M.R. O. 1—39,050—16-10-29.

MADRAS RECORD OFFICE.

Government of Madras.

Revenue **DEPARTMENT.**

G.O. No.	2653	Press ~~Mis.~~	
228-79 Dated	19 — 10 —	19	1868

Not to be folded or roughly handled

Proceedings of the Madras Government, Revenue Department,
19th October 1868.

No. 278. Read the following Proceedings of the Board of Revenue, dated 9th October 1868 :—

Read the following letters:—

From F. L. MONCRIEFF, Esq., C. E., General Superintendent of Public Works Workshop and Stores, to the Government Astronomer, Madras, dated Chepauk, 29th September 1868, No. 949:—

I have the honor to acknowledge receipt of your letter, forwarding list of diameters to which the funnels of the forty-eight Rain Gauges, returned to the Workshop, are required to be ground.

2. Mr. Doderet suggests that instead of altering the funnels to suit the glass measures, the funnels should be left as they are, as the dimensions of each tally as nearly as possible with the diameter of your approved Rain Gauge. Further, that a record of the errors of the glass measures, supplied with the gauges, be kept in your office, so that, in the event of breakage of any of the glass measures, there will be no difficulty in supplying another with a corrected copy of errors.

3. The above suggestion seems to me good and worthy of your consideration, as it is doubtful that the error in the glass measures is equal from one-tenth of an ounce to ten ounces.

4. If, however, you insist in having the rims of the Rain Gauges turned or ground, I shall be glad to send to the Observatory a good workman with a lathe and the requisite tools, so that the necessary alterations may be carried out under your immediate direction and supervision, as Mr. Doderet is doubtful whether he could turn out the work with the accuracy you require.

5. Should the above suggestions not meet with your approval, I beg to forward a steel gauge, and, to avoid confusion, shall feel obliged by your marking on each division the dimensions in inches and thousandths.

6. I regret that I am unable to promise you two hundred gauges by the middle of next month, but Mr. Doderet will do his best to have as many as possible ready for approval.

7. Awaiting your reply, I have, etc.

From N. R. POGSON, Esq., Government Astronomer, to the General Superintendent of Public Works Stores and Workshop, dated Madras, 22nd September 1868.

With regard to the various communications which have been addressed to each of us from the Revenue Department, urging the early completion and supply of the new Rain Gauges for the use of the latter department, I have the honor to forward, herewith, a list of the diameters in inches and thousandths, to which the funnels of the forty-eight gauges, returned to the Workshop on May 21, are required to be ground to render them suitable to the erroneous glass measures received from England. As soon as the alterations have been satisfactorily made and the funnels returned, (including two missing, not supplied from your Stores,) I will forthwith examine them by means of my duplicate Steel Diagonal Gauge, and all within the limit of accuracy (·0012 inch) shall be passed as correct without further delay or trouble.

2. It is especially desirable that no time should be lost, as the north-east monsoon season is fast approaching, and upwards of two hundred should be at their destinations before the middle of October.

3. Your Mathematical Instrument Maker will find no difficulty in instructing one of his workmen to grind out the funnels within ·0005, that is, half a division of the Steel Diagonal Gauge tester or scale in his possession. I have given the diameters to thousandths, but shall not reject any in which the hundredths are as per list.

4. I have been very busy since my return from Masulipatam, but shall endeavour to address you upon other matters in reply to your recent letters in a day or two.

List of diameters in inches and thousandths for the Revenue Board Rain Gauge Funnels, Nos. 1 *to* 25, *and* 201 *to* 225.

Number of Funnel.	Diameters.	Number of Funnel.	Diameters.
1	4·727	201	4·705
2	4·703	202	4·706
3	4·691	203	4·706
4	4·749	204	4·709
5	4·723	205	4·714
6	4·706	206	4·718
7	4·718	207	4·716
8	4·706	208	4·710
9	4·752	209	4·719
10	4·699	210	4·720
11	4·695	211	4·720
12	4·701	212	4·720
13	4·724	213	4·720
14	4·745	214	4·721
15	4·698	215	4·721
16	4·724	216	4·721
17	4·717	217	4·722
18	4·764	218	4·725
19	4·711	219	4·726
20	4·725	220	4·726
21	4·721	221	4 728
22	4·735	222	4·742
23	4·717	223	4·758
24	4·714	224	4·738
25	4·709	225	4·686

The diameters given in inches and thousandths, but funnels will be passed as correct if right in the hundredths.

MADRAS OBSERVATORY,
22nd September 1868.

(Signed) N. R. POGSON,
Government Astronomer.

(True Copies.)

(Signed) F. DODERET,
For General Superintendent of P. W. Workshop and Stores.

Forwarded to the Board of Revenue for information.

