(No Model.)

S. E. FOWLER.

AUTOMATIC STRAINER FOR EAVES TROUGHS.

No. 565,858. Patented Aug. 11, 1896.

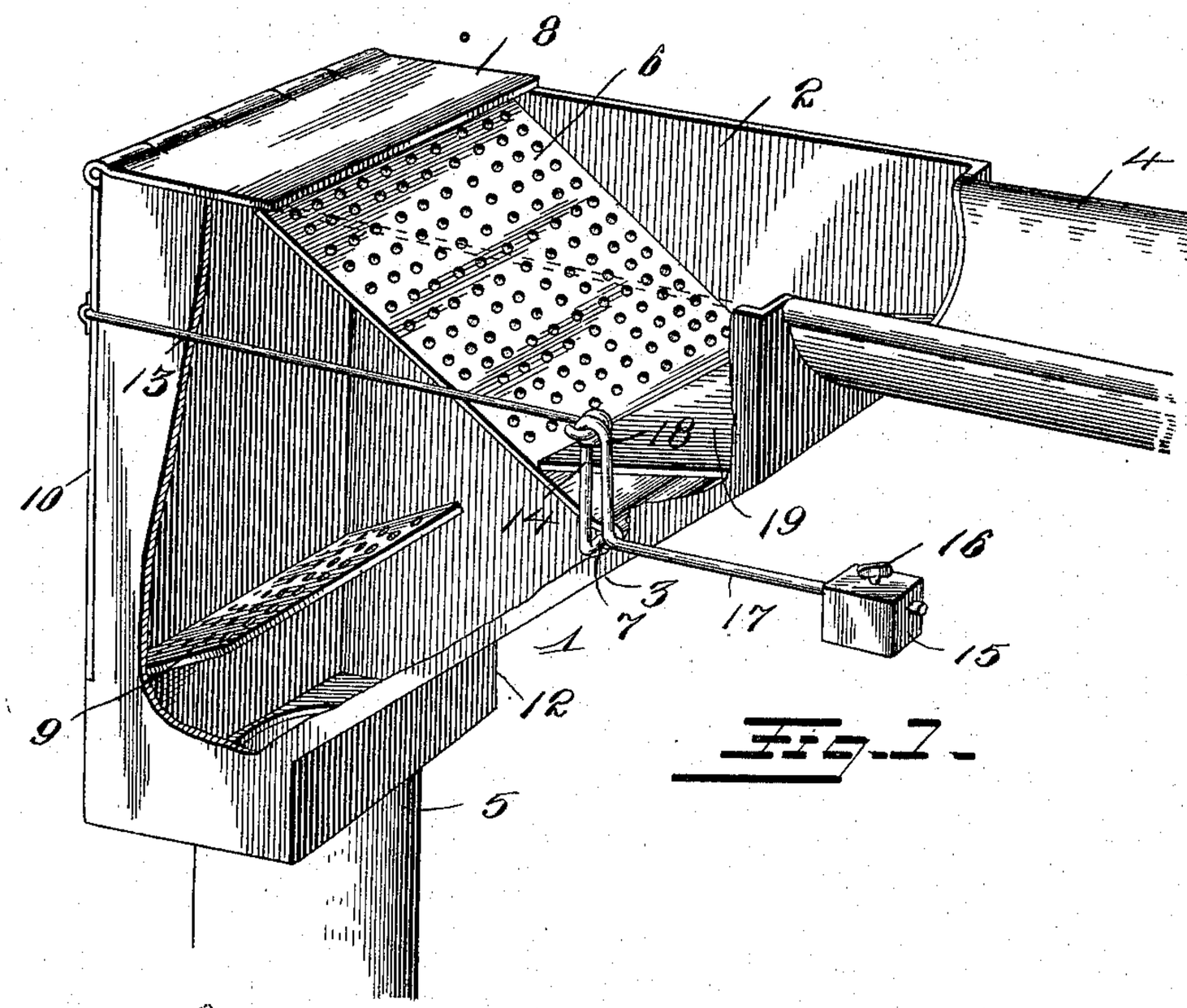

Fig. 1.

