



P.W.C. No. 2

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31-26-11-85
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Proceedings, dated 4 April 1887
No. 486

Subject.

No. 1068 Waj 16 April 1887

No. 1069 Waj 16 April 1887

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Electric clock
placed in Senate
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BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1887) Madras.

PUBLIC WORKS.

Order in the Public Department.
4 April 1887 No 486

The proposals of
the Government Astronomer, &
referred to in para 2 of the
foregoing proceedings, are
approved and sanctioned with
effect from 1st April 1887.

(True Extract)

W. J. J. J.
Asst Secretary.

Dated March, 8th.

Recd.

Encl.

G.O., 8th March 1887, No. 720 W.

MARCH.

Electric Clock

Ordering the — now available at the
Madras Observatory to be placed on the
porch of the Senate House facing south.

To The Government Astronomer.
" Accountant General
" Public Works Department ✓
" Port Officer, Madras.
" Military Department.

2/8.0

1887.
8TH MARCH 1887, No. 720 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers:—

Memorandum from the Secretary to Government, Public Works Department, to the Public Department, dated 6th February 1886, No. 504 C.

From N. R. POGSON, Esq., C.I.E., Government Astronomer, to the Chief Secretary to Government, dated Madras Observatory, 12th April 1886.

I have the honor to report, as desired, upon the memorandum, No. 504 C., Public Works Department, dated Chepāk, 6th February 1886, regarding the alleged present unsatisfactory condition of the three electric clocks, allotted respectively to the Marine office, the Post and Telegraph offices, and the Public Works offices at Chepāk.

2. A brief summary of the past history of the clocks is necessary to explain the extraordinary delay which has occurred in bringing them into use, for which the Astronomer is only responsible in so far as persistently refusing to agree to plans, for their erection, so contrary to his requirements as to render it impossible for them ever to be properly adjusted, cleaned, or even wound without positive danger to life and limbs. The one at the Marine office is the only one of the three which can be considered as fairly in use, but even it has had no specially paid attendant to look after it. The Post office clock was only set going experimentally about a year ago without much expectation of its proving a success, while for the Chepāk clock no reasonable plans for its erection has yet been furnished by the Consulting Architect to Government.

3. One electrical motor or controlling clock and three sympathetic or controlled clocks were first sanctioned by the Government of Madras in a G.O., dated 26th April 1864. The approval of the Right Honorable the Secretary of State to the arrangement was not given until 21st March 1868, and on 14th August of that year the controlling clock only was ordered of Messrs. Shepherd and Co., London. The three sympathetic or controlled clocks (those now under report) were also ordered of Messrs. Shepherd and Co., but not until 30th January 1871. An urgent request, made 23rd October 1872, to expedite the supply of the clocks, then over eight years under consideration, led to their immediate despatch per ship *Queen of the North*, apparently in hot haste. It subsequently transpired that the controlling clock had been at the India Office Stores, in Lambeth, under examination by the late Colonel Strange, R.E., for more than twelve months; that it had been condemned by that very able officer, whose opinion was most assuredly entitled to the utmost reliance; but that Messrs. Shepherd and Co. declined to take it back, on the ground that, if really faulty, which they contended it was not, it should have been returned at once and not kept in store awaiting examination for more than a year. I am unable to say whether the three controlled clocks underwent any inspection or not, but all four arrived at Madras, 27th February 1873. They were at once put on trial at the Observatory and were all found to be more satisfactory than might have been expected from previous accounts received. The controlling or motor clock, which had been the source of all the delays and disputes in London, proved to be an excellent time-keeper, but was spoiled by the addition of an inconvenient and most uncertain magnetical

adjustment for correcting its small daily error of a fraction of a second as found by astronomical observations. By doing away with this unsatisfactory magnetical appliance and substituting a simple gravity adjustment, the controlling clock was made all that could be desired and it has continued the same ever since. Of the three controlled clocks, none were equal in quality or performance to the electrical regulator, one being a two-faced clock, in a very ingeniously constructed but most unsuitable wooden case, the works of which though possibly just strong enough to work both pairs of hands when perfectly clean and well protected, could never be expected to do so when exposed to tropical heat and Madras dust. The other two controlled clocks had each only single dials, a little under 3 feet in diameter; their works were also much too weak, but they were supplied with handsome iron towers, on pedestals, standing about 20 feet high, and each costing some sixty or seventy pounds extra. The clock towers, sent out by Messrs. Shepherd and Co., of course fitted the clocks and were, I suppose, such as met with approval in England, but unfortunately they were at once condemned by the Consulting Architect as "Gothic abominations, too hideous and unsightly for erection in Madras." My own opinion of them was quite different, but that carried no weight against Mr. Chisholm's. It matters nothing to an Astronomer in what kind of a structure the clocks he has to superintend are placed, so long as they are safely and conveniently accessible for adjustment, winding, and repair; but it is a pity that, for such a trifling consideration as the appearance of the cases sent out, three useful and valuable clocks should have been suffered to lie idle for so many years.

