No. 169 A.G.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

ACCOUNT.

General.

To

THE GOVERNMENTS OF MADRAS, BOMBAY, BENGAL, THE NORTH-WESTERN PROVINCES AND OUDH, AND THE PUNJAB.

THE CHIEF COMMISSIONERS, CENTRAL PROVINCES, BURMA, ASSAM, AND COORG.

THE RESIDENT AT HYDERABAD.

THE RESIDENT AT MYSORE (THROUGH FOREIGN DEPARTMENT).

THE AGENTS TO THE GOVERNOR GENERAL FOR CENTRAL INDIA, RAJPUTANA, AND BILUCHISTAN.

THE SUPERINTENDENT OF PORT BLAIR AND CHIEF COMMISSIONER, ANDAMAN AND NICOBAR ISLANDS.

THE DIRECTOR GENERAL OF TELEGRAPHS.

THE INSPECTOR GENERAL OF MILITARY WORKS.

THE ACCOUNTANT GENERAL, PUBLIC WORKS DEPARTMENT.

THE DIRECTOR GENERAL OF RAILWAYS.

THE CONSULTING ENGINEERS TO THE GOVERNMENT OF INDIA, FOR RAILWAYS, CALCUTTA, LUCKNOW, AND CENTRAL DIVISION.

Simla, the 30th April, 1888.

SIR,

I AM directed to forward herewith a revised list, showing the numbers and classification of the Finance heads pertaining to the Estimates and Accounts of the Public Works and Telegraph Departments.

2. The list forwarded with No. 126 A.G. of the 21st April 1886, and subsequently corrected by No. 154 A.G. of 12th May 1886, is hereby cancelled.

I have the honour to be,
Sir,
Your most obedient servant,
R. H. Mansfield
~~Deputy~~ Secretary.

Documents accompanying.
Revised list.

To

The Government of Madras.

Govt. C. Press, Simla.—No. 36 P. W. D., A.G.—2-5-88.—920.

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XIV. Telegraph.

RAILWAYS—

XXVI. State Railways (Gross Earnings).

XXVII. Guaranteed Companies (Net Traffic Receipts).

XXVIII. Subsidized Companies (Repayment of advances of interest).

IRRIGATION—

XXIX. Major Works—

Direct Receipts.
Portion of Land Revenue due to Irrigation.

XXX. Minor Works and Navigation.

BUILDINGS AND ROADS—

XXXI. Military Works.

XXXII. Civil Works.

INCOME TAX.

GAIN BY EXCHANGE ON TRANSACTIONS OF COMPANIES.

EXPENDITURE.

POST OFFICE, TELEGRAPH, AND MINT—

16. Telegraph.

FAMINE RELIEF AND INSURANCE—

34. Construction of Protective Railways.
35. Construction of Protective Irrigation Works.

CONSTRUCTION OF RAILWAYS—

37. Construction of Railways (charged against Revenue, in addition to that under Famine Insurance).

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Advances of Interest.

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50. CAPITAL CHARGE INVOLVED IN REDEMPTION OF LIABILITIES.

No. 1417 W a/4.6.86
" 1149 W a/7.5.86

PWC № 4523

№ 1533 W d/25 - May 1888

Communicated
Communicated
to the officers of the
P.W. Wksh. in super-
session of G.O No 1417W.
of 4 June 186.
4th June 86.

60.5.88

15.5.88

16.5.88

№ 1533 W d/25 - May 1888

14/5/88

25/5/88

1661 W

To the chief Engineer for Irrigation
Consg Engineer for Railways
Supdg Engineers
The Consg Architect to Govt
Supdt Works Bengal
" Project Works
Examr Accts
" Examr Accts Railways and
" Pensioners
2 Copies to Govt

106:V
19:V

No. 169 A.G.

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ACCOUNT.

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Order thereon. No 1533 W dy
25th June 1888

Communicated to the officers of the P.W. Deptt in supersession of G.O. No 1417 W dated 4th June 1886.

sd/ L.O.H.

No 1533 W dy 25 June 1888

Chief Engr for Irrign
Consy Engr for Ryp
Supy Engrs
Consy Architect Calcutta
Suptdt of Works Rewaree Project
Examiner P.W.A
do Accounts Ryaeck

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d/ 25th May 188

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G.O. No. 1417 W dated 4th
June 1886.

S of S.O.A

No. 1533 W d/ 25th May 188

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Consg Engr for Rys
Supg Engrs
Consg Architect to Govt
Suddl of works Pirivo Projt
Exr. R.W. accts
do Guard. Rly accts.

