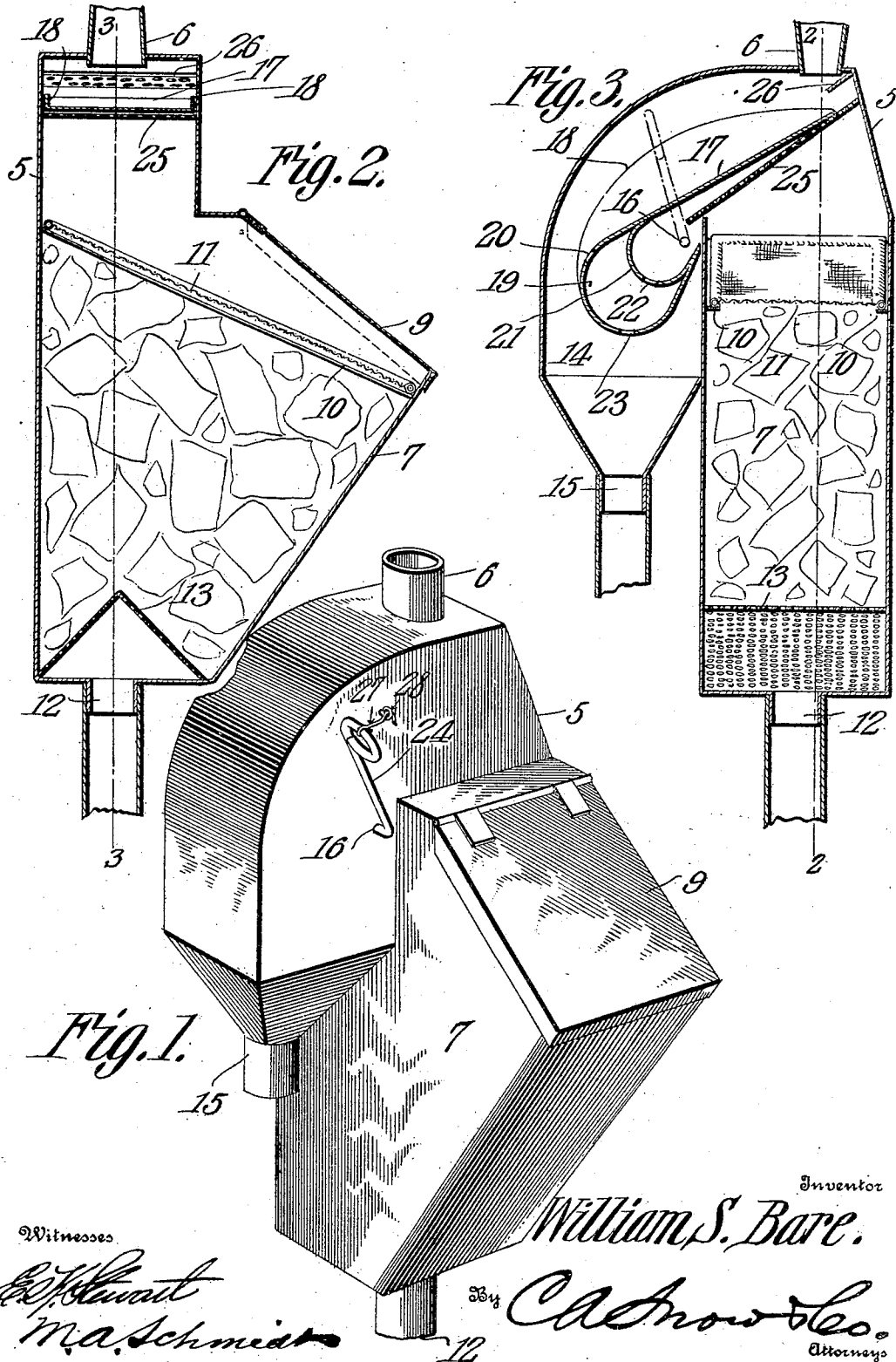


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 AUTOMATIC CUT-OFF AND FILTER FOR RAIN SPOUTS.
 APPLICATION FILED FEB. 13, 1909.

936,210.

Patented Oct. 5, 1909.



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AUTOMATIC CUT-OFF AND FILTER FOR RAIN-SPOUTS.

