

Public (1897) Department.

ORDINARY PRINTED.

G.O., No. 673

DATED 28. 5. 97.

[Despatch Abstract.]

Total relief of the Sum of January 1898.

Receiving a letter from the Govt of India ~~stating~~
^{expressing concurrence in the view}
that the expenditure involved in the proposals
of the Govt Astronomer for ^{stating} ~~reserving~~ ^{the expenditure} the
should be incurred, but that ~~it~~ should be
met from Provincial revenues.

131/5/97.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
(No 2306 of 1897)							

Government { 1897 } of Madras. PUBLIC.

Recd. } *Enclosures*
Regd. } 1897. *Spare copies*

G.O., No. 673, 28th May 1897.

MAY.

Total Eclipse of the Sun of January 1898.

Recording letter from the Government of India expressing concurrence in the view that the expenditure involved in the proposals of the Government Astronomer for observing the — should be incurred, but stating that the expenditure should be met from Provincial revenues.

GOVERNMENT OF MADRAS.

PUBLIC DEPARTMENT.

Read—again the following papers :—

G.O., Mis. Nos. 212, 213, Public, dated 3rd March 1897.

Read—the following letter from C. MICHIE SMITH, Esq., Government Astronomer, Madras, to the Chief Secretary to Government, dated 16th February 1897, No. 40 :—

I have the honour to address you on the following matter.

2. A total eclipse of the sun occurs on the 22nd of next January and the line of totality passes through India. The eclipse is one of considerable importance, especially with reference to the question of changes in the condition of the sun's atmosphere associated with changes in the number of sunspots. This eclipse will take place near the time of minimum sunspots and will yield valuable material for comparison with the results got at former eclipses near the period of maximum sunspots. The circumstances that the line of totality passes through a region which is usually nearly cloudless at that season, and that the eclipse happens near midday, also render it most important that full advantage should be taken of this opportunity.

3. Expeditions to observe the eclipse will be sent out to India by England, America and, probably, many other countries, and it is taken for granted that this observatory will take its due share in the work.

4. The Government of India (see G.O., No. 2899—22-5, dated 12th December 1896) has already recognised this by permitting certain of the instruments for the Kodaikānal Observatory to be indented for so as to enable them to be ready in time for this work, but these will not be sufficient to meet all requirements.

5. In view of the need for strict economy at the present time, I have drawn up a very modest programme of work which will involve a minimum outlay on apparatus. It is as follows :—

(1) Photographs of the corona with the 40 feet lens of the Kodaikānal Observatory.

(2) Photographs of the corona with the twin-telescope of the Kodaikānal Observatory.

(3) Photographs of the corona spectrum with my "zodiacal light" spectroscope.

(4) Photographs of the corona spectrum with my small diffraction spectroscope.

(5) Eye observations and drawings of the corona.

6. For (1) it will be necessary to obtain a special camera, since it is impossible to mount a lens of such great focal length equatorially. I believe the cost will be about £25. It will also be necessary to erect a tube and dark room, both of which can be made of canvass locally and will not cost much.

For (2) no additional apparatus is required.

For (3) a quartz lens for forming an image of the sun on the slit will be required costing about £5, and some modifications will have to be made in the mounting which can be done locally.

For (4) and (5) no special apparatus will be required.

7. It will also be necessary to purchase photographic plates and an apparatus for forming a standard mark on each plate. These two will probably cost from £10 to £15.

8. The only other expenses involved, so far as I can estimate, will be in the carriage of the observers and instruments to the place of observation and the erection of the necessary piers, &c.

9. To reduce the cost of this as far as possible, I propose to select a site close to the railway line, probably at Taragaon, not far from Satara.

10. If, as I hope, a party from the Great Trigonometrical Survey of India joins me, the forming of the camp will be greatly simplified and the cost will be small; but it is impossible for me, having no experience in the matter, to form an estimate which would be in the least trustworthy.

