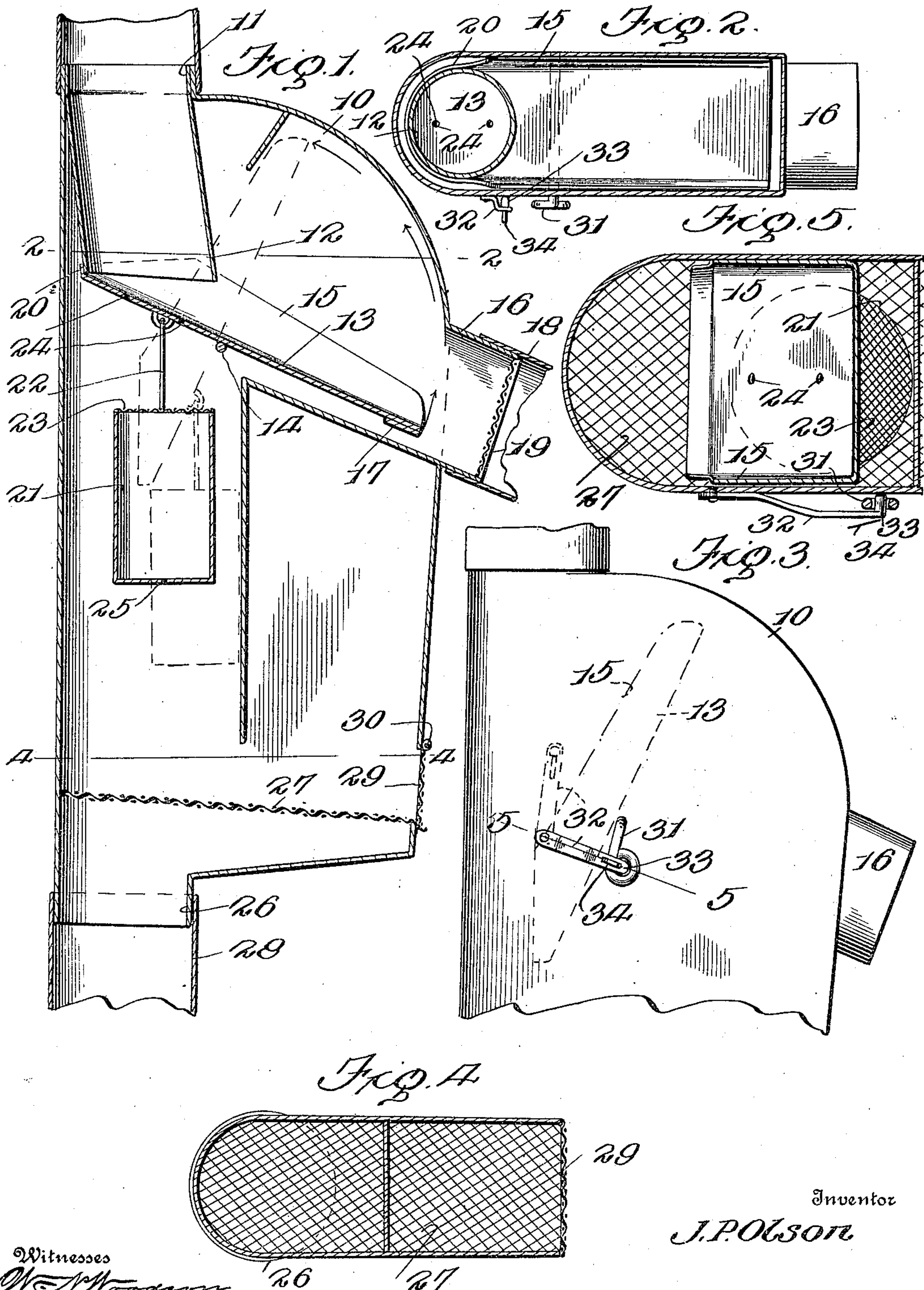


J. P. OLSON.
 AUTOMATIC RAIN SPOUT VALVE.
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933,918.

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UNITED STATES PATENT OFFICE.

JAMES P. OLSON, OF SIOUX CITY, IOWA.

AUTOMATIC RAIN-SPOUT VALVE.

933,918.

Specification of Letters Patent. Patented Sept. 14, 1909.

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To all whom it may concern:

Be it known that I, JAMES P. OLSON, citizen of the United States, residing at Sioux City, in the county of Woodbury and State of Iowa, have invented certain new and useful Improvements in Automatic Rain-Spout Valves, of which the following is a specification.

This invention relates to rain spouts and has particular reference to a valve which is adapted to be employed with the same for conducting or directing the water into cisterns.

An object of this invention is to provide a device which will automatically regulate and operate the flowing of the water from roofs so as to maintain clear water in the cisterns and to direct the muddy water from the cistern during a rain storm.

A further object of this invention is the provision of means whereby the spout may be locked in such position as to direct all the water from the cistern when the same is filled, such means being operated manually upon the filling of the cistern.

The invention still further aims the production of a device which will be positive in operation and which will be strong so as to withstand the usages to which the same is adapted, and one which is comparatively simple in construction so that an economical device is produced.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a vertical longitudinal section through the valve. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a fragmentary side elevational view of the casing disclosing the operating arm mounted thereon. Fig. 4 is a section on the line 4—4 of Fig. 1, and Fig. 5 is a section through the casing on the line 5—5 indicated on Fig. 3.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawing the numeral 10 designates a casing which is closed about its sides and which is provided at its upper end with a spout 11 which extends through the top of the casing and is connected to the rain water spout from a roof. The spout 11 is inclined inwardly at its lower end from the back of the casing 10 and is cut away

at one side as at 12 to permit of the flow of water laterally from the spout 11 when directed from the same by a hinged guide 13 which is mounted upon a spindle 14 engaged through the casing 10 intermediately thereof. The guide 13 is provided upon its opposite sides with upwardly extended flanges 15 which serve to form a trough for the reception of water passed from the spout 11. The forward wall of the casing is provided with a small spout 16 which extends therethrough and which is adapted to register with the guide 13 when the same is disposed in a substantially horizontal position.

