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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P. W. DEPARTMENT

G.O. No.	2373	Press.
B.P. No.		Mis.
Dated	14-9-1882	197

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Not to be folded or roughly handled

2373
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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

No. 100.

READ—the following letter from Rev. O. DENE, B.A., Principal and Secretary, Lawrence Asylum, to the Secretary to Government, Public Works Department, dated 9th September 1882, No. 1232 :—

I have the honor to forward copy of a letter from Mr. Luke, Superintendent of Telegraphs of this division.

2. I venture to hope that you will be so good as to represent this matter (if necessary) for the favorable consideration of His Excellency the Governor in Council, in order that the present dangerous condition of these buildings, owing to the very imperfect construction of the lightning conductors, may be speedily remedied.

3. I beg to add further that, should a detailed report be required, Mr. Luke will arrange with Mr. Atkinson, the Telegraph Instructor of this Institution, to take the necessary tests.

ENCLOSURE.

From the Superintendent of Telegraphs, to the Principal, Lawrence Asylum, dated Ootacamund, 7th September 1882.

At your request I have examined and tested electrically some of the lightning rods on the Asylum building with the following results :—

Lightning Rod of Centre Tower.—This is an iron rod about three-fourths of an inch diameter. Owing to the impossibility of getting at it I could not examine it, nor test its electrical continuity from the summit to the ground line, but it appears to be in five or six lengths fastened together with screw joints. On reaching the ground it is bent at right angles and carried away from the building at a depth of 6 inches, for a distance of 12 feet. It is then again bent at an angle of 45° and taken downwards for a length of 2 feet, where it ends at a depth of about 2 feet from the surface. There is no metal plate, coil or other means of connection with the ground than the rod itself. The rod is attached to the building by iron staples driven in between the interstices of the bricks.

As before remarked, I could not test the electrical condition of the rod itself, but the connection with "earth" gave a resistance of 78 B.A. units, and this under the most favorable conditions, viz., the end of a very heavy monsoon. During the dry season the "earth" resistance is in all probability far greater. The *maximum* resistance now considered safe for the "earth" of a lightning rod is 10 B.A. units, so that this one is very defective. The centre tower entirely dominates the building, and it is of great importance that its lightning rod should be as perfect as possible. Situated as the building is on the top of a ridge with hard and rocky soil, I doubt if it is possible to get a reliable earth connection otherwise than by continuing the rods down to the lake, some 250 yards below, and there terminating them in a suitable metal plate or coil of wire rope.

The plan of attaching the rod to the building by iron staples driven into the masonry is, I am of opinion, unsatisfactory if not dangerous. A lightning rod to be perfect should be insulated from the building as far as possible by being attached to blocks of wood let into the masonry.

Owing to the great height of the central tower, the importance of the rods on the rest of the building is probably diminished. However I tested the one on the right wing, over the school-rooms, and found it gave an electrical resistance of 164 B.A. units for its "earth" connection. This is far worse than the rod in the central tower. I did not test the continuity of the rod, nor was the portion under ground dug up. So I cannot say what it is like.

To test a lightning rod properly, its electrical resistance from its summit should be measured, but to do this with the tower rod, a scaffolding would have to be erected. Until this has been done the condition of the rod cannot be accurately determined, but the tests I took are sufficient to show decisively that the "earth" connections are very faulty.

No. 101.

ORDER—dated 14th September 1882, No. 2373 W., Public Works.

Communicated to the Superintending Engineer, Fourth Circle, who will arrange for immediate attention being paid to the lightning conductors of these buildings.

(True Extract.)

Under Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Superintending Engineer, Fourth Circle.
" Educational Department.

Exd. S. T. Austin
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Gobt. of (1882) Madras.
PUBLIC WORKS.

Dated September, 14th.

Recd.

Encl.

G.O., 14th Sept. 1882, No. 2373 W.

SEPTEMBER.

Nos. 100-101.

Lawrence Asylum Buildings.

Lightning Conductor on the —. Letter from the Principal of the Asylum bringing to notice the imperfect construction of the —, communicated to the Superintending Engineer, Fourth Circle.

20/232

Lawrence Asylum. 23/9
9th September 1882

From

The Principal Secretary
Lawrence Asylum

To

The Secretary, Government
Public Works Department
Bottlemand

Sir.

I have the honor to forward
copy of a letter from Mr. Duke,
Superintendent of Telegraphs
of this Division.

2. I venture to hope, that you
will be so good as to represent
this matter, (if necessary), for
the favorable consideration
of H.E. the Governor in Council,
in order that the present
dangerous condition of these
Buildings, owing to the very
imperfect construction of the
Lightning Conductors, may be
speedily remedied.

3. I beg to add further
that, should a detailed
report be required, Mr.

Luke will arrange with
Dr. Atkinson, the Telegraph
Instructor of this Institution,
to take the necessary tests.

I have the honor to be
Sir

Your most obed^t Serv^t

Odme.

Principal Secretary
Lawrence Lyman

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Club
No 2373 w d 14 Sept
1882

P. m. e. no 62

Communicated from
to the Supt. Eng:
4' Circle who with
arrange for insur-
diate attention being
paid to the Lightning
Conductors of these
buildings.

The Principal
Lawrence Aug

To

The Secretary
P. m. e.
Oct 12

No 1232.

Dated 9 Sept

Recd 14 Sept

12 9 82

Forwarding copy
from Mr. Duke
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imperfect cond
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Asylum Build

with or

earlier

Oct 12 1882

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here - but it appears to be in
5 or 6 lengths fastened together
with screw joints. On reaching
the ground it is bent at
right angles and carried
away from the building
at a depth of 6 inches, for a
distance of 12 feet. It is then
again bent at an angle of
 45° and taken downwards
for a length of 2 feet, where
it ends at a depth of about

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P. m. 8-1
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this has been done, the condition
of the rod cannot be accurately
determined, but the tests
I took are sufficient to show
decisively that the "Earth"
connections are very faulty.

Believe me

dear Sir

Yours truly

Dr. P. P. Duke

Sup't. Telegraphs.

The Principal
Lawrence Hughes.

OSM

PUBLIC WORKS.

G. O., 14-Sept 1882, No. 2373W

Lawrence Agy Amu

Bird Song

Lightning Conductor in

the _____ Letter from

The Principal of the Asylum

bringing to notice the

imperfect construction

The Com. to the

Sliver 4th grade