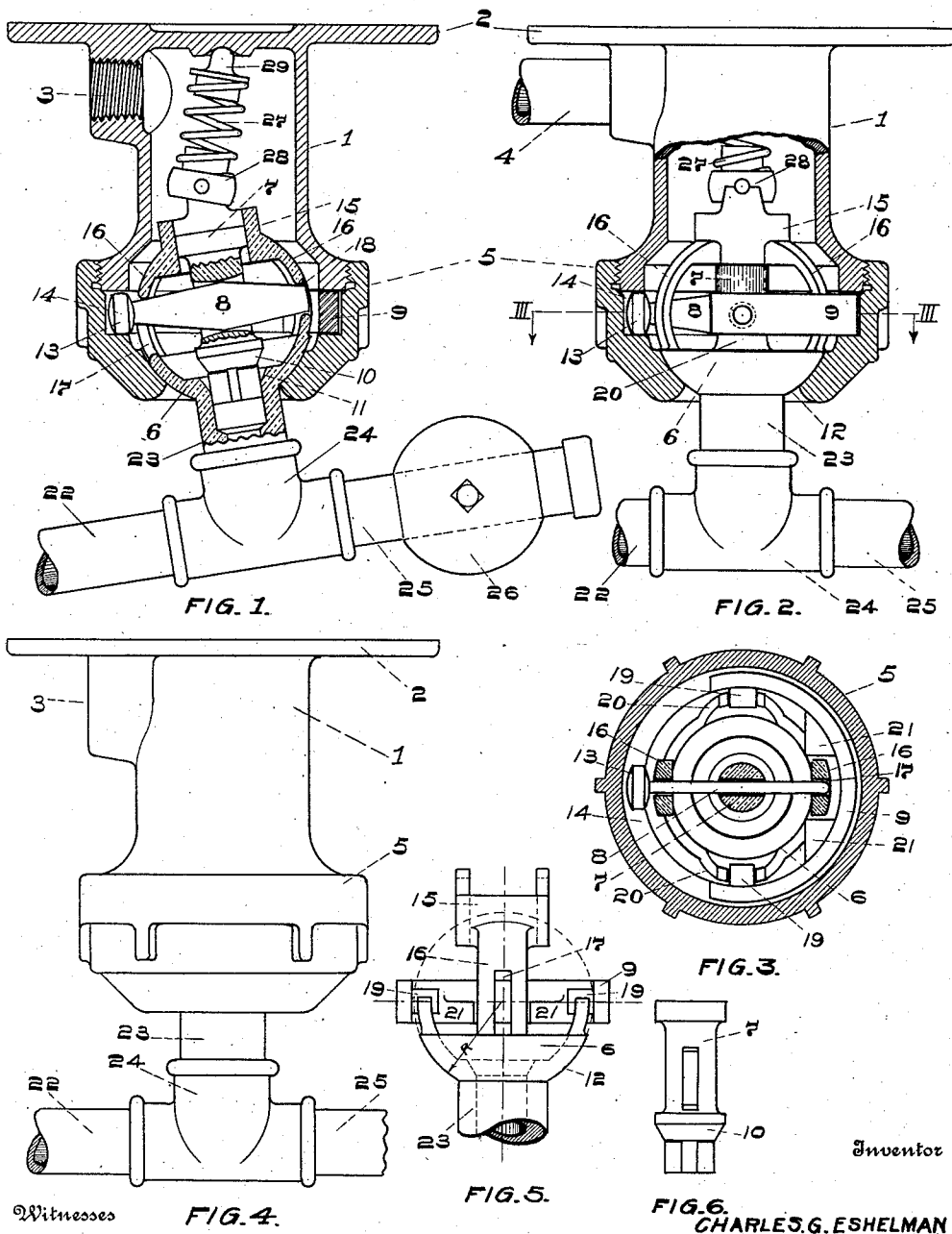


C. G. ESHELMAN.
VALVE.
APPLICATION FILED FEB. 2, 1911.

1,021,511.

