

(No Model.)

J. MOFFATT.
IRRIGATION GATE.

No. 590,728.

Patented Sept. 28, 1897.

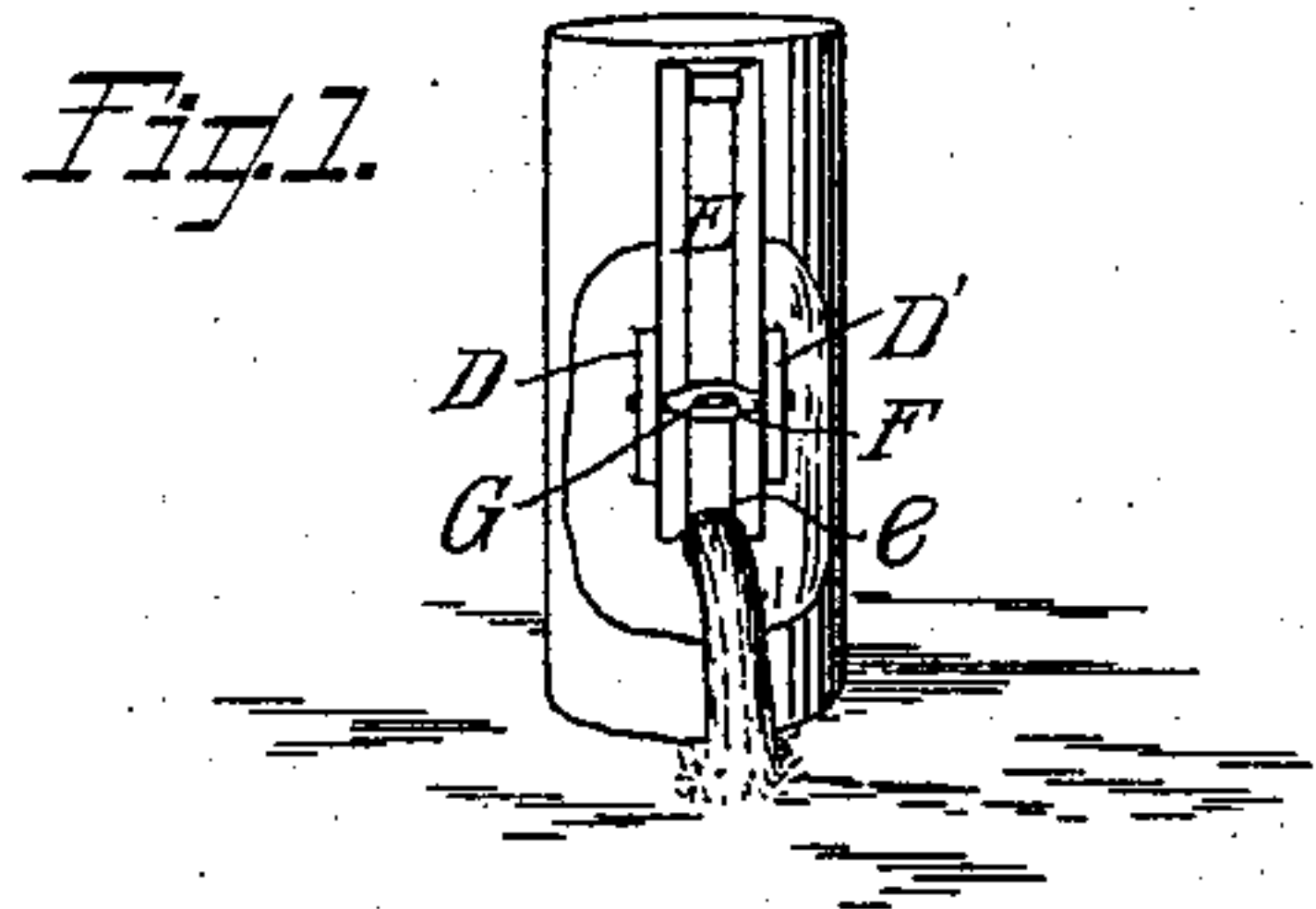


Fig. 2.

