Sept. 4, 1951 L. W. BENCK 2,567,004

AUTOMATICALLY REGULATED LEAD-AWAY TROUGH FOR DOWNSPOUTS

Filed May 24, 1947

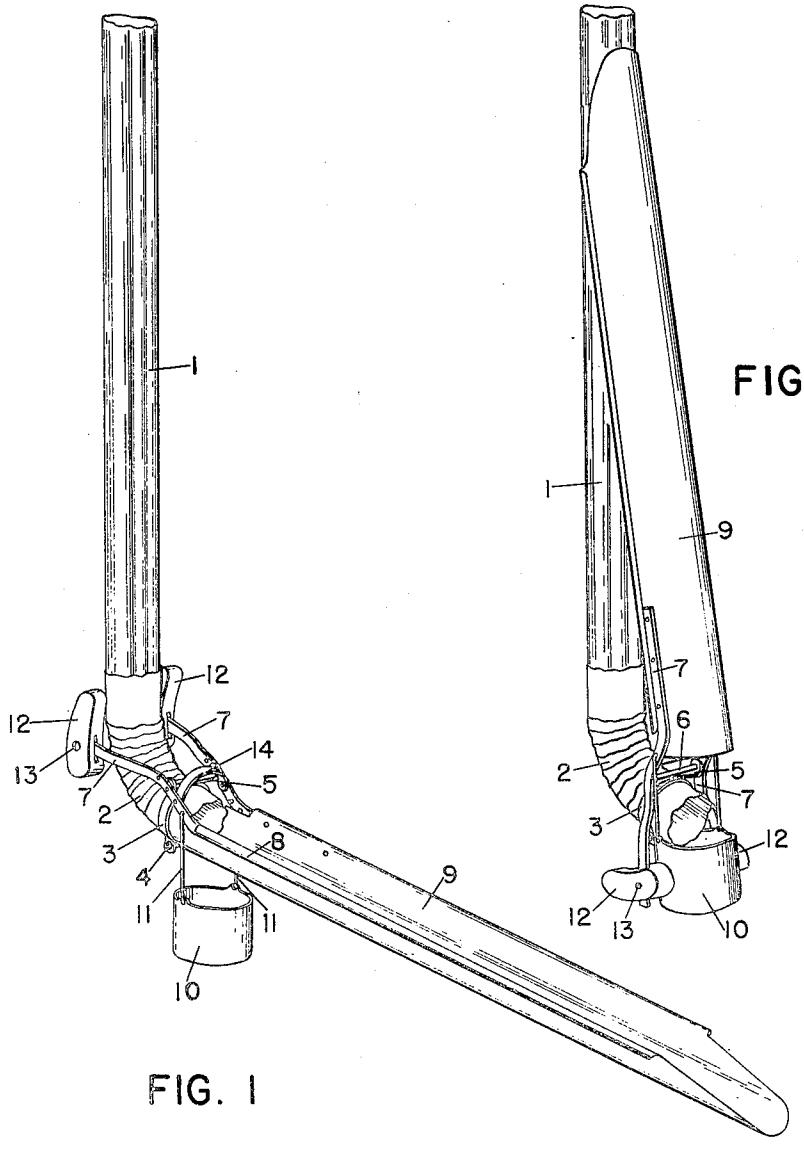


FIG. 1

FIG. 2

INVENTOR.

LESLIE W. BENCK

BY

Merrill M. Blackburn

ATTORNEY

Patented Sept. 4, 1951 2,567,004

UNITED STATES PATENT OFFICE

2,567,004

AUTOMATICALLY REGULATED LEAD-AWAY TROUGH FOR DOWNSPOUTS

Leslie William Benck, Moline, Ill.

Application May 24, 1947, Serial No. 750,270

3 Claims. (Cl. 137—9)

1

My present invention relates to improvements in downspouts for use in connection with eaves troughs of buildings, and more particularly to the lead-away trough which disposes of the water carried by the downspout. Among the objects of this invention are the provision of a structure which will automatically remove such a trough from an obstructing position across a sidewalk when the trough is no longer needed for carrying off water; the provision of a structure of the character indicated which will normally occupy a position alongside the downspout and be approximately vertical but which will be lowered into operative position shortly after a rain begins to fall, so as to carry water descending through the downspout to a position remote from the building foundation; and such further objects, advantages, and capabilities as will hereafter appear and as are inherent in the construction disclosed herein. My invention further resides in the combination, construction, and arrangement of parts illustrated in the accompanying drawings and, while I have shown therein what is now regarded as the preferred embodiment of this invention, I desire the same to be understood as illustrative only and not to be interpreted in a limiting sense.

In the drawings annexed hereto and forming a part hereof,

Fig. 1 illustrates my improvement attached to the lower end of a downspout, the same being in a position to carry off water descending through the downspout; and

Fig. 2 represents the same structure in normal position when there is no rain falling.

Reference will now be made in greater detail to the annexed drawings for a more complete description of this invention. The downspout 1 is shown as provided with an elbow 2 for directing water away from the building wall, in accordance with common practice. Surrounding the lower end of the elbow 2 is a collar 3 which is provided with a bolt 4 for drawing the collar tightly around the elbow to hold the same in place thereon. This collar has a U-shaped bracket 5 secured to its upper portion, and this bracket has a pivot pin 6 extending through the arms thereof and out through the arms 7, each of which has one end extending under or into a flange 8 formed upon each of the longitudinal edges of the lead-away trough 9. The pivot pin 6 may, if desired, take the form of a bolt provided with a head at one end and a nut at the other. It serves as a pivot member about which the trough 9 may turn when moving from a vertical position to a horizontal position or vice versa.

