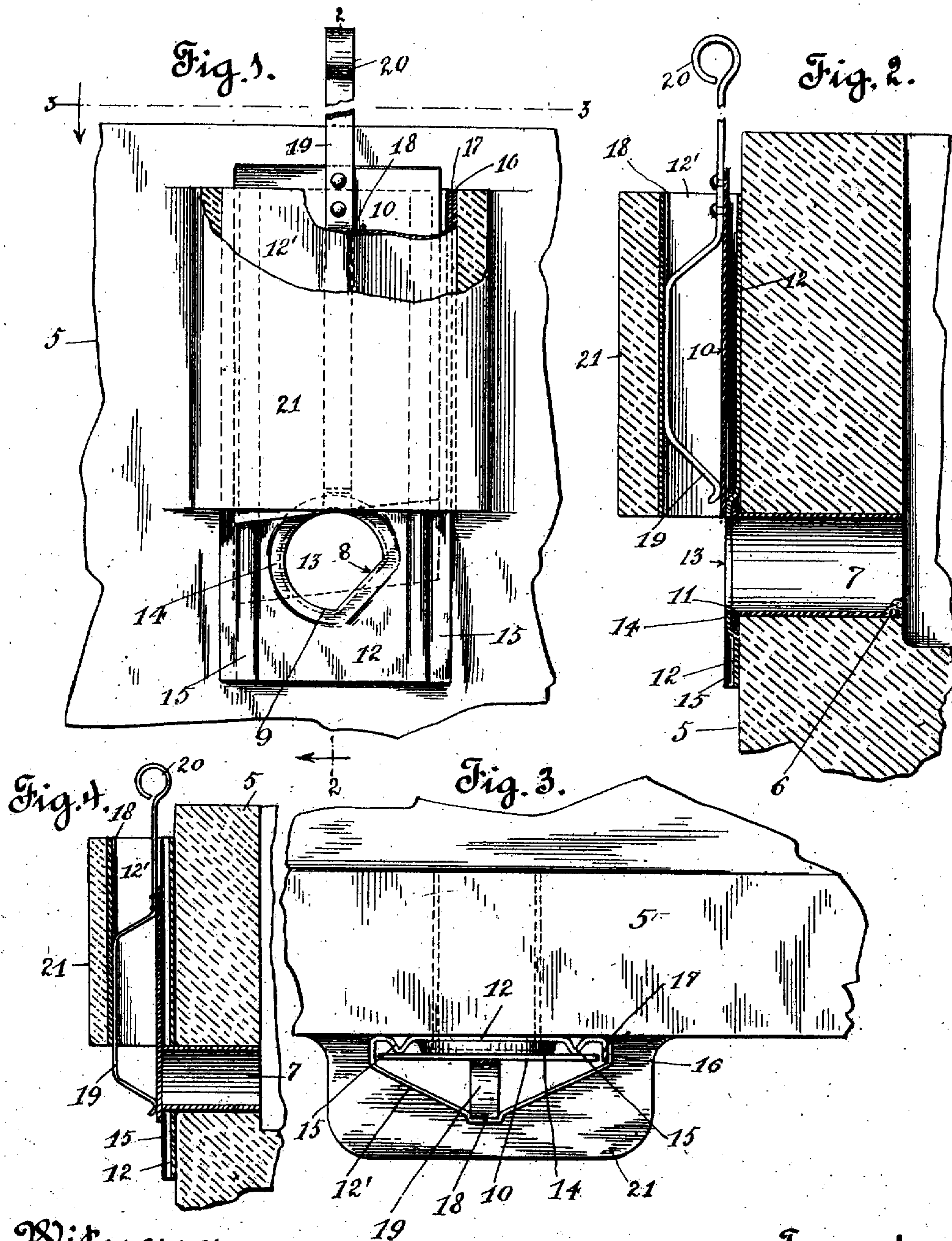


M. H. WORLEY.
FLUME GATE.
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973,606.

Patented Oct. 25, 1910.



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UNITED STATES PATENT OFFICE.

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FLUME-GATE.

973,606.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MATT H. WORLEY, 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 my invention is to provide a flume gate that is simple and efficient in operation, inexpensive in construction, that will not become clogged with sand or foreign matter when the gate is opened, and one that will be constantly maintained in spring pressed engagement with the seat when in a closed position.

A further object is to provide a gate whose holder is protected against accidental breakage or injury.

I accomplish these objects by means of the device described herein and illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation of the gate in position on a flume, portions being broken away for clarity of illustration. Fig. 2 is a central longitudinal section of the gate taken on line 2—2 of Fig. 1. Fig. 3 is a plan view of the gate attached to a flume. Fig. 4 is a central longitudinal section of a modified form of gate and holder.