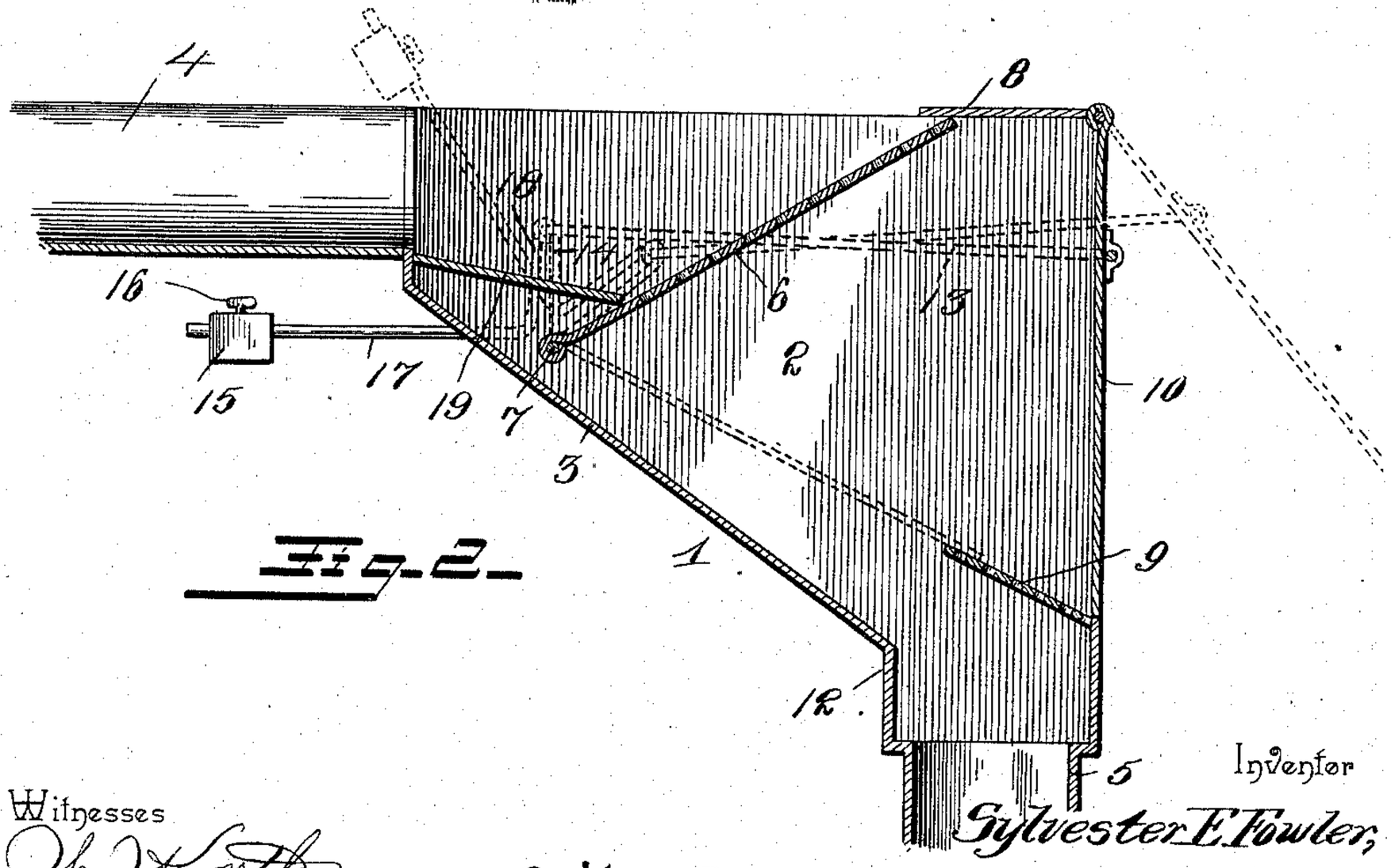

Fig. 2.

