

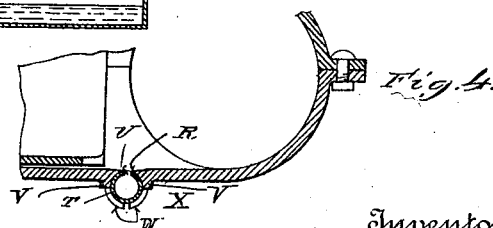
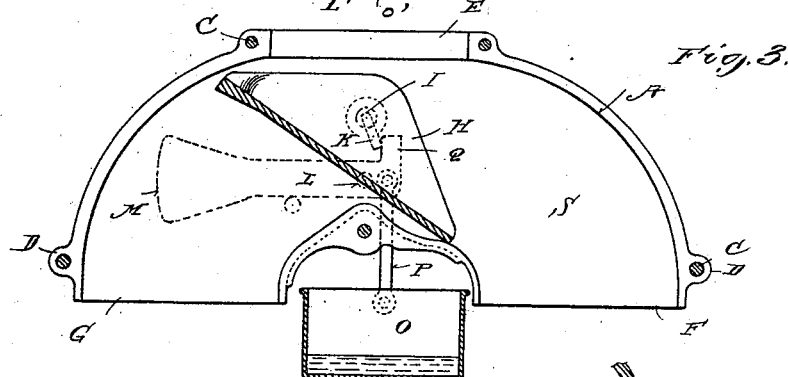
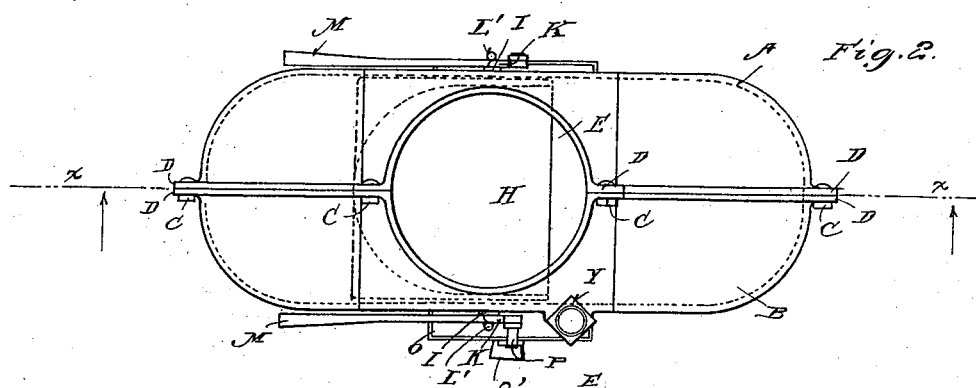
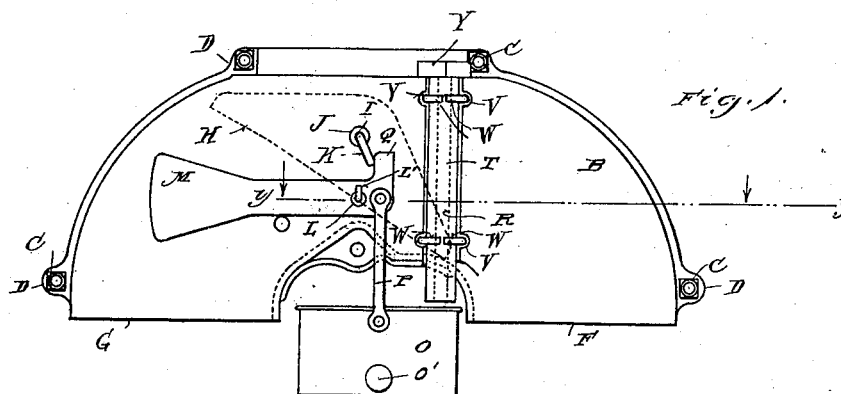
No. 648,181.

Patented Apr. 24, 1900.

R. D. TITTLE.
WATER CUT-OFF.

(Application filed Oct. 31, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

REUBEN D. TITTLE, OF SPRINGFIELD, OHIO.

WATER CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 648,181, dated April 24, 1900.

Application filed October 31, 1899. Serial No. 735,382. (No model.)

To all whom it may concern:

Be it known that I, REUBEN D. TITTLE, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Water Cut-Offs, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in water cut-offs.