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

Read—the following papers :—

No. 2343 T. J.

Notes of Inspection of the Light-houses at Muttum, Tuticorin and Pámban.

16*th March—Muttum.*—The light-house tower, light apparatus and superintendent's quarters are in excellent order and everything well kept.

The roof of the superintendent's quarters, which was reported at the last inspection to be leaking, has been made water-tight by pointing the joints of the tiles with Portland cement.

Nothing has been done regarding the red streak which it was suggested should be thrown on the Crocodile rock.

I suppose that the special report on the subject promised by the late Port Officer, Madras, was never received, and that the matter has been lost sight of. In the design for the light-house prepared by me in 1873 or 1874, a niche in the tower from which a red light was to be exhibited was provided. It would, however, be difficult to arrange for this being done now, the present tower not providing for anything of the kind.

The iron railings of the outside platform have not been connected with the lightning conductor which passes quite close to them. The Port Officer, Tuticorin, has promised to send out some copper wire, and I instructed the light superintendent to form the necessary connection.

The godown is built only of stone in mud, and white ants are very bad in it.

17*th March—Tuticorin Light-house.*—Everything in excellent order, both tower and light apparatus. The disintegration of the stone is slight and only affects a very few stones. I do not think it is necessary to plaster these with Portland cement at present.

The lightning conductor was recently tested by Sergeant Green, R.E., specially deputed. He reported it in good order, except that he found the vane insulated. This does not matter with such a large conducting mass all round it.

The light-keeper's quarters in good order, but the roof and walls of the small bungalow are much affected by salt, flat and other tiles decaying. This was built on the supposition that an East Indian superintendent would be employed. As the light can be so easily supervised by the Port Officer, it is found that a native light-keeper does the work well. I doubt therefore its being necessary to keep up this bungalow.

21*st March—Pámban Light-house.*—The masonry tower and rooms at the basement are in good order. The outside of the column has been covered with yellow wash of rather a dark tint.

There is no doubt from the information given me by Captain Phipps, that this light is inferior to others of the same class on the coast. The reason, I take it, is that it has been set up wrongly. The lower part of the lantern has been omitted. This is referred to in the Chief Engineer's last inspection notes. I expect that some of the rays are intercepted by the outside platform, the lens being about 3′ lower than it should be. This is evident from the position of the central cast-iron pillar, which is nearly 3′ below the deck, instead of level with it as it should be.

It would be easy to make a light wrought-iron frame, the height being made equal to the difference between the bottom of the present lantern and the bottom of the cast-iron central standard. What is wanted is an accurate drawing of the base of the present lantern. Mr. Cockburn, the Superintendent of Dredging Operations, was at Pámban when I visited it, and he kindly promised to make the necessary drawing, and on its receipt I will forward definite proposals for completing the lantern, as it must have originally been designed.

The light apparatus is not one of Messrs. Chance's manufacture. If it were, it would be simpler to order the lower plates from them. The maker's name is Wilkins, London. An iron framing will be lighter and can be more easily fastened than a wooden one. It is most awkward now for the men to attend to the light, as it is impossible to stand upright inside it. This may account for the light being often dim. When the lantern is properly finished, there should be no difficulty in working the light.

The lightning conductor was tested in January last by Mr. Hand, Assistant Superintendent, Government Telegraph Department, and found to be in good order.

23*rd March* 1888.

(Signed) J. W. RUNDALL,
Superintending Engineer, VI Circle.

Enclosure.

Details of Light-houses inspected by Mr. J. W. Rundall, M.I.C.E., Superintending Engineer, VI Circle, in 1888.

Light-house.	Class of light.	Height of centre of lantern above mean sea level.	Distance at which light is visible.	Object of light.	Remarks.
		FEET.	MILES.		
Negapatam .	Fourth order catadioptric; fixed white.	80	12	To mark position of anchorage.	In good order throughout. The lightning conductor to be tested again—*vide* Proceedings, Madras Government, No. 738 W., dated 3rd March 1888.
Pámban ..	Do. do. ..	97	13	Guide to entrance to Pámban Pass channel.	Light apparatus incorrectly set up, the base of lantern having been omitted. It is suggested that a plate-iron base be constructed and fitted. Masonry column in good order. Lightning conductor efficient.
Tuticorin ..	Do. do. ..	85	12¼	To mark position of anchorage.	Tower, light, lantern and buildings, except small bungalow, in good order. Lightning conductor efficient.
Muttum ..	First order catadioptric; fixed white.	141	16	To indicate position of Crocodile rock, an outlying reef.	Tower, light, lantern and buildings all in excellent order and everything well kept. The lightning conductor to be tested.