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UNITED STATES PATENT OFFICE.

SYLVESTER ELWOOD FOWLER, OF ANNA, ILLINOIS.

AUTOMATIC STRAINER FOR EAVES-TROUGHS.

SPECIFICATION forming part of Letters Patent No. 565,858, dated August 11, 1896.

Application filed October 23, 1895. Serial No. 566,608. (No model.)

To all whom it may concern:

Be it known that I, SYLVESTER ELWOOD FOWLER, a citizen of the United States, residing at Anna, in the county of Union and State of Illinois, have invented a new and useful Automatic Strainer for Eaves-Troughs, of which the following is a specification.

The invention relates to improvements in eaves-troughs, particularly to strainers therefor.

The objects of my invention are to provide a strainer that will keep gutters and leaders clean and clear of leaves, sticks, birds' nests, and other foreign matter, and will strain the water before it passes to the cistern; that will collect and discharge the debris automatically without any attention whatever; and that can be attached at any point of the leader or gutter and to any style thereof.

With these and other objects in view my invention consists of the novel features and details and combinations of parts, as hereinafter set forth by description and claims.

In the accompanying drawings, Figure 1 is a perspective view of a device constructed in accordance with this invention and shown applied to an eaves-trough and a spout. Fig. 2 is a central vertical section thereof, showing the discharge position in dotted lines.

Like numerals of reference designate corresponding parts in both figures of the drawings.

1 designates a casing-strainer chamber comprising parallel vertical walls 2 and an inclined wall or base 3. This casing may be made of tin, galvanized iron, or other convenient and suitable material, and is secured at its upper end to an eaves-trough or gutter 4 and at its lower end to a drainage-pipe downspout or leader 5.

Within the casing or chamber 1 a perforated strainer-plate 6, of wire-netting, tin, or other material, is fixed at its lower end, adjacent to the inclined wall or base 3, on a pivot 7, and it is rectangular and is arranged to swing between a stop 8, which connects the upper outer edges of walls 2, and a stationary perforated strainer support or plate 9, which extends obliquely across the upper end of the leader-spout 5. Horizontally hinged at the outer end of the chamber 1 is a door 10, normally abutting at its side edges tightly against the walls 2, and located above the water-chute 12 and adjacent to the support 9.

The door 10 is connected intermediate of its length by a link 13 to a lever-arm 14, which extends upwardly from the externally-projecting end of the pivot 7. A weight 15 is adjustable by means of a thumb-screw 16 on the laterally-extended portion 17 of the lever-arm 14. This lever-arm is preferably made of wire, and is bent upwardly, and then looped to receive the hooked end of the link 13, and then bent down parallel to itself at 18 and extended at 17, so as to lie normally in horizontal position. The object of placing the weighted arm thus is to enable it to swing freely below the gutter without any interference therewith.

By the arrangement of parts set forth above it appears that the strainer-plate 6 extends normally obliquely opposed to the gutter with its free end abutting against the stop 8. Thus all leaves and other debris will be collected on the strainer-plate while the water will filter through. The natural tendency would be for the debris to collect at the lower rear end of plate 6, and thereby wedge against the strainer and perhaps clog its free pivotal action. In order to prevent this, an apron 19 is arranged above the strainer and projects inwardly from the wall of the casing at a point adjacent to the gutter and extends over the pivoted end of the strainer-plate 6 substantially in contact therewith when the strainer is in its raised position.

