

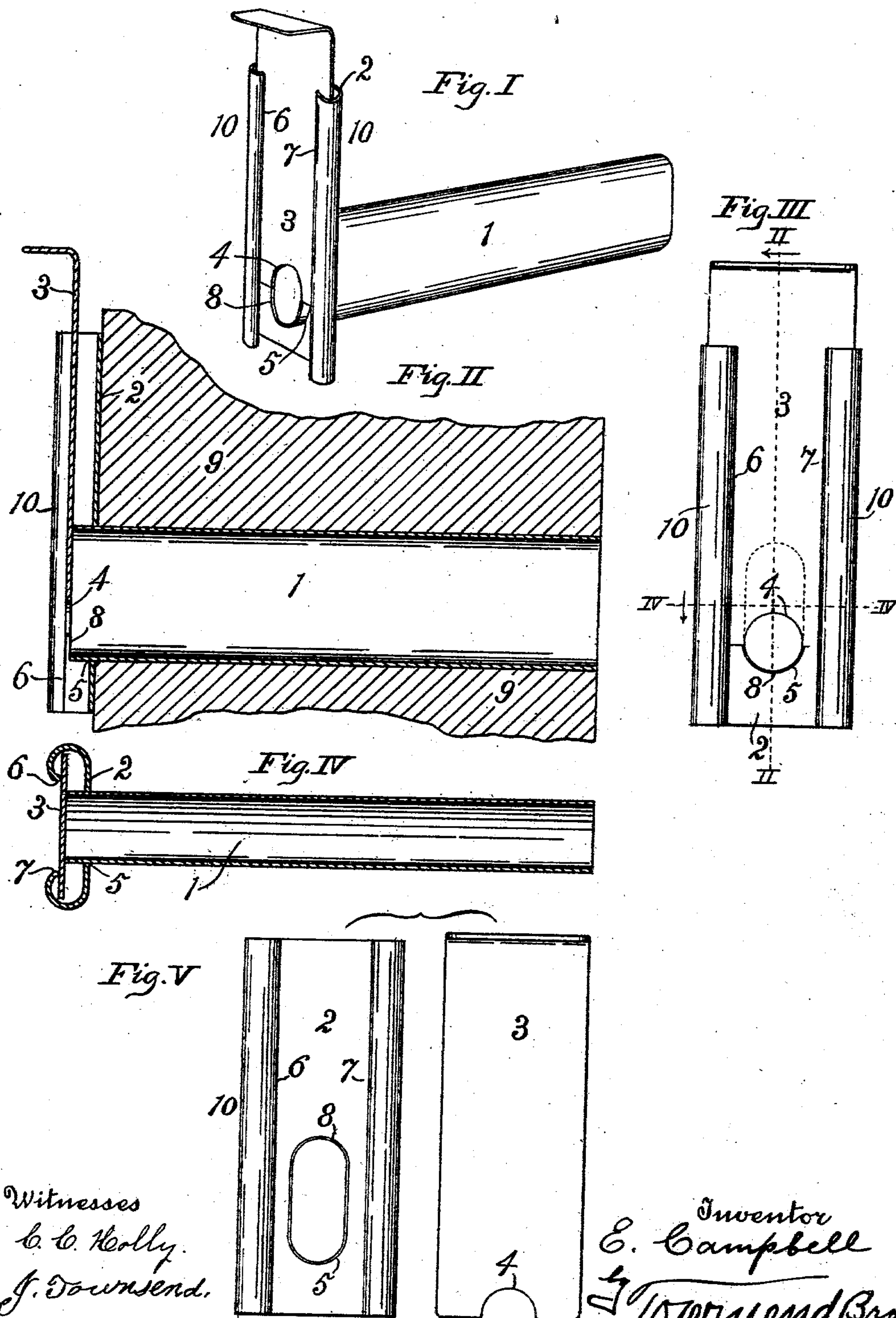
No. 704,971.

Patented July 15, 1902.

E. CAMPBELL.
FLUME GATE.

(Application filed Nov. 18, 1901.)

(No Model.)



Witnesses
C. C. Keally.
J. Townsend.

Inventor
E. Campbell
J. Townsend Bro.
his atty.

UNITED STATES PATENT OFFICE.

EPHRAIM CAMPBELL, OF REDLANDS, CALIFORNIA.

FLUME-GATE.

SPECIFICATION forming part of Letters Patent No. 704,971, dated July 15, 1902.

Application filed November 19, 1901. Serial No. 82,896. (No model.)

To all whom it may concern:

Be it known that I, EPHRAIM CAMPBELL, a citizen of the United States, residing at Redlands, in the county of San Bernardino and State of California, have invented new and useful Improvements in Flume-Gates, of which the following is a specification.

