P. M. FOGG.

HEAD GATE CONTROLLING MECHANISM.

APPLICATION FILED FEB. 17, 1910.

967,007. Patented Aug. 9, 1910.

FIG. 1

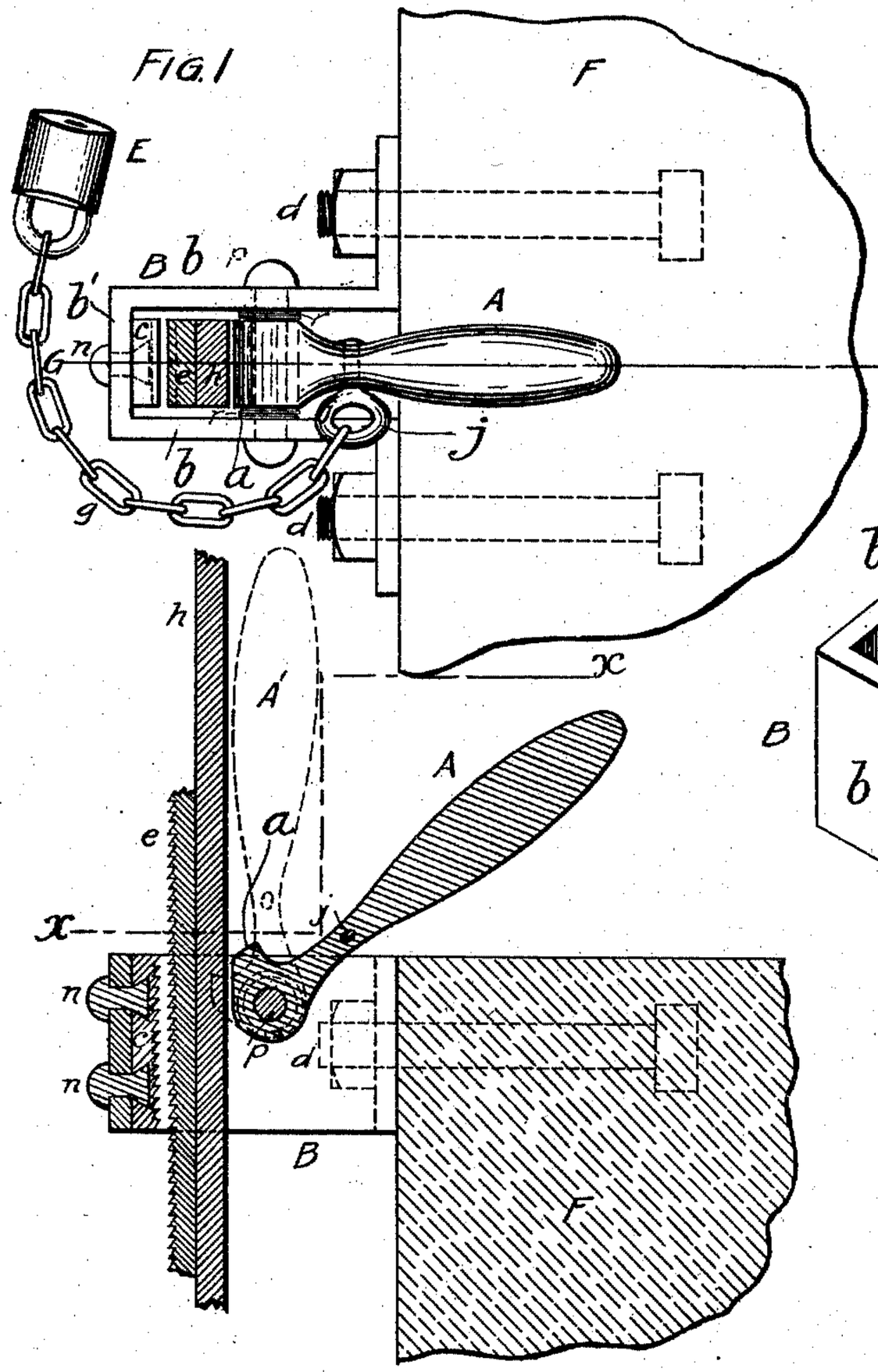

FIG. 2

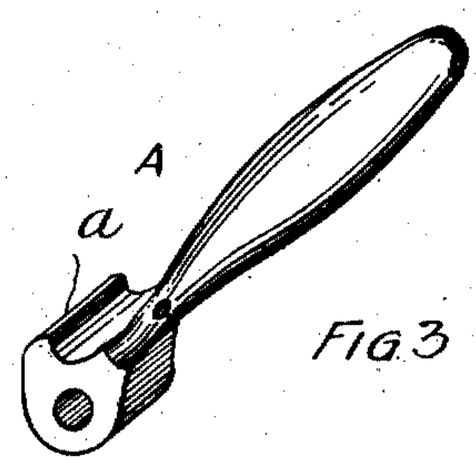

FIG. 3

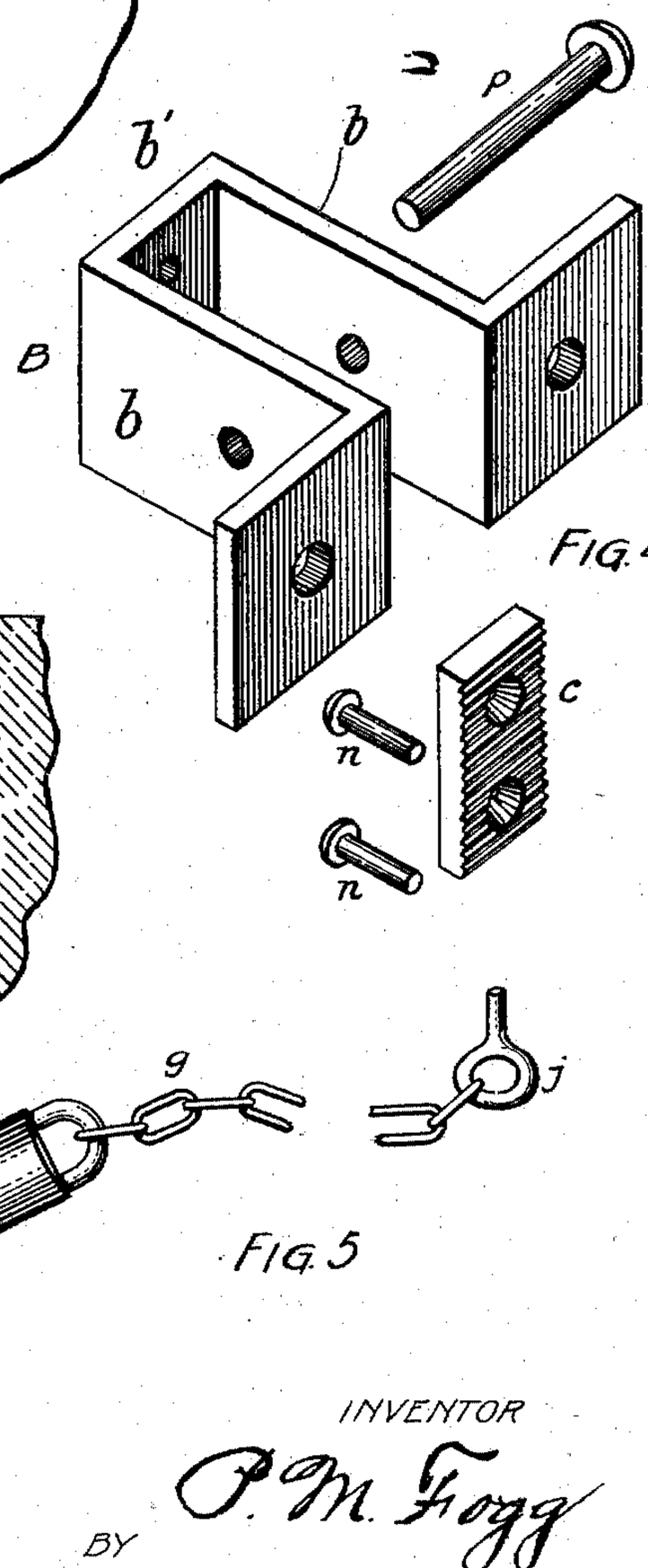

FIG. 4

FIG. 5

WITNESSES

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HEAD-GATE-CONTROLLING MECHANISM.

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To all whom it may concern:

Be it known that I, PERCIVAL M. FOGG, a citizen of the United States, residing at Rupert, in the county of Lincoln and State of Idaho, have invented certain new and useful Improvements in Head-Gate-Controlling Mechanism, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to head-gates employed for controlling the flow of water through the distributing canals or ditches in irrigation systems, and is directed more particularly to the means for holding the gate securely in the different positions in which it may be set. Gates employed for this purpose are usually movably mounted in the frame-work of the outlet structure, so that the gate may be moved to open or closed positions, suitable means being provided for holding the gate in its different adjusted positions in order to allow more or less water to pass through the canal.

My invention consists in an improved construction of the parts by which the gate may be held in its adjusted position by binding the same laterally and forcibly against the frame-work in which it is mounted.

More specifically, my invention is embodied in a construction in which the gate is provided with an operating stem passing loosely through a guide on the frame-work, a clamping device, in the form of a lever, being mounted on the guide and acting when rocked to bind the stem fixedly against the guide.

My invention also consists in means for locking the lever in position when it is turned to clamp the stem, whereby any tampering with the gate by unauthorized persons may be guarded against.

In the accompanying drawings: Figure 1 is a horizontal sectional plan view on the line *x*—*x* of Fig. 2. Fig. 2 is a vertical central section through the parts shown in Fig. 1 on the line G—H of said figure. Fig. 3 is a perspective view of the clamping lever detached. Fig. 4 is a perspective view showing the several parts of the stem guiding frame and the lever pivoting bolt separated. Fig. 5 is a perspective view of the lever locking device.

