

946,634.

Patented Jan. 18, 1910.
 2 SHEETS—SHEET 1.

Fig. 2.

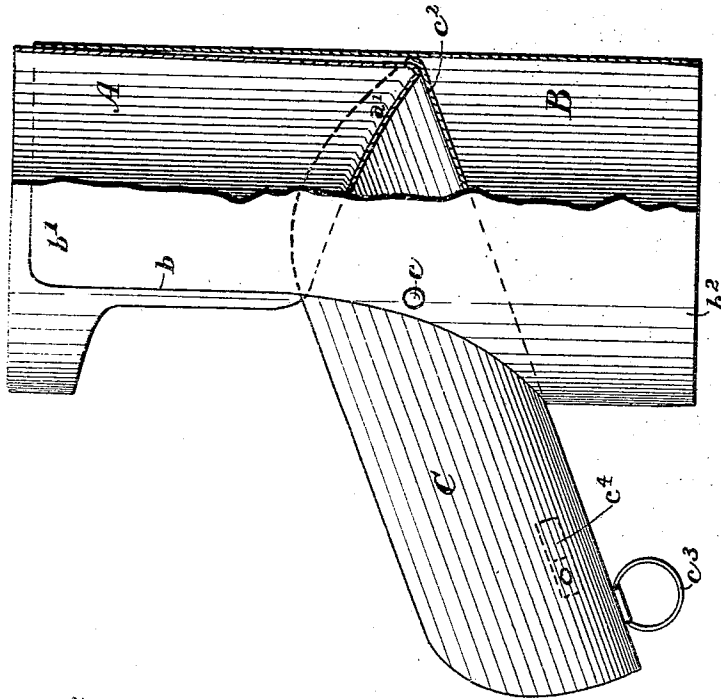
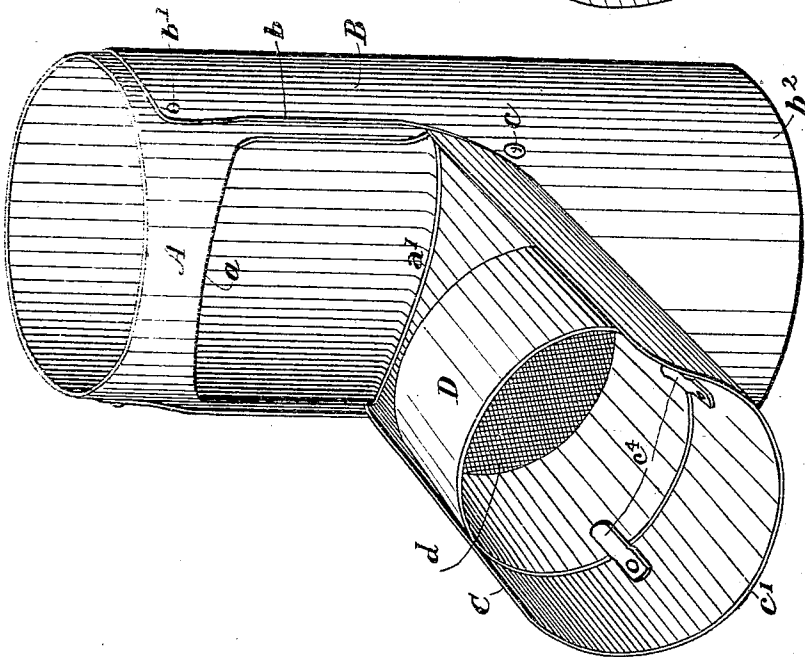


Fig. 1.



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CUT-OFF.

APPLICATION FILED MAY 10, 1909.

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2 SHEETS—SHEET 2.

Fig. 3.