4. The controlling clock or electrical regulator, when cured of its one defect, the failing magnetical adjustment before mentioned, was taken into use in February 1874 and has fired the fort time gun twice daily and been the standard mean time clock for all India ever since. The selection of sites for the three controlled clocks remained undecided for several years, until at last, in June 1879, in compliance with a sudden peremptory order, which, though directly contrary to my own recommendation, admitted of no appeal, the two-faced clock (the worst of the three) was hurriedly turned into a single dial arrangement and relegated to an obscure corner of the Marine office, where, in great measure owing to a bad earth connection, it often went wrong throughout the next five years. The clock was removed to a more conspicuous and suitable position over the centre of the Custom House and a new earth connection made in 1883, and in the following year it was again removed, its double dial was restored and it was erected in the front centre of the Post and Telegraph offices. The dial showing hours, minutes and seconds was for the outside public, to be kept exactly with the Marine clock by means of the same electrical current from the controlling regulator at the Observatory; the other dial, showing hours and minutes only, was for view from the great hall of the building, for the benefit of the Post and Telegraph Department especially, but could never be made to indicate precisely the same fraction of a minute as the outer dial. If after the clock has been tried for a few weeks under better care than it has yet received (agreeably to suggestions herein following) it still fails so frequently, I can only recommend that the inner dial should be dispensed with and the outer one only retained, when it would probably be found more subject to control from the Observatory currents than hitherto.

5. The new Marine office clock, in use since the beginning of last year, is one of the two single dial clocks, fitted with a wooden case instead of the large 20-foot iron one which came out with it. The clock room and the small gallery outside, which gives safe access to the dial and pendulum coil, are all that can be desired, and with properly paid attendance this clock would, I believe, rarely ever be a second wrong. Annual cleaning and oiling will, however, be necessary to all clocks so exposed to sun, rain and dust as these unavoidably are. So far from being *permanently* out of order, the new Marine office clock has gone very fairly, with only occasional stoppages, since its erection in December 1884.

6. With regard to the proposed Chepāk clock, there is no reason to expect that it will be otherwise than a success, provided that it is set up in a secure and accessible manner like that at the Marine office. I must, however, without any *hesitation*, such as Colonel Shaw-Stewart mistakenly lays to my charge in his memorandum, request

Government to excuse me from undertaking such an impossibility as that of regulating, adjusting, and keeping an electrical clock in order under such conditions as the Consulting Architect has offered me so far. I respectfully submit that it is not indecision persistently to refuse consent to plans which I am certain could only result in failure and useless expenditure. If a suitable and reasonable plan for a clock room is submitted for my approval, I will agree to it immediately, but I cannot otherwise.

7. However convenient and suitable the building arrangements, and however perfect and carefully carried out those of the Government Telegraph Department may be, electrical clocks intended to keep true time to the second must be wound, inspected, compared, and, when necessary, adjusted by a competent person who will naturally require to be paid for such attendance. I think ten rupees a month for each clock would be fair yet moderate remuneration, and that Mr. Stuart, the signaller of the Master Attendant's Department, might, with the consent of Captain J. H. Taylor, R.N.R., be permitted to take charge of two of them in addition to his other ordinary duties. As the Chepāk clock may be considered too far distant for him to be spared to attend to, Gunner Bennett, R.A., in charge of the fort time gun, might well be entrusted with its care. No electrical clocks should be wound or in any way interfered with by any one not under my immediate orders so far as such clocks are concerned. They must on no account be included in the list of ordinary public office clocks, to be wound and repaired by contract, as was formerly done with the Marine office clock, as they can only be properly treated by a person who can note seconds correctly, who knows a little about electricity and telegraphy, and who can be relied upon for strictly carrying out my instructions and reporting to me directly a clock is not showing the precise second of Madras mean time.

8. Mr. Stuart, the shipping signaller at the Marine office, having already attended to the Marine office clock during the two years 1884 and 1885, and to the Post and Telegraph office clock throughout the last year, in anticipation of pay being granted him for the service rendered, I would further suggest that his allowance of Rs. 10 per month for charge of the Marine office clock should be retrospective from 1st April 1885. The allowance for the Post and Telegraph office clock may date from the commencement of the current official year, as its performance has not been satisfactory, although that was due to defects in the clock and not to any neglect on the part of Mr. Stuart in his hitherto unremunerated services in looking after it. Provision for these very necessary charges for the public clocks has been duly made in the budget estimate for the current year.