Referring to the drawings: F represents the face or head wall, constituting a part of the frame-work of the outlet structure of the canal or ditch, to which head wall is firmly attached in any suitable manner, as for instance by the bolts *d*, a stem guiding frame B, consisting of side walls *b* and an end connecting wall *b'*. Through this guiding frame is loosely extended a vertical gate operating stem *h*, connected at its lower end with a gate (not shown) and serving as a means for raising and lowering the gate to open or close the distributing opening, as the case may be. In order to firmly hold the stem in its different vertical positions in the adjustments of the gate, I provide means whereby the stem may be forced laterally and firmly clamped against the guide in fixed engagement therewith. In its preferred form, these means consist of a clamping lever A pivoted between the walls of the guiding frame by means of a horizontal pivoting bolt *p*, washers *r* being interposed between the sides of the lever and the frame so as to prevent binding of the parts. On its lower end, the lever is formed with a cam nose or projection *a* of such form and so related to the lever and gate-stem that when the lever is swung upwardly to the position indicated by dotted lines in Fig. 2, the nose will engage the stem and force the latter laterally, and firmly bind the same against the end wall of the guiding frame, whereby the stem will be securely held in this position. When the lever is swung back to the position shown in full lines in Fig. 2, the nose will disengage the stem and allow the latter to be disengaged from the guiding frame, so that the stem may be then moved vertically to any position desired.

In order that the stem and guiding frame may be interlocked in the different adjusted positions of the stem, and accidental displacement thereby prevented, the stem has fixed to one side a plate *e* provided with teeth, constituting a roughened surface, which teeth are adapted to coöperate and interlock with corresponding teeth on a plate *c* fixed to the end wall of the guiding frame by means of rivets *n*, or by other suitable means. In the clamping action of the lever A to bind the stem against the frame, the teeth on the plates *e* and *c* will interlock with each other, and when thus interlocked, the parts will be firmly held in engagement without danger of accidental slip or displacement. In order that when the stem is thus interlocked with the guiding frame, the lever may be locked in its clamping position so as to prevent the operation of the gate by

unauthorized persons, I provide a locking device which will act to lock the lever in its upright position alongside the stem. This locking device may be of any suitable form or construction adapted for the ends in view, but I prefer to provide for this purpose a locking chain *g*, which has one end attached to an eye *j* fixed to the lever A, and is adapted when the lever is in an upright position alongside the stem, to be passed one or more times around the lever and stem and have its free end locked to the eye *j* by means of a padlock E.

By the construction described, it will be seen that the interlocking teeth on the stem and guiding frame will permit these parts to be interlocked at slight intervals of movement of the stem vertically, so that the gate may be set at small intervals of opening.

While in the accompanying drawings I have shown my invention in the form which I prefer to adopt, and which in practice has been found to answer to a satisfactory degree the ends to be attained, I wish it to be understood that the invention is not limited to any particular details except as such limitations are specified in the claims.

Having thus described my invention, what I claim is:—

1. In combination with the frame work, a gate operating stem movable longitudinally therein, means for restricting angular movement of said stem and means for forcing one of said parts laterally in fixed engagement with the other.

2. In combination with the frame work, a gate operating stem movable longitudinally therein, means for restricting angular movement of said stem, said parts being provided respectively with portions adapted to interlock with each other in the different positions of the gate stem, and means for holding the said portions in interlocked engagement.

3. In combination with a gate operating stem, a guide for the same, and means for fixedly binding the stem laterally against the guide.

4. In combination with a gate operating stem movable to open and closed positions, a fixed guide for the stem, and means for forcing the same laterally in fixed engagement with the guide.

5. In combination with a gate operating stem having a roughened portion, a guide for the stem provided with a coöperating roughened portion, and a clamping device acting to bind said roughened portions laterally in fixed engagement with each other; whereby the gate stem may be held fixedly in its different positions.

6. In combination with the frame work, a gate operating stem movable longitudinally therein, a lever for forcing one of said parts laterally in fixed engagement with the other, means for restricting angular movement of said stem and means for locking said lever in position.

7. In combination with a gate operating stem, a guide for the same, a lever provided with a projection adapted when the lever is swung alongside the stem to engage the latter and force the same in fixed engagement with the guide, and means for locking the lever to the stem.

8. In combination with a gate operating stem, a guide for the same, and a clamping device mounted on the guide and acting when rocked to bind the stem fixedly against the guide.

9. In combination with a movable gate operating stem, a guide for said stem, and means for shifting one of said parts bodily toward the other to effect a binding engagement between the two.

10. In combination with a movable gate operating stem, a guide for said stem, and means for bodily shifting said stem within said guide to effect a binding engagement between the stem and the walls of said guide.

In testimony whereof I affix my signature in presence of two witnesses.

PERCIVAL M. FOGG.

Witnesses:
W. R. KENNEDY,
FRANCES KINREICH.