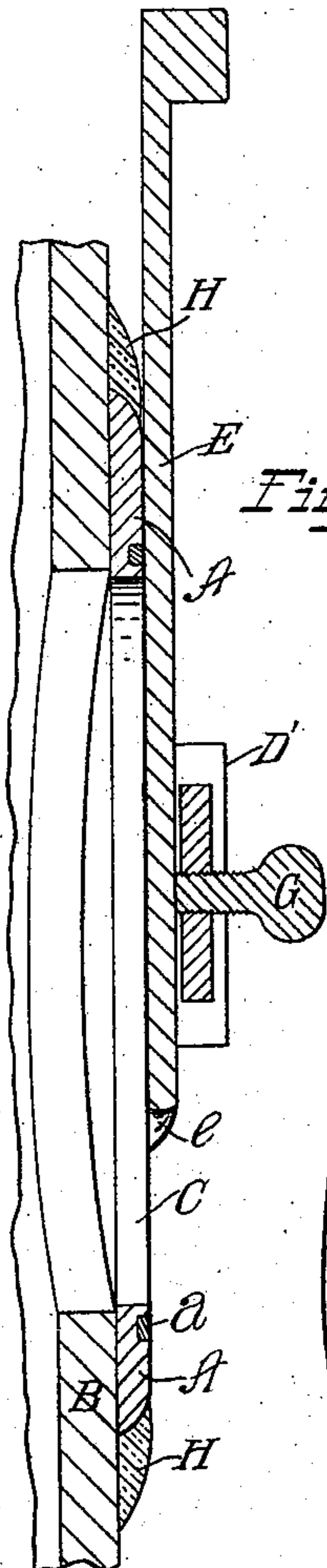
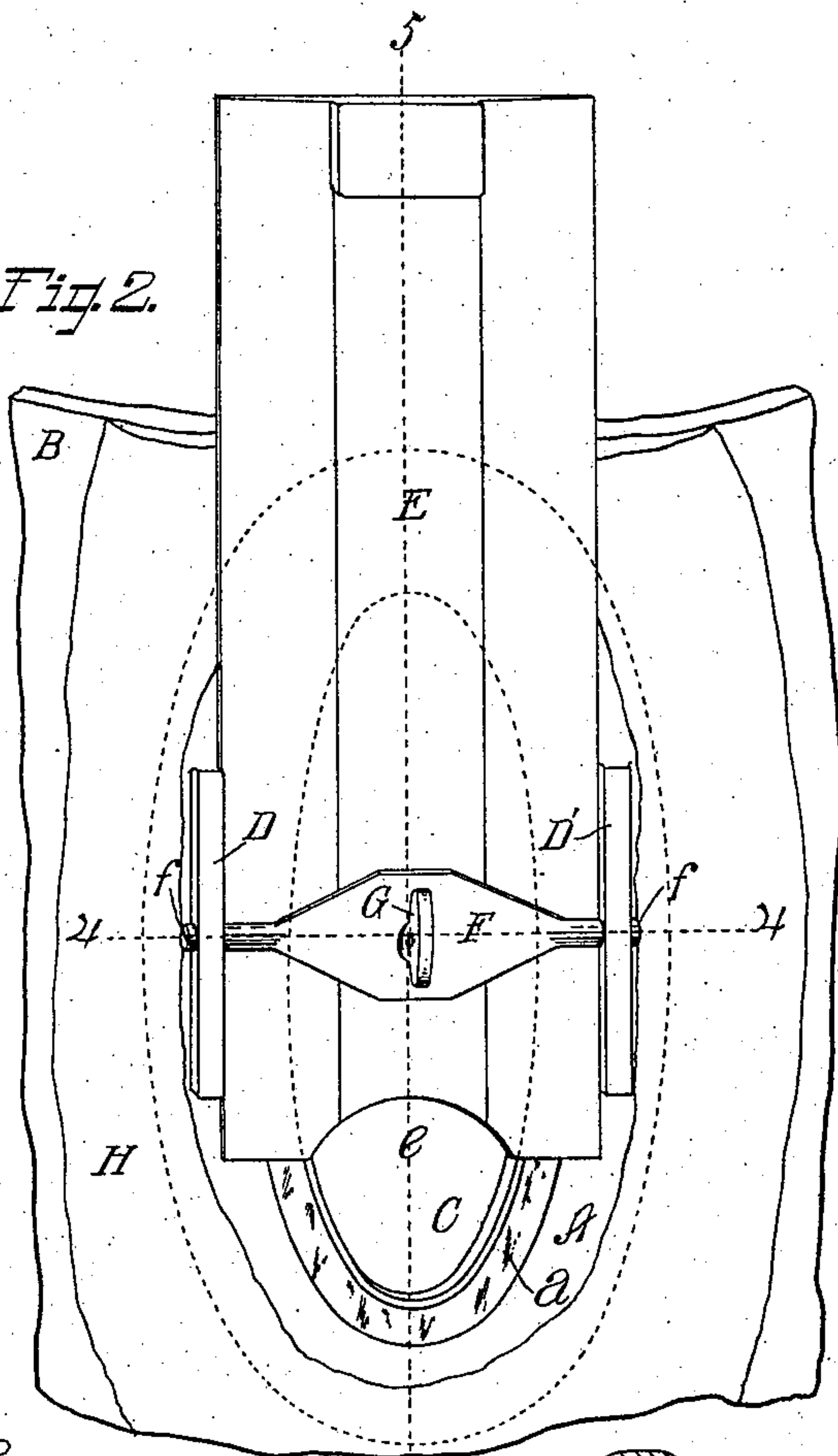
