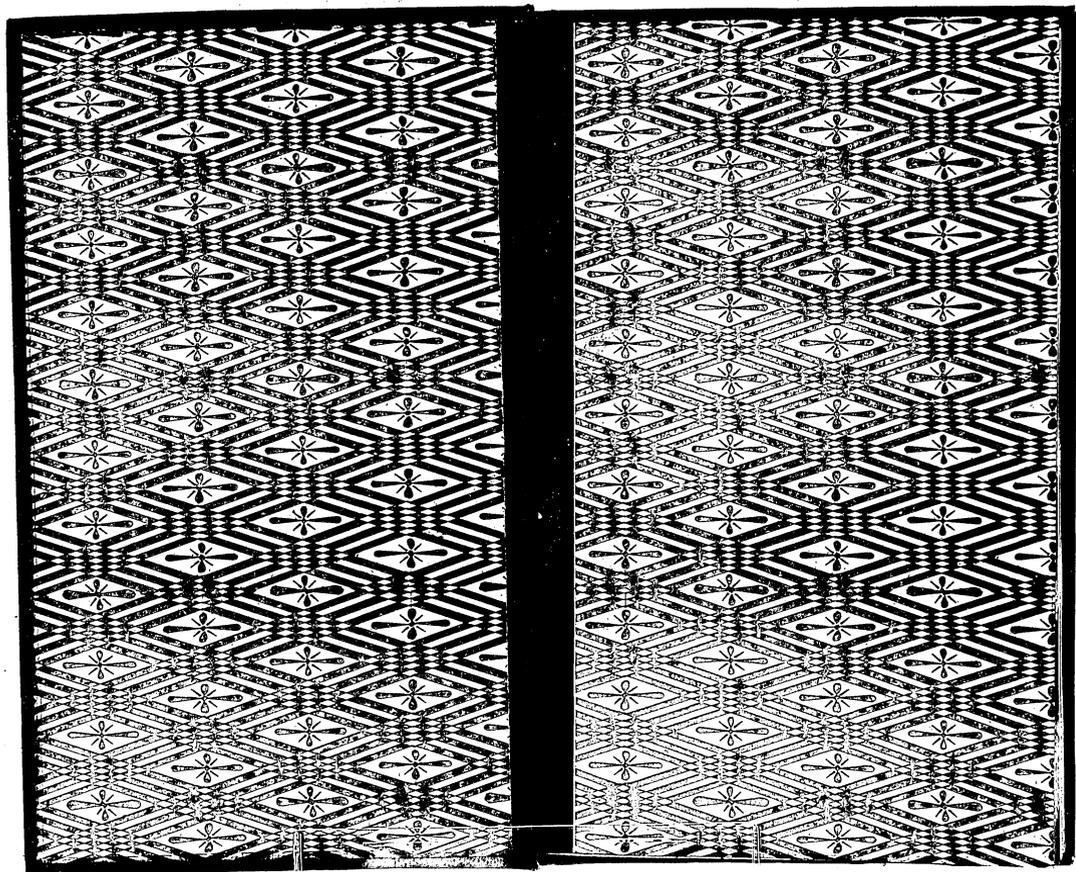
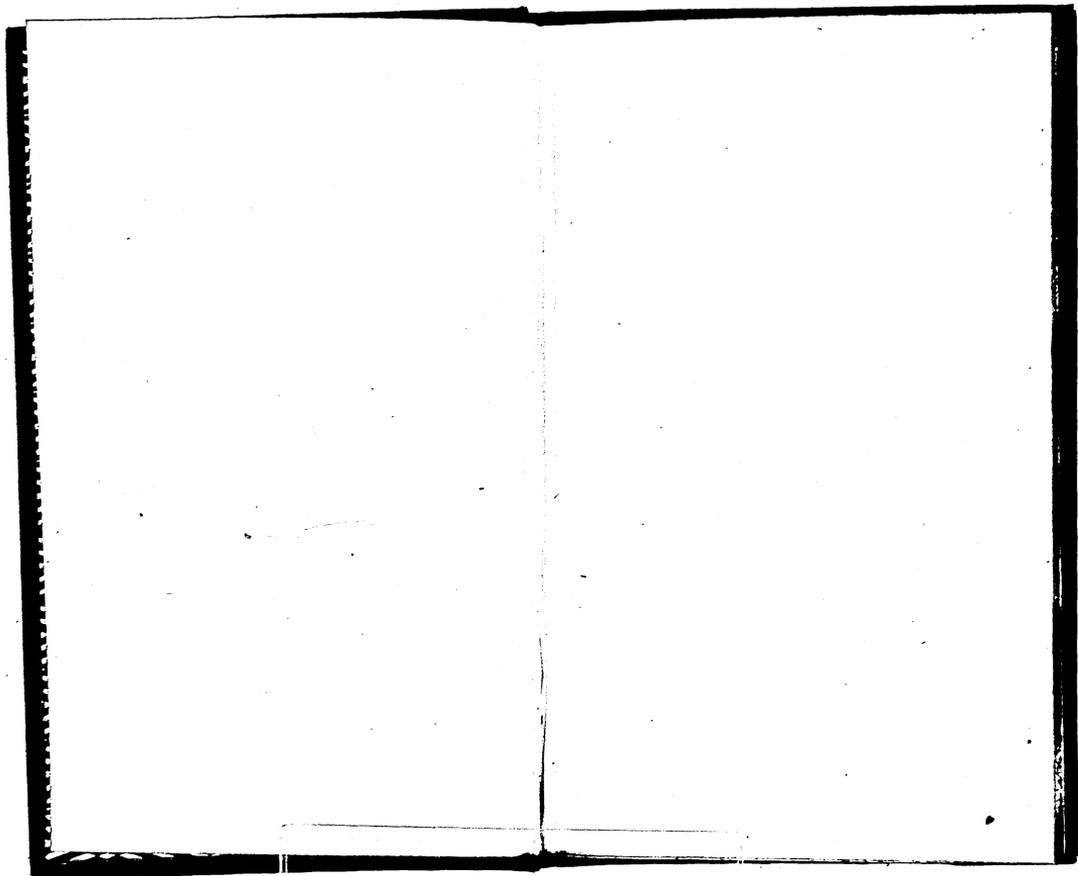


REPORT  
OF THE  
BENGAL CHAMBER OF COMMERCE

21ST MAY 1855





*Proceedings of a General Meeting of the Bengal Chamber of Commerce, held on Monday the 21st of May 1855.*

DAVID COWIE, Esq., *Vice-President, in the Chair.*

THE Report of the Committee for the Half-year ended 30th April having been read, the following Resolutions were unanimously carried:—

- 1.—That the Report of the Committee be received as highly satisfactory.
- 2.—That Mr. D. T. Robertson of the Mercantile Bank, and Mr. C. B. Wood be elected Members of the Chamber.
- 3.—That the following Gentlemen form the Committee for the ensuing year :

Mr. David Cowie, *President.*

Mr. John N. Bullen, *Vice-President.*

Messrs. W. Blundell, W. Maitland, G. H. Wills, John Deffell and E. D. Kilburn.

- 4.—That this Meeting begs to express the high estimation in which the services of the late Committee are held by the Chamber, and that a vote of thanks for such services be recorded.

Mr. E. D. Kilburn addressed the Meeting regarding decisions lately given by the Small Cause Court with reference to Bills of Lading consigned to order. The Chairman promised the early attention of the Committee to the subject.

After a vote of thanks to the Chairman the Meeting separated.

H. W. I. WOOD, *Secretary.*

## BENGAL CHAMBER OF COMMERCE.

## HALF-YEARLY REPORT OF THE COMMITTEE.

Your Committee has the pleasure to submit the following Report of its proceedings for the past half-year.

In the previous Report three matters of interest to the Mercantile Community were alluded to as then under the consideration of Government:—

1st.—The Draft Act for regulating the Office of Administrator General. This, with its several objectionable clauses, became law on the 1st March last, notwithstanding urgent opposition from the Commercial interest of the three Presidencies. The continuance of this one monopoly in favor of a Government Servant, stands out in singular contrast to the contemporaneous abolition of another, in the instance of the Office of Government Agent.

2nd.—The recommendation of your Committee for Usury Laws, a uniform legislation in regard to the interest of money chargeable by British subjects and natives of India. A bill for the repeal of the Usury Laws is now before a select Committee of the Legislative Council; and in Appendix A. will be found a copy

of a Petition, presented by your Committee to the Council, praying for an alteration in Clause 5, which would otherwise materially and prejudicially affect the present mode in which all Annual Mercantile accounts are rendered.

Ship-burning.

And lastly, the Report of the Committee on Ship-burning,—an important subject, which your Committee has long been led to believe would receive the early attention of the Legislature, but which, they regret to add, remains in the same unsatisfactory position as before, although more than three years have elapsed since that Committee submitted its Report and suggested various remedial measures for the consideration of Government.

Export Duties.

The Committee appointed at the General Meeting of the Chamber in August last to co-operate with the Collector of Customs in revising the Tariff, completed their labours by recommending the assimilation of duties on British and Foreign Goods, and the entire abolition of various duties; a recommendation which your Committee followed up in the correspondence inserted in Appendix B. The retention of duties upon exports can be defended upon considerations of Revenue only, and, with the increasing prosperity of British India, your Committee is sanguine in believing that that line of argument will ere long be far less tenable, if not altogether removed.

Custom House  
Ghât and Sheds.

The Committee regrets that it cannot congratulate the Chamber upon any rapid progress on the part of the Authorities in carrying out the arrangements sanctioned months ago for the improvement of the Custom House Ghât, and the erection of sheds in

connexion therewith. It is, however, to be hoped that the extent and durability of these works will be commensurate with the time which is now being expended upon them.

The application of the Chamber for a large increase to the permanent moorings in the river has been submitted by the Government of Bengal to the Supreme Government for favorable consideration, as shewn in Appendix C. River Moorings.

During the past half-year the proceedings of the Peninsular and Oriental Steam Navigation Company have been marked by three alterations of importance to the Mercantile Community, viz., that of the time of departure of their Steamers for Suez from the 6th and 20th to the 9th and 23rd of each month, except during the S. W. monsoon; the withdrawal of one of the semi-monthly mails between Bombay and Hong-Kong; and the total abandonment of the Australian line. Your Committee received the announcement of the second of these changes with surprize and regret, and recorded that impression in a correspondence with the Superintendent of the P. and O. Company which will be found in Appendix D. Peninsular and  
Oriental Com-  
pany.

On the general question of the mode in which the communication between India and Europe is carried on through that Company, your Committee addressed the principal mercantile associations in this country, China, the Colonies, and England, in full hope that by their unanimity of sentiment and action the convenience of the public and the interests of Commerce may come to be much more studied by the P. and O. Company than has yet been the case.

On this subject, as far as regards steam communication with China, it is gratifying to observe that private enterprise is on the point of introducing on that line the wholesome element of competition.

Registry of Boats. A scheme for the registry and licensing of native boats on the Hooghly is under the consideration of the Legislative Council; and in Appendix E. will be found the suggestions submitted by the Chief Magistrate on the subject.

Cultivation of Flax in the Punjab.

In Appendix F. your Committee would call attention to an interesting communication from the Government of India, and the Chief Commissioner of the Punjab, regarding the production of Flax and Linseed in that province.