Note.—The distance of visibility is assumed to be the distance from which the light can be seen, in clear weather, from the deck of a ship, and is calculated from the empirical formula $d = \sqrt{\frac{7h}{4}}$; d being in miles and h in feet.

No. 17-D.

Transferred to the Marine Department.

(By order).

Ootacamund, 7*th April* 1888.

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

Report on Light-houses prepared with reference to Chief Engineer's Memorandum, No. 446-C., of 2nd February 1888.

Calicut Light-house.—Mr. J. W. Martin inspected this light-house on 24th January, and in his notes of inspection, dated 5th February 1888, he reported that the repairs and painting of the woodwork, the painting of the column, the repairs of

the watcher's shed at the base, and the provision of the lightning conductor, had been carried out. The only remaining work was the fencing in of a small plot of ground at the base of the light-house, and this was still incomplete—in fact, had not been begun—when I visited the light-house on 15th March; but I learnt from the Executive Engineer that the delay was due to the recent change of sub-division officer, and that the standards, gates, &c., for the wire fencing have been ordered; and it is expected that the fence will shortly be put up.

2. *Mangalore Light-house.*—On 20th March I inspected this light-house with the Port Officer. We ascended to the platform on top, and found all in good order, the lantern and wood-work having been recently repaired and repainted; the column having been painted in white silicate paint, and the doors and windows of the lower rooms renewed and painted in chocolate color. The only work remaining to be done is the improvement of the earth connections of the lightning conductor; about this there is no difficulty now, and the Executive Engineer has given the necessary instructions to the sub-division officer, who will, no doubt, complete it at an early date.

3. *Cannanore Light-house.*—I inspected this light-house on the morning of the 26th March. The repairs and improvements ordered last year by the Chief Engineer and Port Officer, Madras, when they inspected the place, have been carried out. Iron hand-rails have been substituted for ropes on the ladder leading to the top of the tower, and the building has been provided with a lightning conductor carried down to three feet below sea level. The troops have been practising with big guns at the embrasures of the bastion on which the tower stands, and the result has been some loss of loose plaster at the base of the tower and from the walls of the signaller's quarters. This will now be repaired. Otherwise, the buildings and light appear to be in good order.

4. *Tellicherry Light-house.*—This building has also been repaired and repainted during the past year. I inspected it on the morning of the 27th with the Conservator.

It has been provided with a lightning conductor and is now generally in good order; but the Conservator pointed out that the floor of the store-room at the base is rather rough. It would be the better of a coating of asphalte, which may be done by the Conservator, if the Port Officer, Madras, approves.

Coimbatore, 5*th April* 1888.

(Signed) J. BEATTY, Colonel, R.E.,
Superintending Engineer, IV Circle.

To the Chief Engineer, Public Works Department.

No. 37-D.

Transferred to the Marine Department.

(By order.)

Ootacamund, 12*th April* 1888.

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

No. C—35-V.E.

Inspection Notes, 7th February 1888.

Santapilli Light-house—Last visited 17th January 1887: see Inspection Notes, 5th February 1887.

(1) The broken panes of glass then noted have been replaced, and the new lightning conductor then stated to be necessary has been put up; the old one at the back of the building, the efficiency of the earth connection of which is doubtful, had better, I consider, be removed.

No. 717-C, dated 20th February 1888.

Yes. I noted last year that one conductor would suffice.—J.O.H.

2. The light-house superintendent complained a short time ago that the cast-iron column supporting the lantern was not securely fixed, and that therefore when a cleaner went up a ladder rested against the lantern, it vibrated. There is, however, no movement in the column, and the vibration when cleaning is of no moment; it may, however, be stopped, as the superintendent said he had already dealt with a similar case, by putting three or four wooden blocks between the service table and the gallery plates, and this the superintendent said he would get done.

3. A complaint was also made that the wicks burned unevenly because the lantern has been so fixed that the iron flue pipe which runs up from the chimney does not pass through the hole in the wrought-iron covering dome exactly in its centre; but I saw the wicks burning, and am convinced that the unevenness complained of does not arise from the supposed cause, but from the effect of the draught caused by the different positions into which the damper (but a short distance above the flame) is placed at different times. I understood the superintendent to say that the same fault had been found with a similarly-constructed light elsewhere. At all events, the light is just the same as it was when visited by the Chief Engineer and Port Officer last year (see Proceedings, Madras Government, Nos. 160, 161, Marine, 14th April 1887,) and reported in "very good order" and "very clear and bright," and this department can do nothing to improve it.