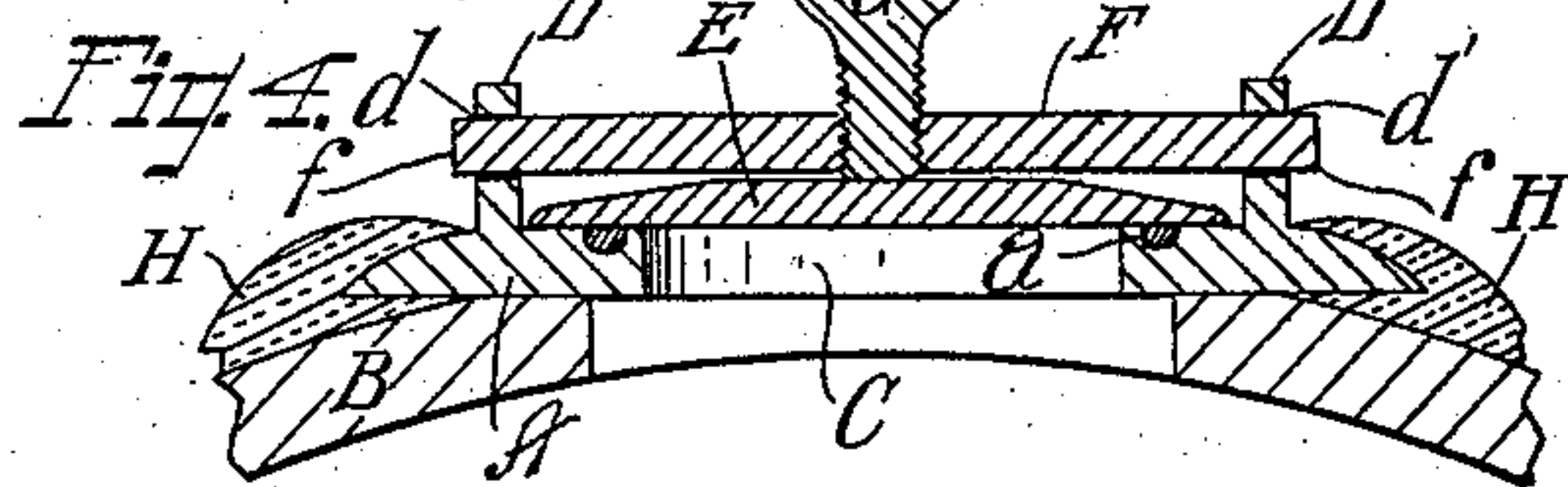
