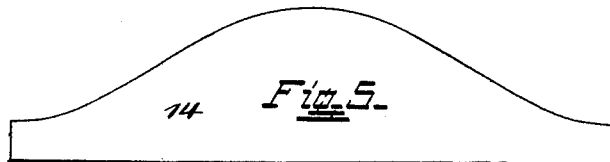
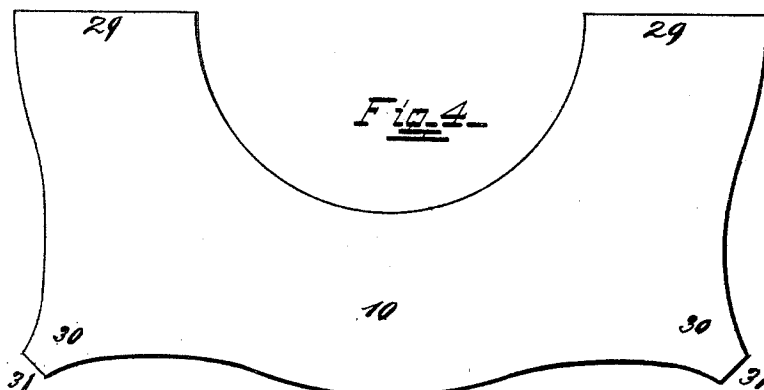
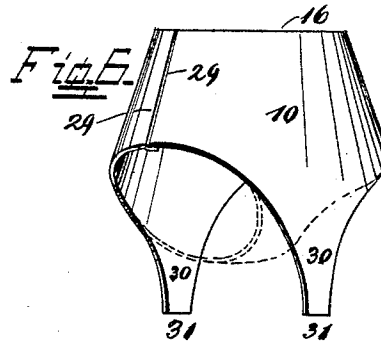
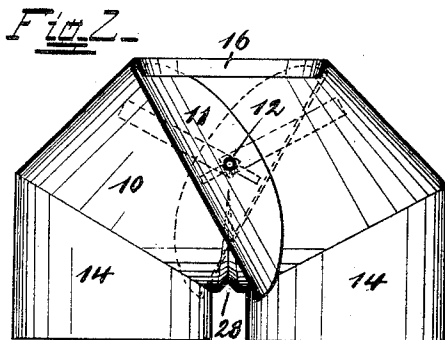
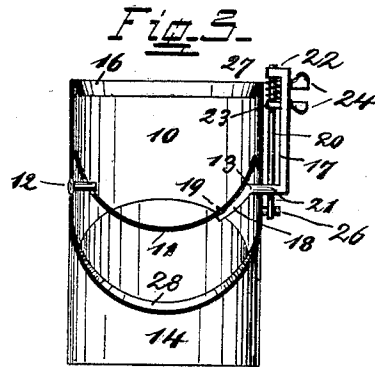
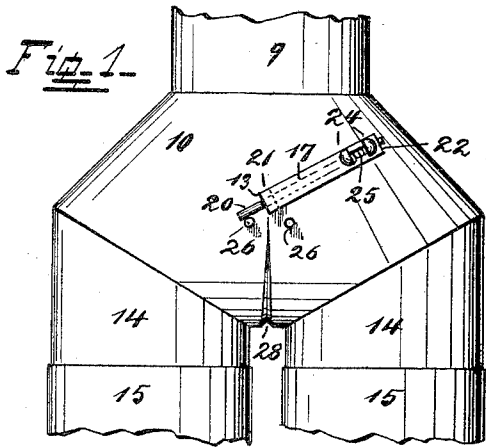


(No Model.)

T. F. CRARY.
CUT-OFF.

No. 460,953.

Patented Oct. 13, 1891.



Attest
Edgar Wilson.
J. F. Byrne

Inventor
Thomas F. Crary
by Carl Spengel Atty

UNITED STATES PATENT OFFICE.

THOMAS F. CRARY, OF MIDDLEPORT, OHIO.

CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 460,953, dated October 13, 1891.

Application filed June 5, 1891. Serial No. 395,178. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. CRARY, a citizen of the United States, residing at Middleport, in the county of Meigs and State of Ohio, have invented certain new and useful Improvements in Cut-Offs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in cut-offs—such, for instance, as are used in connection with cisterns supplied with rain-water from adjacent roofs. In these cases the cut-offs are generally located in a pipe leading from the roof-gutter, and by operating them properly the downfall of water may be permitted to escape or diverted to the cistern.

The improvements herein described and illustrated consist of the provision and use of a shell constructed in one piece and in a new manner from a specially-designed blank, whereby cheapness of manufacture, neatness, and strength are attained, parts of said shell also forming a stop for the valve and a projecting flange extending over the same to prevent leakage between valve and the shell, and the latter is also provided with a rib whereby the whole structure is strengthened.

A further improvement consists in the provision of a positive automatic locking attachment whereby the lever attached to and operating the valve is locked in either one of its adjusted positions.

These improvements I attain in the special construction explained in the following description and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, and Fig. 2 a longitudinal section, of the device. Fig. 3 is a cross-section of the same, showing valve midway between its extreme positions. Fig. 4 is a plan view of the blank of the main body or shell. Fig. 5 is a similar view of the blank of one of the branches. Fig. 6 shows the shell in the first stage of its formation.

9 is the main supply-pipe, communicating with and connecting to the shell 10, as shown. This latter contains the valve or cut-off

proper, designated by 11 and provided with trunnions 12 and 13, whereby it is sustained and journaled in the shell 10.