If I remember rightly, the superintendent made complaints of this nature when I visited the light-house with the Master Attendant, but it was thought that all that was necessary was good management.—J.O.H.

4. Estimates for a "cook-house" for the assistant superintendent and for repairs of existing buildings were sent to the Chief Engineer with No. 251, 5th October 1887.

5. The superintendent complains that he has not accommodation enough; he was recommended to address his own department on the subject.

Quite right.—J.O.H.

(Signed) G. T. WALCH,
Superintending Engineer, I Circle.

Chicacole,
9*th February* 1888.

To the Chief Engineer, Public Works Department.

No. 40-D.

Transferred to the Marine Department.

(By order.)

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

Ootacamund,
12*th April* 1888.

Order—dated 1st May 1888, No. 168, Marine.

Communicated to the Port Officer, Madras, who will arrange to carry out the several suggestions made by the inspecting officers.

2. The instructions in paragraph 4 of G.O., No. 160, Marine, dated 14th April 1887, should be observed in submitting future reports, which may conveniently be forwarded to Government through the Port Officer, Madras.

(True Extract.)

H. E. STOKES,
Chief Secretary.

To the Port Officer.
„ Public Works Department.

Exd. A. Raitt.

No 1532 W d/ 25th May 1888.

Communicated to the Supg Engrs concerned.

2. Future reports on lighthouses by Supg Engrs should be drawn up in the form printed at page 1 of G. O. No 1218 W d/ 13th May 1886, and should be forwarded through the Port officer, Madras.

(sd) J. O. H.

216 W

To,
Supdg: Engrs
S.E. I. with copy of G.O. No: 1218 W d/ 1886
S.E. IV. VI. (II. & V.) with copy of G.O. No: 1218 W d/ 1886.

Govt. of {1888} Madras.

MARINE.

Issued

Recd. Encl.

G.O., 1st May 1888, No. 168.

No 1532 W d/ 25-5-88

MAY.

Light Houses.

Communicating, with instructions, to the Port Officer, Madras, inspection reports of certain —.

written order

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

READ—the following papers :—

No. 2343 T. J.

Notes of Inspection of the Light-houses at Muttum, Tuticorin and Pámban.

16*th March—Muttum.*—The light-house tower, light apparatus and superintendent's quarters are in excellent order and everything well kept.

The roof of the superintendent's quarters, which was reported at the last inspection to be leaking, has been made water-tight by pointing the joints of the tiles with Portland cement.

Nothing has been done regarding the red streak which it was suggested should be thrown on the Crocodile rock.

I suppose that the special report on the subject promised by the late Port Officer, Madras, was never received, and that the matter has been lost sight of. In the design for the light-house prepared by me in 1873 or 1874, a niche in the tower from which a red light was to be exhibited was provided. It would, however, be difficult to arrange for this being done now, the present tower not providing for anything of the kind.

The iron railings of the outside platform have not been connected with the lightning conductor which passes quite close to them. The Port Officer, Tuticorin, has promised to send out some copper wire, and I instructed the light superintendent to form the necessary connection.

The godown is built only of stone in mud, and white ants are very bad in it.

17*th March—Tuticorin Light-house.*—Everything in excellent order, both tower and light apparatus. The disintegration of the stone is slight and only affects a very few stones. I do not think it is necessary to plaster these with Portland cement at present.

The lightning conductor was recently tested by Sergeant Green, R.E., specially deputed. He reported it in good order, except that he found the vane insulated. This does not matter with such a large conducting mass all round it.

The light-keeper's quarters in good order, but the roof and walls of the small bungalow are much affected by salt, flat and other tiles decaying. This was built on the supposition that an East Indian superintendent would be employed. As the light can be so easily supervised by the Port Officer, it is found that a native light-keeper does the work well. I doubt therefore its being necessary to keep up this bungalow.

21*st March—Pámban Light-house.*—The masonry tower and rooms at the basement are in good order. The outside of the column has been covered with yellow wash of rather a dark tint.

There is no doubt from the information given me by Captain Phipps, that this light is inferior to others of the same class on the coast. The reason, I take it, is that it has been set up wrongly. The lower part of the lantern has been omitted. This is referred to in the Chief Engineer's last inspection notes. I expect that some of the rays are intercepted by the outside platform, the lens being about 3′ lower than it should be. This is evident from the position of the central cast-iron pillar, which is nearly 3′ below the deck, instead of level with it as it should be.

