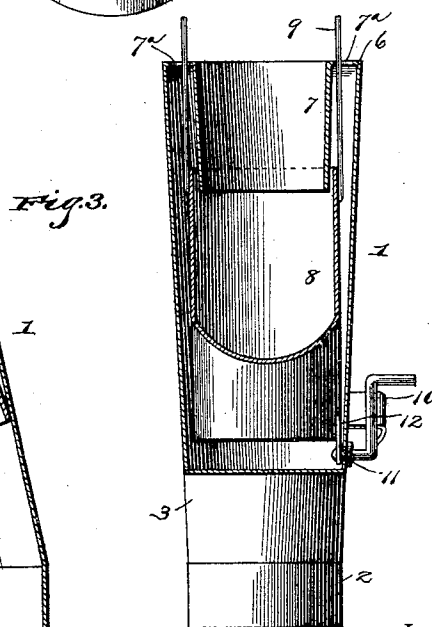
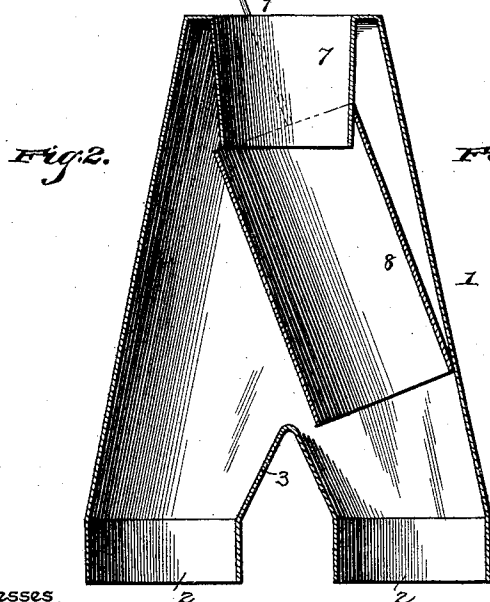
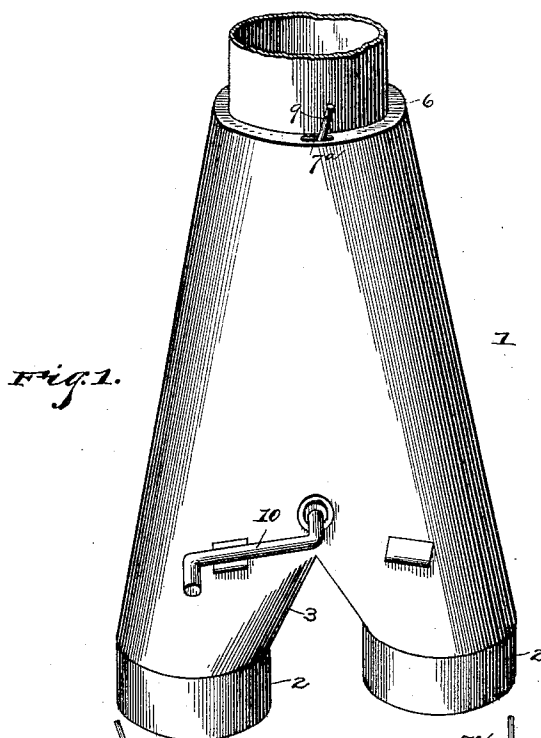


(No Model.)

W. C. MAXFIELD.
RAIN WATER CUT-OFF.

No. 481,635.

Patented Aug. 30, 1892.



Witnesses

B. S. Ober
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By *his* Attorneys,

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UNITED STATES PATENT OFFICE.

WILLIAM C. MAXFIELD, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO
JOHN W. CHAMPION, OF SAME PLACE.

RAIN-WATER CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 481,635, dated August 30, 1892.

Application filed May 14, 1892. Serial No. 432,993. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. MAXFIELD, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Rain-Water Cut-Off, of which the following is a specification.

This invention relates to cut-offs for rain-water pipes; and the objects in view are to provide a cheap and simple cut-off, adapted to be operated by a convenient lever, and without the employment of mechanism of any but the simplest kind, and to so construct the cut-off as to insure easy movement and the avoidance of obstruction to such movement by reason of the presence of rust, which, as is well known, soon collects about the swinging pipe or cut-off.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a cut-off constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is a transverse vertical section.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 denotes the conical cut-off chamber, the upper end of which is adapted to be inserted or received in the lower end of a rain-water pipe. The lower end of the chamber terminates in two discharge-openings 2, each adapted for connection with a pipe, as is usual. Between the discharge-openings an inverted-V-shaped partition 3 is located, so that the openings at their upper ends are slightly flared, as shown.