11. On the last two occasions on which total eclipses of the sun took place in India, 1869 and 1872, expeditions were sent by the Madras Observatory to Masulipatam and Avanashi and cost much larger sums than will be required to carry out my present programme.

12. I have the honour to request the general instructions of the Government on the matter at an early date, so that the necessary preparations may be begun in ample time.

Order—Mis. No. 212, Public, dated 3rd March 1897.

The Government Astronomer will be authorized to obtain the apparatus specified in paragraphs 6 and 7 of his letter, and to proceed with his preparations for carrying out the proposed observations of the total eclipse of the sun which will occur in January next.

2. The following letter will be addressed to the Government of India.

(True Extract.)

(Signed) J. F. PRICE,
Chief Secretary.

To the Government Astronomer.

Letter—to the Secretary to the Government of India, Revenue and Agricultural Department, Mis. No. 213, Public, dated Fort St. George, 3rd March 1897.

I am directed to forward, for the information of the Government of India, copy of a letter from the Government Astronomer, Madras, No. 40, dated 16th ultimo, submitting proposals for observing the total eclipse of the sun which will occur in January next. The Government of India has already, in Mr. Sly's No. 2899—22-5, of the 12th December last, recognized the exceptional opportunities for observations which the eclipse will afford.

2. In view of the existing financial exigencies, Mr. Michie Smith has restricted his proposals so as to involve a minimum outlay on apparatus; they are as follows :—

(1) Photographs of the corona with the 40 feet lens of the Kodaikānal Observatory.

(2) Photographs of the corona with the twin-telescope of the Kodaikānal Observatory.

(3) Photographs of the corona spectrum with my "zodiacal light" spectroscope.

(4) Photographs of the corona spectrum with my small diffraction spectroscope.

(5) Eye observations and drawings of the corona.

3. The only extra apparatus asked for is the special camera, a quartz lens and plates at a cost of about £25, £5 and £10—15, respectively; a tube and dark room will also be required, but they can be made of canvass locally, at a small cost.

4. It is anticipated that the total expenses, inclusive of the carriage of the observers and instruments to and from the place of observation, which will be in the Bombay Presidency, will amount to between Rs. 3,000 and Rs. 4,000. Owing to the reduction by the Government of India of 19 lakh under 26. *Scientific and Minor Departments*, which was demurred to by this Government in paragraph 50 of Appendix B to letter to the Finance and Commerce Department, No. 905, Financial, dated 29th December last, this Government is left without funds to meet this small, yet highly desirable, outlay.

5. In view of the fact that the proposed observations will be made for the benefit of the scientific world in general, I am to submit the strong recommendation of His Excellency the Governor in Council that the expenditure may be met from Imperial funds. The provision of instruments for the observatory at Kodaikānal is already a charge on those funds, and part at least of the apparatus now required will doubtless be of permanent use there.

6. I am to add that, in anticipation of sanction, the Government Astronomer has been authorised to obtain the articles named and to proceed with his preparations for carrying out the proposed observations.

(Signed) J. F. PRICE,
Chief Secretary.

G.O., Mis. Nos. 492, 493, Public, dated 30th April 1897.

Read—the following letter from C. MICHIE SMITH, Esq., Government Astronomer, Madras, to the Chief Secretary to Government, dated 2nd April 1897, No. 75:—

With reference to the sanction given in G.O., Mis. No. 212, Public, dated 3rd March 1897, to obtain the instruments required for the eclipse expedition, I have the honour to inquire whether it is necessary to obtain these through the Secretary of State.

2. The chief instrument required—the rotating camera—is a novelty, and as it has to be designed to work with the 40 feet lens which will not reach this for some months, yet it is evident that it will involve a good deal of correspondence with the maker. If all this correspondence has to pass through the Director-General of Stores, there is little probability that the instrument will be ready in time.

3. In case it is necessary to order through the Secretary of State, I enclose an indent, but would request permission to correspond directly with the makers. This was refused me in the case of the instruments at present under construction with the natural consequence that there has been considerable delay, and that in all probability the instruments will be less efficient than they would have been, had I been permitted to correspond directly.