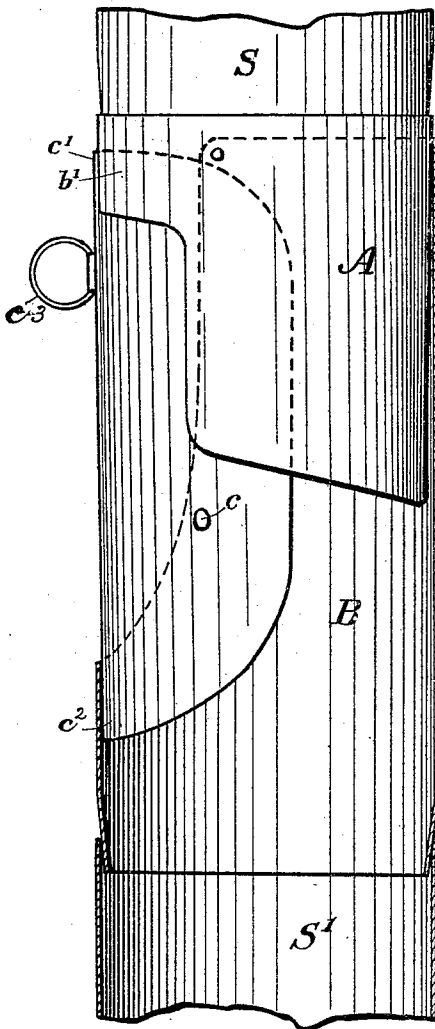
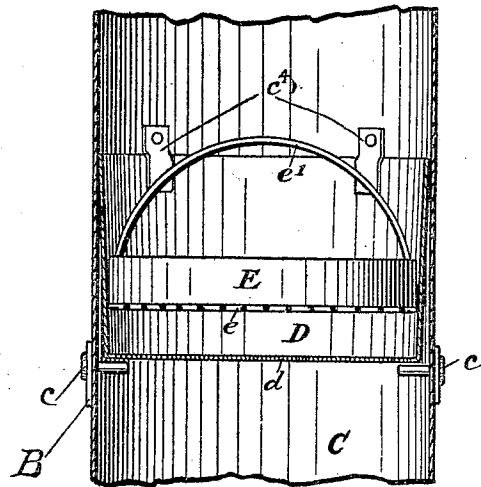


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN A. CURTIS, OF MADEIRA, OHIO, ASSIGNOR OF ONE-HALF TO ABNER J. CURTIS,
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CUT-OFF.

946,634.

Specification of Letters Patent.

Patented Jan. 18, 1910.

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To all whom it may concern:

Be it known that I, JOHN A. CURTIS, a citizen of the United States, residing at Madeira, in the county of Hamilton and State of Ohio, have invented new and useful Improvements in Cut-Offs, of which the following is a specification.

My invention relates to improvements in cut-offs to be placed at a convenient point in the down-spout, for example, of a building from which rain-water is conducted to a storage receptacle for future use; or for any like purpose; and it is intended to provide an efficient, cheap and durable device, capable of being properly operated by persons of the most limited familiarity with mechanical devices, to shunt the water to a waste-way.

My cut-off has the following advantages in addition to those already embodied in others of this character heretofore used, namely: (1) It is constructed of fewer parts and its operation involves no intermovement and displacement of any parts other than the cut off spout. (2) When the outer end of the cut-off spout is depressed to divert water to the waste trough, the spout is held rigidly in position by the frictional pressure of its inner end against the inner surface of the back of the body wall; and when raised and closed up it is held securely by the frictional pressure of the overlapping surfaces between which it rests. (3) It is more easily and cheaply constructed.

My invention is illustrated in the accompanying drawings, in which—

Figure 1: is a front view in perspective of my cut-off with the cut-off spout open to direct water to a waste-way, and the outer strainer cup in position. Fig. 2: is a side elevation, one half in section, of the same parts, but with the strainers omitted. Fig. 3: is an axial cross section in elevation of the device with spout closed. Fig. 4: is a detail of the strainer device in cross section, indicated in position in the spout.

