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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. <u>2046</u>	Press
<u>439-440</u>	~~Mis.~~
Dated <u>17-7-</u>	<u>1865</u>

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
17th July 1865.*

No. 439. Read the following letter from N. R. POGSON, Esq., Government, Astronomer, to Colonel C. A. ORR, R. E., Secretary to Government, Public Works Department, dated Madras Observatory, 12th July 1865 :—

SIR,

1. I have the honor to request the sanction of Government to the re-construction of the new equatorial dome, on the roof of the Astronomer's quarters, removed for the convenience of the Officers of the Great Trigonometrical Survey of India, about the end of last April. The measurements connecting the Observatory with the Meridional Series of the Great Trigonometrical Survey, were successfully made by Captain Branfill, on the 10th and 11th of June, and the thirty-foot brick column and fifty-foot scaffolding, required to support the theodolite, observing stage, and signals, were taken down and completely removed by the 16th. The long expected ten-foot Equatorial, by Troughton and Simms, arrived per ship "Barham," and was duly delivered at the Observatory on the 3rd instant. It is therefore most important that no time should be lost in the preparation of the room and dome, so as to get the instrument into adjustment and ready for use as early as possible. For this purpose the services of Mr. Doderet, the Mathematical Instrument Maker to the Department Public Works, will be requested when all the preliminary building operations are completed.

2. A massive cast-iron pillar having been sent out with the equatorial, it will be necessary to accommodate the height of the walls and dome to that of the telescope and its bearings, and it was solely from consideration of this circumstance (no dimensions having been previously furnished me by the makers) that I was unable to make application long since, so as to have had the new frame work constructed and ready for setting up by the Executive Engineer. When placed horizontally the lower edge of the object glass is 8 feet 8 inches above the base of the central iron column; and when directed towards the zenith, the end of the dew cap reaches 15 feet 6 inches above the same starting point. These two positions of the telescope define the height of the lower edge of the observing slit, *i. e.*, of the base of the dome segment, and the interior height, which must be 16 feet, clear of all obstructions. For the new dome itself, I beg to suggest a spherical segment, or hemisphere with the lower few degrees ($6\frac{1}{2}$) cut off. If the base of the segment be precisely 8 feet, and its height seven, the curvature of the dome will correspond to a radius of $96\frac{1}{4}$ inches. The observing slit must be three feet in width, and the shutters must open and close easily and effectually, without requiring the aid of a second person. The frame work cannot be too light, or the covering of any better material than zinc. The channels will be far more manageable in hard wood than in iron. The second smaller dome, recently erected over the Lerebour's Equatorial, has proved so satisfactory and convenient, that I cannot do better than recommend it as the model for the larger one. Captain Beckley, in his letter to Colonel Boileau, dated 18th March 1865, No. 773, printed in the Proceedings of the Madras Government, Public Works Department, 12th April 1865, estimates the cost at about Rupees 1,500. The Equatorial is a splendid first-class instrument, and the truest economy will be at once to provide such a room and dome, as shall facilitate its use and spare the observer all possible fatigue and annoyance. Some of the equatorial domes in England have cost not less than 5,000 Rupees exclusive of the walls and fittings, and for smaller telescopes than the one in question.

Madras Observatory. July 12th 1864. —

Proceedings of the Madras Government, Public Works Department,
17th July 1865.

3. Above all things the utmost speed is desirable, as the instrument is urgently needed to finish off certain maps, not accessible with the older equatorial, owing to its peculiar construction.

No. 440. ORDER THEREON, 17th July 1865, No. 2,046.

CIVIL WORKS, No. 58.

Communicated to the Superintending Engineer of the 4th Division, who will be requested to place himself in communication with the Astronomer, and submit for the sanction of Government a plan and estimate for the re-construction of the large equatorial dome which was ordered to be removed in Proceedings No. 1,020, dated 12th April 1865.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Superintending Engineer, 4th Division.
.. Government Astronomer.
.. Public Department.

Exd. S. T. Augustin.