ENCLOSURE.
FORM OF INDENT.

No.	Instrument.	Description.	Maker.	Cost.
1	Quartz lens (mounted)	Aperture 1½ inches; focal length 36 inches.	A. Hilger	
1	Revolving plate-holder	See specification	Sir Howard Grubb	£20 to £25.

Specification.

The plate-holder is for use with the 40 feet lens now under construction and is intended primarily for use in the coming total eclipse of the sun. It must be made to hold the largest size of plate that will be required for photographing the corona (to be decided hereafter).

2. The camera is to be mounted on an axis parallel to the earth's polar axis and fitted with clock work by which it can be rotated at the same rate as the image of the sun. The clock belonging to the Lerebour and Secretan telescope will, if possible, be used for this purpose, and failing this any cheap clock can be employed.

3. The carrier will be provided with six plate-holders to hold one plate each.

Order—Mis. No. 492, Public, dated 30th April 1897.

In the circumstances stated the Government Astronomer will be permitted to obtain the instruments independently of the India Office.

2. The Government of India will be addressed.

(True Extract.)

(Signed) J. F. PRICE,
Chief Secretary.

To the Government Astronomer.

Letter—to the Secretary to the Government of India, Revenue and Agricultural Department, Mis. No. 493, Public, dated Ootacamund, 30th April 1897.

In continuation of my letter, Mis. No. 213, Public, dated 3rd March 1897, in which it was reported that the Government had, in anticipation of the orders of the Government of India, authorized the purchase of certain instruments for use during the approaching total eclipse of the sun, I am directed to inform you that the Government Astronomer has now represented the great inconvenience and delay which will be involved in obtaining the articles through the India Office. The chief instrument required—the rotating camera—is a novelty, and there must therefore inevitably be considerable correspondence with the makers regarding it. If all this is to pass through the Director-General of Stores, it is to be feared that the instrument cannot probably be ready in time. Mr. Michie Smith adds that the refusal of a similar concession in the case of the instruments required for the Kodaikānal Observatory has led to considerable delay and will also probably result in reduced efficiency.

2. The resolution of the Government of India, Finance and Commerce Department, No. 185, dated 10th January 1883, while prescribing the special cases in which stores of European manufacture may be obtained locally, does not enumerate those in which such stores may be obtained from England independently of the India Office. In the present very exceptional case His Excellency the Governor in Council considers the latter course highly advisable, and has accordingly authorized the Government Astronomer to obtain the instruments in question direct from the makers. I am to express the hope that the action of this Government will meet with the approval of the Government of India.

(Signed) J. F. PRICE,
Chief Secretary.

READ—also the following paper:—

From F. G. SLY, Esq., C.S., Under Secretary to the Government of India, Revenue and Agricultural Department (Meteorology), to the Chief Secretary to the Government of Madras, dated Simla, the 12th May 1897, No. 1223—2-13.

I am directed to acknowledge your letter, Mis. No. 213, Public, dated 3rd March forwarding an estimate, prepared by the Government Astronomer, Madras, of the cost of the special apparatus required by him for observing the total eclipse of the sun which will occur on the 22nd January next, and requesting that the proposed expenditure, which amounts to Rs. 3,000 or Rs. 4,000, may be met from Imperial funds.

2. The Government of India entirely agree with the Government of Madras that the proposals of the Government Astronomer are very reasonable, and that the expenditure which they involve should be incurred. But they regret that they do not see in this a sufficient reason for making an exception to the terms of the recent financial settlement under which this class of expenditure should be met from Provincial revenues.

3. The Madras Government propose an exception in this case on the ground that observations will be made for the benefit of the scientific world in general, but I am to explain that the incidence of a charge is determined wholly by its classification

6

No. 673, PUBLIC, 28TH MAY 1897.

under the prescribed heads in the account and not with reference to the question as to who will benefit by the expenditure. In this connection I am to invite attention to the explanation given in the footnote at page 4 of the resolution of the Government of India in the Finance and Commerce Department, No. 4258-A., dated 6th October 1896.