No. 689 C., Public.

Transferred to the Public Works Department with reference to memorandum from that department, No. 504 C., dated 6th February 1886.

(By Order.)

OOTACAMUND,
28th April 1886.

(Signed) E. S. LAFFAN,
Acting Under Secretary.

From the Consulting Architect to the Government of Madras, to the Chief Engineer, Public Works Department, dated Chepāk, 1st June 1886, No. 294.

With reference to your endorsement, No. 99 D., dated the 7th instant, I have the honor to submit two plans for the electric clock room at Chepāk. It will be seen from the Government Astronomer's letter, dated the 29th instant, a copy of which is forwarded, that he approves of the plan marked No. 2. I also forward the original plan sanctioned in G.O., No. 2831 W., dated the 26th November 1885, and copies of all the correspondence that has passed between the Government Astronomer and this office.

2. On the approval of any of the plans now submitted an estimate will be prepared.

From J. W. BRASSINGTON, Esq., Officiating Consulting Architect to Government, to the Chief Engineer, Public Works Department, dated Chepāk, 7th December 1886, No. 1090.

I have the honor to return the papers received with your endorsement, No. 4204 C., dated the 26th November 1886, with a memorandum on the subject.

ENCLOSURE.

PUTTING UP AN ELECTRIC CLOCK AT CHEPĀK.

Memorandum by Offg. Consulting Architect.

Of the three clocks received from England in 1873, the largest, with a dial 36 inches in diameter, was put up in the pediment of the Marine office. It is contained in a wooden house 5½ feet × 7 feet, with an iron railed balcony in front to enable a person to attend to the hands of the clock.

2. Another clock has been fixed in the central window of the new Post and Telegraph office with two dials 32 inches in diameter, one towards the roadway facing east and the other towards the central hall of the building; the window which was being constructed was easily adapted with a light gallery to suit the purpose.

3. The remaining clock, with a dial 32 inches in diameter, was originally intended to have been put up in the neighbourhood of Messrs. P. Orr and Sons' premises, and an estimate, amounting to Rs. 847, was sanctioned for setting up the clock in the iron stand received with it with a new wooden roof and stone basement. This proposal was set aside and a larger structure sanctioned at an estimated cost of Rs. 3,110, to be erected in the triangular space opposite that the height proposed for the turret was too great and a plan was next submitted for a more ornate tower with two dials 5 feet in diameter, estimated to cost Rs. 10,078 with an additional sum of Rs. 2,000 for altering the clock into a double-faced clock, and increasing the size of the dials. This proposal was abandoned as the municipality refused to contribute any portion of the cost. It was then proposed to place the clock in the Public Works Department offices at Chepāk.

G.O., No. 533 W., dated 1st March 1882.

up the clock in the iron stand received with it with a new wooden roof and stone basement. This proposal was set aside and a larger structure sanctioned at an estimated cost of Rs. 3,110, to be erected in the triangular space opposite that the height proposed for the turret was too great and a plan was next submitted for a more ornate tower with two dials 5 feet in diameter, estimated to cost Rs. 10,078 with an additional sum of Rs. 2,000 for altering the clock into a double-faced clock, and increasing the size of the dials. This proposal was abandoned as the municipality refused to contribute any portion of the cost. It was then proposed to place the clock in the Public Works Department offices at Chepāk.

G.O., No. 116 W., dated 11th January 1883.

Mr. D'Angelis' shop in the Mount Road as a more suitable position. Subsequently it was found that the height proposed for the turret was too great and a plan was next submitted for a more ornate tower with two dials 5 feet in diameter, estimated to cost Rs. 10,078 with an additional sum of Rs. 2,000 for altering the clock into a double-faced clock, and increasing the size of the dials. This proposal was abandoned as the municipality refused to contribute any portion of the cost. It was then proposed to place the clock in the Public Works Department offices at Chepāk.

G.O., No. 3257 W., dated 16th November 1883.

diameter, estimated to cost Rs. 10,078 with an additional sum of Rs. 2,000 for altering the clock into a double-faced clock, and increasing the size of the dials. This proposal was abandoned as the municipality refused to contribute any portion of the cost. It was then proposed to place the clock in the Public Works Department offices at Chepāk.

G.O., No. 1205 W., dated 13th May 1884.

portion of the cost. It was then proposed to place the clock in the Public Works Department offices at Chepāk.

