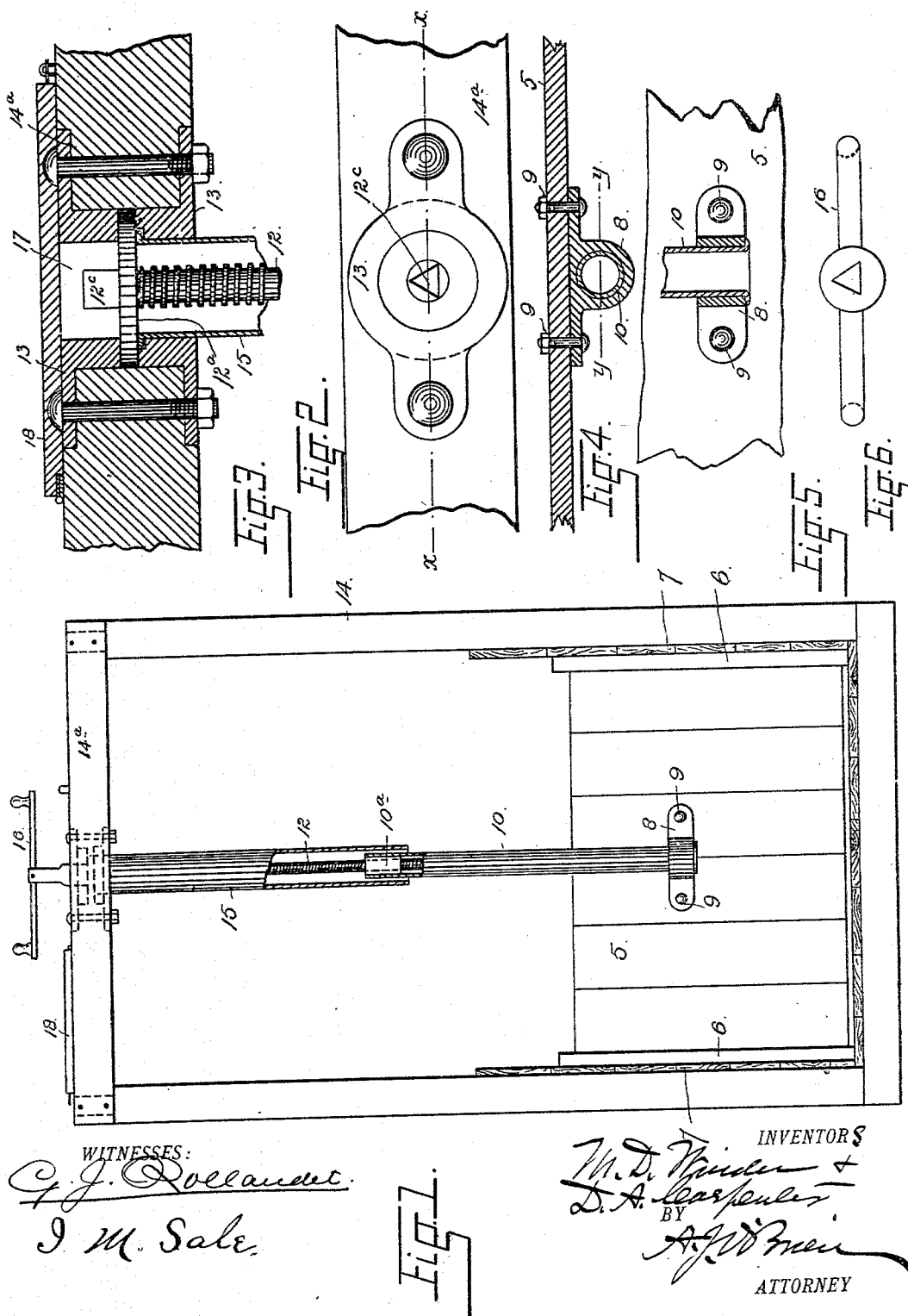


(No Model.)

M. D. WINDER & D. A. CARPENTER.
APPARATUS FOR CONTROLLING HEAD GATES.

No. 514,399.

Patented Feb. 6, 1894.



WITNESSES:

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Fig. 1

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UNITED STATES PATENT OFFICE.

MARCELLUS D. WINDER AND DON A. CARPENTER, OF FORT COLLINS,
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APPARATUS FOR CONTROLLING HEAD-GATES.

SPECIFICATION forming part of Letters Patent No. 514,399, dated February 6, 1894.

Application filed May 31, 1893. Serial No. 476,170. (No model.)

To all whom it may concern:

Be it known that we, MARCELLUS D. WINDER and DON A. CARPENTER, citizens of the United States of America, residing at Fort Collins, in the county of Larimer and State of Colorado, have invented certain new and useful Improvements in Apparatus for Controlling Head-Gates; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in means for controlling the head-gates of irrigating ditches, and the object of the invention is to prevent the possibility of tampering with the head-gate by mischievous or evilly disposed persons. It is a desideratum in a device of this class that the mechanism be of such construction, and so protected and guarded mechanically that no one shall have access to the operating parts except the person whose business it is to regulate the flow of water through the gate, and to this end our improved apparatus consists of the features hereinafter described and claimed all of which will be fully understood by reference to the accompanying drawings in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a front view of the gate showing our improved mechanism attached. Fig. 2 is a top or plan view on an enlarged scale, the frame being partly broken away. Fig. 3 is a vertical section taken on the line $x-x$, Fig. 2. Fig. 4 is a horizontal section taken through the gate. Fig. 5 is a vertical section taken on the line $y-y$, Fig. 4. Fig. 6 is an underneath view of the key employed in operating the mechanism.