It would be easy to make a light wrought-iron frame, the height being made equal to the difference between the bottom of the present lantern and the bottom of the cast-iron central standard. What is wanted is an accurate drawing of the base of the present lantern. Mr. Cockburn, the Superintendent of Dredging Operations, was at Pámban when I visited it, and he kindly promised to make the necessary drawing, and on its receipt I will forward definite proposals for completing the lantern, as it must have originally been designed.

The light apparatus is not one of Messrs. Chance's manufacture. If it were, it would be simpler to order the lower plates from them. The maker's name is Wilkins, London. An iron framing will be lighter and can be more easily fastened than a wooden one. It is most awkward now for the men to attend to the light, as it is impossible to stand upright inside it. This may account for the light being often dim. When the lantern is properly finished, there should be no difficulty in working the light.

The lightning conductor was tested in January last by Mr. Hand, Assistant Superintendent, Government Telegraph Department, and found to be in good order.

23*rd March* 1888.

(Signed) J. W. RUNDALL,
Superintending Engineer, VI Circle.

Enclosure.

Details of Light-houses inspected by Mr. J. W. Rundall, M.I.C.E., Superintending Engineer, VI Circle, in 1888.

Light-house.	Class of light.	Height of centre of lantern above mean sea level.	Distance at which light is visible.	Object of light.	Remarks.
		FEET.	MILES.		
Negapatam .	Fourth order catadioptric; fixed white.	80	12	To mark position of anchorage.	In good order throughout. The lightning conductor to be tested again—*vide* Proceedings, Madras Government, No. 738 W., dated 3rd March 1888.
Pámban ..	Do. do. ..	97	13	Guide to entrance to Pámban Pass channel.	Light apparatus incorrectly set up, the base of lantern having been omitted. It is suggested that a plate-iron base be constructed and fitted. Masonry column in good order. Lightning conductor efficient.
Tuticorin ..	Do. do. ..	85	12¼	To mark position of anchorage.	Tower, light, lantern and buildings, except small bungalow, in good order. Lightning conductor efficient.
Muttum ..	First order catadioptric; fixed white.	141	16	To indicate position of Crocodile rock, an outlying reef.	Tower, light, lantern and buildings all in excellent order and everything well kept. The lightning conductor to be tested.

Note.—The distance of visibility is assumed to be the distance from which the light can be seen, in clear weather, from the deck of a ship, and is calculated from the empirical formula $d = \sqrt{\frac{7h}{4}}$; d being in miles and h in feet.

No. 17-D.

Transferred to the Marine Department.

(By order).

Ootacamund, 7*th April* 1888.

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

Report on Light-houses prepared with reference to Chief Engineer's Memorandum, No. 446-C., of 2nd February 1888.

Calicut Light-house.—Mr. J. W. Martin inspected this light-house on 24th January, and in his notes of inspection, dated 5th February 1888, he reported that the repairs and painting of the woodwork, the painting of the column, the repairs of

the watcher's shed at the base, and the provision of the lightning conductor, had been carried out. The only remaining work was the fencing in of a small plot of ground at the base of the light-house, and this was still incomplete—in fact, had not been begun—when I visited the light-house on 15th March; but I learnt from the Executive Engineer that the delay was due to the recent change of sub-division officer, and that the standards, gates, &c., for the wire fencing have been ordered; and it is expected that the fence will shortly be put up.

2. *Mangalore Light-house.*—On 20th March I inspected this light-house with the Port Officer. We ascended to the platform on top, and found all in good order, the lantern and wood-work having been recently repaired and repainted; the column having been painted in white silicate paint, and the doors and windows of the lower rooms renewed and painted in chocolate color. The only work remaining to be done is the improvement of the earth connections of the lightning conductor; about this there is no difficulty now, and the Executive Engineer has given the necessary instructions to the sub-division officer, who will, no doubt, complete it at an early date.

3. *Cannanore Light-house.*—I inspected this light-house on the morning of the 26th March. The repairs and improvements ordered last year by the Chief Engineer and Port Officer, Madras, when they inspected the place, have been carried out. Iron hand-rails have been substituted for ropes on the ladder leading to the top of the tower, and the building has been provided with a lightning conductor carried down to three feet below sea level. The troops have been practising with big guns at the embrasures of the bastion on which the tower stands, and the result has been some loss of loose plaster at the base of the tower and from the walls of the signaller's quarters. This will now be repaired. Otherwise, the buildings and light appear to be in good order.