4. A design and estimate, amounting to Rs. 280, for putting up the clock over the porch of the Public Works Department offices was sanctioned. The Government Astronomer stated that this design did not afford sufficient protection for the clock and easy access to regulate it in front.

G.O., No. 2831, dated 26th November 1885.

5. Two designs were next prepared; No. 1 for placing the clock in a wooden house measuring 7 feet 0 inches × 3 feet 6 inches, resting on the porch, and No. 2 for placing the clock house on a raised gallery in the central arch with a staircase leading to it. The Government Astronomer approved of the latter.

6. It is now considered that a better position might be selected for the clock. The Deputy Chief Engineer suggests that it might be placed in the centre of the west verandah of the Revenue Survey office. This would certainly be a better position than at the Public Works Department offices; the house containing the clock can simply rest on the floor of the upper verandah, where it will be easily accessible. Another position in which the clock might also be placed is within the central arch on the south side of the Senate House; if the clock can be fitted with two dials, one towards the south and the other towards the Great Hall, it may be useful during the time examinations are held in the Hall, but the latter arrangement will be much more expensive.

7. Any cross road in Madras could be selected for erecting an ornamental tower, say 20 feet high, which might be designed to any sum above Rs. 2,000, for instance, on the Mount Road at the site of the Neill Statue, near the Egmore Police Commissioner's office, or near St. Mathias' Church at Vepery.

(Signed) J. W. BRASSINGTON,
Offg. Consulting Architect to Government.

From the Public Department, dated 7th January 1887, No. 434.

Note by the Chief Engineer, Public Works Department.

The history of the electric clocks and the various proposals which have been put forward for locating the third clock still remaining undisposed of, are recounted in the foregoing papers.

2. After personal inspection with the Consulting Architect, the Chief Engineer recommends that the third clock be placed on the porch of the Senate House facing south.

(Signed) J. O. HASTED, Colonel, R.E.,
Chief Engineer, P.W.D.

8th February 1887.

From the Registrar, Madras University, dated 23rd February 1887, No. 665.

From W. H. WILSON, Esq., Registrar of the University of Madras, to the Secretary to Government, Public Works Department, dated Madras, 8th March 1887, No. 698.

In reply to your letters, Nos. 613 C. and 709 C., dated the 22nd and 28th February 1887, respectively, I am directed by the Syndicate to inform you that they have no objection whatever to an electrically controlled clock being erected on the south porch of the Senate House.

ORDER—dated 8th March 1887, No. 720 W., Public Works.

The Government accept the Chief Engineer's proposal to place the third electric clock on the porch of the Senate House facing south. The Consulting Architect will, in communication with the Government Astronomer, submit a plan and estimate accordingly.

2. The subject of paragraphs 7 and 8 of the Government Astronomer's letter above recorded will receive consideration in the Public Department. The proposals therein set forth have the approval of the Government in the Public Works Department.

(True Extract.)

(Signed) J. O. HASTED, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Consulting Architect to Government.
" Public Department.

Educational Dept

Exd. E. Fernandez.
Spare Copies

Order,

BUILDINGS AND ROADS.
CIVIL WORKS.

Gobt. of (1887) Madras.
PUBLIC WORKS.

Dated March, 8th.

Recd.

Encl.

G.O., 8th March 1887, No. 720 W.

MARCH.

Electric Clock

Ordering the — now available at the
Madras Observatory to be placed on the
porch of the Senate House facing south.

Order in the Public Department.
4 April 87 No 486

The proposals of
the Government Astronomer, &
referred to in para 2 of the
foregoing proceedings, are
approved and sanctioned with
effect from 1st April 1887.

(True Extract)

Asstt Secretary.

To
The Government Astronomer.
" Accountant General
" Public Works Department
" Post Officer, Madras.
" Military Department.

No 2819
In Case 13
The telegrams in question are

(1) To inform Mr Parker
that he (Mr Throngood)
had tendered his resignation
to the H.T. Board

(2) To inform Mr Parker
that his (Mr Parker's) services
were not required by the
Board and that if possible
they would dispense ^{with} them; and
also make their own arrangements
for getting stores from England.

There was no necessity for either
telegram in the interests of
the public service - Mr Throngood
had once before tendered his
resignation, but he did not
then telegraph to Mr Parker;
while as regards the Board's
resolution to dispense with
the services of Mr Parker if possible,
Mr Throngood was not parties
in manner Mr Parker (that
his position as Engineer in Chief
was threatened) at the public
expense and without the
knowledge of the H.T. Board -

Further

Wd 16 April 1887

Gen. 13. 4

7. Bombay 16. 4. 87