. P. B. Naish, Secretary of Britain's Society for Nautical Research, is good for many hundreds of years to come.

"We sent down forgers a little while ago to examine her hull," he told NAFEN. "They reported that it was amazingly good and sound. Here and there above the waterline we have had to carry out certain repairs, but always where the woodwork was not of teak. The teak is, I suppose, as good now as it was when she was first launched."

Commander Spalding agrees. There is less water pumped out of her a year than from most modern vessels.

A far different fate was forecast for the then "Trincomalee" when her keel was laid down in Jamsetjee Wadia's yard in 1814.

For centuries oak was the traditional wood used for the building of Royal Naval ships. The expansion of the Navy during the Napoleonic Wars had resulted in a shortage of supply of this timber. Experts advised construction in teak, and the resultant controversy raged for years in—and outside—naval circles.

The "Bombay Courier" of those times commented: "Long may the ever-enduring Indian teak continue to rival the glories of British oak."

The declaration was regarded as almost profanity by some of the protagonists in the argument, who forecast disaster.

Jamsetjee Wadia and his son, Nowrojee, were unmoved. They built 15 vessels for the Royal Navy, including nine ships of the line, the only ships of their class ever built for the Royal Navy outside the United Kingdom.

H. M. S. "Malabar," the parent ship at Bermuda today, inherits her name from the last of Jamsetjee's 74's.

The name of another of his ships — the "Ganges" — is still commemorated in naval boys' training establishment at Shotely.

"Trincomalee," launched as a fifth-rater of 48 guns, reached Portsmouth one April morning in 1819. She saw service in home waters and in 1847, after being cut down and refitted as a 24-gun ship, spent three years on the North America and West Indies Station.

Her naval career was mostly uneventful. For five years from 1852 she patrolled the Pacific, with orders during the Crimea War to hunt and destroy any Russian ships that might be in that area. In 1857 she came back to the naval base at Chatham, and was fitted out for training naval reserves — an inevitable role in the Royal Navy, then passing through the transitional stage from sail to steam.

In 1897, it looked as if her career was finished for the Admiralty began negotiations to sell her to German ship-breakers.

A storm saved "Trincomalee."

Mr. Wheatley Cobb, a wealthy Victorian industrialist, had a hobby — training boys for the sea. To this end he had purchased the frigate "Foudroyant," captured by the English from the French at Trafalgar, with the intention of installing her at Falmouth. "Foudroyant" went aground in a gale while being brought round to Falmouth, so Mr. Cobb stepped in and purchased "Trincomalee". He renamed her "Foudroyant" and when the original ship of that name was unexpectedly salvaged and found to be intact, he bought her, too, and called her "Implacable."

Cobb died, and both ships were brought round to Portsmouth, where desperate efforts were made to continue his work. In World War II both ships again entered the Navy, being used for accommodation and stores.

After the war a very large question-mark, indeed, hung over the future of these vessels. "Implacable's" fate was speedily settled. Her timbers were rotten and she was beyond aid. Ceremoniously, she was towed into the Channel, and with news-reel and television cameras recording her passing, was honourably sunk.

"Foudroyant" remained, a committee was formed and the experiment in youth education started. After seven years the courses have become established.

The people interested in the venture have only one fear—the problem of providing sufficient funds to keep the work going.

On one point they have no headache—they know this teak-built product of the Bombay dockyard will never let them down.

And that is perhaps the very best compliment they can pay to the shade of Jamsetjee Wadia.—NAFEN.

Author's Note: The "Trincomalee" was built with Malabar Teak which is considered superior to Oak, see pp. 181-83.

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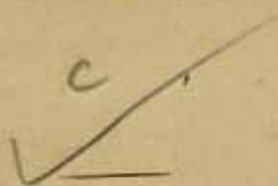
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