The general object of this invention is to provide for automatically throwing the water into a pipe or spout leading to a cistern after a predetermined amount of water has passed through the cut-off and has gone to waste, no matter whether the rain is sufficient to fill the cut-off entirely full of water or only partially fill such cut-off. Thus the same proportionate amount of water is designed to operate the cut-off to change the direction of the flow of water.

Another object of my invention is to provide a full opening substantially the same size as the down-spout leading to the cut-off without any mechanism of any kind in the path of the stream for catching leaves and other trash which are washed from the roof; but such trash will flow through the cut-off and out the waste-opening.

My invention also relates to details of construction and arrangement hereinafter appearing, and particularly pointed out in the claims.

In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 is a side elevation of my improved water cut-off; Fig. 2, a plan view of the same; Fig. 3, a sectional elevation on the line *xx* of Fig. 2 looking in the direction of the arrows, and Fig. 4 a partial detail sectional view on the line *yy* of Fig. 1.

While I am aware that there are a great variety of water cut-offs, still in none of them, so far as I am aware, is there any arrangement for taking a definite proportion of the water as it flows through the cut-off and using such definite proportion for tripping the cut-off proper, no matter whether there is a heavy or light rain.

The letter A represents one section of a shell or casing, while the letter B represents another section, both sections being substan-

tially the same in form. These sections are adapted to fit together and be secured in such position by means of bolts C, which extend through lugs or projections D from each shell or casing. The upper portion of the shell or casing has an opening E therein, within which fits any ordinary down-spout leading from the roof. (Not shown.) The lower portion of the shell or casing has two openings therein, as shown at F and G, respectively, the opening F being for the accommodation of the waste water, while the opening G is adapted to have connected therewith a spout or pipe (not shown) which leads to a cistern or other suitable receptacle. It will be observed that within the shell or casing is pivotally mounted a cut-off proper, such as shown at H, such cut-off proper having a pair of gudgeons I, which extend through holes or openings J in the casing. In the outer ends of these gudgeons is cast or otherwise secured a short piece of wire, such as shown at K. These wires are adapted to be bent somewhat in the fashion of a crank (see Fig. 1) for the purpose hereinafter appearing. Each part of the casing carries a stud L, projecting outward therefrom, having a wire cast or otherwise secured in its outer end. Upon these studs is pivotally mounted a weighted lever M, to one end of which is attached a trip-bucket O by means of links P, which are pivotally connected with the bucket and also with the weights, such lever being held in place by bending over the wire L'. As the bucket becomes filled, in a manner hereinafter appearing, the weighted lever is raised, and since they carry extensions, as shown at Q, for engaging the crank-like extensions K from the gudgeons I, as above described, such cranks S will be disengaged from the lever, so that the cut-off proper may swing to its proper position for water to flow into the cistern, such swinging of the cut-off proper being accomplished by thickening its upper end, as illustrated in Figs. 1 and 3, so as to make it heavier than its lower end.

I will now describe the manner in which the water is permitted to enter the drip-bucket and how a definite proportion of the water passing through the waste-passage is carried into the drip-bucket irrespective of whether there is a hard or light rain. By re-

ferring to Figs. 1 and 4, respectively, it will be observed that in the one side of the casing is formed a slotted opening, such as shown at R. This slotted opening extends from the top of the casing to or near the bottom thereof. Thus as the cut-off proper is turned to the position to direct the water into the waste-passage S a portion of it will pass through the slotted opening R into the drip-bucket immediately beneath it. In order to more readily guide the water into the drip-bucket and also to cut off the slotted opening more or less in the shell or casing, I provide a cylindrical tube T, having a longitudinal slot therein, as shown at U. The tube extends downward close to or into the drip-bucket, if desired, so that all the water passing from the waste-passage through the slotted opening falls into the bucket. To cheapen the construction of my invention, I cast in bosses V a short piece of wire, as shown at W. When the shell is cast, the pieces of wire stand out straight from its sides, after which such wires are bent around the tube to hold it in position snugly against the casing, but yet which at the same time will permit the tube to rotate or partially rotate. When it is desired to have the full opening for the escape of water into the drip-bucket, the slot in the tube is immediately opposite the slotted opening R in the casing. Should a less quantity of water be desired to pass through the slotted opening, the tube T may be partially rotated to cut off more or less of said opening. The smaller the opening the longer it will require to fill the drip-bucket, and thereby trip the cut-off proper. Thus if it is desired to wash the roof more thoroughly a very small amount of leakage is permitted to pass into the drip-bucket, while where the roof is cleaner or substantially clean more of the waste water is permitted to pass into the drip-bucket. On the upper end of the tube T is soldered or otherwise secured a cap Y, which is adapted to extend over the upper edge of the casing, so that the tube will be held from working down in its bearings.