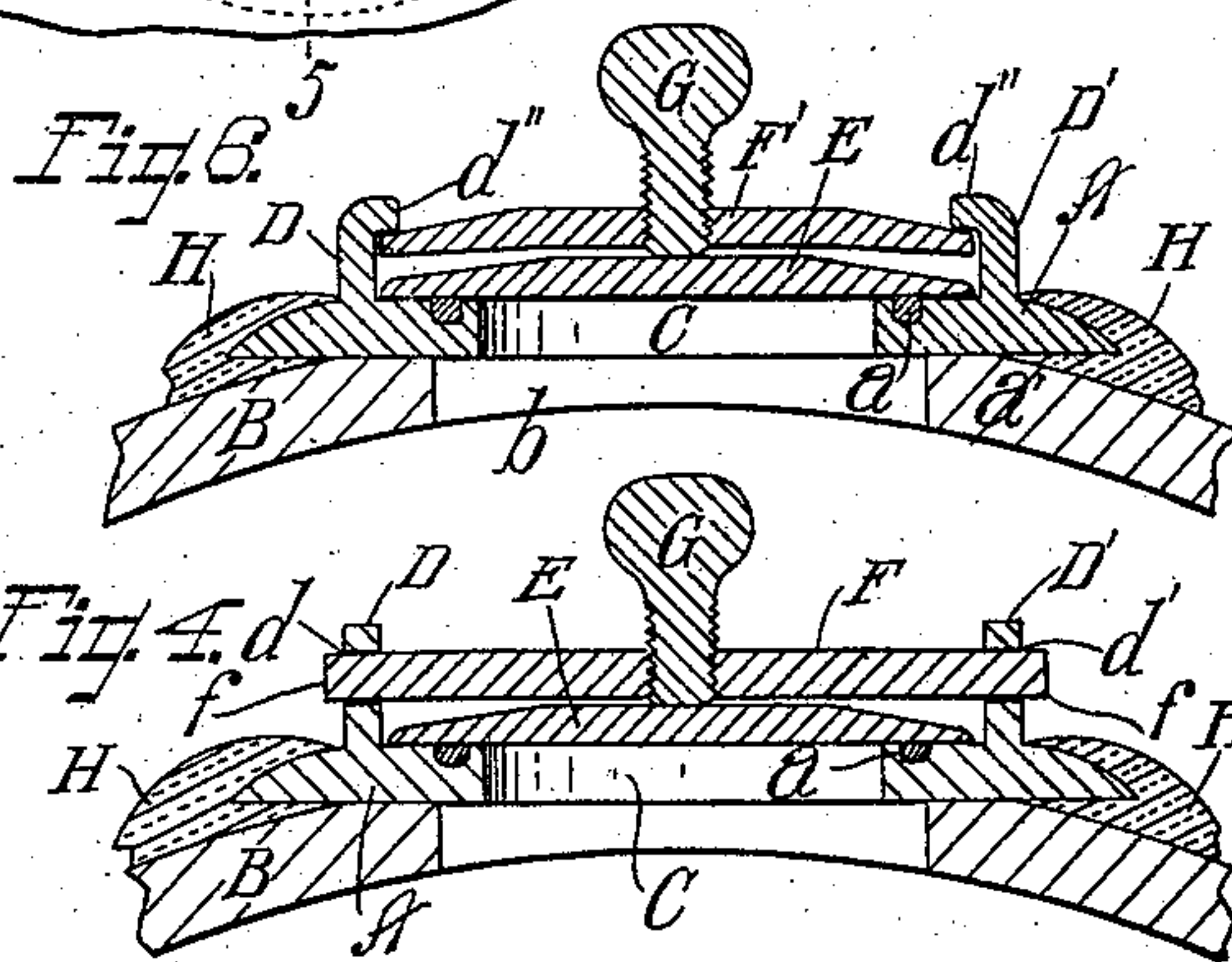
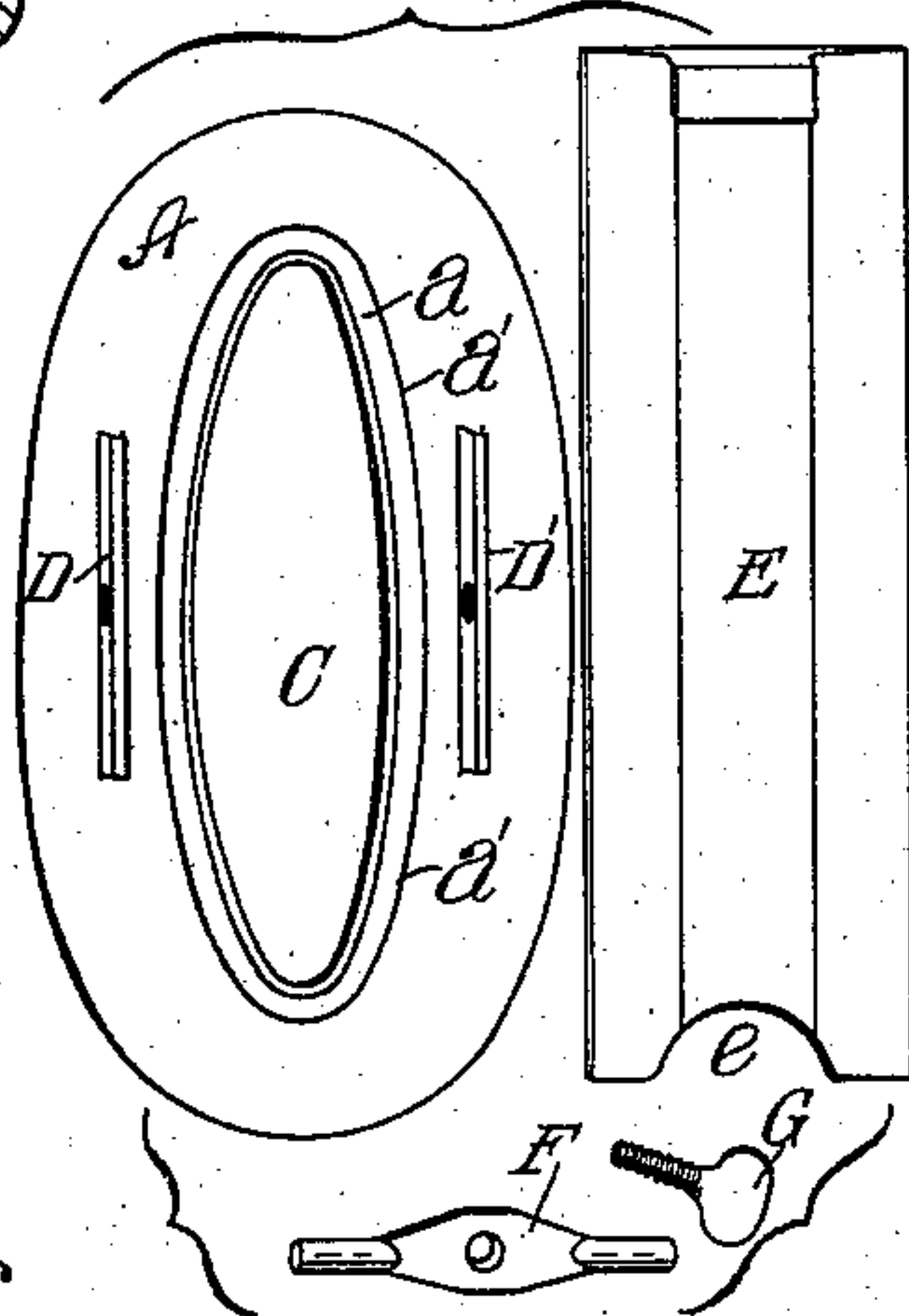