4. *Tellicherry Light-house.*—This building has also been repaired and repainted during the past year. I inspected it on the morning of the 27th with the Conservator.

It has been provided with a lightning conductor and is now generally in good order; but the Conservator pointed out that the floor of the store-room at the base is rather rough. It would be the better of a coating of asphalte, which may be done by the Conservator, if the Port Officer, Madras, approves.

Coimbatore, 5*th April* 1888.

(Signed) J. BEATTY, Colonel, R.E.,
Superintending Engineer, IV Circle.

To the Chief Engineer, Public Works Department.

No. 37-D.

Transferred to the Marine Department.

(By order.)

Ootacamund, 12*th April* 1888.

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

No. C—35-V.E.

Inspection Notes, 7th February 1888.

Santapilli Light-house—Last visited 17th January 1887: see Inspection Notes, 5th February 1887.

(1) The broken panes of glass then noted have been replaced, and the new lightning conductor then stated to be necessary has been put up; the old one at the back of the building, the efficiency of the earth connection of which is doubtful, had better, I consider, be removed.

No. 717-C, dated 20th February 1888.

Yes. I noted last year that one conductor would suffice.—J.O.H.

2. The light-house superintendent complained a short time ago that the cast-iron column supporting the lantern was not securely fixed, and that therefore when a cleaner went up a ladder rested against the lantern, it vibrated. There is, however, no movement in the column, and the vibration when cleaning is of no moment; it may, however, be stopped, as the superintendent said he had already dealt with a similar case, by putting three or four wooden blocks between the service table and the gallery plates, and this the superintendent said he would get done.

3. A complaint was also made that the wicks burned unevenly because the lantern has been so fixed that the iron flue pipe which runs up from the chimney does not pass through the hole in the wrought-iron covering dome exactly in its centre; but I saw the wicks burning, and am convinced that the unevenness complained of does not arise from the supposed cause, but from the effect of the draught caused by the different positions into which the damper (but a short distance above the flame) is placed at different times. I understood the superintendent to say that the same fault had been found with a similarly-constructed light elsewhere. At all events, the light is just the same as it was when visited by the Chief Engineer and Port Officer last year (see Proceedings, Madras Government, Nos. 160, 161, Marine, 14th April 1887,) and reported in "very good order" and "very clear and bright," and this department can do nothing to improve it.

If I remember rightly, the superintendent made complaints of this nature when I visited the light-house with the Master Attendant, but it was thought that all that was necessary was good management.—J.O.H.

4. Estimates for a "cook-house" for the assistant superintendent and for repairs of existing buildings were sent to the Chief Engineer with No. 251, 5th October 1887.

5. The superintendent complains that he has not accommodation enough; he was recommended to address his own department on the subject.

Quite right.—J.O.H.

CHICACOLE,
9th February 1888.

(Signed) G. T. WALCH,
Superintending Engineer, I Circle.

To the Chief Engineer, Public Works Department.

No. 40-D.

Transferred to the Marine Department.

(By order.)

OOTACAMUND,
12th April 1888.

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

ORDER—dated 1st May 1888, No. 168, Marine.

Communicated to the Port Officer, Madras, who will arrange to carry out the several suggestions made by the inspecting officers.

2. The instructions in paragraph 4 of G.O., No. 160, Marine, dated 14th April 1887, should be observed in submitting future reports, which may conveniently be forwarded to Government through the Port Officer, Madras.

(True Extract.)

H. E. STOKES,
Chief Secretary.

To the Port Officer.
" Public Works Department.

Exd. A. Raitt.

No 1532 M dy 25 May 1888

Communicated
to Superintending Engineers Concerned

2. Future reports on light Houses by superintending Engineers should be drawn up in the form printed at page 1 of Go No 1258 M dy 13 May 1886 and should be forwarded through the Port officer Madras

(Sd) J.O.H

S & I Circle with Copy of Go 1218 M of 86
" IV Circle
" VI Circle
" II Circle
" V Circle } with Copy of Go 1218 M of 1886

Govt. of {1888} Madras.

MARINE.

Issued

Recd. Encl.

G.O., 1st May 1888, No. 168.

No 1532 M dy 25 May 1888

MAY.

I, IV & VI Circles

Light Houses.

Communicating, with instructions, to the Port Officer, Madras, inspection reports of certain —.