14 14 are the branch ends to which the branch pipes 15 15 connect, one leading off to the cistern and one acting as a waste-pipe or leading to some other receiver, according to the particular purpose for which this device is used, it not being confined to use in connection with cisterns only. By operating valve 11 accordingly the water or other matter coming through pipe 9 may be diverted to either one of these branch pipes. As will be seen, the branch ends are so connected to the main shell as to leave some space between them to make the same accessible all around for the purpose of facilitating the connection of the branch pipes thereto. The movements of valve 11 are limited in the upper part of the shell by an inwardly and downwardly projecting flange 16, forming part of the main body or shell 10, and in the lower part of the latter by the inner part of the junction of the branch ends 14 to the shell. The contiguous valve end projects somewhat over this junction and into the adjacent branch in order to fully guide the water over and into the latter and prevent any leakage over to the other branch. The other (elevated) end of the valve swings under flange 16, which latter covers the narrow aperture between valve and shell and prevents leakage at this point.

Trunnion 12 consists of a short stud, and may be connected to the valve and rest in a corresponding bearing in the shell, or it may be connected to the shell and pass through a suitable hole in the valve. The other trunnion 13 forms part of the operating-lever 17, which latter is preferably made of malleable iron. To the inner end of this trunnion connects an extension 18, shaped so as to conform to the curvature of the valve at this point and serving as a connecting medium between valve and lever. Near the extreme end of this extension is a teat 19, which reaches through the material of the valve and serves to make a positive connection. This connection is finally completed by the free application of solder to extension 18, teat 19, and the adjacent portions of the valve. 20 is the locking-bolt, supported and moving in bearings 21 22, which latter form part of op-

erating-lever 17. It has also a collar 23, to which one half of a button 24 connects and the shank of which reaches through a slot 25 in said lever. The other half of this button connects to the operating-lever and forms a stop for that part of the button which connects to the locking-bolt, which latter part is drawn up against the former, and while in this position unlocks lever 17 and completes the button whereby it is operated.

26 26 are two stops connected to and extending out from shell 10 and located so that when button 24 is released while the valve 11 is in either one of its extreme positions, bolt 20, when sliding down will pass to one (the upper) side of one of said stops, just clearing it. While in this position it prevents lever 17 and valve 11, connected to it, from being operated. A spring 27, encircling the bolt, may be interposed between collar 23 and bearing 22, and thus serve as a means to drive bolt 20 out and hold it in its locked position.

28 is a strengthening-rib extending half-way around the lower portion of the shell. It is produced by indenting and creasing the material, as shown. The parts are connected by first bringing the edges 29 29 of the blank together, as shown in Fig. 6. While in this stage flange 16, at the top, is best formed by a suitable die. Next parts 30 30 of the blank are bent inwardly toward each other and soldered at their edges 31 31, as shown in dotted lines in the same figure. While in this condition the strengthening-rib 28 is most conveniently produced by a suitable forming device. Valve 11 is next bent, fitted, and secured in position and the branch ends 14 14 connected in their proper places.

The advantages of this mode of construction will no doubt be at once perceived from the foregoing description. The connecting-seams in the main shell are reduced to a minimum, whereby the chances of leakage are lessened and cheapness of manufacture readily attained. At the same time due regard has been had to the strengthening of the device and to make it durable and give it a neat appearance.

Having described my invention, I claim as new—

1. A cut-off having a main shell constructed out of one piece of metal substantially of the form of a triangle, which has at its apex an inlet-opening with connecting-edges for pipe 9 and in its base two outlet-openings with connecting-edges for branches 14, in combination with a valve centrally pivoted therein and capable of closing either one of the two outlet-openings, and an operating-lever connected to said valve, all as fully shown and described.

2. A cut-off having a main shell constructed out of one piece of metal substantially of the form of a triangle, which has at its apex

an inlet-opening with connecting-edges for pipe 9 and in its base two outlet-openings with connecting-edges for branches 14, in combination with a valve centrally pivoted therein and capable of closing either one of the two outlet-openings, an operating-lever connected to said valve, a locking-bolt attached to the operating-lever, and stops holding it in its locked position, all substantially as shown, and for the purposes described.

3. A cut-off the main shell of which consists of one piece of metal formed out of blanks shaped as shown, having connecting-edges at 29 29 31 31 and extensions at 30 30, the whole bent, shaped, and connected so as to form the shell complete, all substantially as shown, and for the purposes described.

4. A cut-off the main shell of which consists of one piece of metal formed out of a blank shaped as shown, having connecting-edges at 29 29 31 31 and extensions at 30 30, the whole bent, shaped, and connected so as to form the shell complete, in combination with the branch ends formed out of blanks, as shown, and connected to the main shell, all as fully shown, and for the purposes described.

5. A cut-off the main shell of which consists of one piece of metal formed out of a blank shaped as shown, having connecting-edges at 29 29 31 31 and extensions at 30 30, the whole bent, shaped, and connected so as to form the shell complete, in combination with the cut-off valve proper, which is pivoted therein, and flange 16, being part of the main shell and acting as a stop for the elevated ends of the valve, all as fully shown, and for the purposes described.

6. A cut-off the main shell of which consists of one piece of metal formed out of a blank shaped as shown, having connecting-edges at 29 29 31 31 and extensions at 30 30, the whole bent, shaped, and connected so as to form the shell complete, and the latter provided with the strengthening-rib formed out of its material, as shown, all substantially as shown, and for the purposes described.

7. A cut-off the main shell of which consists of one piece of metal formed out of a blank shaped as shown, having connecting-edges at 29 29 31 31 and extensions at 30 30, the whole bent, shaped, and connected so as to form the shell complete, the latter provided with a strengthening-rib formed out of its material, in combination with the branch ends formed out of blanks, as shown, and connected to the main shell, all as fully shown, and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS F. CRARY.

Witnesses:

ED. S. GRANT, Jr.,
JAS. W. BRALEY.