From
The Government Astronomer

To
Colonel C. A. Orr R E

Secretary to Government. — Public Works Department

Sir
I have the honor to request the sanction of Government to the reconstruction of the new equatorial dome, on the roof of the Astronomer's Quarters, removed for the convenience of the Officers of the Great Trigonometical Survey of India about the end of last April. — The measurements connecting the Observatory with the Meridional Series of the G. S. Survey were successfully made by Captain Brahill, on the 10th and 11th of June, and the thirty foot brick column and fifty foot scaffolding, required to support the theodolite, observing stage and signals, were taken down and completely removed by the 16th. — The long expected ten-foot Equatorial, by Troughton & Simms, arrived per ship Backham, and was duly delivered at the Observatory on the 3rd instant. — It is therefore most important that no time should be lost in the preparations of the room and dome so as to get the instrument into adjustment and ready for use as early as possible. — For this purpose the services of Mr. Dodderet the Mathematical Instrument Maker to the D O W will be requested when all the preliminary building operations are completed. —

A massive cast iron pillar having been sent out with the Equatorial, it will be necessary to accommodate the height of the walls and dome to that of the telescope and its bearings, and it was solely from consideration of this circumstance (no dimensions having been previously furnished me by the makers) that I was unable to make application long since, so as to have had the new frame work constructed and ready for setting up by the Executive Engineer. — When placed horizontally the lower edge of the

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object glass is 3 ft 8 inches above the base of the central iron column; and when directed towards the zenith, the end of the dew cap reaches 15 ft 8 inches above the same starting point. — These two positions of the telescope define the height of the lower edge of the observing slit, i.e. of the base of the dome segment, and the interior height, which must be 16 feet, clear of all obstructions. — For the new dome itself I beg to suggest a spherical segment, or hemisphere with the lower few degrees ($6\frac{3}{4}$) cut off — If the base of the segment be precisely eight feet and its height seven, the curvature of the dome will correspond to a radius of $96\frac{3}{4}$ inches. — The observing slit must be three feet in width, and the shutters must open and close easily and effectually, without requiring the aid of a second person. — The framework cannot be too light or the covering of any better material than zinc. — The channels will be far more manageable in hard wood than in iron. — The second smaller dome, recently erected over the Lieutants' Equatorial, has proved so satisfactory and convenient that I cannot do better than recommend it as the model for the larger one. — Captain Breshley, in his letter to Colonel Poole, dated 10th March, 1865, No 443, printed in the Proceedings of the Madras Government, Public Works Department, 12th April, 1865, estimates the cost at about Rupees 1500. — The Equatorial is a splendid first class instrument and the truest economy will be at once to provide such a room and dome as shall facilitate its use and spare the observer all possible fatigue and annoyance. — Some of the equatorial domes in England have cost not less than 5000 rupees exclusive of the walls and fittings, and for smaller telescopes than the one in question. —

Above all things the utmost speed is desirable, as the instrument is urgently needed to finish off certain maps, not accessible with the older equatorial, owing to its peculiar construction. —

I have the honor to be

Sir

Your most obedient servant

M R Pogson

Government Astronomer. —

Public Works Department
No. 2046
Proceedings of the Minister's Government
Under date the 17th July 1865

Read the following
From the Government Astronomer

Requesting sanction to
the reconstruction of the new
Equatorial dome on the roof
of the Astronomer's Quarters
in lieu of the one removed in
April last for the convenience
of the Officers of the Great
geometrical Survey of India.

Here enter 12th July 1865

Communicated to
the Superintending Engineer
of the 4th Division, who will
be requested to place him-
self in communication
with the Astronomer, and
submit for the sanction
of Government a plan
and estimate for the
reconstruction of the large
Equatorial dome which

20 July 1865
Mr. J. G. G. G. G.
From the Government Astronomer
Recd 14 July 1865

Requesting
sanction to the recon-
struction of the new
Equatorial dome on
the roof of the As-
tronomer's Quarters, in
lieu of the one removed
in April last for the
convenience of the Officers
of the Great Geometrical
Survey of India.

No. 4039.

20 July 1865

20 July 1865

[illegible]

To
The S. Eng. 4th Dec. 1871
Post Auctioneers
Public. Dept.
Sept 17th July 30
4

[Faint, illegible handwriting]

2046
J. W. 1865 Dep't
Proc. of Govt for July

2046
Proc. of the Govt
of July 65

The Supg Engr. H. D.
requested to submit a plan &
estimate for the re-construction
of the large equatorial dome
on the roof of the Govt. Astronomical
quarters which was ordered to
be removed in April last for
the convenience of the officers
of the great Trigonometrical
Survey of India.

N^o 409. 440