From F. DODERET, Esq., for General Superintendent of Public Works Workshop and Stores, to the Acting Secretary to the Board of Revenue, dated Chepauk, 6th October 1868, No. 1,010.

In reply to your note, I beg to forward herewith one Rain Gauge which has been approved by Mr. Pogson about twelve months ago.

2. All other rings had been turned similar to the standard herewith sent; but as the 500 glass measures received last year from Home are incorrect, Mr. Pogson has sent me a list to alter the rings to suit the glass measures. I am now altering fifty rings, and they will be ready by Friday next.

1. Ordered that the above letters be submitted to Government.
2. On an application received from the Government Astronomer, dated 8th August 1866, the Board recommended, and the Government were pleased to sanction, the construction by the Public Works Department of 400 Tin Gauges with collars and funnels, the former with a diameter of 4·697 as proposed by Mr. Pogson, so that an inch of rain-fall should correspond with an Imperial half pint.

G. O., 19th September 1868, No. 2,517.

Proceedings of the Madras Government, Revenue Department,
19th October 1868.

The rain-fall is ascertained by pouring the contents into a glass measure similar to those used by Chemists.

3. In the same Order, the Government, on the Board's recommendation, further sanctioned the obtaining from England, through the Public Works Department, of 500 of these measures of the pattern shown in Mr. Pogson's indent; and, so far as the Board can learn, these glass measures on arrival have, without exception, been found to be incorrect. Mr. Pogson proposes to meet the difficulty by gauging carefully each measure, ascertaining the error and making a corresponding enlargement in the diameter of the brass ring of the funnel. The standard size of funnel and correspondence of an inch of rain-fall with an Imperial half pint will thus be lost, and each gauge will be rendered useless by the breaking of the measure, to suit which it has been altered. Moreover, the funnels can only be enlarged; they cannot be reduced, and therefore in the case of all glass measures below the standard, fresh funnels with rings must be made, and the old ones rejected. Of the 500 measures received, the errors of but only fifty have as yet been recorded by Mr. Pogson, and the greatest error is represented by the necessity for an alteration in the diameter of $\frac{6}{100}$ths of an inch.

4. The Board are strongly opposed to Mr. Pogson's plan, and, considering the agency available in the districts for registering rain-fall, they are of opinion that the increased accuracy obtainable by altering the funnels will be inappreciable, while the endless variation of standard will give rise to incalculable trouble and expense hereafter.

5. They are also of opinion that, for all practical purposes, the gauges and measures as they are will be sufficiently accurate. If the standard diameter of the funnels be retained, greater accuracy can hereafter be insured by supplying correct measures of uniform capacity. The Board would therefore recommend that the Government Astronomer be directed to transmit forthwith all the gauges and measures in his possession to the Public Works Stores, retaining only those required by the subordinate establishment specially under himself. This will enable the Board at once to supply all districts with the requisite gauges in sufficient time to admit of the rain-fall, during the north-east monsoon, being registered.

Board's Procs. 11th May 1867, No. 2,898,
,, 6th Dec. ,, ,, 7,881.
,, 17th ,, ,, ,, 8,144.
,, 12th March 1868, ,, 1,808.
,, 8th June ,, ,, 4,262.
,, 17th ,, ,, ,, 4,474.
,, 4th Aug. ,, ,, 5.642.
,, 21st Sept ,, ,, 6,720.

6. The communications noted in the margin have been addressed to the Government Astronomer on this subject, and remain, without exception, unanswered and unacknowledged. Not one Rain Gauge has yet been passed.

7. As stated in their Proceedings of 4th August 1868, No. 5,642, the Collector of Madras reported in June that "there was not a single gauge in any one of the talooks in good condition." The Collectors of Coimbatore and Tinnevelly, in letters dated 28th January and 2nd June, applying for Rain Gauges, state, the former that "many of the gauges supplied in 1858 by the late Chief Engineer, "Public Works Department, are now incomplete, and that a new supply is emergently required;" and the latter that "there is a great want of improved gauges in the district, and would be glad to be supplied with twenty." Besides these special applications, indents have been received from the districts noted in the margin, which remain unsupplied.

Ganjam. Kistna.
Godavery. Vizagapatam.
Tanjore. Commissioner, Neilgherries.

8. Under these circumstances, the Board are constrained to request Government to deal with the matter, as, under present arrangements, there is every prospect of the expected monsoon falling before districts are supplied with Rain Gauges.

No. 279. ORDER THEREON, 19th October 1868, No. 2,653.

Miscellaneous.

1. The Government concur with the Board that it would be highly inexpedient to alter the Tin Rain Gauges which are now correct, in order to make them correspond with the glass measures, in most of which a slight error has been detected by the Government Astronomer.