Patented Mar. 26, 1912.



Witnesses

O. I. Jensen.
Laura S. Inman.

CHARLES G. ESHELMAN
Edward R. Inman
Attorney

UNITED STATES PATENT OFFICE.

CHARLES G. ESHELMAN, OF FRANKLIN, PENNSYLVANIA.

VALVE.

1,021,511.

Specification of Letters Patent. Patented Mar. 26, 1912.

Application filed February 2, 1911. Serial No. 606,156.

To all whom it may concern:

Be it known that I, CHARLES G. ESHELMAN, citizen of the United States, residing at Franklin, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Valves, of which the following is a specification.

The object, construction and operation of my improved valve are herein fully set forth, reference being had to the accompanying drawings which illustrate said construction with sufficient clearness to enable those skilled in the art to which this invention appertains to make and use the same.

The various views contained in said drawings are as follows:—

Figure 1 is a central, vertical section through my valve. Fig. 2 is a central, vertical section through the lower portion of the casing of my valve, the plunger-cage being shown in elevation. Fig. 3 is a transverse section on line III III of Fig. 2. Fig. 4 is an elevation. Figs. 5 and 6 are details.

The same reference numerals are applied to identical parts in all the views.

The object of my improved valve is, to provide a suitable device of this nature for use where water is used intermittently in large quantities, and which will automatically shut off the water when it is not wanted.

A further object is, to provide a valve which may occupy a position above the vehicle to be washed, and to which a horizontally-disposed, swinging pipe may be attached which will permit the thereto-attached hose to be swung with ease to the front, rear and sides of the vehicle that is being washed.

The construction of my improved valve is substantially as follows:—I construct a cylindrical body 1 which is closed at the top and provided with a flange or base 2, designed for attaching said body to a ceiling or other suitable overhead support. A pipe tap is provided at 3 for the insertion of a water-supply pipe 4. The lower end of said body is flanged outward, and the periphery of said flange is screw-threaded for the attachment of a cap 5, which is internally screw-threaded at its upper portion to receive said flange.

The working portions of my valve consist of a plunger-cage 6—see Fig. 5,—a plunger 7—Fig. 6—which is longitudinally movable within said cage, and a plunger-operating lever 8 arranged to operate said plunger.

Said lever is adapted to be actuated by the oscillation of said cage. In addition to the above details, I have also shown a limiting segment 9 which, if desired, may be omitted without departing from the spirit and scope of my invention. Said segment 9, when employed, performs the double function of limiting the direction of the oscillation of cage 6, and also limits the extent of said oscillation in the direction which causes the upward movement of plunger 7,—the movement which opens the valve for the outflow of water. The oscillation in the opposite or closing direction is limited by the seating of the plunger; that is, when shoulder 10 seats upon the seat 11 in the cage and shuts off the outflow of water.

The lower portion 12 of the valve-cage is formed into a spherical face and a seat conforming thereto is formed in the juxtaposed portion of the inner face of cap 5, so that said cage may revolve to any position and at the same time oscillate freely in said seat. Lever 8 is provided with a head 13, and cap 5 is provided with an annular channel 14 in which said head is positioned and in which it travels as the cage 6 is revolved. Said head 13 is the fulcrum point of said lever. The upper portion of cage 6 is adapted as a guide 15 for the upper end of plunger 7, said guide being carried by the arms 16. Slots 17 and 18 are formed through the arms 16. Lever 8 passes through slot 17 and the point or free end of said lever rests in slot 18 but does not project through the same. Plunger 7 is also provided with a slot through which said lever 8 passes. As cage 6 is oscillated in a line coincident with the axis of lever 8, the head 13 or fulcrum remains stationary, and the opposite end or point of the lever moves up or down, and this action causes the plunger 7 to move longitudinally, which action opens or closes the valve.