In ordinary circumstances an interference on the part of Government in the operations of Commerce cannot be too much deprecated, but in the case of a newly acquired province like the Punjab such efforts on the part of those in power to show what the country is capable of, and to pave the way for the operations of private enterprise, must be gratefully acknowledged.

It remains to be seen whether the products referred to, raised at so great a distance from the sea coast, will successfully compete in the markets of Europe with similar produce from other exporting countries.

Hooghly and Mutlah rivers.

Your Committee has recently received from Government the Report of the Committee appointed two years ago to investigate the condition of the river Hooghly, with special reference to the application made by the Chamber on 27th May 1853, for the earnest consideration of the question of resorting to

the Mutlah River as a preferable channel of communication between this port and the Sea.

The inferences which your Committee is inclined to draw from that Report, and the mass of interesting evidence which accompanied it, are that the asserted deterioration of the general channel of the Hooghly, on which the Chamber's letter of 1853 was based, was somewhat exaggerated: that the channel in many, if not in all, places ought to be susceptible of improvement from remedial measures, the nature of which it is the province of scientific and practical men to suggest and carry out: and that by the additional means of improved steam tugs, and a large increase to the number of Pilots, moorings, wharfs, &c., the river Hooghly and the port of Calcutta may still be found equal to the reception of all vessels which the largest expected extension of trade may bring, without the necessity of the more costly experiment of connecting it with the Mutlah. Under this impression your Committee on the 26th ultimo addressed the Lieutenant Governor of Bengal to urge the employment of the highest engineering hydraulic skill which this country may possess in endeavouring to improve the channel of the Hooghly. A copy of this letter forms Appendix G.

At the last Quarterly Meeting of the Chamber your Committee submitted to you certain papers received from Government on the subject of bridging the Hooghly, and a copy of the reply, in which your Committee then stated its views on the eligibility of this being done by a Railway Bridge at Pultah Ghat, with a branch line thence into the Town of Calcutta.

Bridging the Hooghly.

As these papers are of great interest and importance, they are printed for your information in Appendix H.

Mercantile Report  
of Markets.

The late President of the Chamber, whose departure from this country has been a real loss to the Committee, has undertaken to arrange in London for the transmission by each mail, and by Telegraph from Bombay, of a carefully compiled mercantile report of markets, which it is hoped will prove of much value to Members of the Chamber.

Electric Tele-  
graph.

Your Committee has recently suggested to Government, through the Superintendent of Electric Telegraphs, various modifications of the rules for transmission of messages and the charges thereon, and has no reason to doubt that, as the signallers and assistants employed in that department become more numerous and efficient, considerable reductions will be made, and far greater public facilities offered than it has yet been in the power of the indefatigable Superintendent to recommend.

Municipality of  
Calcutta.

Since the last half-yearly meeting no move appears to have been made by the Government of Bengal in the matter of Municipal Reform then referred to.

Balinghatta  
Canal.

The disgraceful state of the Balinghatta Canal has been taken up by the Indigo Planters' Association with so much zeal and so much success, that your Committee has not deemed it necessary to address the Government again upon that subject.

Funds.

The state of the Funds of the Chamber will be found in Appendix I.

Members.

The few withdrawals which have taken place from the list of Members has been fully compensated by the accession of new Subscribers, but there are still

several of the mercantile body who have never joined the Chamber.

In concluding this Report, your Committee will briefly but heartily congratulate the Commercial body upon the two great events which the past six months have witnessed, *viz.*, the public opening of the East Indian Railway and of the Electric Telegraph—events the importance of which can scarcely be over-estimated, and the effects of which upon the commerce and civilization of this vast country will be progressively beneficial.

DAVID COWIE,  
*Vice-President.*

CHAMBER OF COMMERCE, }  
*Calcutta, 1st May 1855.* }

East Indian  
Railway, and  
Electric Tele-  
graph.

APPENDIX A.

USURY LAWS.

TO THE HONORABLE THE LEGISLATIVE COUNCIL OF INDIA.

*The Humble Petition of the Committee  
of the Bengal Chamber of Com-  
merce,*

SHRIMATH.—That in the Bill now before your Honorable Council, entitled “a Bill for the Repeal of the Usury Laws,” Clause V. sets forth that “compound interest shall not be recoverable, unless the party to be charged therewith shall, after the original interest has become due, have agreed, in writing signed by him, that the same shall be deemed principal.”

That your Petitioners apprehend much inconvenience and confusion will result from the operation of the said Clause, as now defined: and, with the view to obviate such consequences, your Petitioners suggest to your Honorable Council a modification of the above recital, by substituting the following amendment thereof, *viz.*, “compound interest shall not be recoverable, unless the party to be charged therewith shall, at the time of making the original contract, or after the original interest has become due, have agreed, in writing signed by him, that the same shall be deemed principal.”

Your Petitioners humbly pray your Honorable Council will take the above suggested modification of the said Clause into your consideration.

And your Petitioners as in duty bound shall ever pray.

By order of, and on behalf of, the Committee of the Bengal Chamber of Commerce.

(Signed) H. W. I. WOOD,  
*Secretary.*

CALCUTTA,  
12th March, 1855. }

APPENDIX B.

EXPORT DUTIES.

THE Committee appointed by the Chamber, to co-operate in the revision of the Tariff for duties, beg to report that they attended before the Board of Revenue on the 13th instant when, with some few exceptions, the revised table, as prepared by the Committee, was accepted—and that it has been sent forward to Government for approval.

The principal alterations compared with the old Tariff are:—Imports.—Increased valuation for Metals (with the exception of Quicksilver reduced to Rupees 2), and some slight reduction in the general valuation for Piece Goods. Exports.—The valuation for Jute raised to Rupees 10, with some alteration in the distinctions for Gummies; with the remaining articles no material alteration has been made.

The revised Tariff will be in force from about 1st February. The Committee beg to remind the Chamber, that although it is understood that the Tariff remains as revised for the next three years, yet that the Board of Revenue will entertain proposals for alterations which may become immediately necessary.

The Committee beg to annex copy of a letter addressed to the Board of Revenue, and which has been appended to the revised Tariff, and will thus be laid before the Government.

(Signed) E. D. KILBURN.  
" JOHN N. BULLEN.  
" SETH A. APCAR.  
" CHAS. H. BAILEY.

CALCUTTA, }  
15th February, 1855. }

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Calcutta, 11th January, 1855.

To A. R. YOUNG, Esq.,  
Junior Secretary to the Board of Revenue,  
Fort William.

SIR,—The Committee, appointed by the Chamber of Commerce to co-operate in the revision of the "Tariff for duties," beg to offer the following remarks and suggestions:

1st.—That it would simplify existing arrangements to erase, from the table of valuations, a number of articles, the quantities of which are very inconsiderable, and from which the Revenue derives little or no benefit.

2nd.—That in the opinion of this Committee, the rates of duty levied upon English and Foreign Goods should more nearly assimilate than they now do.

3rd.—The Committee beg to recommend the abolition of the Export duties—which, while they bear against the prosperity of this country, do not materially contribute to the Revenues of the Honorable East India Company.

We have the honor to be, &c.,

(Signed) E. D. KILBURN.  
" J. GIFFORD.  
" J. N. BULLEN.  
" S. A. APCAR.  
" N. MANIACHI.  
" C. H. BAILEY.  
" J. ROSE.

BENGAL CHAMBER OF COMMERCE,  
Calcutta, 29th March, 1855.

CECIL BEADON, Esq.,  
Secretary to the Government of India,  
Home Department,  
Fort William.

SIR,—On the 11th January last, the Committee appointed by the Chamber of Commerce to co-operate with the Collector of Customs in revising the Tariff for duties, in compliance with a request from the Board of Revenue

to that effect, submitted to the Board some suggestions, the adoption of which would, in the opinion of the Chamber, be attended with results which, while they would be satisfactory to those interested in the Trade of Calcutta, would not be disadvantageous to the Revenue.

And with reference to that communication of the Tariff Committee to the Board, I am desired to state that the Chamber will be glad to learn that the subject has pleased the consideration due to it, and that the Government will be pleased to make such modifications as will meet the suggestions referred to.

I have the honor to be, &c.,

(Signed) H. W. I. WOOD,  
*Secretary.*

No. 482.

FROM J. W. DALRYMPLE, Esq.,  
*Under-Secretary to the Government of India,*

TO H. W. I. WOOD, Esq.,  
*Secretary to the Bengal Chamber of Commerce.*

*Dated the 30th March, 1855.*

Sir,—I AM directed to acquaint you that your letter dated the 29th instant, regarding certain suggestions made by the *Home Department, Separate Revenue.* Committee appointed by the Chamber of Commerce to co-operate with the Collector of Customs in revising the Tariff for duties, has been transferred to the Government of Bengal for consideration.

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed) J. W. DALRYMPLE,  
*Under-Secy. to the Govt. of India.*

COUNCIL CHAMBER,  
*The 30th March, 1855.* }

FROM C. BEADON, Esq.,  
*Secretary to the Government of India,*

TO H. W. I. WOOD, Esq.,  
*Secretary to the Bengal Chamber of Commerce.*

*Dated the 27th April, 1855.*

Sir,—I am directed to acknowledge the receipt of your letter, dated the 29th ultimo, which has since been referred to the *Home Department, Sep. Revenue.* local Government and to the Board of Revenue for Report.

2. In respect to the first proposal made by the Committee of the Chamber in their letter to the Board, dated the 11th January last, the Honorable the President in Council directs me to observe that the effect of removing any particular article from the Table of fixed valuations, would not be to make that article duty free, as would seem to be the object of the Committee, but to leave its value to be ascertained by enquiries in the market on each occasion of import or export. This step so far from simplifying existing arrangements, would have precisely the contrary effect.

3. The attention of the Government is directed to the other questions referred to in the Committee's letter.

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed) CECIL BEADON,  
*Secretary to the Government of India.*

COUNCIL CHAMBER,  
*The 27th April, 1855.* }

BENGAL CHAMBER OF COMMERCE,  
Calcutta, 2nd May, 1855.\*

C. BEADON, Esq.,  
*Secretary to the Government of India.*

*Home Department,  
Fort William.*

SIR,—Your letter, No. 579 of the 27th ultimo, having been referred by the Committee of the Chamber of Commerce to the Gentlemen who addressed the Board of Revenue on the 11th January last, I am directed to state that, though their communication may bear the construction placed upon it by the Honorable the President in Council, in consequence of its having been somewhat vaguely expressed, their recommendation was intended to go the length of altogether expunging from the Tariff the articles referred to, or in other words that they should be admitted duty free.

The Committee of the Chamber is glad to learn that the other questions submitted by it are receiving the attention of Government.

I have, &c.,

(Signed) H. W. I. WOOD,  
*Secretary.*

\* This letter is included, as completing the correspondence, although its date is not within the half-year ending 30th April.

APPENDIX C.

RIVER MOORINGS.

BENGAL CHAMBER OF COMMERCE,  
Calcutta, 26th December, 1854.

To W. GREY, Esq.,

*Secretary to the Government of Bengal.*

SIR,—On the 26th August last I had the honor, by direction of the Committee of the Chamber of Commerce, to submit for the consideration of the Honorable the Lieutenant Governor the subject of an increase of permanent Moorings for the shipping of this port, and to express a hope that the representation then made would receive the early attention of Government.