Fig. 5.

Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES MOFFATT, OF RIALTO, CALIFORNIA.

IRRIGATION-GATE.

SPECIFICATION forming part of Letters Patent No. 590,728, dated September 28, 1897.

Application filed February 11, 1897. Serial No. 623,001. (No model.)

To all whom it may concern:

Be it known that I, JAMES MOFFATT, a citizen of Canada, but having declared my intention of becoming a citizen of the United States, residing at Rialto, in the county of San Bernardino and State of California, have invented a new and useful Irrigation-Gate, of which the following is a specification.

The object of my invention is to provide superior means for discharging water from pressure-pipes for irrigation purposes.

This invention is more particularly designed to be applied to irrigation systems which discharge water from a series of vertical stand-pipes, which connect with the main which is under the surface of the earth. These pipes are ordinarily made of cement or vitrified earthenware.

It is an object of my invention to provide a very cheap, simple, and effective gate which can be applied to such stand-pipes and which can be adjusted to discharge any size stream of water required to be discharged from its stand-pipe.

Another object is to provide an adjustable discharge-opening which will discharge a smooth stream which will not spatter, and which opening will not be liable to clog.

Another object is to afford great facility and ease of removing any obstruction or clogging.

This invention is adapted for use under any reasonable pressure which is liable to be in irrigating systems.

The accompanying drawings illustrate my invention.

Figure 1 is a perspective view of my invention as applied to a stand-pipe in an irrigation system and in use. Fig. 2 is a perspective view of the gate attached to a fragment of a stand-pipe and open ready for use. Fig. 3 shows the gate with the several parts detached. Fig. 4 is a cross-section on line 4 4, Fig. 2. Fig. 5 is a vertical section on line 5 5, Fig. 2. Fig. 6 is a cross-section showing a modification of my invention.