ORDER—No. 673, Public, dated 28th May 1897.

Recorded.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Government Astronomer.
" Accountant-General.

Esd. C. M. Thumbarwamy.

[Pub.]
29
1,000—29-7-96.

Public (1897) Department.

CURRENT No. 1877

From

The 4. of 3.

R and A. Dept.

No. 1223
2-13

Dated

12

Received

18

Registered

18

Enclosures

—

Spare copies.

—

SUBJECT.

stating that the cost of the special apparatus reqd. for observing the total eclipse of the sun which will occur on the 22nd January next should be met from Provincial revenues.

Order

BACK PAPERS.

G.O.	No.	Department.	Date.
GO	492-3	Pub	30-4-97
	212-13	-	3-3-97
	398	-	20-3-96
	904-905	-	28-12-96
	225	-	14-2-96
Despatch No 3-D, 4-			3-96
725-6			2-2-95

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Indy No 573 Pub
[G. 25]
1,000-14-12-96.

Public DEPARTMENT.

C. No. 1877

- 3 H. E. THE GOVERNOR.
- 1 THE HON'BLE MR. BLISS, C.I.E.
- 2 THE HON'BLE MR. GROSE, C.I.E.

SUBJECT. - The cost of the Special Apparatus for observing the total Eclipse of 1898 to be met from Provincial funds

FOR ORDERS.

There is nothing to be said or done - we must "screw" all the more in other directions

BS 28
21/5/97 25/5/97

25/5/97

Attention is solicited to the note for orders in GO. 212-3 Pub dy 3.3.97. It was then decided to ask India to meet the expenditure involved by the purchase of the necessary instruments for observing the coming total Eclipse of '98 from Imperial funds, on the ground that the observations proposed would be for the benefit of the Scientific world in general.

The "try on" has, however, proved a failure as India while "entirely" agreeing with this fact that the expenditure should

Papers to be read in proceedings:—

Again G.O., dated 3d March 1897, Nos 212-13 Public (a)
 Again G.O., dated 30th April 1897, Nos 492-93 " (a) (in the end)
 Current No. 1877 of 1897, dated 12/5, from The Govt of India (a)
 " " " 189 " " " "
 " " " 189 " " " "

C.S.

ORDER.

A

Recorded

1 from orders

28/5/97

The Govt Astronomer
 " Act of 1897

C.W.
 27.5.97

should be incurred,
 regrets it does not
 see "sufficient reason
 for making an exception
 to the terms of the recent
 financial settlement
 under which this
 class of expenditure
 should be met from
 Provincial revenues"

India adds the
 somewhat startling
 explanation that the
 incidence of a charge
 is determined wholly
 by its classification
 under the prescribed
 heads in the account, and
not with ref. to the question * i.e. by implication
 as to who will benefit
 by the expenditure;
 and concludes by
 drawing attention to
 the explanatory foot
 note in its Resolution
 recorded in SD 904/5 Finl
 d/29.12.96 (Classed B)

The Govt of India perhaps feels a little

C.W. 25/5/97
 remorse but it is no doubt right from the
 account point of view 20/5/97.

at copy sent to Press.

turned for signature.

spatched in print.

12/6/97 *Spec 14/6/97*
10

NUMBER OF COPIES REQUIRED. { Order complete. 35
Letter only.
Order complete with Letter.

AD AGAIN G.O. No.
189

DATED

CURRENT No.

ENCLOSURES TO C. No.

ORDER OF GOVERNMENT

LETTER OF GOVERNMENT.

STATEMENT WITH DUTTO.

PAPERS NOT FILED UP, BRING MEANT FOR DESPATCH
IN ORIGINAL.

100 *Spec*

N.B.—

- A = Print in full.
- B = Not to be printed.
- P = Print abstract only.
- Q = Print heading only.