The Committee is very desirous of seeing this much wanted improvement introduced with as little delay as possible, for the necessity of the additional accommodation applied for, will, it is feared, be much felt in the next rainy season; and the Committee respectfully requests to be informed if orders have been issued for laying down additional Moorings, and, if so, what progress has been made.

I have the honor to be, &c.,

(Signed) H. W. I. WOOD,  
*Secretary.*

FROM THE UNDER-SECRETARY TO THE GOVERNMENT  
OF BENGAL,

TO THE SECRETARY TO THE BENGAL CHAMBER OF  
COMMERCE.

*Dated Fort William, the 6th January, 1855.*

Sir,—I am directed to acknowledge the receipt of your letter, dated the 26th December last, and in reply to inform you that the correspondence, connected with the proposal of the Chamber for providing a larger number of permanent Moorings to meet the wants of the increased number of ships resorting to this port, has been submitted with the recommendation of the Lieutenant Governor to the Supreme Government for favorable consideration, and that the result will be communicated to you, as soon as a reply from that Government is received.

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed) A. W. RUSSELL,

*Under-Secretary to the Government of Bengal.*

APPENDIX D.

**Peninsular and Oriental Company.**

P. AND O. STEAM NAVIGATION COMPANY,  
*Calcutta, 24th January, 1855.*

H. W. I. WOOD, Esq.,

*Secretary to the Chamber of Commerce.*

Sir,—I beg to hand you, for your information and guidance, the enclosed extract of a letter to my address, received by the last Mail from the Managing Directors of this Company in London, together with the copy of the letter from the Admiralty referred to therein.

I have the honor to be, &c.,

(Signed) C. B. STEWART,

*Acting Agent and Superintendent.*

*Extract of a Letter from the Managing Directors, dated London, 9th December, 1854.*

"I enclose for your guidance copy of a letter from the Admiralty, sanctioning the suspension of one of the semi-monthly lines of communication between Bombay and China, and the substitution in lieu thereof of a monthly Mail between Bombay, Hong-Kong, and Shanghai.

"This alteration will, of course, supersede the temporary arrangement by which the Mails for China of the 20th and 25th of the month from England have latterly been forwarded *via* Calcutta, and you will accordingly have no occasion to despatch a Steamer for China in correspondence with the Mail hence on 20th instant.

"The Steamers on the Calcutta and China line, being relieved from Mail service, will resume their character of Commercial Vessels, and you will be at liberty to regulate their movements, in accordance with the requirements of the traffic."

(Signed) JAMES ALLAN,

*For the Managing Directors.*

*Admiralty, 30th November, 1854.*

GENTLEMEN.—In reply to your letter of the 29th instant, proposing that you should be relieved from one of the bi-monthly lines of Postal communication between Bombay and Hong-Kong permanently, and allowed to substitute in lieu thereof a monthly communication between Bombay, Hong-Kong, and Shanghai, and offering to accept such arrangement as a compensation for the claim now pending between my Lords Commissioners of the Admiralty and yourselves, I am commanded by their Lordships to acquaint you that they approve of the discontinuance of one of the semi-monthly lines between Bombay and Hong-Kong, and of your substituting in lieu of it a monthly communication to Shanghai; but this alteration must be considered temporary.

I am, &c.,

(Signed) R. OSBORNE.

*To the Peninsular and Oriental Company, Leadenhall Street.*

BENGAL CHAMBER OF COMMERCE,  
*Calcutta, 30th January, 1855.*

C. B. STEWART, Esq.,

*Acting Agent and Superintendent, Peninsular and Oriental Steam Navigation Company, Calcutta.*

SIR,—I AM desired to acknowledge receipt of your letter of the 24th instant, with its enclosures, announcing that the Lords Commissioners of the Admiralty had sanctioned, as a temporary arrangement, the suspension of one of the semi-monthly lines of communication between Bombay and China, and the substitution in lieu thereof of a monthly Mail between Bombay, Hong-Kong, and Shanghai.

The Committee of the Chamber remarks that the Steamers on the Calcutta and China line, being relieved from Mail service, will resume their character of Commercial Vessels, and that you will be at liberty to regulate their movements in accordance with the requirements of the (Opium) traffic.

The Committee learns with regret and astonishment, that the Mail service should be made subservient to the private traffic of the Peninsular

and Oriental Steam Navigation Company, and that while that Company finds no difficulty as to Vessels for the Opium Trade, it should have been allowed by the British Government to reduce the Mail communication with China to a monthly one, and to deprive the important Colonies of Australia altogether of Steam communication by the direct or overland route.

I am, Sir,

Your obedient Servant,

(Signed) H. W. I. WOOD,

*Secretary.*

P. AND O. STEAM NAVIGATION COMPANY,  
*Calcutta, 31st January, 1855.*

H. W. I. WOOD, Esq.,

*Secretary to the Bengal Chamber of Commerce.*

SIR,—I beg to acknowledge the receipt of your letter of yesterday's date just received, in reply to my communication of the 24th instant, acquainting you of the temporary alteration about to take place, with the sanction of the Admiralty, in the conveyance of the China Mails.

With reference to the concluding paragraph of your letter, I beg leave to state, that the Chamber of Commerce ought to be well aware, that, but for the present attitude of affairs in Europe, the "Sims," "Colombo," "Nubia," and "Candia" (all new and powerful Screw Steamers) with the "Rajah" and "Manilla," would, months back, have been available for carrying on the Mail service, and that the continued withdrawal of these and several other Vessels, for the transport service, by Her Majesty's and the Local Governments, has been the sole cause of the relinquishment of one of the semi-monthly communications between Bombay and Hong-Kong, and has rendered the abandonment of the Australian line a matter of imperative necessity.

It is unreasonable to class a temporary inconvenience in connection with the Postal communication, with the important services which have been rendered to the country by the above-named Vessels, and with every deference to the Chamber of Commerce, I beg to observe, that the Admiralty and the Directors of this Company must be the best judges as to what this Company are capable of carrying out with the means *now* at their disposal.

I addressed you on the subject, simply as a channel of communication, for the information of the Mercantile community, and I consider that the remarks made by the Chamber are entirely out of place, and I conceive that in offering them as they have done they have altogether mistaken their position in the matter.

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed) C. B. STEWART,  
*Acting Agent and Superintendent.*

BENGAL CHAMBER OF COMMERCE,  
*Calcutta, 1st February, 1855.*

C. B. STEWART, Esq.,  
*Acting Agent and Superintendent, Peninsular and  
Oriental Steam Navigation Company, Calcutta.*

DEAR SIR,—I beg to acknowledge your letter of yesterday's date just received, in reply to mine of the 30th ultimo.

It is unnecessary to discuss how far the Chamber of Commerce, representing as it does large Commercial interests, has altogether mistaken its position in the matter in making the remarks to which you refer in my above letter—that may be left to the decision of the Public;—but your letter, now under acknowledgment, does not touch the question of the employment by your Company of two Steamers in private trade with China at this time, when a reduction of the Mail service has been sanctioned by the British Government on the ground of the Company's inability to fulfil its engagements.

I am, Dear Sir,

Yours faithfully,

(Signed) H. W. I. WOOD,  
*Secretary.*

## APPENDIX E.

### REGISTRY OF BOATS.

No. 217.

TO THE SECRETARY TO THE GOVERNMENT OF BENGAL,  
JUDICIAL DEPARTMENT,  
*Fort William.*

SIR,—I HAVE the honor to submit, for the consideration of the Honorable the Lieutenant Governor, that it appears to me desirable to have introduced into the Police Act, the amendment of which is now before the Legislative Council, a few clauses in regard to the Registry of Native Boats, plying for passengers in the river Hooghly off Calcutta.

2. There is no reason to doubt that many accidents, attended with serious loss of life, annually occur from the dangerous overcrowding of such Boats, especially during the rainy season, and when the tides and currents are unusually strong—and I think it should be made penal in a *manjee* to take more passengers than his boat can safely carry, even if no accident should occur.

3. It is commonly supposed also, that sailors and others are not unfrequently robbed of their property, while in a state of intoxication, and even thrown overboard by the boatmen, and though I believe there is great exaggeration in regard to the supposed frequency of these crimes, yet I have no doubt that, when they are committed, the necessary enquiries would be facilitated under a good system of Registry.

4. At present there is no check on the misconduct and insolence of boatmen, for a party wishing to complain is, in the generality of instances, unable to ascertain their names, or to point out the boat—if, however, he knew the number of the boat, it would be a comparatively easy matter for the Police to discover and apprehend the boatmen.

5. I beg to suggest the following Rules—

I. That no boat be allowed to ply for passengers unless duly Registered at the Police Office, after a survey to be made under the orders of the Chief Magistrate—the Register to contain

- 1st. The number of Register.
- 2nd. The name and residence of the *manjce*.
- 3rd. Number of Crew.
- 4th. Number of persons the boat is capable of safely accommodating.
- 5th. Ghat at which the boat will ordinarily ply.

II. The Registry to be for one year only, and a fee of Rupee 1-8 to be paid on account of each Registry, the Registry to be repeated at each change of *manjce*.

III. Each boat to have in a conspicuous place a board containing in legible characters, in English and Bengalee, information corresponding with that entered in the Registry book.

IV. Any breach of the above Rules to be punishable with a fine of Rupees 50, or in default of payment, by one month's imprisonment, with or without labour.

V. The registry to be cancelled by the Chief Magistrate at any time, on proved misconduct or breach of Rules by the *manjce* or Crew, or on ascertained unsafeness of boat.

CALCUTTA,  
26th February, 1865. }

I have, &c.,  
(Signed) G. F. COCKBURN,  
*Offg. Chief Magistrate.*

## APPENDIX F.

## CULTIVATION OF FLAX IN THE PUNJAB.

No. 609.

FROM THE SECRETARY TO THE GOVERNMENT OF INDIA,  
TO THE BENGAL CHAMBER OF COMMERCE.

*Dated Fort William, the 9th February, 1865.*

GENTLEMEN,—I AM directed by the Most Noble the Governor General in Council to inform you that, on a representation made last year by the Agricultural Society of the Punjab, through the <sup>Foreign</sup> Chief Commissioner, the Government of India, with a view to encourage the cultivation of flax in the Punjab and its use as an article of Export, sent to England for seed and implements, authorized the offer of rewards for breadth of cultivation, and sanctioned the purchase of the entire crop of 1864-65, if of a proper quality, both seed and fibre.

2. The adoption of these measures has been attended with unlooked-for success, and from the returns recently furnished to the Chief Commissioner, it appears that 68,570 beegahs have been brought under flax cultivation, and that the produce available for Export (the local demand being trifling) may amount to 2,38,000 maunds of seed, and 68,000 maunds of fibre, the whole of which will be in the market by April.

3. This result, highly gratifying in itself as showing the productive power of the Punjab and affording the means of supplying the foreign trade with articles now in unusual demand, has so far exceeded the expectations of the Government, that the Governor General in Council would be glad to deviate so far from his original intention, as to avoid the shipment and exportation of so large a quantity of merchandize on account of the East India Company, and he is desirous therefore that the actual state of things should be generally known, so that private speculators may either at once enter the market, and take the seed and fibre from the producers, or make arrangements for purchasing them from the Government at Lahore, where the

produce purchased by Government will be sent, in order that the fibre may be prepared for the foreign market under European superintendence.