Referring now to the drawings: A is a short section of pipe of galvanized iron or other sheet metal, into which an upper section of the down-spout S (Fig. 3) fits, and is cut away at a in front to allow the strainer cup D, hereinafter described, to pass as the pivoted cut-off spout is swung up into its closed position; and the inner end a^1 is rounded and cupped to fit snugly against

the inner surface of the inner end of the cut-off spout C, when down. Another short section of pipe B, forms the body of the cut-off, is cut out on the upper front side at b to allow free movement of said cut-off spout and strainers, hereinafter described, and is secured, preferably by rivets b^1 and solder to section A. These parts A and B are so fitted together that the lower end a^1 , of the inner member A stands a little away from the contiguous wall of the outer or body member B. The lower end b^2 of the body B is crimped in the usual manner to facilitate insertion into the next lower section of the down-spout S^1 . The cut-off spout C, pivoted by rivets c to the body B, is of similar metal, forms a rounded trough, is shaped at its outer end c^1 to fit snugly against the front of section A when closed, while the edges of its sides pass inside the body B, and at the upper portion of the device, outside the edges formed by the opening in the section A, thus closing all openings, and forming practically a continuous cylindrical shell or body for the device, when closed. The inner end c^2 of the spout C is rounded and cupped to seat closely against the inner back wall of the body B when being adjusted, and to make as nearly as possible a tight joint, when it rests outside the end a^1 of the section A, and inside the contiguous wall of the body B. The pivots c which are soldered to the body B, are placed forward of the axial plane on both body B and spout C; and the end c^2 of the spout C is slightly elongated so that when the spout is drawn down, the end c^2 of the spout C presses hard against the inner surface of the rear wall of the body B, springing it outward and backward until the end c^2 passes the diametrical plane of its pivotal connection, and after passing, allowing it to spring back into place again, securely holding the spout in the position shown in Fig. 2. On the outer surface at the upper end c^1 of the spout C, is fastened a ring c^3 to facilitate its adjustment. As thus constructed, there is formed a simple and efficient device of but three parts—two of which are rigidly united to form the normal pipe section, the third being the side-spout or cut-off, which when out of use as such, forms the outer closure, and, performs a further useful function as a convenient holder for strainers, as will be presently described. These parts are so con-

constructed and arranged that, in whatever position the spout may be, all inside laps are in the direction of the water flow, as will be clearly apparent from Figs. 1, 2 and 3.

5 The strainer devices are inserted in the spout when open, as in Figs. 1 and 2, and carried with it in closing to the position shown in Fig. 3. To this end, on the inner surface of the spout C are fastened two retention clips c^1 , secured at their ends, as
10 shown in Fig. 1. A strainer cup D, with a fine screen d of copper wire, or any other suitable filter, at the bottom, is placed in position with its upper edge slid under
15 the clip c^1 , so as to rest at the bottom of the spout against the rivets c ; whose ends are inwardly projected for this purpose, thus absolutely preventing accidental displacement. The sides of the cup D are made
20 flaring enough to permit easy removal and replacement of said screened cup, and its top is adapted to seat snugly against the inner adjacent walls of the spout C and the body B, when the spout is in the closed position shown
25 in Fig. 3, thus completely screening the channel, when water is passing to its storage receptacle. Within the cupped strainer D is a smaller cupped strainer, E, adapted to seat snugly against the tapering wall of D; and
30 is provided with a coarse wire strainer e to catch twigs, leaves and the like washing down from the eaves. A bale e^1 makes the strainer E easily removable. The coarse strainer e above, and the fine filter strainer d , suitably
35 spaced below, not only insures removal of all

undissolved foreign matter from the water, but prevents the finer strainer from becoming clogged against the passage of water by holding off the heavier foreign matter that would become matted against a fine screen. 40

The operation of the device is apparent.

The strainer cups will, of course, be removed whenever the cut-off spout is depressed, to allow the water to run to waste. It will be apparent that both strainers are
45 easily removed for cleaning.

I claim as new and desire to secure by Letters Patent of the United States:

A cut off for downspouts embodying two similar overlapping pipe sections, said sections being rigidly connected, the upper within the lower, each being cut away in front—the upper from near its top downward to its bottom, and the lower from
55 near its bottom upward to its top, and a trough of corresponding contour pivoted between the sides of the lower section in such relation as to constitute a complete closure of the common opening; but, when drawn outward, to impinge at its bottom against the
60 back wall of the lower section and force it slightly backward while seating against the lower edge of the upper section.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 65

JOHN A. CURTIS.

Witnesses:

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A. L. TILDESLEY.