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AUTOMATIC CUT-OFF FOR DRAIN-PIPES.


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To all whom it may concern:

Be it known that I, LOUIS EDWARD LEMLEY, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Automatic Cut-Off for Drain-Pipes, of which the following is a specification.

This invention is an improved automatic cut-off for drain-pipes, whereby the rain-water is directed to a cistern after a certain amount of rain-water has been drained from the roof.

The object of the invention is to provide a cut-off which will permit a limited quantity of water to pass through, thereby washing off the dust and dirt from the roof, said cut-off automatically closing after a predetermined amount of water has passed and thereafter directing the rain-water into the cistern, and consequently storing up clean water within the cistern.

With these objects in view the invention consists in the peculiar construction of the various parts and in their novel combination or arrangement, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a perspective view showing the practical application of my invention. Fig. 2 is a side elevation of a cut-off. Fig. 3 is an edge view. Fig. 4 is a vertical longitudinal section. Fig. 5 is a transverse section. Fig. 6 is a horizontal section. Fig. 7 is a sectional view of the T-pipe.

In carrying out my Invention I employ a pipe A, which leads from the gutter of the roof to a T-coupling B, and from this T-coupling extends the pipe C, leading into the cistern at the top, and another pipe D, which extends downwardly and enters the casing E of the automatic cut-off, said pipe D continuing downwardly, as at D'.

The casing E is formed with a catch-basin or receptacle E', in which is located a float F, said float being connected to a lever G, which carries a valve H upon this upper end, said valve being adapted to seat upon the valve-seat H', produced at the juncture of the pipe D' and cut-off casing.

The lever G is pivoted in a partition which separates the catch-basin or receptacle from the main portion of the cut-off casing. Communication is established between the main and upper portion of the casing and the catch-basin or receptacle by means of a pipe or tube I, having a valve I' arranged therein.

An inclined screen K is arranged within the casing directly below the lower end of the pipe D, and a perforated flange K' is arranged between this inclined screen K and the valve I'. A pipe L also leads from the lower portion of the casing into the upper portion of the same, said pipe having an opening L', produced adjacent to the upper end thereof, and in practice I prefer to arrange a wire strainer at the bottom, as shown at L'. The function of this pipe L is to convey away surplus water in the upper part of the casing E when heavy downpours occur which rapidly fill up this chamber. The strainer therein is employed to catch any foreign substances that may pass down the pipe L.

A siphon-pipe M leads from the main portion of the casing into the catch-basin or receptacle. An inclined plate N extends from the valve-seat H' to the partition separating the casing proper and catch-basin, and thereby preventing the accumulation of any foreign substance upon the valve-seat. A discharge-ock O is arranged at the bottom of the catch-basin or receptacle and is provided with a small aperture o, so arranged that the water in the basin may be allowed to slowly run off after the valve H' has been closed. This arrangement permits of the automatic opening of the valve H without requiring the necessity of opening the stop-cock O.

In operation as the water passes down through the pipe D a portion thereof will percolate through the screen K into the upper chamber of the casing E, thence through pipe or tube I into the catch-basin. The water will accumulate in the catch-basin or receptacle, and as it accumulates in this chamber the float is raised, and consequently closes the valve I'. Should there be, as in the case of a heavy downpour of rain, an excess of water in the upper chamber, it would be relieved by the pipe L. The water then accumulates in the pipe D and finally enters through the pipe C into the top of the recep-
tacle. The cut-off is therefore automatic and will operate after a definite quantity of water has been drained from the roof, thereby carrying off all dust, dirt, and foreign substances, so that the water collected in the cistern will be pure and clean. After the cessation of the shower the water will slowly percolate from the valve O, emptying the chamber E, and at the same time the water on top of the valve II in the lower chamber of the casing will flow off through the siphon M, thus relieving the valve and allowing it to open and be in readiness to perform its function when again called upon, thus accomplishing an automatic opening of the valve II.

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

1. In an automatic cut-off, the combination with a casing, having a plurality of sections, one of which is adapted to act as a catch-basin, a float in the catch-basin, a discharge-outlet in the adjacent section, a valve adapted to close said outlet, a lever pivoted in the casing and connecting the float and valve, a discharge-outlet in the catch-basin and a siphon located between the section containing the valve and the catch-basin, and adapted to draw water off from said valve as the water falls in the catch-basin.

2. In an automatic cut-off, a casing divided into upper and lower sections, and a catch-basin, a float in said catch-basin, a valve in the lower section connected to the float, an inclined perforated plate in the upper section, a valve-controlled pipe connecting the upper section and the catch-basin and an overflow-pipe adapted to drain surplus water collected

in the lower portion of the upper section and discharge it into the lower section.

3. In an automatic cut-off, the combination with a casing having upper and lower sections, said upper section containing a perforated trough, of a catch-basin, a pipe having a cock therein connecting said catch-basin and upper section, an inlet-pipe having a branch pipe communicating with a reservoir or cistern, entering said upper section, an outlet-pipe leading from said lower section, and a valve carried by a lever pivoted in said casing adapted to be seated on a valve-seat on said outlet, said lever being provided on its other end with a float contained in said catch-basin and adapted to operate said valve, substantially as described.

4. In an automatic cut-off, the combination with a casing having upper and lower sections, said upper section containing a perforated trough leading to said lower section, of a catch-basin, a pipe having a cock therein connecting said catch-basin and upper section, an inlet-pipe having a branch pipe communicating with a reservoir or cistern entering said upper section, an outlet-pipe leading from said lower section, a valve carried by a lever pivoted in said casing adapted to be seated on a valve-seat on said outlet, said lever being provided on its other end with a float contained in said catch-basin and adapted to operate said valve, and a siphon between said catch-basin and lower section, substantially as described.

LOUIS EDWARD LEMLEY.

Witnesses: DAVID LEMLEY, JULES REBET.