Referring more particularly to the drawings, 5 designates one of the side walls of a concrete flume provided with a transverse cylindrical opening 6 therein adjacent the bottom thereof. My improved gate, which is attached thereto, comprises a substantially cylindrical metal tube 7, a portion of its wall being flattened as at 8 to form a longitudinally extending angular trough 9, that will contract the size of the stream passing therethrough when the slide is slightly raised, and serve to keep the passage free from sediment. Tube 7 is preferably provided on one end thereof with a flange 11 which is soldered or otherwise secured to the flat body portion 12 of the slide holder, registering with an aperture 13 formed therein, similar in configuration to the cross section of the tube. The edge of the metal around this aperture is preferably forced outwardly to form a water tight seat 14 for the slide 10 with a minimum of bearing or contacting surface, thus reducing excessive friction, between the seat and the gate to a minimum. At either side of the aperture on the body portion 12 of the holder is formed a vertically extending bearing ridge

15, substantially V-shaped in cross-section against which the slide bears when in its raised position, as clearly shown in the various views of the drawings. That portion 12' of the slide holder above the aperture 13 formed therein, instead of being cut away from the body portion, as it is adjacent the aperture 13, is bent across the outer face of the body portion, and its vertical edge 16 is soldered or otherwise secured to the opposite side 17 of the body portion to form a centrally and vertically disposed guideway or bearing surface 18 for the spring 19 to bear against on a movement of the slide.

Spring 19 is preferably formed of flat spring brass, or other non-corrosive metal and is riveted or otherwise secured to the upper end of the slide, the lower end being free. The upper portion of this spring terminates in a convenient hand hold 20 for moving the slide. It will be noted from an inspection of the drawings that instead of forming the spring in a circular arched form, as is common in springs of this character, I have bent it so that a large portion of the spring will contact with the guideway 18 and effectually hold the slide in water-tight engagement with its circular seat 14, and prevent the lower edge of the slide from being forced outwardly.

The lower edge of the slide is inclined from the horizontal to permit the greatest flow possible through the trough 9 with a minimum upward movement of the slide, as indicated in dotted lines in Fig. 1.

The metal portion 12' of the slide holder is preferably covered when the slide is affixed to the flume with a coating of cement or concrete 21, as clearly shown in the various views of the drawings, to prevent any accidental displacement or injury to the holder.

It will be observed from the foregoing description that by reason of the spring 19 contacting with the guideway 18 of the holder, that the slide will be at all times constantly maintained in water-tight engagement with the seat 14 formed on the holder.

In Fig. 4 of the drawings I have illustrated a modified form of gate. In this construction instead of forming a seat on the body portion of the holder, I have secured the tube to the holder near one end thereof, the end of the tube projecting beyond the outer face of the body 12 and forming a

seat for the slide 10 to bear against, this form being considered the cheapest and simplest form of seat, the rest of the construction in this form being identical with that illustrated and described in the preceding forms.

Having described my invention what I claim as new and desire to secure by Letters Patent is:—

10 1. A flume gate, comprising a tube, a slide holder fastened to the tube near the end thereof, a slide movably disposed in said holder, and resilient means secured to the slide to maintain the slide in water tight engagement with the end of the tube.

15 2. A flume gate, comprising a tube, a slide holder secured to an end of the tube, a vertically extending guideway formed on said holder, a slide movably disposed in said holder, and a resilient means secured to said slide and disposed in said guideway.

25 3. A flume gate, comprising a tube, a slide holder fastened to the tube near the end thereof, a slide movably disposed in said holder, and a spring secured to the slide, said spring bearing against a portion of said holder and adapted to maintain the slide in water tight engagement with the tube.

30 4. A flume gate, comprising a tube, a slide holder secured to an end of said tube,

a slide guideway formed integrally with said holder and extending beyond the outer face of said holder to form a bearing, a slide disposed in the guideway of said holder, and resilient means connected to said slide, said means having a sliding contact with the guideway formed on said holder. 35

5. A flume gate, comprising a tube, a slide holder secured to the end of the tube, said holder provided with an aperture therein, the edge of said aperture being raised to form a slide seat, said aperture registering with the end of the tube, a slide vertically movable in said holder, and a spring secured to said slide and bearing against said holder. 40

6. A flume gate, comprising a tube, a slide holder fastened to the tube near the end thereof, a slide movably disposed in said holder, and resilient means secured to the slide and acting against said holder to maintain the slide in water tight engagement with the end of the tube. 45

In witness that I claim the foregoing I have hereunto subscribed my name this 3d day of June, 1909.

M. H. WORLEY.

Witnesses:

EDMUND A. STRAUSE,
MYRTLE A. PALMER.