The guide 13 carries at its forward or outer end a weight 17 which normally retains the guide in engagement with the inner end of the spout 16 so as to form a channel way from the spout 11 over the guide 13 and out of the small spout 16 into a suitable pipe 18 which is conveyed to the ground. If desired a screen 19 may be employed which is positioned over the outer end of the small and reduced spout 16 for the purpose of preventing the building of bird nests or the accumulation of other substances which choke the spout. The inner end of the guide 13 is provided with a flange 20 which engages about the rear side of the spout 11 at the lower end thereof and serves to retain the guide 13 in alinement with the spout 11 when a quantity of water is impinged upon the same. A chambered weight 21 is depended from a link 22 which is loosely connected to the inner end of the guide 13, the weight 21 being provided with a screen 23 across its upper open end for the reception of water which is passed through apertures 24 disposed in the inner end of the guide 13 directly over the chambered weight 21. The lower end of the weight 21 is formed with a small opening 25 through which the water is adapted to pass out. The lower end of the casing 10 is reduced and formed into a reduced spout 26 disposed in registered relation beneath the spout 11 and is adapted to receive water from the spout 11 when the inner end of the guide 13 is swung into a downward position to admit of the passage of the water downwardly through the casing 10. A screen 27 is stretched across the lower end of the casing 10 within the same and above the spout 26 to catch insects and the like which accumulate upon the roofs and in the gutters during a rain storm, and which would otherwise be conveyed to the cistern through the pipe

28 which is connected to the outlet spout 26. For the purpose of cleansing the screen 27 a door 29 is positioned in the front wall of the casing 10 in alinement with the screen 27 and is mounted upon suitable hinges 30 at its upper edge so that the same will swing upwardly and will normally rest in a closed position.

The spindle 14 which is extended through the sides of the casing 10 is provided at its one extremity with a laterally curved arm 31 which is looped at its outer extremity to form a finger hold so that the operator may grasp the arm 31 and rotate the guide 13, as the guide 13 is rigidly secured intermediately of the spindle 14 to direct the water from the spout 11 into the small spout 16 when it is desired to cut off the flow of water to the cistern through the outlet spout 26. After the chambered weight 21 is filled with water when this adjustment is desired to be made it is necessary to retain the arm 31 in such position and this result is accomplished by the employment of a leaf spring 32 which is pivotally mounted upon the side of the casing 10 and provided at its outer extremity with a detent 33 for engagement in the looped portion of the arm 31 to thereby retain the same. The spring 32 is further provided with upwardly projected lugs 34 by means of which the operator is enabled to grasp the spring 32 by the fingers and press it out of engagement with the arm 31 to release the same and to swing the spring 32 laterally in order to permit of the free movement of the guide 13 under the action of the water.

In operation when a rain storm begins the water which falls upon the roof is first muddy and this water passes into the spout 11 and over the guide 13 to the spout 16 where it is conveyed through the pipe 18 to the ground or the like. At the same time the water passes through the apertures 24 and falls into the chambered weight 21, filling the same, when the weight of the water within the chamber 21 overcomes the weight 17 at the outer end of the guide 13 and thereby causes the depression of the inner end of the guide 13. The water from the spout 11 has by this time become cleared and it is now permitted to pass through the casing 10 and out of the spout 26 to the pipe 28 where it is conducted to the cistern. When the cistern is filled or should it be desired to stop the flow of water thereto the operator grasps the arm 21 and swings the same to raise the inner end of the guide 13 and to direct the water flowing from the spout 11 to the spout 16 and out of the casing 10 stopping the flow of water through the spout 26.

Having thus described the invention what is claimed as new is:—

1. A valve including a casing, an inlet spout positioned in the upper end of said casing adjacent the rear wall thereof and extended at a forward angle therein, a guide hingedly mounted beneath the inner end of said spout and extended forwardly therefrom, a small spout positioned through the front wall of said casing at a slight downward angle for registration with said guide, a weight carried upon the outer end of said guide for engagement upon a rear extension of said small spout, a screen disposed over the end of said small spout, a link depended from the rear end of said guide, a chambered weight connected to said link, said guide having passages formed through the rear end thereof to admit water to said weight from said inlet spout, an outlet spout located in the bottom of said casing in alinement with said inlet spout, a screen stretched across the lower end of the casing, a cleansing door formed in the front wall of the casing to permit of access to said screen and means for locking said guide in position.

2. A valve including a casing, an inlet spout positioned through the top of said casing and inclined forwardly therein, a guide hingedly mounted in said casing beneath said spout and extended forwardly therefrom, a weight flexibly depended from said guide beneath said spout, a small spout located through the front wall of said casing in registered relation to said guide, and an outlet spout disposed in the bottom of said casing to receive water from said inlet spout upon the registering of said guide with said outlet spout.

3. In combination, a casing, an inlet spout inclined forwardly in the upper end of said casing, an outlet spout in the front wall of said casing, a second outlet spout mounted in the lower end of said casing, a guide hingedly positioned in said casing for alternate registration with said outlet spouts, an arm carried by said guide and extended through the side of said casing, a leaf spring pivotally mounted upon the side of said casing, a detent formed on the outer end of said spring, a looped portion formed on said arm for engagement with said detent and a lug projected from said spring to permit of the withdrawal of said detent from said looped portion.

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

JAMES P. OLSON. [L. s.]

Witnesses:

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