Similar reference characters indicate corresponding parts or elements of the mechanism in the views.

Let the numeral 5 designate the gate vertically movable in ways 6 attached to the casing or side walls 7. A socket iron 8 is secured to the outside of the gate and consists of a vertically apertured lug and two flanges horizontally apertured to receive the fasten-

ing bolts 9, the nuts of which are on the inside and riveted in place by upsetting the inner projecting extremities of the bolts. We prefer this means for securing the socket iron in place upon the gate as the riveted bolts are easily applied and form a fastening possessing the desired degree of safety against removal. In the vertical aperture of this socket iron is inserted the lower extremity of an upright tube or hollow bar 10, which, as shown in the drawings, is fastened by upsetting the tube end. Any suitable means may, however, be employed for fastening the tube to the socket iron of the gate. In the upper extremity of the tube 10 is inserted a stationary plug 10^a in which is formed a threaded aperture for the reception of the actuating screw 12, the upper extremity of which is provided with a disk-shaped head 12^a swiveled between the projecting circumferential flanges of two escutcheon plates 13 applied to opposite sides of a top cross beam 14^a of the upright frame-work 14. This cross beam is provided with a suitable opening into which the apertured projections of plates 13 extend from opposite sides of the beam. The screw head 12^a is located between the adjacent extremities of these projections which form a swivel-socket therefor. The plates 13 are secured in place by bolts 19, the nuts of which are riveted on the under side of the beam. These bolts pass through coinciding apertures formed in the beam and the two plates. To the lower plate 13 is attached the upper extremity of a depending tube 15 which is provided with an exteriorly projecting circumferential flange which enters a counterpart recess formed in the upper extremity of the plate beneath the screw head. This tube 15 surrounds the screw 12 and forms a shield therefor. The upwardly projecting tube 10 telescopes within the depending tube 15 during the operation of raising and lowering the gate. The depending tube is of sufficient length to extend below the upper extremity of the tube 10 when at its lowest limit of movement or when the gate is closed, whereby the screw is at all times concealed. The length of the overlapping extremity of the tube 15 is sufficient at all times to prevent the possibility of access to the screw at the

telescopic joint formed by the tubes. The tube 15 is of sufficient size to allow the tube 10 to move freely therein, and at the same time fits closely enough to prevent the entrance of dirt or foreign particles of matter which might interfere with the perfect working of the screw or the proper performance of its function.

The upper extremity of the screw above the head is provided with an angular projection or stem 12° to which a suitable key 16 may be applied for the purpose of turning the screw and raising or lowering the gate. This stem 12° is shown in the drawings as triangular in cross section. The object is to make this stem of such peculiar shape that only a key of special construction will fit it. Hence any shape which accomplishes this object will answer as well as that shown in the drawings. The angular stem 12° is located somewhat below the plane of the beam 14° in a recess 17, forming a socket for the key, so that it cannot be reached by a wrench or tool of ordinary construction. A key of suitable construction is shown in place in Fig. 1, and in detail on a larger scale in Fig. 6. This key has horizontal arms projecting from its stem, whereby a suitable leverage is obtained to make the turning of the screw sufficiently easy and practicable. The stem 12° and the key socket 17 are covered by a movable cap 18 which is locked in such a manner that it can only be opened by the person whose business it is to regulate the gate.

From the foregoing description the operation of the gate will be readily understood. By opening the cap 18, the key 16 may be applied to the stem 12° of the screw, which may then be turned at will, and the gate raised or lowered as may be desired. The screw being locked from vertical movement, the tube 10 telescopes within the tube 15 during the operation of adjusting the gate.

Having thus described our invention, what we claim is—

1. In an apparatus for regulating the head-gates of irrigating ditches or canals, the combination with the gate, of the tubular stem attached thereto, the screw having its head swiveled in a suitable framework and fashioned to receive a key, its lower extremity entering the interiorly threaded upper extremity of tube 10, and a depending tube forming a shield for the screw and within which the lower tube telescopes, substantially as described.

2. In a device for raising and lowering head-gates, the combination with the gate verti-

cally movable in a suitable framework, the tubular stem, the swiveled screw engaging said stem, and the depending tubular shield for the screw, forming a telescopic connection with the tubular stem, substantially as described.

3. The combination with the head-gate supported in a suitable framework, the tubular stem having a threaded plug in its upper extremity, a screw entering said plug and having its head swiveled in a key socket formed in the framework and fashioned to receive a key of suitable construction, the key stem being located below the plane of the beam in which the socket is formed, substantially as described.

4. In a device for raising and lowering head-gates, the combination with the head-gate and a suitable upright stationary frame, of a tubular stem attached to the gate, a screw connected with the stem and having its head swiveled between two plates applied to the opposite faces of an apertured cross beam, the upper extremity of the screw being fashioned to receive a suitable key, and a depending tube forming a shield for the screw and within which the stem of the gate telescopes, substantially as described.

5. The combination with the head-gate and a suitable frame, of a hollow stem attached to the gate, the actuating screw connected therewith, the depending tubular shield, the key socket in which the screw head is swiveled and a movable plate covering said socket, substantially as described.

6. In a device for regulating head-gates, the combination with the gate of the two-part telescoping stem, one part being stationary and the other movable, and the actuating screw for the gate, the head of the screw being swiveled in a key socket and located below the plane of the supporting part, substantially as described.

7. In a device for regulating head-gates, the combination with the gate of the two part telescoping stem, the actuating swiveled screw having a stem located in a suitable key socket and below the plane of the supporting part, and a suitable key for engaging the stem, substantially as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

MARCELLUS D. WINDER.
DON A. CARPENTER.

Witnesses:

MARY P. CARPENTER,
JANE T. BUDROW.