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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No. 391	Press
B.P. No.	Mis.
Dated 14-2	18 76

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
14th February 1876.*

Read the following papers :—

No. 223. From Lieutenant-Colonel R. F. OAKES, R.E., Superintending Engineer, Tanjore, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Tanjore, 14th January 1876, No. 52.

With reference to G.O., No. 3,619, dated 27th ultimo, I have the honor to observe that Government endorse the statement made in clause 4 of the Note of the Chief Engineer for Irrigation, that weighting the shutters of the Singalipuram surplus sluice was unnecessary.

2. Had I been in charge of the district when the estimate for the Singalipuram sluice was submitted for sanction, the weighting of the shutter would have been provided for as a matter of course : unless a self-acting shutter is weighted so that its specific gravity is a trifle over that of the quantity of water it displaces, the result is either that the shutter will float, *i.e.*, will not close at all, or, if it does not work freely on the bar on which it is swung, its lower extremity will sway backwards and forwards within a more or less extended arc, and it will only partially exclude the flood-waters when the water level below rises above the water level above the shutter.

3. A shutter must follow natural laws, and hence I do not purpose to alter the ruling in the district that self-acting shutters are to be weighted ; the shutters referred to by the Chief Engineer for Irrigation must, I conclude, have been weighted, though he was not aware of it.

4. Oddly enough Lieutenant Smart has only this morning informed me that a self-acting shutter put into a sluice in the Vettaur last season has not acted, though he had calculated for weighting it so as to bring its specific gravity to that of water, because the weight of the wood proved to be less than he had estimated it, and hence the shutter would not close.

No. 139.

No. 224. *Note by the Chief Engineer for Irrigation.*

My experience is that swing-shutters of teakwood, with the hinges, bolts, &c., are so nearly of the specific gravity of water, that usually special weighting is not required, a very slightly higher level of water on the lower side, with the current thereby generated, being sufficient to sink and close them. The only difficulty in any case would be the starting of the downward motion of the shutter, with a very slight head, and consequently feeble current. Once started an extremely small head would be requisite to neutralize the buoyancy of the shutter.

2. Shutters must be made to answer their intended purpose, and if, in any case without weighting, they do not shut properly, weight must be added. It should be remembered, however, that any excess of weight is prejudicial to the effective discharge of land drainage, and would often lead to the shutters being propped up by the ryots, and to their self-acting properties being thus done away with.

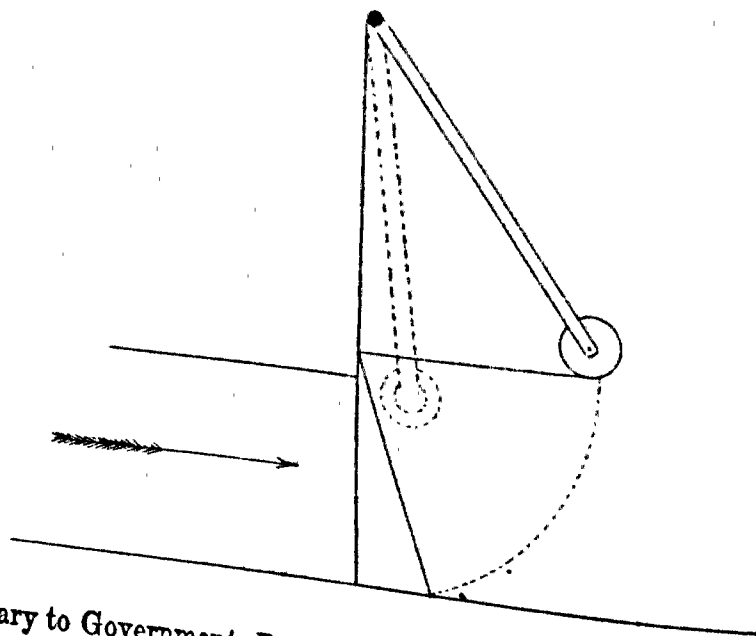
3. Shutters may be prevented by stops from rising higher than the horizontal position, and they will then be less liable to need weighting. Moreover, as extra weight is required rather to commence their depression than to ensure their coming home to their seat after downward movement has been originated, a good form of weighting is one which would be at or near the lower edge of the shutter when

Proceedings of the Madras Government, Public Works Department,
14th February 1876.

horizontal, and nearer the line of suspension when shut. This arrangement can be effected by applying the weight in the form of a roller with radial arms hinged at a point on the face wall, about $1\frac{1}{2}$ times the length of the shutter above the hinges of the latter, *vide* diagram.

FORT ST. GEORGE,
1st February 1876.

