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MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. [illegible] Press
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Dated [illegible] 3 18[illegible].

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, *20th March* 1872.

No. 470. Read the following letter from the Officiating Joint Secretary to the Government of Bengal, in the Public Works Department, Irrigation Branch, to the Joint Secretary to the Government of Fort St. George, Public Works Department, Irrigation Branch, dated Fort William, 5th January 1872, No. 21-I. :—

WITH reference to your letter to the Government of India in the Public Works Department, No. 917, dated 28th March last, I am directed to forward herewith ten lithographed copies of an improved tumbler shutter design with specification by Mr. C. Fouracres, Executive Engineer, Dehree Workshops.

No. 471. ORDER THEREON, 20th March 1872, No. 790.

IRRIGATION, No. 20.

RESOLVED that one copy of the design of improved tumbler shutter with specification received with this letter be furnished to the Chief Engineer for Irrigation and to each Superintending Engineer.

(True Extract.)

SPECIFICATION FOR IMPROVED TUMBLER SHUTTER DESIGN.

The enclosed plan is for a shutter 3 feet high; the same design exactly will suit for any sized shutter if the dimensions be altered to the required size.

Position No. 1 shews the shutter when it has fallen and the water is running over it.

Position No. 2 shews the shutter when the hook has been caught by a boat hook by the men in a boat, and when the shutter has been slightly lifted; in this position the current will force its way under the shutter and will materially assist to raise it into the next position.

Position No. 3.—This position is that of the shutter slighty more raised.

Position No. 4 shews the shutter when it has been pulled up into an upright position before the upper shutter has been allowed to fall into its place. When the shutter reaches this position, the retaining bar at the back will fall into position and the lower part of the shutter is then firmly fixed. The upper shutter is in this position horizontal, and is retained so by a batten, which is hinged to the front of the shutter. This batten is floating in the water when the shutter is being lifted, and, if a good stream is running through the sluice, the pressure of the water will of itself keep the batten pressed against the rising shutter until it catches as shewn in tracing. In this position the upper portion forms a foot-bridge.

When it is required to close the upper shutter, the batten must be knocked out of the notch; the shutter will then, by the help of the counterbalance weight, immediately revolve into the upright portion shewn in Position 5.

The shutter will remain in Position 5 as long as the retaining bar at the back is untouched; when this retaining bar is lifted out of the notch by the disengaging bar, the shutter will fall, provided of course the head of water is sufficient to upset it.

The disengaging bar is simply a bar of square iron, which is wedge shaped, under the retaining bar. By moving the disengaging bar by means of a lever fixed in the pier a few inches, the retaining bar is lifted and the shutter is free to fall whenever the head is sufficient to upset it.

The lever of the disengaging bar is fixed in the pier; a socket handle fixes on top of the lever, which is so arranged that when the shutter is in position to fall the lever is within the groove cut in the pier.

The shutter is designed to lift against any head of water whenever it is safe to go in a boat to lift it.

PROPOSED PLAN TO LIFT THE SHUTTER.

The plan I propose to lift these shutters is as follows:—

A boat of about 15 tons with a flush deck to be fitted with two crab winches one at each end of the boat. The boat to be supplied with anchor, chains, and rope.

About 100 feet in front of the annicut, at convenient distances apart, mooring buoys should be placed, the boat drop down the stream and come to an anchor a few yards above the buoys, and then pay out cable and make fast one line to each buoy; from the two buoys she will be able to command a row of shutters equal in length to the distance the buoys are from each other.

The boat can now be lowered to within a few feet of the crest of the weir, when one of the crew with a boat hook and rope attached will hook on to the hook in the shutter, the rope being attached to the windlass, a few turns of which will bring the shutter into position No. 4.

The whole of the shutters right across the annicut should be lifted into this position first, when the batten that supports the upper half in the horizontal position should be knocked away to bring the shutter in position No. 5.

In position No. 4 the upper half forms a bridge; the lascars can walk on this to knock away the battens, commencing from the middle shutter and finishing to each end of weir.

C. FOURACRES,

Exe. Engr., Workshop Division,
Sone Irrigation Works.

PW 1/3/72
Frm 20th May/72 No. 420

No. 21 1

FROM LIEUT.-COL. F. T. HAIG, R. E.,

Offg. Joint-Secy. to the Govt. of Bengal
in the P. W. Department,
Irrigation Branch,

To The Joint Secretary to the Government
of Fort St. George
Public Works Department,
Irrigation Branch.

Dated Fort William, 5th January 1872.

IGATION.

SIR,

With reference to your letter to the Government of India in the Public Works Department No. 917 dated 28th March last, I am directed to forward herewith 10 lithographed copies of our improved Tumbler Shutter design with Specification by Mr. C. Lawrence, Executive Engineer, Dehree Workshops.

I have the honor to be,
Sir,
Your Most Obedt. Servant

F. T. Haig Lieut Col R.E.
Offg. Joint Secy. to the Govt. of Bengal
in the Public Works Department,
Exd WB Irrigation Branch

Pro 28th March /72 Nos 657-659

P.W. No 72 Depart.

No 193.

From
The Offg Joint Secy to
the Govt of Bengal
in the P.W. Deptt Irriga-
tion Branch

To
The Joint Secy to Govt
Fort St George

No 21 I.

Dated 5th Jany } 1872
Recd 13 Jany
Regd 15"

No 790 - 20th March /72

Forwards 10 lithographed copies of an improved Tumbler shutter design with specification by Mr C. Furnacres Ex Engr Behar Workshops - with an order.

No 790.

Resolved that one copy of the design of improved Tumbler shutter with specification received with this letter be furnished to the Chief Engineer for Irrigation and to each Supg Engineer.

To
The Chief Engr for Irrign
" Supg Engrs } with design & Specifn

10 Copies each [illegible]
9 [illegible]

Despd 22/3/72

Pro 28 March /71 4

2/193

Govt. of [illegible] Madras.

PUBLIC WORKS.

To the Chief Engr for Irrigation

No. 2

26th September 1870.

10 am

Nos. 470 & 471.

Tumbler Shutter. Resolved that a copy of the design of improved Tumbler Shutter with Specification received from the Govt of Bengal be furnished to the Chief Engr for Irrig. & to each Sup. Engr.