936,210.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed February 13, 1909. Serial No. 477,757.

To all whom it may concern:

Be it known that I, WILLIAM S. BARE, a citizen of the United States, residing at Bristol, in the county of Sullivan and State of Tennessee, have invented a new and useful Automatic Cut-Off and Filter for Rain-Spouts, of which the following is a specification.

This invention relates to that class of cut-off devices operating in connection with a rain spout leading from the roof of a house to a cistern, whereby the rain falling on the roof is conducted to the cistern which is thus kept filled or supplied with water. Inasmuch as the first discharge from the roof is very apt to be mixed with dirt and other impurities, it is desirable to provide means for preventing the same from flowing into the cistern until the roof is cleaned, and to this end I provide an automatic cut-off device which cuts off the cistern for a length of time sufficient for the roof to be washed clean, after which the water is permitted to flow into the cistern.

The object of the present invention is to provide a cut-off device of the kind stated which is simple in construction, reliable in operation, and being entirely devoid of complicated parts to get out of order, thus insuring a flow of pure, clean water to the cistern.

Another object of the invention is to provide means for filtering the water before it enters the cistern.

With the foregoing objects in view, the invention consists in a novel construction and arrangement of parts to be hereinafter described and claimed, reference being had to the drawings hereto annexed in which:—

Figure 1 is a perspective view of the invention. Fig. 2 is a transverse section on the line 2—2 of Fig. 3. Fig. 3 is a transverse section on the line 3—3 of Fig. 2.

In the drawings, 5 denotes a suitable casing of proper dimensions, and having at its upper end an inlet opening surrounded by a collar 6 adapted to fit over the lower end of a rain spout or pipe leading from the roof of the house, in which casing the cut-off device as well as the filter to be presently described, are inclosed. The front of the casing is formed with an enlargement 7 having an inclined top which is fitted with a door 9

through which access to the interior of the casing may be had.

To the side walls of the casing, and extending from the rear wall thereof to the front wall of the enlargement 7, are secured ledges 10 on which the screen 11 is supported. The ledges are downwardly inclined in the direction of the front wall of the enlargement, by means of which the screen is supported in an inclined position, whereby the passage of the water there-through is facilitated.

In the bottom of the casing is an outlet opening which is surrounded by a collar 12 by means of which connection is made with the cistern, or a pipe leading thereto. Directly above this opening, and below the screen 11, is a screen 13 which is oppositely and downwardly inclined from a common point in the direction of the front and rear walls of the casing, said screen extending to the bottom thereof, and its opposite side edges extending up to the side walls of the casing so that no water can reach the outlet without first passing through said screen. The position of the screen also facilitates the flow of the water therethrough.

One of the side walls of the casing, at the upper end thereof, has an opening which communicates with a compartment 14 having at its lower end a waste outlet 15 which may be connected to a sewer or other place of discharge. In this compartment is pivotally mounted at 16 a cut-off device comprising a plate 17 which extends into the casing 5 directly beneath the inlet thereof. At the edges of the cut-off plate are upstanding flanges 18 for preventing the water dropping down on said plate from running over said edges. The plate is inclined, and its upper end normally extends beneath the inlet of the casing 5 so that the water entering said casing may drop on said plate and run down the same to the waste outlet 15. At its lower end the cut-off plate is formed with a pocket or chamber 19 preferably formed by bending the plates rearwardly and upwardly in a curve. At the commencement of the bend, the plate has openings 20 communicating with the interior of the pocket. The ends of the pocket are formed by enlarging the flanges 18 sufficiently to cover said ends. Beneath the plate, the wall of the pocket has

a gutter 21 provided with openings 22 communicating with the interior of the pocket. In the lower wall of the pocket are also openings 23 which serve as leak ports in a manner to be presently described. One of the pivots of the cut-off plate extends through the front wall of the compartment 14, and is formed into a handle 24 whereby the plate may be manually swung on its pivots.

Above the screen 11 the casing 5 contains a screen 25 which extends from one of the end walls of said casing at a downward inclination in the direction of the opposite end wall, and passes through the opening in the last-mentioned wall into the compartment 14 into which it projects for a short distance, the lower end of said screen being located above the gutter, so that the drippings may discharge thereinto.