4. The Governor General in Council desires me therefore to request that the Chamber will assist the Government by making known to the Mercantile Community the prospects of the flax crop in the Punjab, and by giving its advice, as to the best means that may be available for bringing the produce to a local market, so as to obviate the necessity for Government interference in transporting it to the Coast and shipping it for the London market.

5. It is the intention of the Government to furnish seed and implements for the flax cultivation of the ensuing year, and also to continue the rewards for breadth of cultivation, but the renewal of the promise to purchase the crop of 1855-56, or any part of it, must depend upon the extent to which local purchasers are now found to come forward, and to which encouragement of this nature is otherwise deemed beneficial to the healthy development of the trade.

6. As the time is short, the Governor General in Council would request the early attention of the Chamber to this important subject.

I have the honor to be,  
Gentlemen,  
Your most obedient Servant,  
(Signed) CECIL BEADON,  
*Secretary to the Government of India.*

FORT WILLIAM, }  
The 9th February, 1855. }

BENGAL CHAMBER OF COMMERCE,  
Calcutta, 15th February, 1855.

To CECIL BEADON, Esq.,  
*Secretary to the Government of India,  
Foreign Department,  
Fort William.*

SIR,—I am directed by the Committee of the Chamber of Commerce to acknowledge receipt of your letter No. 609 of the 9th instant, informing the Chamber of the circumstances under which the cultivation of flax in the

Punjab received the encouragement of Government, the unlooked-for success of the measures adopted, and the intention of Government with regard to the disposal of the crop of seed and fibre, estimated respectively at 2,38,000 and 68,000 maunds.

In reply I am instructed to express the Committee's gratification at the facts detailed by you, and at the extent to which the proceedings of Government have, in the course of a single season, developed some of the valuable resources of the Punjab.

Assuming that the flax and seed are of good quality, and the price, at which Government are disposed to sell them, moderate, the Committee believes there is little doubt that private enterprise will readily avail of the opening thus shown; but in the present state of communication between this port and the districts in which those articles have been produced, and with the consequent expense of carriage from Lahore to Calcutta, which would be far too great to compete with that of transit down the Indus to Bombay, the Committee considers that that port offers the only market for disposal of the produce referred to. The Committee is unable to quote the value of flax as it is not an article of local Export; but the finest Linseed is worth from Rupees 3 to 3-4 per bazar maund.

The Committee, though unable to state the cost of conveying the latter to Calcutta, apprehends that it would be excessive, from the extent of land carriage between Lahore and either the Jumna or the Ganges, even assuming that water carriage by large boats was at once available on those rivers, which the Committee conceives to be very doubtful. The Committee suggests that, in the event of no purchasers coming forward within a reasonable time, the Government should dispatch the entire crop to Bombay for disposal there.

With the view of complying with the request to give publicity to the existence of the stock of flax and seed, the Committee has distributed copies of your letter to the members of the Chamber, and will forward some to the Chamber of Commerce at Bombay.

I have the honor to be, &c.,  
(Signed) H. W. I. WOOD,  
*Secretary.*

FROM THE SECRETARY TO THE GOVERNMENT OF INDIA.  
TO THE SECRETARY BENGAL CHAMBER OF COMMERCE.

*Dated Fort William, the 9th March, 1855.*

SIR,—I have received and laid before the Honorable the President in Council your letter dated the 15th ultimo, regarding the cultivation of Flax in the Punjab, and in reply I am directed to request that you will convey the thanks of the Government to the Chamber for their obliging communication.

*Foreign  
Department.*

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed) CECIL BEADON,  
*Secretary to the Government of India.*

FORT WILLIAM,  
*The 9th March, 1855* }

BENGAL CHAMBER OF COMMERCE,  
*Calcutta, 17th March, 1855.*

R. TEMPLE, Esq.,  
*Secretary to the Chief Commissioner,  
Lahore.*

SIR,—The Chamber of Commerce has lately received from the Government of India a most interesting and important communication regarding the circumstances under which encouragement had been given by the State to the cultivation of flax in the Punjab, the unlooked-for results which attended the measures adopted for carrying out the experiment, and the wishes of Government as to the disposal of the large amount of flax fibre and seed now, or shortly to be, for public sale at Lahore.

With reference to the prominent position which those articles are likely to hold, and to the probability of mercantile speculation being directed to them, and to the numerous other resources of the Province, the gradual develop-

ment of which may be hoped for, I have the honor to request you will be pleased to furnish me, on account of the Chamber of Commerce, with the fullest and most accurate information regarding the best mode of forwarding produce from Lahore to Kurrachee or Bombay, whether by land or by water,—cost of its conveyance,—amount of available means of transit,—the proper seasons for transmission, and such additional details as may be of service to those who may venture to embark in the speculation invited by Government.

I have the honor to be, &c.,

(Signed) H. W. I. WOOD,

*Secretary.*

No. 323.

FROM R. TEMPLE, Esq.,  
*Secretary to the Chief Commissioner for the Punjab,*

TO H. W. I. WOOD, Esq.,  
*Secretary to the Bengal Chamber of Commerce,  
Calcutta.*

*Dated Lahore, 13th April, 1855.*

SIR,—I am directed to reply to your letter of the 17th ultimo, requesting information on the means of transit for flax and linseed from this place to Kurrachee and Bombay.

2. Your first question is, whether the best means of conveyance is by land or water. In regard to land carriage, such is indeed available, though perhaps to a limited extent. There is a road between Lahore and Mooltan which, though as yet unmetalled, is made in other respects, and bridged for the most part, with Serries, Chokees and such like buildings, for the protection and accommodation of traffic. This road is quite suitable for land commerce. It is largely used by country carts, and recently the Government have established a bullock train on it. As it is an experiment only, the charge is high, being Rupees 2-8-0 per maund for 200 miles, or Rupees 70 per ton. From Mooltan again, to Kurrachee, a camel train has been, or is being established, under the auspices of the Commissioner of Sindhl; and to favor this means of communication, the transit duties in the independent State of Bahawalpoor have been considerably lowered. Camels indeed are procurable in large numbers for all the Punjab lines of road, while carts are usually scarce. The cost of conveyance to Mooltan

might amount to Rupee 1-8 per maund; and this will be found very dear as compared with the cost of water carriage.

3. But the best mode of conveyance is undoubtedly by water. For all the districts of Upper and Central Panjab, such as Sealkote, Goordaspoor, Goojerat, Hooshearpoor, Jullundur, Umritsur, Lahore, which are the localities chiefly producing the flax and linseed, means of communication are furnished by the rivers Chenab, Ravee, and Sutlej. On these rivers, country boats are employed by merchants. These boats ply not only within the limits of the Panjab but also run down the Indus to the sea-board. Returns of them have not been kept for each separate river. But at Mithankote, below the junction of the five rivers, and where the several fleets of boats may be supposed to be united, a registration of the boats passing up and down has been kept for the last three quarters. Of the statistics thus obtained I subjoin an abstract as follows:

	Number of Boats.	Maunds of Goods.
During July 1864, .....	144	26,161.
„ 2nd quarter ditto, .....	437	95,620.
„ 3rd ditto ditto, .....	660	1,82,712.

These figures seem to bear out the general supposition that the river traffic is fast increasing.

4. A confident hope is indeed entertained, and has been expressed in letters from this Office to the Supreme Government, that the out-turn of this season's produce, which may amount to 2,80,000 maunds of seed and 68,000 maunds of fibre (some doubts are now entertained as to the quantity of fibre, but it will not be under 1,000 tons) can be conveyed to the port of Kurra- chee by country boats. The freight by such craft would probably be from 12 annas to 1 Rupee per maund from Lahore to Kurrachee.

5. It will be understood that the boats above alluded to, are quite exclusive of those used for *ferriage*. The principal ferries and boat-bridges are supplied by the Engineers, in whose Department the art of boat-making is thoroughly understood. In regard to private boats, their number will probably increase together with the demand; these vessels are appreciated by the natives of the Panjab, and timber is procurable in abundance from the Hills. A country boat costs about Rupees 600 or 600 to construct; will hold from 350 to 500 maunds, and will, if repaired, last several years.

6. But I am farther to point out that the Steamers of the Indus Flotilla, which ply regularly once a month between Mooltan and Kurrachee, are frequently available for the transport of merchandize. They bring up troops

and Government stores, and take back, if not occupied by public property, private consignments of Saltpetre, Indigo, Dyewood, &c. But the accommodation of these vessels is small, and they are usually full, so much so that the merchants at Mooltan are still obliged generally to resort to country craft. The freightage by Steamer from Mooltan to Kurrachee would be 10 annas per maund, while by country boat, it would not exceed 6 to 8 annas.

7. Having thus endeavoured to answer your queries relative to the available means of transit and the cost of conveyance, I am now to advert to the remaining question concerning the proper seasons of transmission. The best seasons for transmission by land would, of course, be after the cessation of the rains, *i. e.*, in October and November. The proper period of shipment by boats on the Panjab rivers would be the months of August and September, when the first violence of the floods shall have partially subsided, and while the water is still sufficiently high to obviate all risk of stoppage to the boats. The rivers are, however, navigable for country craft, during most months of the year. The voyage from Lahore to Kurrachee, under fairly favorable circumstances, would generally be performed in about 35 days. From Kurrachee, of course, shipping is obtainable.

8. At present linseed sells at about Rupee 1-8, or Rupee 1-10 per maund in the chief markets of the Panjab; the conveyance to Bombay might cost another Rupee 1-4, and the article thus purchased and transported for Rupees 2-12 per maund, might, at the present Bombay rates, be sold for Rupees 3-4-10 per maund, and thus a profit of several annas in the maund would arise to the speculator. Of the fibre it is hardly possible to write with equal precision, as the matter is only in an experimental stage, but it is assumed on reasonable data, that the cost and preparation of flax will be from Rupees 4 to 5 per maund, the carriage to Kurrachee 1 Rupee more, and that consequently the cost price at Kurrachee would be about Rupees 6 a maund, or about £17 a ton, the selling price in England being about £35. When the Zamencdars come to know the value of the flax stem, the cost price will probably rise to £20 or £22.

9. In conclusion I am to state that, in the event of your requiring further information or other details, they will be promptly furnished if procurable.

I have the honor to be, &c.,

(Signed) R. TEMPLE,  
Secretary to the Chief Commissioner.

LAHORE, }  
13th April, 1855. }

BENGAL CHAMBER OF COMMERCE,  
*Calcutta, 26th April, 1855.*

R. TEMPLE, Esq.,

*Secretary to the Chief Commissioner for the Punjab,  
Lahore.*

Sir,—I am in receipt of your No. 323, of the 13th instant, and am directed by the Committee of the Chamber of Commerce to thank you for your prompt acknowledgment of the Chamber's communication of the 17th ultimo.

I have the honor to be, &c.,

(Signed) H. W. I. WOOD,  
*Secretary.*

APPENDIX G.

HOOGHLY AND MUTLAH RIVERS.

BENGAL CHAMBER OF COMMERCE,  
*Calcutta, 26th April, 1855.*

To W. GREY, Esq.,

*Secretary to the Government of Bengal.*

Sir,—I am directed by the Committee of the Chamber of Commerce to return their cordial thanks for the ten copies of Reports of the Committee upon the state of the River Hooghly, obligingly forwarded by you on the 14th instant, and to solicit the attention of His Honor the Lieutenant Governor to the following brief observations upon the very important subject of which those reports treat.