The upper end of the chamber is provided with a ring 6, to the inner edge of which a collar 7 is connected, said collar depending from the ring some distance into the chamber. The ring at diametrically opposite sides of the collar is provided with elliptical slots 7^a.

8 designates the cut-off pipe, and the same is of such length as to fit loosely between the collar and the upper edge of the inverted-V-shaped partition of the chamber, and in diameter fits loosely between the depending collar 7 and the wall of the chamber. The upper end of the cut-off pipe is provided at dia-

metrically-opposite points with vertically-disposed studs or pins 9, and the upper ends of the pins extend loosely through the elliptical slots of the collar. A crank-shaft 10 is mounted in the bearing 11, formed in the wall of the chamber, immediately above the inverted-V-shaped partition 3 of the same, and the inner end of the shaft is provided with a rigid arm 11, the upper end of which is by a rivet 12 pivotally connected with the lower end of the swinging cut-off pipe. This completes the construction of the cut-off and the operation is as follows: By swinging the crank 10 to the left the lower end of the cut-off pipe is swung in a corresponding direction and is thrown into register with the upper end of the left discharge of the chamber, and by throwing the crank to the right the lower end of the cut-off pipe is swung to a position in which it registers with the right discharge. In its swinging movements it will be noticed that by reason of its connection to the crank-shaft by the rigid arm said pipe reciprocates as well as swings, and in its reciprocation its lower end clears the inverted-V-shaped partition, and when it has reached the end of its swing the final movement or depression of the crank draws the cut-off downwardly, inserting its lower ends into the flared discharge-opening. Such reciprocal movement upon the part of the cut-off pipe is permissible by reason of the described connection between the upper end of the chamber and the pipe, in that the pins loosely ride through the slots in the collar and at the same time swing from one end to the other thereof. These pins serve an additional function to the loose connection described, in that they prevent any contact of the cut-off pipe with the internal surface of the chamber. In this manner friction between the parts is avoided and ease of operation insured. Such frictional contact does not amount to much when the parts are new; but after having been used some time and the tin rusts the friction gets to be considerable between the moving parts, and oftentimes great difficulty is experienced in shifting the cut-off. By my invention, however, this disadvantage is wholly overcome, and when the swinging cut-off is thrown in connection with either of the discharges its lower

end is forced well into the upper ends thereof, which ends are flared for the purpose of readily receiving said cut-off without binding against the same, and thus water can be discharged from the cut-off spout only into that pipe with which the cut-off is in communication.

In order to indicate when the cut-off pipe is in proper communication with the discharge-pipes, I provide upon the outer side of the chamber at diametrically-opposite sides of the crank-shaft the stops 14 against which the crank of the shaft may be swung.

Having described my invention, what I claim is—

1. The combination, with the conical cut-off chamber terminating at its lower end in the discharge-openings and provided intermediate the same with the inverted-V-shaped partition forming flared mouths for the discharge-openings, the internal ring at the upper end of the cut-off chamber having diametrically-opposite slots and a depending collar, of the cut-off pipe mounted for reciprocation and vibration within the chamber and embracing the collar, pins projecting upward therefrom and through the slots, and means for vibrating the pipe and reciprocating the same at the end of its vibrations into the upper flared ends of the discharge-openings, substantially as specified.

2. The combination, with the conical cut-off chamber terminating at its lower end in the opposite discharges and provided at its upper end with the internal collar extending into the chamber and with the annular ring for

supporting the collar, which ring is provided at diametrically-opposite sides of the collar with slots, of the cut-off pipe having its upper end loosely encircling the collar, pins extending from said upper end and passing loosely through the slots of the ring, the crank-shaft journaled in the wall of the chamber, stops located upon the exterior of the chamber at diametrically-opposite sides of the shaft, and an arm rigidly mounted on the inner end of the shaft and pivotally connected to the lower end of the cut-off pipe, substantially as specified.

3. The combination, with the conical cut-off chamber terminating at its lower end in the opposite discharges and provided at its upper end with the internal collar extending into the chamber and with the annular ring for supporting the collar, which ring is provided at diametrically-opposite sides of the collar with slots, of the cut-off pipe having its upper end loosely encircling the collar, pins extending from said upper end and passing loosely through the slots of the ring, the crank-shaft journaled in the wall of the chamber, and an arm rigidly mounted on the inner end of the shaft and pivotally connected to the lower end of the cut-off pipe, substantially as specified.

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

WILLIAM C. MAXFIELD.

Witnesses:

FRED H. CROUGHTON,
ALLIE PINKERMAN.