The operation of my improved strainer attachment is as follows: It is properly secured to the gutter and leader, as stated, or it may be secured intermediate of the length of the leader or in any other proper place. The weighted lever holds the door 10 normally closed tightly against the chamber walls, and the strainer-plate 6 normally raised. The water from the gutter 4 flows into chamber 1, and is strained through plate 6 and runs down the inclined base 3 and through the support 9 into the chute 12, where it is collected and discharged into the leader-spout 5. The leaves, &c., gradually accumulate on the upper side of the strainer-plate until the collected mass overbalances the weight 15. The strainer-plate 6 is thereby tipped down against the support 9, forming an in-

clined chute, and the door 10 is opened by means of link 13 and its lever connections, and the mass of collected debris is flushed off through the open door. As soon as the strainer-plate is thus relieved of its load it flies back into its raised position, the door closes, and the straining process is repeated.

Many changes in form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. The combination with an eaves-trough, and a drainage-pipe, of a strainer-plate interposed between the eaves-trough and the drainage-pipe, normally supported at an elevation and adapted to swing downward under the weight of the debris and forming a chute, and a hinged door connected with the pivoted plate, operated by the same and adapted to open when the strainer-plate swings downward, substantially as and for the purpose described.

2. The combination with an eaves-trough, and a drainage-pipe, of a pivoted strainer-plate interposed between the eaves-trough and the drainage-pipe, normally supported at an elevation and adapted to swing downward into an inclined position to form a chute, and means for normally supporting the pivoted strainer-plate in an elevated position and for returning it automatically to such position, whereby the strainer-plate will automatically discharge its accumulation and will return to its initial position, substantially as described.

3. The combination with an eaves-trough, and a drainage-pipe, of a casing connecting the same, a pivoted strainer-plate mounted in the casing, interposed between the eaves-trough and the drainage-pipe and normally arranged at an elevation, said pivoted plate being arranged to swing downward to form a chute to discharge its accumulation, a counterbalancing-weight connected with the strainer-plate and adapted to permit the same to swing downward automatically when sufficient debris is accumulated, and a door connected with the strainer-plate, operated by the same, and capable of opening when the strainer-plate swings downward, substantially as and for the purpose described.

4. The combination with an eaves-trough, and a drainage-pipe, of a casing connecting the same, a pivotally-mounted strainer-plate interposed between the eaves-trough and the drainage-pipe, and provided with a counterbalancing-weight for supporting it normally in an elevated position, said strainer-plate being arranged to swing downward to form a chute, a rigidly-mounted perforated plate arranged within the casing and forming a support for the pivoted strainer-plate when the latter is swung downward, and a door connected with and operated by the strainer-plate, substantially as and for the purpose described.

5. The combination with an eaves-trough, or leader, of a pivoted strainer-plate, and a counterbalance-lever therefor, whereby the plate is held normally so as to collect the debris, but is free to tip so as to discharge the collected debris, a hinged door adjacent to the free end of said plate, and a link secured at one end to the intermediate portion of the door and at its other end to said lever, whereby the door opens as the plate tips to discharge, substantially as described.

6. The combination with an eaves-trough, or leader, of a pivoted strainer-plate, and a counterbalance-lever therefor, whereby the plate is held normally so as to collect the debris, but is free to tip so as to discharge the collected debris, a hinged door adjacent to the free end of said plate, and a link secured at one end to the intermediate portion of the door and at its other end to said lever, whereby the door opens as the plate tips to discharge, an apron projecting over the rear pivoted end of said plate, and stops to limit the movement of said plate, substantially as described.

7. The combination with an eaves-trough, or leader, of a pivoted strainer-plate, and a counterbalance-lever therefor, whereby the plate is held normally so as to collect the debris, but is free to tip so as to discharge the collected debris, a hinged door adjacent to the free end of said plate, and a link secured at one end to the intermediate portion of the door and at its other end to said lever, whereby the door opens as the plate tips to discharge, an inclined base and water-chute beneath said plate, an apron projecting over the rear pivoted end of said plate, and stops to limit the movement of said plate, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SYLVESTER ELWOOD FOWLER.

Witnesses:

JAS. E. A. EDMUNDS,

A. T. THOMPSON.