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19th October 1868.

2. The Government Astronomer should pass all Tin Gauges which are correct, and should cause one of the glass measures to be carefully placed in each tin, keeping a register in his Office of the number of the gauge with a record of the error in the glass measure attached to it. The error discovered in the measures appears to be so slight as to be immaterial for most practical purposes, and if the Government Astronomer has on record in his Office the amount of error in each measure, and the locality in which the rain gauge to which it is attached is set up, he can always correct the returns for his own use.

3. The greatest care should be taken of the gauges when received from the Government Astronomer, in order to prevent the possibility of the glass measures becoming detached from the gauges to which they have been allotted, and strict injunctions should be issued to the Officers in the provinces not to remove the measures from the gauges when unpacking them, but to forward each gauge, with the glass measure packed inside, to its destination.

4. The Board will of course issue the necessary instructions for the management of the gauges when transmitting them to the District Officers.

5. The Government fear that it will be impossible to distribute the gauges in sufficient time to make use of them during the coming monsoon, but they desire that no further delay may be permitted to take place in forwarding them to their destinations. The delay which has already occurred in disposing of this simple matter is apparently quite inexcusable. The Government Astronomer will, however, now be called upon to explain his share of it, and to state why he permitted the Board's numerous communications to remain unnoticed.

(True Extract.)

(Signed) R. A. DALYELL.
Acting Secretary to Government

To the Board of Revenue.
,, the Government Astronomer.
,, the Public Department.

Exd. F. R. Bantleman.

Govt. of {1868} No. 2,653.

REVENUE.

To

THE BOARD OF REVENUE.

&c., &c., &c.

Dated October, 19th.

Recd.

Read.

G. O., 19th October 1868, No. 2,653.

OCTOBER.

Nos. 278-279.

Rain Gauges.—Passing orders with reference to their alteration and distribution to the District Officers.

Pr. 2653.

No 3204 19th Octr 68

The Govt concur with the Board that it would be highly inexpedient to alter the Rain gauges which are now correct, in order to make them correspond with the glass measures in most of which a slight error has been detected by the Govt Astronomer.

The Govt Astronomer should pass all the gauges which are correct, and Mould Cause his name carefully back in each of them one of the glass measures

keeping a register in his Office of the number of the gauge with a record of the error in the glass measure attached to it. The error discovered in the measures appears to be so slight as to be immaterial for most practical purposes, and if the first Assistant has in mind in his Office the amount of error in each measure, and the locality in which the Rain Gauge to which it is attached is set up, he can always correct the returns for his own use.

The greatest care

Note carefully placed on each Gun x

should be taken of the gauges when received from the first Assistants in order to prevent the possibility of the glass measures becoming detached from the gauges to which they have been allotted, and steps should be taken to forward the gauges with the glass measures packed inside, to its destination.

The Board will of

cause such the necessary
instructions for the man-
agement of the gauge
when transmitting them
to the District Offices.

The first from that will
be impossible to distribute
the gauges in sufficient
time to make use of them
during the coming season,
during
but they trust that no
further delay may
permitted
be allowed to take place
forwarding
in distribution of them
to their destinations.

JWB.

11 Copies to the Board of Trade with Enclosure Dec 20
1 Copy — Govt Astronomer
5 Copies — Public Depts

Essay 50/-

1st Oct/08 RJ.

The delay in
(which was unavoidable)
in the accompanying
Report will be explained
by the Secretary when it
is read. I think it will be
unnecessary for me to
explain the matter
to the Board.
JWB.

W. Topson Esq
Weather observation
he report to make
instructions

Yes - & this
will be done
in proper time
Compare the
Topson instructions
with mine - AJA

18th Augt-/68 Nos 292-293
15 June — 350-357
27 Feby /67 — 400-407
14 Janry /68 — 39-40
15 July /67 — 226-227
~~27 Feb — 400-407~~
15 Octr /68 — 403-404
19 September — 457/5-2

Rev = 1868 = Dept
Pay & 3204.

Proceedings of the Board of Revenue

Dated 9th Octr
Despatched 9 — } 1868.
Recd 9 —

E-4- 1 Rain Gauge } with Sect
1 Glass measure } Dated
2d
S. Ast 2653 - 19 Octr

Rain Gauges & Glass Measures in possession of Govt. Astronomer, Govt recommended to direct transmission of, to Supdt P. W. Stores, retain = ing such as may be required by his estab = lishment.

No 278.

Revenue 1868 Deptt
Pro of Govt for Octr

No 2653

Pro of the Madras Govt
D/19 Octoben 1868

From Govt Astronomer and
Meteorological Supdt Madras
D/ 22 Octr/68 C No 3355.

Vc:278-279