The two separate reports of Messrs. Robertson and Mackenzie, and Mr. Piddington, differing materially in the conclusions which they draw from the mass of evidence taken, agree in this, that any deterioration which may be going on in some of the channels of the Hooghly, whether counterbalanced by improvements in other channels, as asserted by the last named gentleman, or not, does not amount in extent to that assumed in the letter from this Chamber of 27th May 1853, and consequently that a resort to the River Mutlah as a communication between this Port and the Sea is not of that impending necessity which the Chamber of Commerce was then led to believe.

But the two reports in question further agree in the expression of an opinion, that the fluctuations in particular channels are undoubtedly great, and that to ameliorate this evil, early measures, where practicable, are most urgently called for.

Looking then to the enormously increasing trade of this port, to the ascertained fact that the major part of it is now carried on by means of vessels of much larger burthen than was formerly the case, and to the direct interest which the Government of this country has in affording every possible facility to the prosecution and extension of that trade, I am

instructed by the Committee, to urge most earnestly upon the attention of His Honor the Lieutenant Governor, the practical recommendation in which it will be seen all the Members of the Hooghly Committee agree, that the highest engineering science and skill available in the country, should at once be employed to improve the present channel of communication between Calcutta and the Sand Heads : whether by interference with the Nuddea Rivers, the Roopnarain, or the Damoodah ; the application of mechanical skill to the shores of the Hooghly itself ; or by all these methods combined.

If this be determined upon, it appears immaterial to consider whether the channel of the Hooghly is at present better or worse than in former years. Its navigation has always, and with justice, been deemed somewhat difficult and dangerous, and if this can be materially improved for that further expansion of commerce which will assuredly follow the internal changes now going on in this country, the result to Government will be alike honorable and profitable.

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed) H. W. I. WOOD,

*Secretary.*

APPENDIX H.

BRIDGING THE RIVER HOOGHLY.

No. 135.

FROM THE UNDER-SECRETARY TO THE GOVERNMENT OF  
BENGAL,  
TO THE SECRETARY TO THE CHAMBER OF COMMERCE,  
CALCUTTA.

*Dated Fort William, the 10th January, 1855.*

Sir,—I am directed to forward for the information of the Chamber, *Public Works*, copy of the Reports sent out by the Hon'ble the Court of Directors, on the subject of Bridging the River Hooghly. A printed copy of Colonel Goodwyn's Report on his proposed Suspension Bridge over the Hooghly is likewise forwarded.

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed) A. W. RUSSELL,

*Under-Secretary to the Govt. of Bengal.*

PUBLIC DEPARTMENT.

No. 77 of 1864.

OUR GOVERNOR GENERAL OF INDIA IN COUNCIL.

PARA. 1.—With reference to our Despatch in the Financial Railway Department, dated the 5th May last, we now forward copy of a Report which, at our desire, Mr. Rendel has submitted upon the subject of Bridging the River Hooghly at Calcutta.

2. You will have learnt by that Despatch that the subject of crossing the river with reference to the requirements of the Railway, was under our consideration when your letter of the 15th November, 1853, in the Public Department, No. 40, drew our attention to Colonel Goodwyn's design for a Resultant Tension Bridge, and to the proposition which had been submitted to you of forming a Company for the purpose of constructing it. In view to the attainment of the two-fold object for which a Bridge is required, we requested Mr. Rendel, who, as Consulting Engineer to the East Indian Railway Company, had paid much attention to the subject, to report his opinion as to the best means by which the two banks of the river could be united, and we forwarded for his consideration Colonel Goodwyn's design, and the papers connected with it.

3. Independently of the objections pointed out by Mr. Rendel to the Bridge proposed by Colonel Goodwyn, we may observe that we had already in our Despatch in the Revenue Department, dated 3rd December, 1845, No. 9, expressed a very decided opinion against the future construction in India of Bridges upon the Resultant Tension principle.

4. Mr. Rendel, with the information before him, recommends the construction of a Wrought-Iron Tubular Girder Bridge to be carried across the river from the Aheerostollah Ghaut on the Calcutta side to Sulkea. He defers, however, pronouncing a decided opinion until the necessary surveys and borings have enabled him to judge with more accuracy of the state and character of the bed of the river in that locality. We are disposed to concur with him in the views which he has expressed upon the site of the proposed Bridge, and adhering to the estimated costs of Bridges upon the Tubular Girder and the Suspension principle, the former, if practicable, would appear to be the most desirable to adopt. We forward a Statement of the information which Mr. Rendel requires to be furnished with, and unless any serious objection to the proposition which he has made occurs to you, we desire that measures may be adopted for taking the borings and measurements specified. We shall then be glad to receive your views and suggestions upon the subject of carrying out the undertaking.

5. We entirely concur with you in opinion that a concession of the terms upon which the Company proposed to construct the Bridge designed by Colonel Goodwyn, would have established an oppressive monopoly.

6. It appears to us that it is a work, which at the present time, must be undertaken by Government, and in the event of its being thought desirable to obtain tenders in this country from contractors for its execution, we request

that you will consider what conditions should be affixed to such tenders, and, if any, what supervision by Government Officers should be provided for.

We are, &c.,  
(Signed) J. OLIPHANT,  
E. MACNAGHTEN,  
AND OTHER DIRECTORS.

London, the 18th October, 1854.

8, Great George Street, Westminster, 31st July, 1854.

TO SIR JAMES C. MELVILL, K. C. N.,  
&c. &c. &c.

EAST INDIA HOUSE.

SIR,—The questions referred to me by your Honorable Court, in your letter of the 13th of April, relate to interests so large and otherwise important, that I feel apology unnecessary for the length of time I have had them under consideration, before venturing to make the following Report.

2. Your communication to me was to the effect, that the Court of Directors of the East India Company had had under consideration my Report to the Directors of the East Indian Railway Company, upon the subject of connecting Calcutta with the Railway Station at Howrah; that they had likewise had before them reports, which had been forwarded to them by the Government of Bengal, relative to a proposed Suspension Bridge over the Hooghly at Calcutta; that the Court was desirous of taking the present opportunity to ascertain the best mode by which the two-fold object of meeting the requirements of the Railway, and those of the community at large, with respect to the means of crossing the river, might be accomplished; and that you had been directed to forward to me copy of the correspondence which had passed on the subject, together with plans and drawings of the proposed Bridge, for the purpose of obtaining my views on the whole question.

3. As you have referred to the Report made by me to the Directors of the East Indian Railway Company, and as my review of that Report for the present enquiry has confirmed the opinions therein expressed, it seems desirable that I should here briefly recapitulate them.

4. They were as follows:—That Howrah is not a suitable Railway Terminus for the passenger and goods' traffic of Calcutta, unless the difficulties of

crossing the Hooghly are removed by the establishment of an infinitely more certain and commodious means of communication than ordinary Steam Boats can be made to afford; that after a full consideration of the peculiar difficulties presented by the river, and the requirements of the traffic to be accommodated, I had been forced to the conclusion, that we had only to select between two modes of accomplishing the object, namely, the construction of a fixed Bridge, or, that failing, on account of its cost or otherwise, the establishment of the most perfect known substitute, a Floating Bridge of the same kind as those now in use at Devonport and Portsmouth; that as neither of these Bridges could, in my judgment, be without great inconvenience to the navigation, and consequent danger to themselves, carried across the river within that portion of it required by sea-going ships, either kind must be placed above their anchorage ground; that as the present station at Howrah is immediately abreast of that part of the river most resorted to by shipping, no site immediately between it and the opposite bank could be adopted; that this station had doubtless been selected by the Government on account of its advantageous position in the Port, and the facilities which it consequently presented for the conduct of that ultimately very large portion of the traffic which will only require interchange between the shipping and the Railway; that all present outlay of money upon it in works should be made, chiefly with a view to its being ultimately given up to such Port traffic and wharves, and to work-shops and yards, such as must hereafter be established; and that another station should be procured for the Calcutta traffic, to which a Bridge may directly lead, without interfering with, or being endangered by, the navigation.

5. In an Appendix to the Report, a summary of which I have just given, I furnished under four heads a list of the plans, and other information I deemed necessary for enabling me to select the best site for a Bridge (fixed or floating) having reference to the respective wants of shipping and the Railway traffic to the city. That information I have not yet received, but within the last month Mr. Turnbull, the Chief Resident Engineer of the Railway Company, has forwarded to me two plans of the river. By the aid of these, and the information I have been able to collect from equally reliable sources, as to the peculiarities of the river in respect to its currents, "the bore" and the effect of these, and the gales known as "North-Westers" on the shipping at their moorings; also as to the manner in which ships are moored, and discharge or receive their cargoes; as to the kind and number of lighters and other boats employed in such operations; and lastly, as to the form and

dimensions of all classes' of the up-country craft which trade to the Port, I now feel myself in a position to report more specifically and confidently than in February last, upon the whole question.

6. I have before stated my full adhesion to all the conclusions of the report I then made; but I should remark that, since its date, the question which it treated has assumed its most important aspect much earlier than I then had any reason to believe it would; and that I now assume the desirability of constructing a fixed Bridge, confining myself in this Report to a consideration of its proper site and character, and the design for it submitted by Colonel Goodwyn; and holding the question of a Floating Bridge in reserve, as a substitute only to be resorted to, in case the difficulties presented by a fixed Bridge should seem to outweigh its necessity.

7. Commencing with the consideration of the proper site to be selected, I would observe that no fixed Bridge could be permitted below the Dock Yards at Howrah, unless its roadway was elevated to a sufficient height to admit of large sea-going vessels passing under it; or which required, for the support of such a roadway, towers built in the river of a size that would materially disturb its currents; conditions, which the flatness of the shores on either side, and the consequent difficulty of getting convenient approaches, no less than the manifest cost of such a Bridge, make compliance with financially impossible.

8. But it may be said, why not meet these difficulties by providing a Drawbridge in a suitable position for all large high vessels; raising the general roadway of the Bridge to such a height only, as would allow the far more numerous class of river craft and boats to pass under it at all times; reducing, by this means, to a minimum the interruption both to the navigation and road traffic which the opening of the Drawbridge would occasion.

9. The answer will be ready with all nautical men who have handled even a moderate sized vessel in a rapid river or tideway, for they well know that it would be simply impossible to pass a ship through a Drawbridge, of any ordinary size, placed across a river, running 6 or 7 knots in some states of the weather; and that it would at all times be a hazardous, troublesome, and dilatory proceeding, such as no crowded navigation could brook. This would readily be admitted by all conversant with nautical affairs; but those only who know the exaggerated character of these difficulties in the Hooghly, compared with ordinary rivers, can sufficiently appreciate the destruction there would be, either to the Bridge or vessels, if, when the stream is running hard, or the wind blowing high, they should fail in making the

Drawbridge opening true, and consequently foul the piers, or the road of the Bridge on either side.

10. Nor could the expediency of permitting such a Drawbridge to be built, be determined alone by its safety or danger to vessels using it. The effect it would have on the currents, and through their agency on the bottom, the channels, and the shores, in such a peculiar river as the Hooghly, must also be considered.