An object of this invention is to provide a simple flume-gate which will maintain a perfect closure of the outlet when desired and which will not be liable to clog with sand or other foreign matter when the gate is open.

Another object of this invention is to provide an irrigating flume-gate in which the ways for the gate are so constructed and arranged that the operation of the gate will not be interfered with by any sand or other materials which may come against the gate either from the water or from other sources.

The accompanying drawings illustrate my invention.

Figure I is a perspective view of my newly-invented flume-gate ready to be applied to a flume. Fig. II is a longitudinal vertical section of the flume-gate in place in a flume-wall, a fragment of which is shown. Fig. III is a front elevation of the appliance with the gate in place to allow a small irrigating-stream to issue. Fig. IV is a plan section of the flume-gate on line IV IV, Fig. III. Fig. V is a front elevation of the appliance with the gate removed.

This newly-invented flume-gate comprises a flattened tube 1, oval in cross-section, a gate-holder 2, fastened to the tube, near the end thereof, and a gate 3, held by said holder and sliding across the end of the tube and furnished at its lower end with a rounded notch 4, thus to allow the opening in the flume-gate when the gate is nearly closed to be approximately circular, so that when the passage through the gate is brought approximately to the minimum size required for discharging an irrigating-stream its smallest diameter will not be less than the smallest diameter of the inlet into the tube. The greatest diameter of the tube is preferably parallel with the inbent edges of the holder.

The gate-holder 2 is preferably formed of a plate of metal or other suitable material per-

forated with a perforation 5 and bent inward at its edges 6 and 7 to form guides and resilient gate-retainers, which extend in a plane near and preferably parallel with the plane of the end 8 of the tube. The gate 3 is preferably formed of a metal plate fitting against the end of the tube on the one side and against the inbent edges on the other side and sliding across the end of the tube 1 and fitting tightly between such end and the inbent edges of the holder.

The plate which forms the holder 2 is sufficiently resilient to cause the inbent edges to press upon the gate, so that the same will be tightly held thereby against the end of the tube, thus to prevent any leakage.

In practical use the tube 1 of the flume-gate may extend through the wall 9 of the flume, and the length of the tube may practically correspond to the thickness of the wall. That end of the tube to which the gate is applied may be either outside or inside the flume, at the pleasure of the constructor.

The user may adjust the gate to the appropriate height to allow the necessary quantity of water to flow through the tube.

The tube, the holder, and the gate are preferably made of galvanized sheet iron or steel, and the tube will be cemented or otherwise secured in the wall through which it passes, the holder and the gate being at either the outside or inside of the flume, at the discretion of the constructor.

By the arrangement shown any sand or other foreign matter which may come in contact with the gate, even to the extent of forming a bank against and around the gate, will have no effect upon the friction between the gate-holder and slide, so that the gate will always be held water-tight against the end of the tube whenever the gate is closed, and there will be practically no leakage when the gate is in closed position.

The inturned edges are respectively nearly in the extended plane of the sides of the tube, so that there is no leverage upon the gate between the tube and said edges to bow the gate, wherefore the gate will fit tightly against the end of the tube to close the same, and the bends or bows 10 of the plate may

exert considerable resilient force to hold the gate in place without any liability of bowing the gate in transverse section.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A flume-gate comprising a tube oval in cross-section; a gate-holder fastened to the tube near the end thereof; and a gate held by said holder and sliding across the end of the tube and furnished in its lower end with a notch.

2. A plate having inbent edges and a perforation between said edges; a tube inserted through the perforation and fastened to the plate and terminating in a plane near the plane in which the inbent edges lie and being beyond the plate; and a sliding gate fitting between said tube end and said inbent edges.

3. A flume-gate comprising a perforated plate having inbent edges; a flattened tube fastened to the plate and extending through the perforation and terminating in a plane near the plane in which the inbent edges lie;

the greater diameter of the tube extending lengthwise between said edges; and a sliding gate fitting between said inbent edges and the end of the tube, the lower end of said gate being notched to correspond with the opening through the tube.

4. A flume-gate comprising a tube to extend through a flume-wall, and a gate-holder fastened to the tube at a distance from the end thereof and extending beyond the end of said tube and terminating in two edges which lie in a plane that extends near the plane of the end of the tube; and a gate fitting against the end of the tube on the one side and against said edges on the other side.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Redlands, California, this 5th day of November, 1901.

EPHRAIM CAMPBELL.

Witnesses:

CHAS. E. TRUESDELL,
SARAH A. WEBB.