Secured to the top of the casing 5, on the inside thereof, and extending between the front and rear walls, is an inclined shelf 26, said shelf being inclined in the direction of the upper end of the cut-off plate 17, and said end of the plate being located directly under the lower end of the shelf. The shelf is located below the inlet to the casing 5 and serves to direct and discharge the water entering the inlet to the cut-off plate 17.

The operation of the cut-off device is as follows: In the normal position of the cut-off plate 17, said plate extends from a point directly beneath the inlet of the casing 5 to the compartment 14, so that any water entering said inlet runs down the plate and out of the waste outlet 15. Some of the water, however, enters the pocket 19 through the openings 20, and when sufficient water has collected in said pocket, the weight thereof causes the plate to tilt downwardly so that its upper end swings past the inlet to the casing 5, and the water is then free to flow through the screens 25, 11 and 13 and thence to the cistern through the outlet of the casing. The extent of the herein-described tilting movement of the cut-off plate is limited by the engagement of the pocket 19 with the adjacent wall of the casing 5. The relative sizes of the openings 20 and 23 is such that the cut-off plate does not tilt until the water has flowed out of the waste outlet 15 for length of time sufficient to thoroughly wash off and clean the roof. Inasmuch as the water is gradually flowing out of the pocket through the leak ports 23, the cut-off plate will eventually swing back to its normal position, but in order that this may not take place before the rain ceases, I provide the gutter 21 with the openings 22 therein leading to the pocket. The screen 25 being inclined, some of the water will run down the same into the gutter, and pass through the openings 22 into the pocket, the

relative size and number of the openings 22 and leak ports 23 being such that the rate of discharge through the leak ports is about the same as the rate of flow into the pocket through the openings 22. The cut-off plate is therefore effectually prevented from tilting so long as the rain continues. After it ceases to rain, no more water flows into the pocket, and the same gradually empties through the leak ports 23, whereupon the plate swings back to its normal position, and again places the inlet in communication with the waste outlet 15. The three screens in the casing 5 thoroughly filter the water in its passage therethrough to the cistern.

The portion 7 of the casing will preferably contain charcoal or some other suitable filtering material. The handle 24 carries a hook 27 which, when engaged with an eye 28 secured to the casing, locks the plate 17 in the position to cut off the cistern.

What is claimed is:

1. A cut-off for rain spouts comprising a casing having an inlet, an outlet, and a waste outlet, a pivoted cut-off mounted in the casing, and normally establishing communication between the inlet and the waste outlet, a pocket carried by the cut-off, and having inlet openings communicating with the cut-off, and leak ports, a gutter in one of the walls of the pocket, and having inlets thereto, and an inclined screen located below the cut-off, and having its upper end located under the inlet to the casing, and its lower end above the gutter.

2. A cut-off for rain spouts comprising a casing having an inlet, an outlet, and a waste outlet, a pivoted cut-off mounted in the casing, and normally establishing communication between the inlet and the waste outlet, said cut-off comprising an inclined plate having upstanding flanges at its opposite edges, and said plate also having perforations at its lower end, a pocket carried by the plate at said lower end with which pocket the perforations communicate, and said pocket having leak ports, a gutter in one of the walls of the pocket, and having inlets thereto, and an inclined screen located below the cut-off, and having its upper end located below the inlet to the casing, and its lower end above the gutter.

3. A cut-off for rain spouts comprising a casing having an inlet, an outlet and a waste outlet, a cut-off mounted in the casing, said cut-off comprising an inclined pivoted plate normally extending between the inlet to the casing and the waste outlet, said plate having perforations at its lower end, a pocket carried by the plate at said lower end with which pocket the perforations communicate, and said pocket having leak ports, a gutter in one of the walls of the pocket, and having inlets thereto, an inclined screen

located below the cut-off, and having its
upper end located under the inlet to the cas-
ing and its lower end above the gutter, and
an inclined shelf below the inlet to the cas-
5 ing and overhanging the upper end of the
plate.

In testimony that I claim the foregoing

as my own, I have hereto affixed my signa-
ture in the presence of two witnesses.

WILLIAM SAMUEL BARE.

Witnesses:

JOHN S. MAUK,
B. G. McDOWELL.