11. Supposing the Drawbridge to be placed on either of the shores, where, as regards the convenience of landing vessels through, it would in every way be best situated, the obstruction it would present to the stream would undoubtedly cause the shore to grow up to the extent of the eddy produced; so that the depth of water through the opening would be lost, and the Bridge rendered useless to shipping. Again, if placed in the channel of the river with a necessarily larger opening, then it is apparent that all the works must be proportionately massive, and consequently present proportionately larger obstruction; and that in a part of the river where the stream is the strongest, and the eddies form any obstruction of corresponding strength. The structure, therefore, would become the nucleus of an insulated bank, alike destructive to the depth of water through the Bridge, and consequently to the passage of vessels through it, and to the whole economy of the river.

12. I need not, however, enlarge upon these points to those who are acquainted with the nature of the currents of the Hooghly, and the soft and easily disturbed character of the soil, through which it flows. The changes which have occurred within the memory of persons still living, and which indeed are daily taking place from much smaller obstacles in its course, will fully point out to all who are interested in maintaining its present banks the necessity for not permitting any considerable obstruction to the passage of the stream, to be interposed between them.

13. Holding these views, and attaching, as I do, very great importance, not only to the maintenance of the present accommodation for shipping, but to its enlargement to meet its constant growth, augmented as that growth will undoubtedly be by the Railway, I need hardly say, that I consider Colonel Goodwyn's design for a Bridge sent to me with your instructions objectionable, on account of the site selected for it, and the arrangements made for the passage of vessels.

14. As regards the site it is in the very midst of the moorings, being but little above the Custom House. It cuts off, therefore, the free access from the

lower part of the Harbourn to all the Dock Yards and Commercial Establishments at Howrah; and separates from the main body of the Port a very important reach of the river one mile and upwards in length. I say very important, because the part so cut off lying between what now are, and doubtless will remain if not interfered with, permanently defined shores; and being clear of the "Ghoosere Sand" above, and the "Summatra Sand" below, has, and doubtless will retain, a conveniently deep channel for the largest ships, and steep banks suited to the wants of the small craft, by means of which the cargoes are lighter to and from the shore.

15. As regards the Drawbridge, on the efficiency of which Colonel Goodwyn himself intimates the adaptation of the design to the site solely depends, I have to refer back, for my opinion, to what I have already said of the unsuitability of ordinary structures of the kind in such localities, and to point out the manner in which the works connected with the one proposed exaggerate the inconveniences to which, under any circumstances, it must give rise.

16. The arrangement of Colonel Goodwyn's design places the Drawbridge in the middle of the river. Its opening is proposed to be 75 feet; and its piers are, necessarily, about 70 feet thick each, consequently, taking all together, this Bridge presents an obstruction of about 200 feet to the stream, and at right angles to its current. It would, therefore, undoubtedly, as I have before described, create violent eddies, and become the nucleus of a formidable bank.

17. But this is not the extent of the evil; for the general character of the design requires the erection upon each of the piers of a lofty and massive tower, the two being connected together at the top. These structures would undoubtedly give rise to eddy or baffling winds in their immediate neighbourhood; and so add to the difficulties, and, in gales, to the dangers of the passage to vessels, and increase the delays to which the road traffic must in any case be exposed.

18. To proceed with the general description of Colonel Goodwyn's design, the Drawbridge being placed in the centre of the river, here 2,200 feet wide, it is proposed to connect it with each shore without building further piers in the river: it being considered, as would seem, better to encounter the untried difficulties of constructing a Suspension Bridge of two openings of 1,000 feet each, with a continuous chain, than to risk the effect of placing additional obstructions in the course of the stream.

19. The roadway of this truly bold and gigantic Suspension Bridge, is proposed to be carried at such a height, as would leave the underside of the

Bridge 25 feet clear above high water in the river, which would be the limit to the height of the craft that could pass under it, excepting such as were provided with falling masts. But I am informed, that the up-country vessels and river steamers would require fully 35 feet headway, and that no fixed Bridge could be permitted of a less height.

20. With respect to the other details of the design, I may say, that my experience in the building of Suspension Bridges has convinced me that it is of the utmost importance to their actual strength, durability, and easy construction, to study simplicity in the connection of the various parts, and to take care, that those through which the chief strains are transmitted should be few and massive, of such forms as will admit of their being manufactured without welding, and of mathematical exactitude with one another; that the Wrought Iron, which should be of the best quality, should not be proved to a greater strain than twelve tons, or be liable in place to a greater strain than five tons, to the inch at the utmost. And, lastly, that it is unsafe to calculate the passing load to which the Bridge may be subjected by the unrestricted traffic of a great city, at less than one hundred weight per square foot of the surface of the roadway.

21. Investigated upon these principles, I fear that Colonel Goodwyn's design would prove as undesirable in regard to its details, as in its broad outline, its magnitude so far exceeding that of all existing general or unrestricted traffic Suspension Bridges, as to render freedom from other kinds of novelty, and a larger margin for strength on the safe side, most desirable.

22. In the first place, Colonel Goodwyn considers the weight of the roadway and passing load, together, as amounting at the utmost to 120lbs. per square foot of roadway surface. This weight, so far as I can gather from the quantities named in his estimate, would be distributed between the roadway and the traffic, in the proportion of somewhat less than 40lbs. for the latter, or only about one-third that which I have above stated it should be in my opinion, and somewhat more than 80lbs. for the former. Again, the Wrought Iron is subjected to a strain of  $7\frac{1}{2}$  tons to the inch, exclusive of the strain caused by its own weight, which, in the case of the chains at their points of suspension, amounts alone to more than two tons per square inch of section; making the total strain to which the Iron would be subjected at this point nearly 10 tons per inch, or twice that at which I have placed it.

23. In fact it is clear that the strength of the Bridge, to enable it to carry safely even the contemplated load, must be very greatly increased;

and, if the traffic across it is to be unrestricted, as it must be to meet the objects for which the Bridge is designed, that such increase must be carried to a far greater extent.

24. As regards the estimated cost of the proposed Bridge (*viz.* £226,000) it is manifest that, if its strength is increased by a large addition to the Iron of which it is constructed, its cost must also be largely increased. But I should add that the price at which Colonel Goodwyn has estimated the cost of the Iron would not purchase it in this country, and that consequently it falls short of what would be the actual cost of it, erected in the Bridge, by certainly not less than 50 per cent. Nor is this the only part of the estimate which I consider too low; since I fear that the risk, difficulty, and delays which would have to be encountered in founding and constructing the projected towers in the middle of such a river, would cause their erection to amount to a far larger sum than that named for them. In short, supposing the design to be the proper one, when strengthened as I consider necessary, I do not think it could possibly be carried out, under the most favorable view of the circumstances, with Iron and labour at their present prices, for less than £750,000.

25. I am not in a situation, even if it were necessary, and I do not think it is—looking to your instructions, to go into an investigation of the mathematical questions raised by Colonel Goodwyn in proof of the advantages of “the Resultant Tension principle” of his design; nor indeed have I the means of doing so fairly, from having failed, as you know, in procuring the pamphlet in which it has been elucidated by him. It is right, however, that I should state that the accidents to the “Menai” and “Montrose” Bridges, to which he refers, were solely due to the lightness and flexibility of their roadways as originally constructed, which, permitting undulation, destroyed the fibre of the Iron in the rods which connected them with the suspension chains, and hence their failure. To this fact I can speak most positively, for I examined both Bridges after the accidents to them, and repaired the damage done to that at Montrose for the Government; adopting with perfect success the principle of a rigid roadway, which was further partially adopted in the repair of the Menai Bridge, and is now again being carried out in a Suspension Bridge, constructing by the Government under my direction in Scotland.

26. But in the case of the Hooghly at Calcutta, and the traffic to be there accommodated, I think a Suspension Bridge wholly inappropriate.

27. The kind of Bridge which, after full consideration, I am prepared to

recommend, is a Wrought Iron Tubular Girder Bridge in spans of 200 feet; this plan being on the whole the most economical in general result, as allowing of the proper thickness of the plates for durability in such a climate, and of their easy examination and preservation. It also admits of such weights generally in the parts forming the whole, as will render easy its erection in place; and further its supporting piers are at such a distance apart, and may be of such a reduced size, as not to interfere with the currents, or diminish to an objectionable extent the waterway of the river.

28. The piers may be formed of Cast Iron cylinders of a diameter convenient for transport to India, and for easy and expeditious sinking in the river with the appliances which the country will afford: when sunk to the requisite depth to carry the weight of the Bridge, they would be filled with masonry or brickwork, and would then, with proper external framings, be durable, and sufficiently strong to repel all injury from the fouling of them by the river craft.

29. To provide for the navigation of the river by such craft, which alone at the site I shall have to propose for the Bridge, would have to pass under it, the headway of its centre spans would be from 35 to 40 feet above the level of high water of spring tides, sloping away by an easy curve to either shore, and terminating at a sufficient height above their general level to make the approaches easy by a gentle ascent, and as well not to impede the passage close along side of the smaller boats and craft.

30. I need scarcely here observe, after the objections I have already stated to the use of a Drawbridge for the passing of large vessels, that it is also *pro tanto* objectionable for small vessels, and most decidedly unsuitable to a roadway intended to carry a Railway traffic, which must keep Railway time, and to which, therefore, the interruption caused by a Drawbridge, subject to the irregular and tedious passage of vessels on tidal rivers, would be peculiarly obnoxious.

31. With regard to the proper site for such a Bridge, I have to remark that, although I am fully prepared to find that the opening of the entire line of Railway now contemplated, that is up to Delhi, will so increase the trade of the Port as to render the construction of Docks ultimately necessary, yet looking to the fact that this great trunk line, and the system dependent upon it, will connect all the ancient cities of the Ganges with each other, and the whole with Calcutta, the political and commercial capital of India, it would be, in my deliberate opinion, most unwise to curtail its Harbour accommodation.

32. No Bridge, therefore, should, in my judgment, be allowed lower down the river than the tail of the "Ghoosree Sand" or Shoal, or say below "Aheerettoollah Ghaut" on the Calcutta side; but so far as my knowledge of the wants of the Harbour goes, no objection can exist, as far as shipping are concerned, to a Bridge being carried across from this point to the opposite or Sulkeah shore.

33. The river here is 2,300 feet wide at highwater of springs, or nearly the same width as at the Howrah station; and the site is in every respect as eligible in an engineering point of view: further, the part of the Harbour, that is, or can be, much frequented by large shipping, has here its limits; the stream above being chiefly used by the up-country craft: whilst therefore leaving undisturbed all necessary accommodation for the present or future probable wants of the Port, it is a mile within the Northern limits of the City, and removed only about the same distance from the central situation of the Mint. As respects convenience of approach, it is at the North end of the Strand or shore road, and through it would be connected with all the chief thoroughfares of the city.

34. No reasonable objections therefore can exist against it as a site for the accommodation of general as well as Railway traffic, whilst as regards the Railway itself, it affords every facility for securing at a cheap rate any amount of land, which may be wanted for a new station close to it in Sulkeah, and for the short branch which would be required to connect such station with the present line on its route to the existing station, which is about  $\frac{1}{4}$  mile lower down the river.

