M.R.O. 1—77,006—6-6-37.

(1) Number of pages 10

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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 3071 Press / Mis.

381-82

Dated 17-12- 1870.

Not to be folded or roughly handled

4th

Proceedings of the Madras Government, Public Works Department, 17th December 1870.

No. 381. Read the following letter from the Director General of Stores, to the Secretary to Government, Public Works Department, dated London, India Office, Westminster, S. W., 26th October 1870 :—

I HAVE the honour to enclose, for your information, 94 copies of a Memorandum by the Inspector of Scientific Instruments on certain alterations recently introduced in the manufacture of Dumpy Levels.

2. The 93 levels, demanded in your Indent, No. 908, of 15th December 1869, have been constructed of the new pattern, and were despatched this month in the ship *Carnatic*, *via* the Cape, to Madras.

No. 382. ORDER THEREON, 17th December 1870, No. 3,071.

ACCOUNT, No. 34.

COMMUNICATED to the General Superintendent of Public Works Stores and Workshops.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the General Superintendent of Public Works Stores and Workshops,
with 93 copies of Memorandum.

Exd. S. T. Augustin.

Govt. of [1870] Madras

PUBLIC WORKS.

To

THE GENERAL SUPERINTENDENT OF

PUBLIC WORKS STORES AND WORKSHOPS.

Dated December 17th.

Recd. Encl.

G. O., 17th December 1870. No. 3071.

DECEMBER

Nos. 381-382

Dumpy Levels.—Letter from the Director General of Stores, London, forwarding copies of a Memorandum on the recent alterations made in the manufacture of Dumpy Levels, and advising the despatch of 93 of those instruments required by Indent No. 998, of 1869, communicated to the General Superintendent of Public Works Stores and Workshops.

DUMPY LEVELS

BY

Messrs. Cooke, of York.

Attention is requested to certain Peculiarities in these Levels.

I. They have only one screw for correcting the Collimation Error. An internal strong bow spring keeps this screw firmly up to its bearing, so that whichever way the screw is turned the wire plate instantly moves. No clamping is necessary. Hitherto there have been two screws acting antagonistically, and it was necessary to loosen one before tightening the other. With this arrangement there was a risk of either looseness or strain; with the present construction neither of these evils is to be apprehended.

It is advisable, in making the adjustment, to finish with the screwing motion, in order that the parts may be forced into intimate contact.

Levels are independent of Horizontal Collimation Error; no horizontal adjustment is therefore supplied.

II. The adjustment of the spirit level is effected by means nearly identical with those applied to the wire plate. At that end of the level nearest to the eye end of the telescope there is a single vertical screw acting against an internal spiral spring. At the other end there is an elastic ball and socket, which admits of perfectly free motion in all directions without shake. The combination of the single screw with the ball and socket motion obviates that strain which always existed in the antagonizing arrangement hitherto used.

Both of these adjustments will be found to act with the most perfect facility, and it is hoped they will materially tend to the convenience of the observer. Whether they will maintain the parts in position with due permanence is a point that experience alone can decide, and on this point a special report is requested by those who use them.

III. The details of the eye pieces are peculiar. The inner lens is fitted with a projecting rim, which prevents its being scratched if placed on the table. Outside the outer lens is a cap which screws to the lens cell. This cap can be removed without taking the eye piece out of the telescope. The object of this is to facilitate the wiping of this surface, which is the one most exposed to soiling influences.

A. STRANGE, Lieut.-Col.,
Inspector of Scientific Instruments.

Lambeth Observatory,
India Store Depôt,
9th October 1870.

INDIA OFFICE,

Westminster, S. W.

26 Oct. 1870

All Communications to be addressed to—
The Director General of Stores,
India Office,
Westminster.
S. W.

93

Sir

I have the honour to enclose for your information 94 copies of a Mems. by the Inspector of Scientific Instruments on certain alterations recently introduced in the manufacture of Dumpy Levels.

The 93 Levels, demanded in your Indent No. 908 of 15 Dec. 1869, have been constructed of the new pattern and were despatched this month in the ship "Lanatic" via the Cape to Madras

I have the honour to be.

Sir

Your most obedient servant

Henry J. Bedford

for Director General of Stores

The Secretary to Government
Public Works Dept.
Madras.

No 1870 Dept
Imm.

The director General
of Stores India office
Westminster

Dated 20th Oct 1870
Rec'd 3rd Dec 1870

Forwarding
copies of a Memo: on
the recent alterations
made in the manu-
facture of Dumpy
Levels, & advising the
despatch of 93 of those
instruments required
by Indent No 908
of 15th December 1869.

No 3091-17th Dec 1870.
With an order

Commissariat Office
Rec'd Works Store & Mach. Dept
No 3091 of the 17th Dec 1870
Weedon.

Ordnance Store Office
17th Dec 1870

Paul Dickson Esq
Weedon
Northampton
Dec 12 1870

Govt. of 1870 Mass

PUBLIC WORKS.

To the General Superintendent of Stores and Workshops

Nos. 38/1382

Dumpy Levels. Letter from the Director General of Stores, London, forwarding copies of a Memo. on the recent alterations made in the manufacture of Dumpy Levels, and advising

the despatch of 93 of these Instruments required by Indent No. 908 of 1869, Con.

Dist. Genl. Supt. of Stores & Workshops.