2

As shown most clearly in Fig. 1, a bucket 10 is connected to the arms 7 by suspending means 11 at points intermediate between the pivot pin 6 and the lead-away trough 9. On the second ends of the arms 7 are counterbalancing weights 12 which are adjustably secured in positions on the arms by set screws 13 which permit the counterbalancing weights to be nicely adjusted so that when there is no water in the bucket 10, the trough 9 will swing up to the position shown in Fig. 2 and, when the bucket 10 is partly loaded with water, the trough 9 will swing down into position, as shown in Fig. 1. The arms 7 are connected together by a bridge 14 which gives additional rigidity to the supporting structure by which the trough 9 is supported. The bucket 10 is furnished in its bottom with a small opening which permits water to slowly drain out of the bucket so that the counterbalancing weights 12 may raise the trough, after the rain has stopped, from the position shown in Fig. 1 to the position shown in Fig. 2.

From the foregoing description it will be seen that when there is no rain falling the trough 9 will occupy the position shown in Fig. 2 and then, if rain should fall at a rate such that water accumulates in the bucket 10, the weight thereof will cause the trough 9 to assume the position shown in Fig. 1 when the water will be carried across a walk alongside of a building and away from the foundation thereof. When the water drains out of the bucket 10 so that the weight thereof is insufficient to hold the trough 9 in the down position, as shown in Fig. 1, then the trough will rise to the position shown in Fig. 2, or will move in that direction. Then, when water again accumulates in the bucket 10, to the point that the weight is sufficient, the trough will go down to the position shown in Fig. 1 and will carry most of the water away from the foundation of the building.

It will of course be understood that the specific description of structure set forth above may be departed from without departing from the spirit of this invention as disclosed in this specification and as defined in the appended claims.

Having now described my invention, I claim:

1. For use in connection with a downspout, an automatically functioning water-carrying trough and mounting means comprising supporting means to mount the trough pivotally upon an elbow constituting a part of the downspout, the trough being mounted at the lower end of the elbow to receive water therefrom, a pair of arms pivotally mounted on the supporting means, the arms being connected at one end to the trough

and extending away from the trough beyond the pivot mounting of said trough, counterbalancing weights attached to the free ends of said arms, and a bucket pivotally connected to the arms between the pivot means and the ends of the arms, said bucket having a slow draining opening for slowly draining water therefrom and being supported in a position directly below the discharge end of the elbow when the trough is raised, and being of a size such that the combined weight of the bucket, when filled with water, and the gravity pull of the trough, when raised, will be sufficient to cause the trough to be lowered into discharging position and, when the bucket is not filled, the weight of the counterbalancing weights will cause the trough to be raised.

2. Drain means for conveying water from an eaves trough to a point remote from a building wall comprising, in combination, a downspout having an elbow adjacent its lower end and attached thereto in communicating relation, a supporting band surrounding the discharge end of the elbow, a pivot pin connected to the band, a pair of lever arms connected to the pivot pin for pivotal motion thereabout, a lead-away trough connected to one end of each of said arms to swing about said pivot pin from an approximately horizontal position to an approximately vertical position, counterbalancing weights attached to the second ends of said arms, and arranged to more then counterbalance the weight of said trough, and a bucket suspended from said arms between the pivot pin and the trough, said bucket being located directly below the discharge end of the elbow and being provided with a drain opening for permitting slow discharge of water accumulating in said bucket when the trough is in an elevated position, the weight of the trough and the bucket filled with water being sufficient to lower the trough and the combined weight of the trough in lowered position and the substantially empty bucket being insufficient to keep the trough in lowered position, the counterbalancing weights being of a sufficient mass to hold the trough raised when the bucket is substantially empty.

3. In combination, a down-spout having an elbow at its lower end, lever means mounted pivotally upon the discharge end of the elbow of the downspout, a water-carrying trough secured to said lever means at a point spaced from the pivot so that it may be raised to a position beside the downspout or lowered into a position with one end below the discharge end of the elbow whereby to carry water delivered through the elbow to a point remote from a building wall, counterbalancing means counterbalancing the weight of the trough, adjustably attached to the lever means, and a bucket connected to the lever means between the trough and the pivot and below the discharge end of the elbow so that, when the trough is in elevated position, if water is discharged in sufficient amount through the elbow into the bucket, the lever and the trough will be caused to turn about the pivot into a position such that the trough is below the discharge end of the elbow, whereby to carry water to a point remote from the foundation of the building, said bucket having a discharge opening in the bottom portion thereof for slowly discharging accumulated water therefrom to permit the trough to be raised to inoperative position when a major portion of the water is discharged from the bucket, the counterbalancing weights having a mass such that when the bucket is substantially empty the trough will be turned around its pivots to an elevated position and when the bucket is substantially filled with water the weights will be raised and the trough lowered into water draining position.

LESLIE WILLIAM BENCK.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
725,451	Keller	Apr. 14, 1903
740,436	Hunt	Oct. 6, 1903
807,332	Stuart	Dec. 12, 1905
1,267,509	Brunsvold	May 28, 1918