35. Finally with regard to the cost of a Bridge of the general construction, and on the site described, I should observe that, in the absence of borings and special surveys, it would not be possible to give a detailed estimate, but as far as it can be ascertained from the facts in my possession, I have gone into the question, and find that with a roadway of 30 feet, and a foot-path on either side of seven feet in width, and with approaches rising not more than 1 in 35, the Bridge could be built for a sum certainly not exceeding £450,000.

36. It is only in the event of the borings and surveys which I should require previous to going farther into the consideration of this question proving very unfavorable, that I should now recommend a resort to what is after all only a substitute, and as such undoubtedly inferior in the advantages it offers, particularly for the coal and other heavy goods' traffic of a great city, namely a Floating Bridge. The cost of this, however, I have

also estimated with as much care as the information I have will allow, and I find that such a Bridge could be established in duplicate for £50,000, and maintained and worked for a sum not exceeding £3,000 per annum.

87. I have thus endeavoured to make clear what must be regarded as a complicated and difficult subject, all the more difficult to me from the fact that the knowledge I possess on the various parts of the investigation is derived from information furnished me by others. Fortunately for the confidence I have in the conclusions I have arrived at, that information has been obtained from reliable sources, and has stood the test of comparison; and whilst a small portion only has been sought specially for this enquiry, the remainder, and by far the larger and more important part, of such information has been obtained by me during the last seven years that I have had the honor to act as consulting and responsible Engineer of the East Indian Railway Company; whom I have from the first regarded as more interested in, if possible, the particular questions thus raised, than even the East India Company or the Government.

I have, &c.,

(Signed) JAS. M. RENDEL,

P. S.—I beg to return the papers which accompanied your letter of the 13th of April.

(True Copies)

(Signed) C. ALLEN,

*Offg. Secy. to the Govt. of India.*

(True Copies)

(Signed) A. W. RUSSELL,

*Under-Secy. to the Govt. of Bengal.*

PUBLIC DEPARTMENT.

No. 89 of 1854.

OUR GOVERNOR GENERAL OF INDIA IN COUNCIL.

1. Since addressing you in our Despatch in this Department, No. 77, on the 18th ultimo, upon the subject of the Bridge across the Hooghly, at Calcutta, we have received a letter from Mr. Rendel, enclosing the state-

ment referred to in Para. 4 of that Despatch, giving the "particulars of surveys, plans, sections and borings required preparatory to settling a suitable site and proper design" for the Bridge in question.

2. You will perceive by Mr. Rendel's letter (copy of which and of its enclosure we forward to you) that he considers it necessary to send from this country two experienced Borers with the requisite implements, in view to the expeditious and complete performance of that part of the enquiry, and he also expresses his wish that, in the event of the responsibility of designing the Bridge devolving upon him, the superintendence of the survey and general enquiries should be placed under the supervision of his son, who is willing to proceed to India to undertake it.

3. Before deciding upon the measures which shall be adopted for carrying out the undertaking, we shall await the receipt of the views and suggestions with which we have requested you to furnish us upon the subject. But deeming it desirable that experienced men should be employed to execute the borings of the river, &c., we have resolved to send out two Borers and to provide them with the necessary implements.

4. We shall advise you of the departure of these men and supply you with a list of the tools under their charge.

5. We leave to you to make such arrangements as you may think fit for making the surveys which are required.

6. We hope that the subject of the ultimate arrangements for carrying out the undertaking will receive your immediate attention, so that if the employment of Mr. Rendel, Junior, is considered desirable, his services may be made available at the earliest stage of the operations.

We are, &c.,

(Signed) J. OLIPHANT,

" E. MACNAGHTEN,

AND OTHER DIRECTORS.

London, 22nd November, 1854.

S, Great George Street, Westminster, 28th October, 1854.

To J. D. DICKINSON, Esq.,

&c. &c. &c.

EAST INDIA HOUSE.

SIR,—Herewith I have the honor to transmit a detailed description of the surveys, plans, sections and borings, of the kind referred to by me in

my Report of the 31st July last, relative to the proposed Bridge across the Hooghly at Calcutta.

2. Your letter communicating to me the Court's instructions to furnish these particulars in terms of my said Report is dated the 14th ultimo, when I was out of the country. Since my return I have carefully looked over all the plans of the river at Calcutta, as well as all the information regarding its economy and the present and prospective demands of commerce upon it which I possess, and have prepared the accompanying instructions for these further enquiries with reference thereto. I may remark that this further examination of the subject has only increased my conviction that the fullest information, and the most careful study of it, will be requisite to the preparation of the design for the proposed Bridge and for its efficient and economical construction.

3. So strongly do I feel the necessity for caution in every engineering step taken in this matter, that in case the responsibility of designing the Bridge is to devolve on me, I should desire that the superintendence of the surveys and general enquiry incident thereto, should be placed under the supervision of my son, who is willing to proceed to India to undertake it.

4. But whoever is charged with the conduct of the enquiry, it will be necessary to send from this country two experienced Borers to make the borings with all the necessary implements for the expeditious and complete performance of that important part of the enquiry. The wages of such men would be, one at say £9, and the other at say £6 per week; and the cost of their tools (three sets) would be about £350 in all.

5. As regards the surveys, there are several gentlemen now in the employment of the East Indian Railway Company, very competent to conduct them, and doubtless two or three of them might be leut for a few months for this service.

6. Should the Court of Directors adopt these recommendations, I shall be happy to name the Surveyors, whose experience best fits them for the employment, and I will select from the Borers known to me, two of the most suitable to go out. I will also, if desired, direct the purchase of the necessary boring tools.

7. The men and tools might be ready to leave in December next.

I have, &c.,

(Signed) JAS. M. RENDEL.

*Particulars of Surveys, Plans, Sections and Borings required preparatory to settling a suitable site and proper design for a Bridge across the Hooghly at Calcutta.*

*First.*—A perfectly accurate trigonometrical survey of the river, from the Gun Foundry Wharf at the Northern end of the Gloosree Sand Southwards to the commencement of the Esplanade, or say to Esplanado Row.

This survey must comprise both banks of the river and the separate properties situated thereon for a distance of at least 1,000 feet back from the high water line; which, together with the low water line, is to be surveyed as particularly described under the second head of these directions.

The survey is not only to comprise the boundaries of all water side properties to the distance from high water before named, but also the various Quays, Docks and Ghauts, public and private, as also all buildings, &c., within the boundaries.

The survey above named, is to be accurately plotted to a scale of 200 feet to one inch on cloth-backed drawing paper, all the lines of triangulation being laid down upon the plan, in faint red colour, and all the main stations being marked upon it.

The plan must be plotted on three sheets of equal size; care being taken that the joining lines for the sheets are those of the triangulation. It must also be accompanied by a diagram plan, showing the triangulation of the whole survey, with the observed angles and measured line figured. The only details required on this diagram plan will be the lines of high and low water; its scale should be 600 feet to one inch.

On the large plan there must be laid down with accuracy all the buoys and moorings which are found to exist within the limit of the survey, showing the manner of mooring the vessels, and the number allowed to be fastened thereto at one time.

It must likewise show, by separate tints of blue colour, the anchorage ground resorted to by sea-going ships, and that by up-country craft and steamers.

*Second.*—Sections must be taken across the river at intervals of 1,000 feet. Their positions are to be marked off on the plan along the Calcutta shore, and, from the points so determined, the lines for the sections must be set out at right angles to the course of the river, the lines being extended to the limits of the plan on each bank.

These several lines must be accurately levelled and plotted to a horizontal scale of 200 feet, and a vertical scale of 20 feet to one inch, care being taken to figure the width of the river at high and low water.

All these sections are to have a common datum, which is to be 10 feet below low water of ordinary spring tides in the dry season. The point at which the low water so determined is to be taken, must be opposite the Esplanade or at the Southermost section, and the datum line above described must be referable to some permanent well-defined beach mark, to be found or made there, as also at the Gun Foundry Ghaut.

On each cross section the level of the same low water is to be laid down, so as to give the inclination of the surface of the river. There must also be laid down on these sections the levels of the same tide at high water; and the surfaces of the river at high and low water of such tide are to give the high and low water lines marked upon the plans; which lines, for greater accuracy, must be determined between the sections by levelling, and be laid down as contour lines on the plan.

There must also be marked on the two extreme sections the levels of high and low water of ordinary neap tides in the dry season, and also the height of the highest known land floods. All the sections are to have figured dimensions at intervals of not more than 100 feet apart across the river, and at the crossing of all streets, wharfs, &c., on the shores; of course the sections will be numbered to correspond with the numbers marked on the plans.

*Third*.—The strength and course of the currents of the river must be accurately determined, and laid down on simple outline plans of the river, traced from the diagram plan before described, but without the lines of triangulation.

These currents must be taken in that part of the river where they are the strongest, for the flood and ebb of the ordinary spring and neap tides before spoken of, also for the ebb of the river in the height of the wet season; and to make the current plans more clear, there must be five of them, that is one for each kind of tide, &c., examined.

On these plans the strongest stream must be laid down and its velocity given in feet per minute. Whether the velocities are ascertained by floats and observations of the time they pass certain defined points on the shores, or by the ordinary current meter, must be left to the Surveyor in charge of the work.

*Fourth*.—Borings must be made on each bank, and in the bed of the river they must be carried to a depth of at least 70 feet, unless hard ground be met with and is bored into for 20 feet, before that depth is reached. They must be made in the most careful manner by means of Iron pipes at least 5 inches in diameter, and the person charged with them, who must be experienced in such matters, must record the exact character of the soils passed through in each hole, as also the level of the surface of the ground (with reference to datum on the cross sections) at each hole, and the depths at which all changes in the character of the soil take place. Samples of each kind of soil must be preserved and registered in the customary manner for the guidance of the Engineer.

It must be also carefully recorded at what level water showed itself in each hole, to what height it rose, and whether it made the ground quick by blowing soil up the pipe, and if so, to what extent.

The positions where these bore holes should be put down, I have marked on the annexed copy of a rough plan of the river which I happen to possess.

It will be seen that they are 23 in number, but it must be understood that many circumstances may arise to cause an alteration in their position, or to make more necessary, of which the person who superintends the borings will be the best judge, guided as he will be by the results of the borings as they proceed.

The borings in the bed of the river must be made by means of piled stayings, the arrangement and maintenance of which must be placed in charge of the person entrusted with the general superintendence of these enquiries.

The borings must be plotted to a scale of 5 feet to 1 inch, and numbered to correspond with the numbers on the plan. But it will be necessary to have the result tabulated and made referable to the boxes containing the specimens of soil.

(Signed) JAS. M. RENDEL.

8, Great George Street, Westminster, 28th October, 1854.

(True Copies.)

(Signed) CECIL BEADON,  
*Secy. to the Govt. of India.*

(True Copies.)

A. W. RUSSELL,  
*Under-Secy. to the Govt. of Bengal.*

BENGAL CHAMBER OF COMMERCE,  
Calcutta, 6th February, 1855.

W. GREY, Esq.,

*Secretary to the Government of Bengal.*

Sir,—I am directed to acknowledge receipt of the copies of the Reports sent out by the Honorable the Court of Directors, on the subject of Bridging the Hooghly, enclosed in Mr. Under-Secretary Russell's letter of the 10th ultimo, and to tender through you to His Honor the Lieutenant Governor the most cordial thanks of the Committee of the Chamber of Commerce for these most interesting papers.