My invention embraces an irrigation-gate comprising a frame A, adapted to be fastened to the side of a stand-pipe B and provided with an oval discharge-opening C and with two projecting slide-guides and bridge-retainers D D', arranged on opposite sides of the

discharge-opening, respectively, a slide E, having an arched notch *e* in its lower end and arranged to slide between the guides, a bridge F, extending between and held by the bridge-retainers, and means for forcing the slide away from the bridge to clamp the slide against the face of the frame. The face of the frame is provided with packing *a*, seated in a groove *a'*, which surrounds the oval opening C. This packing projects slightly from the plane of the face to receive the slide and prevent leakage. The preferable means for forcing the slide toward and against the face of the frame is a thumb-screw G, which screws through the bridge to engage the frame. By preference the bridge-retainers D D' are provided with holes *d d'*, respectively, into which the ends of the bridge set.

In Fig. 6 lugs *d''* are shown as a substitute for the holes shown in Fig. 4.

In practice a hole *b* is cut through the stand-pipe B and a seat of soft cement is applied around the hole, and the frame A is set against the cement with the oval opening C coinciding with the opening *b* in the stand-pipe, the axis of the oval opening extending along the pipe. Then the frame is fastened in place on the pipe by means of the cement H, which is allowed to harden. Then the ends of the bridge are connected with the bridge-retainers D D', the slide is slid into the space between the bridge and the frame, and when brought to the proper position is fastened by the thumb-screw G, which clamps it firmly against the face of the frame. By loosening the thumb-screw the gate can be adjusted to afford an outlet of any desired capacity, and the oval form of the lower end of the opening C and the notch *e* gives a shape to the opening which will give such form and solid body to the issuing stream that it will not sprinkle or splatter.

The stream can be changed in size or wholly shut off by loosening the thumb-screw and moving the gate to the required position, where it is again fastened by the screw.

In case of any clogging of the opening the thumb-screw is loosened, the slide removed, and, if necessary, the bridge can be removed, thus giving free access to the opening; and the elongated form of the oval opening allows the obstructions to be easily removed. The

oval form admits of a very great range in the capacity of the outlet as the gate is raised or lowered, but it is to be understood that I do not wish to limit my claim to the use of an
5 oval opening.

The holes $d d'$ are preferably drilled through the bridge-retainers, the frame, slide, and bridge all being made of cast-iron or other suitable cast metal. The ends f of the bridge
10 are preferably cast cylindrical to fit the circular holes made by the drill, and the cylindrical portions of the ends of the bridge are sufficiently long to allow the bridge to be inserted into position and readily removed
15 therefrom.

The forms shown in Figs. 2, 3, 4, and 5 are specially adapted to be easily cast.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—
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1. An irrigation-gate comprising a frame adapted to be fastened to the side of a stand-pipe and provided with an oval discharge-opening and with two projecting slide-guides
25 and bridge-retainers arranged on opposite sides of the discharge-opening, respectively; a slide having an arched notch in its lower end and arranged to slide between the guides; a bridge extending between and held by the
30 bridge-retainers; and means for forcing the slide away from the bridge to clamp the slide against the face of the frame.

2. An irrigation-gate comprising a frame adapted to be fastened to the side of a stand-
35 pipe and provided with an oval discharge-opening and with two projecting slide-guides and bridge-retainers arranged on opposite sides of the discharge-opening respectively; a slide having an arched notch in its end and

arranged to slide between the guides; a bridge 40 extending between and held by the bridge-retainers; and a screw screwing through the bridge to engage the slide.

3. An irrigation-gate comprising a frame adapted to be fastened to the side of a stand- 45 pipe and provided with a discharge-opening and with two projecting slide-guides and bridge-retainers arranged on opposite sides of the discharge-opening respectively; a slide arranged to slide between the guides; a bridge 50 extending between and held by the bridge-retainers; and means for forcing the slide away from the bridge to clamp and slide against the face of the frame.

4. An irrigation-gate comprising a frame 55 adapted to be fastened to the side of a stand-pipe and provided with a discharge-opening and with two projecting slide-guides and bridge-retainers arranged on opposite sides of the discharge-opening respectively and 60 each having a hole to receive an end of the bridge; a slide arranged to slide between the guides; a bridge extending between the bridge-retainers and having its ends inserted in the holes in such retainers respectively; 65 and means for forcing the slide away from the bridge to clamp the slide against the face of the frame.

5. The combination of a frame with oval opening, and a gate with arched notch in the 70 end and means for holding the gate in position with relation to the opening substantially as set forth.

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Witnesses:

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