My invention is simple, cheap to manufacture, and at the same time utilizes a definite proportion of the water passing through the waste-passage whether there be little or much in said passage.

In describing the opening in the side of the casing through which water passes from the waste-discharge passage to the drip-bucket I have spoken of it as a "vertical" opening or slot; but of course it will be understood that such slotted opening might be other than vertical—as, for instance, it might be at an angle of forty-five degrees and still it would perform the same function in substantially the same manner. Therefore in the claims and other parts of the specification where I have used the word "vertical" it will be understood that it is used in a broad sense and that any angle for the slotted opening is included in such term.

Referring again to the drip-bucket, it will be observed that I have provided a plug *o'* for letting the water out of the drip-bucket. 70

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

1. In a water cut-off, the combination with a shell or casing having a drip-opening along one of its sides and opening into the waste-passage, of a pivoted cut-off proper, a drip-bucket for receiving a substantial definite proportion of water passing through said waste-passage, and means for connecting said drip-bucket with said pivoted cut-off proper to rotate such cut-off proper from waste position to cistern-discharge position. 80

2. In a water cut-off, the combination with a shell or casing having a cut-off proper pivotally mounted therein, of means for conducting water through the side of said casing from the waste-passage therein, a drip-bucket adapted to receive the water passing through the side of said casing, a lever weighted at one end and having said drip-bucket connected to its other end and means connected with said cut-off proper to engage with and disengage from said lever, all substantially as shown and described. 95

3. In a water cut-off, the combination with a shell or casing having a cut-off proper pivotally mounted therein, said casing also having a vertical slotted opening therein communicating with the waste-passage, a drip-bucket adapted to receive the water passing through said vertical opening, a pair of pivoted levers pivoted to the respective sides, a pair of links engaging with the respective inner arms of said levers, and with said drip-bucket, being adapted to disconnect said lever from said cut-off proper, and means to throw said cut-off proper into position to save the water when disconnected from said drip-bucket, substantially as shown and described. 100

4. In a water cut-off, the combination with a shell or casing, of a pivoted cut-off proper pivotally mounted therein, said casing having a vertical slot or opening in the side of said casing communicating with the waste-passage, means for closing said slot or opening more or less as desired, means engaging with said cut-off proper adapted to be operated by the water passing through said regulated opening for controlling the movement of said cut-off proper from waste position to the position where the water is saved, all substantially as shown and described. 110

5. In a water cut-off, the combination with a shell or casing, having a water cut-off pivotally mounted therein, said water cut-off proper having its end in the passage leading to the cistern, weighted, a pair of weighted levers pivotally connected with the respective sides of said casing, one of said levers carrying an extension, a crank carried by said cut-off proper and adapted to engage with said extension, a dripping-bucket, a pair of links connected therewith and also with the short 120

arms of said pivoted levers, said shell having a slotted opening in one of its sides communicating with the waste-passage, a cylindrical cut-off having a slot therein adapted to regulate the size of opening leading into the waste-passage, said cylinder being adapted to conduct water through said vertical passage into said dripping-bucket, such water being adapted to overcome the weights enough to disconnect the cut-off proper from said lever whereby its weighted end will descend, substantially as shown and described.

6. In a water cut-off, the combination with a shell or casing, formed in halves and adapted to be bolted together and also having an inlet-opening and a waste-passage and a water-saving passage therein, a cut-off proper pivoted between said passages and weighted to normally throw the water into said water-saving passage, a dripping-bucket adapted to receive water through a regulated opening in the side of said casing, means for connecting said bucket with said cut-off proper to hold

said cut-off proper in position to direct the water into the waste-passage, said means being released when the water in said bucket operates them, all substantially as shown and described.

7. In a water cut-off, the combination with a shell or casing having an opening therein, of a rounded-out depression therein in the front of said opening, a cylindrical cut-off having a slot therein adapted to match said opening, said cut-off being also adapted to close more or less of said opening, means connected with said cylinder to prevent its displacement longitudinally, and other means to hold it in rotatable position, all substantially as shown and described.

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

REUBEN D. TITTLE.

Witnesses:

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W. M. MCNAIR.