The Committee observes with much satisfaction the very decided opinion of the Consulting Engineer to the East Indian Railway Company, Mr. Rendel, as to the necessity of avoiding all interference with the most perfect freedom of navigation and movement in the Port of Calcutta, and that wherever the position of a Bridge may be, it should be above the highest point of the river to which sea-going vessels of any class resort.

At present there is a complaint of want of mooring and other accommodation for the shipping that in the actual state of trade resorts to this port, and with the immense increase of trade that may be assumed as a certain consequence of the extension of Railways in Bengal and the North-Western Provinces, the difficulty will be to meet the growing wants of the Port.

Mr. Rendel is of opinion that the proper locality would be below Aheretollah Ghaut; and the Committee perfectly concurs in its preference over that selected by Lieutenant Colonel Goodwyn, but the point being conceded that it ought not to be lower down, the Committee considers that a better locality would be found much further up, for a Bridge at Aheretollah Ghaut would not be employed for the purpose of transporting to the Calcutta side the bulk of merchandise brought down by Railway.

The greater number of articles of export from this are of too small intrinsic value as compared with their bulk to allow of such a heavy additional charge; and Howrah, notwithstanding the existence of a Bridge for ordinary traffic, would be the place of deposit for (as Mr. Rendel describes it,) "that very large portion of the traffic, which will only require interchange between the shipping and the Railway." For mere purposes of communication here between the banks of the river, powerful Steam Ferries would be amply sufficient, but unless Railway traffic can be extended to the Calcutta or left bank of the river, trade must, as pointed out by the

Committee of the Chamber in its Report of May 1st, 1854, gradually, though perhaps slowly, desert Calcutta for Howrah at an enormous sacrifice of property.

It is of great importance, with a view to further extension of Railways, that there should be a point of departure on this side in connection with those to the North-West. The increasing tonnage of ships frequenting this Port may render it a matter of necessity, ere many years elapse, to have an auxiliary port either in the Muttah, or elsewhere, however well the navigation of the Hooghly may be preserved, and we may, without being over-sanguine, anticipate the advantages of a Railway being extended to some of the eastern portions of Bengal. These prospects, combined with the depreciation of property above alluded to as the consequence of Railway traffic being confined to the right bank of the Hooghly, induce the Committee strongly to solicit the exercise of His Honor the Lieutenant Governor's influence in securing a branch Railway on this side.

Mr. Rendel asserts the necessity of another Railway Station. It is believed that it might be had as cheaply on this side as on the other,—perhaps more so; and when an estimate is made of the cost of a Bridge at Aheretollah Ghaut, it would be advisable to have another of one higher up including the line of Railway on this side of the river.

If found too expensive to have a terminus within Calcutta, the station might be for the present at the canal or other eligible site, and the train without the locomotive brought into the town, in the same cheap manner as is practised in the United States.

The accommodation thus secured to travellers by the Railway would be very great, and it is of the more importance as Passenger traffic promises to contribute here, as elsewhere, largely to the success of Railway enterprise.

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed) H. W. I. WOOD,

*Secretary.*

APPENDIX I

Statement of the Assets of the Bengal Chamber of Commerce for the Half-year ending 30th April 1855.

	Co.'s Re.	A.	P.	Co.'s Re.	A.	P.	
To Office Rent, paid Bonded Warehouses, .....	600	0	0	2,432	15	6	
" Secretary's Salary, .....	2,400	0	0	5,000	0	0	
" George Gangaiah, .....	2,400	0	0	6,228	0	0	
" Printing and Stationery, .....	2,432	0	0				
" Printing and Stationery, .....	300	0	0				
" Electric Telegraph Deposits, .....	300	0	0	100	0	0	
" Balance, .....	5,738	0	0				
Cash in Bank of Bengal, .....				8,205	15	6	
Company's Paper, .....				13,993	15	6	
				Co.'s Re.			
					13,993	15	6

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MEMBERS OF THE CHAMBER OF COMMERCE.

Allen, Deffall and Co.	Larocch, G.
Apear and Co.	Lee, D. H.
Anderson, W.	Mackillop, Stewart and Co.
Atkinson, Tilton and Co.	Mackinnon, MacKenzie and Co.
Borradale, John and Co.	MacLachlan, J. E.
Bradford and Co.	Malcolm and Co.
Carlisle, Nephews and Co.	Mackenzie, Lyall and Co.
Carter, J. W.	Martin, Pillans and Co.
Church, James Jun. and Co.	Moran, W. and Co.
Covell, James.	Paterson and Co.
Colvin, Assinie, Cowie and Co.	Yeaves, Macrae and Co.
Crooke and Grey.	Peel, Bellairs and Co.
Ewing and Co.	Pennington and Co.
Poster, Rogers and Co.	Fos, W. H.
Gillanders, Archibald and Co.	Porter and Co.
Gibberne and Co.	Purrier and Co.
Gladstone, Wylie and Co.	Fretwich, E.
Gilmora, McKilligan and Co.	Schmoller, G. and Co.
Gouger, Jenkins and Co.	Ralli Brothers.
Gordon, Stuart and Co.	Ralli and Marvojian.
Griffiths, Hay and Co.	Ram Gopant Ghose and Co.
Goocoo Churn Sain.	Robinson, Balfour and Co.
Hoare, Miller and Co.	Robertson, J. L.
Haworth, W. and Co.	Robertson, D. T.
Henderson, Wallace and Co.	Samuel Smith, Sons and Co.
Harris Claunder Bhoose.	Schulz and Co.
Jamieson and Co.	Singh, Kiburn and Co.
Jarvis, Skinner and Co.	Shand, Farlie and Co.
Kally Dass and Rajender Dutt.	Smith, Farie and Co.
Kettlewell, Drabbe and Co.	Singh Chandra Mitter.
Kelly and Co.	Thomas, R. and Co.
Larpent, Saunders and Co.	Tandy, J. O'B.
Leach, Rawson and Co.	Valucka, A.
Lovell, H. F.	Wattenbach, Heiglers and Co.
Livingston, Withers and Co.	Wills, Augustin and Co.
Lyal, James and Co.	Wood, C. B.

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MOFUSSIL MEMBERS.

Apel, Dawson and Co.—Moulmein and Rangoon.	Hamilton, Higginson and Co.—Mirzapore.
Buchmann, Paterson and Co.—Moulmein.	Kenny, J. T.—Siligoodiah.
Beecher, Wm.—Gowahaty, Assam.	Longdon, G. H.—Agra.
Brae, H. and T.—Babookally.	Macrae, Begbie and Co.—Moulmein.
Crisp and Co.—Rangoon.	Madrangan, R.—Lokenampore.
Drexell, H.—Akeroyunge.	Maxwell, D.—Coochepore.
Forbes, Alexander.—Dacca.	Menzies, T.—Mirzapore.
Guppy, S.—Bally Khat.	Phobey, F.—Dacca.
Gale, John.—Pandout.	Savi, R.—Nowhatta.
	Wise and Glass.—Dacca.

\*

## RULES AND REGULATIONS

OF THE

### BENGAL CHAMBER OF COMMERCE.

*Adopted at a General Meeting of the Chamber, on Monday, the 9th day of May, 1853.*

- First.....* That the Society shall be styled "THE BENGAL CHAMBER OF COMMERCE."
- Second...* That the object of the Chamber shall be to watch over and protect the general interests of Commerce; to collect information on all matters of interest to the Mercantile Community, and to use every means within its power, for the removal of evils, the redress of grievances, and the promotion of the common good; to communicate with authorities and individual parties thereupon; to form a code of practice whereby the transaction of business may be simplified and facilitated; to receive references and to arbitrate between disputants. The decisions in such references being recorded for future guidance.
- Third.....* That it being highly desirable not to recognise any principle of exclusion, all persons engaged or interested in the Commerce or Shipping of Bengal, shall, upon payment of the Subscription and on signature of the

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Rules and Regulations, be admissible as Members in the manner hereinafter described.

- Fourth....* That Candidates for admission, proposed by one Member and seconded by another, shall be ballotted for, and a majority of votes shall decide the election.
- Fifth.....* That voting by proxy, or by Members whose subscriptions are in arrear, be not allowed.
- Sixth.....* That the Chamber reserves to itself the right of expelling any of its Members; such expulsion to be decided by the votes of three-fourths of the Members of the Chamber.
- Seventh...* That a majority of the firms constituting the Chamber shall be held sufficient to form any General Meeting, at which although two or more partners of one firm be present, they are to count in voting as only one Member; and no two Members of one firm can be at the same time Members of the Committee.
- Eighth...* That the monthly subscription of each Member or firm be Rupees 16, subject hereafter to increase or reduction as may be decided by a General Meeting.
- Ninth....* That the business and funds of the Chamber shall be managed by a Committee of seven Members, consisting of the President and Vice-President, and five Members, to be elected annually at a General Meeting of the Chamber in the month of May; the President, or, in his absence, the Vice-President, being Ex-Officio Chairman of the Committee, and in the absence of the President and Vice-President, the Committee to elect its own Chairman. Four to form a quorum; the Chairman in cases of equality having the casting vote.
- Tenth.....* That the Committee shall meet on such day of every week as it may fix as most convenient, for the purpose of transacting such business as may come within

Modified at  
General Meeting  
of Nov. 27th  
1854--see below.

the limits of the objects of the Chamber, and that its proceedings be laid on the table open to the inspection of Members, subject to such regulations as the Committee may deem expedient.

*Eleventh.* That vacancies in the Committee created by the absence of Members from the Presidency for two months, or by departure for Europe, or by death, be filled up at a General Meeting by a majority of the Members present thereat.

*Twelfth.* That the Secretary be elected by the Committee; such election to be subject to confirmation at the next ensuing General Meeting.

*Thirteenth.* That the General Meetings of the Chamber be held from time to time as the Committee for the time being may deem necessary. That a Special General Meeting shall be called by the President, or, in his absence, by the Vice-President, or by his order on the requisition of any five firms, Members of the Chamber, to be held within five days subsequent to the receipt of such requisition.

*Fourteenth.* That all Proceedings of the Committee be subject to approval or otherwise of General Meetings duly convened.

*Fifteenth.* That strangers visiting the Presidency may be introduced as Honorary Members for two months by any Member of the Chamber inserting their names in a book to be kept for that purpose.

*Sixteenth.* That the Committee be empowered to make Byo-laws, which shall not be of any force until approved of by a General Meeting.

*Seventeenth.* That an Annual Report of the Proceedings be prepared; and, after being approved of at a General Meeting, printed and circulated.

*Eighteenth.* That the above Rules be added to, or altered, only by a majority of Members of the Chamber.

*Nineteenth.* That the foregoing Rules be printed, and an authenticated copy, subscribed by each Member on admission, be kept as part of the records of the Chamber. That printed copies be forwarded to Members of the Chamber, to the Secretary to Government, and to such other parties or authorities as it may be desirable to make acquainted with the objects and Rules of the Association.

*The Seventh Rule, as modified at a General Meeting of the Chamber, held on Monday, the 27th day of November, 1854.*

That any number of Members present shall be held to constitute a General Meeting, called in conformity with the Rules of the Chamber, for the despatch of ordinary business; but that no change in the Rules of the Society can be considered except at a General Meeting at which the majority of the Members of the Chamber shall be present.

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