The limiting segment 9 is provided upon two opposite sides with inwardly projecting pins 19 which are positioned upon the center line of the cage 6, as will be seen by an inspection of Fig. 6, and lugs 20 of the cage have notches which receive said pins. This construction prevents cage 6 from oscillating laterally. Said segment 9 is also provided with two inwardly projecting lugs 21, against which the upper edge of the adjacent portion of cage 6 strikes, thus limiting the oscillation of the cage in the opening move-

ment, and also prevents said cage from being lifted from its seat when a downward jerk or severe downward pull is exerted upon the outlet pipe 22. The lower face of cage 6 is formed into a nipple 23 which projects through an opening in cap 5, said nipple being adapted for the attachment of a T 24, which is so positioned, that the axis of the head or straight run thereof is parallel to the axis of lever 8, so that the outlet pipe 22 may serve as means for oscillating the cage to open and close the valve. A pipe or rod 15, or any suitable extension is placed in the T, so that it extends in a direction opposite to that of the outlet pipe 22, and upon said extension is placed a counterweight 26, which is designed to return the cage to the closed position when an overbalancing stress is not exerted upon pipe 22.

I have found it desirable to provide means for carrying cage 6 to either extreme of the open and the closed positions, and for this purpose I employ a spring 27, the lower end of which is provided with a trunnion 28, the pins of which rest in notches formed in the upper end of guide 15. The upper end of said spring is provided with a point or nipple 29, which occupies a depression in the upper wall of body 1. Spring 27 is sufficiently long so that it is somewhat compressed at all times, but said compression is greatest when cage 6 is in the central position shown in Fig. 2, and the expansion of said spring tends to hold said cage either in the position shown in Fig. 1, wherein the valve is open, or in the extreme opposition of oscillation, wherein the valve is closed.

What I claim is:

1. A valve, consisting of an inverted, cup-shaped casing, a fluid-inlet in said casing, a cap for said casing, having a central opening therein, a plunger-cage seated in said cap and arranged to revolve horizontally and to oscillate therein, a fluid-outlet for said cage, a plunger longitudinally operable in said cage and arranged to open and close said fluid-outlet, and a plunger-actuating lever arranged to be operated by the oscillation of said cage.

2. A valve consisting of a cup-shaped body, having a fluid-inlet, a cap for said

body having a central opening therein, a plunger-cage seated in said cap, arranged to revolve and to oscillate therein, a nipple upon said cage arranged to project through the opening in said cap and forming a fluid outlet, a plunger longitudinally operable in said cage arranged to open and to close said outlet, a plunger-actuating lever engaging said plunger and arranged to be actuated by the oscillation of said cage, and means for automatically carrying said cage to either limit of its oscillation.

3. A valve of the class specified consisting of a cylindrical body closed at the upper end and having the lower end adapted for the attachment of a cap, there being a fluid inlet in said body, a cap attached to the lower end of said body, there being a central opening in said cap, a horizontally-revoluble plunger-cage seated in said cap arranged to oscillate therein, said cage being provided with a water-outlet consisting of a nipple arranged to project through the opening in said cap, a T attached to said nipple with two of its branches positioned horizontally, a pipe attached to one of said branches, an arm attached to the other branch, a counterweight mounted upon said arm, a plunger longitudinally operable in said cage arranged to open and to close said water outlet, an operating-lever engaging said plunger and arranged to be actuated by the oscillation of said cage, and means for carrying said cage to either limit of its oscillation.

4. A valve consisting of a casing having a fluid inlet, a spherical housing positioned in said casing and operable therein, there being fluid inlets and a fluid outlet in said housing, said fluid outlet being provided with means for the attachment of a fluid conduit, a closure for said fluid outlet and means actuated by the oscillation of said housing for operating said closure.

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

CHARLES G. ESHELMAN.

Witnesses:

PAUL R. WENTZ,
J. L. WENTZ.