(Signed) JOHN MULLINS, Lt.-Col., R.E.,
Chief Engineer for Irrigation.



To the Secretary to Government, Public Works Department.

No. 225.

ORDER THEREON, 14th February 1876, No. 391.

IRRIGATION, No. 24.

RECORDED, with the remark that G.O., No. 3,619, of the 27th December 1875, was not intended to convey any opinion of Government on the subject of weighting swing-shutters, which is a detail to be settled by the professional officers.

2. A memorandum on this subject by the Chief Engineer for Irrigation will be communicated to Colonel Oakes.

(True Extract.)

(Signed) G. W. WALKER, Major-General, R.E.,
Secretary to Government.

To the District Engineer, Tanjore.
„ all other District Engineers.
„ the Chief Engineer for Irrigation.

Ed. S. T. Austin.
Spare Copies

Explanatory memorandum
with reference to the remarks of the Honorable
W. Ellis on the order drafted on Colonel
Oakes' letter N. 52.-

The Chief Engineer for Irrigation has
not altered his opinion regarding swing
shutters - Para 2 of the note printed in
Proceedings of the Madras Government
of the 27th December 1875, N. 3619, indicates
the unnecessary expenditure referred to
in the E.O. On the principle that Govern-
ment should not generally be committed
to an opinion on purely technical details,
the draft order was written so as to leave
their settlement to the proper officers.

W. 2/2

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Lieut. Col. C. F. Oakes R.E.
Superintending Engineer, Tanjore

To Major-General G. W. Walker
Secretary to Government
D. C. W.

Sir With reference to G.O. No. 3619 dated 27-Ultimo I have the honor to observe that Government endorse the statement made in clause 4 of the note of the Chief Engineer for Irrigation that weighting the shutters of the Pungalipuram Surplus Sluice was unnecessary.

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index

This note will now form
part of the Proceedings. Kindly
Bates letter to be printed
Proceedings to go to all District
Engineers as well as to Superintending
Engineer Bangalore

2. 11. 1946 No 139 -

Resubmit for
Orders

It should
be made in the
position question.

Pro. 14 + Feb 76 Bk 224

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I have the honour to be,
Sir,

Your most obedt Servant
A. F. A. de la Roche
Superintending Engineer, Tanjore

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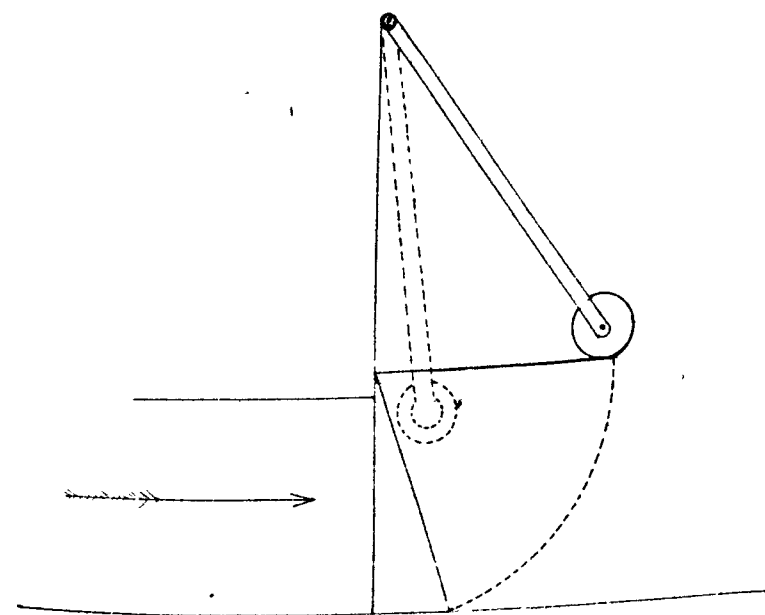
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 with radial arms hinged at a point
 on the face wall about $1\frac{1}{2}$ times the
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 of the latter, vide diagram.

Approved: Lt. Col. J. G. ...
 15 February 1876
 J. G. ...

Voluntarius Lieut. Col. ...
 Chief Engineer for Irrigation

For the Secretary to Government
 P. W. D.

No. 12 Feb 76 B. 1224

Geo. W. 391. 14.2.76

90th 379
Govt. of Madras.
PUBLIC WORKS.

To
J. E. Taylor

Date
Issued
Recd.
Encl.

G. O. 14 Feb 1875, No. 31

NO. 223-224

Receipt of all letters
of the Engineer-in-Chief
J. E. Taylor, Esq. on
the subject of the
proposition on letter of the
Engineer, regarding the necessity
of ————— recorded with
Remarks.