(No Model.)

D. W. WILLARD.

OUTLET AND CUT-OFF FOR IRRIGATING FLUMES.

No. 559,651. Patented May 5, 1896.

Fig. 1.

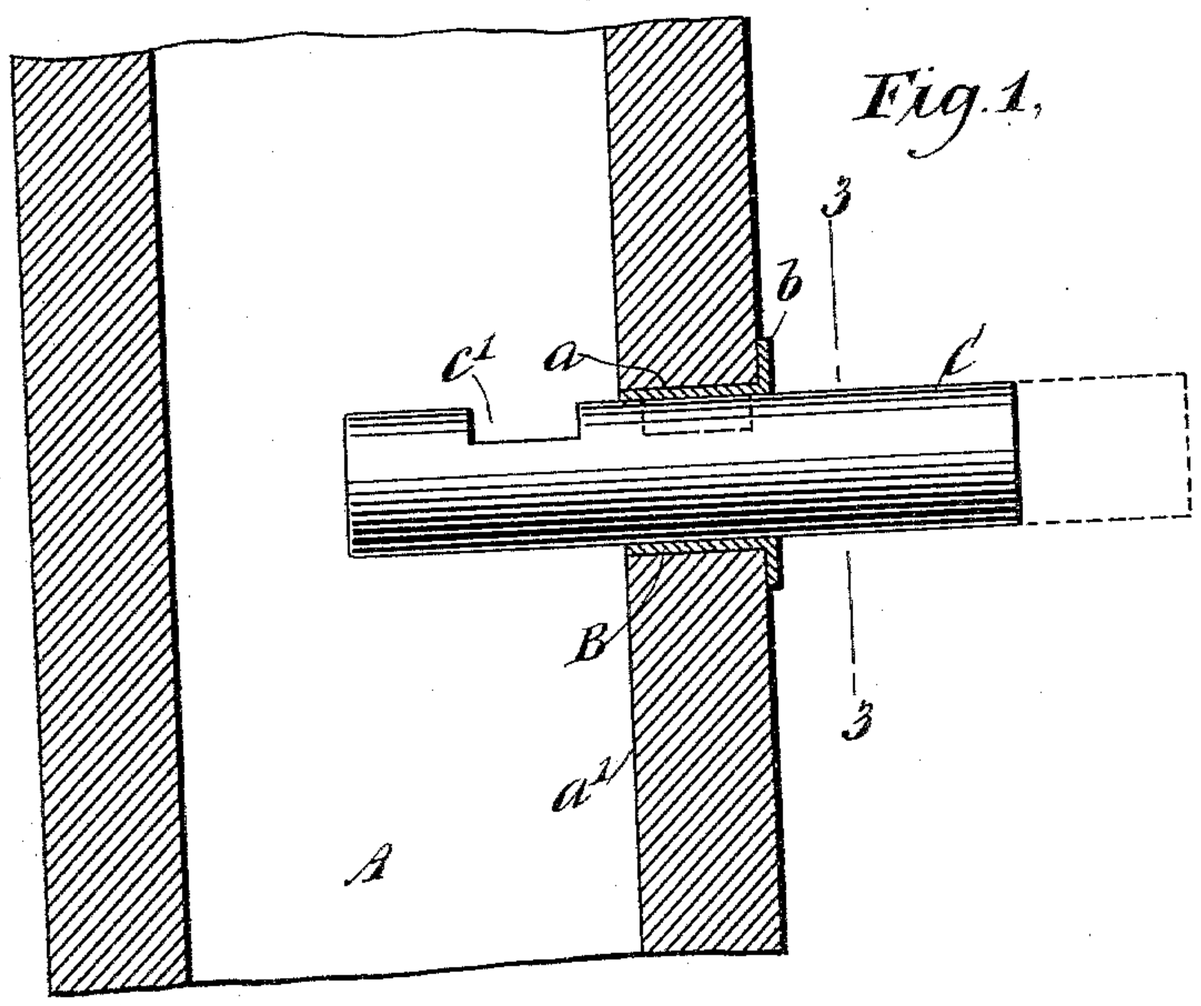


Fig. 2.

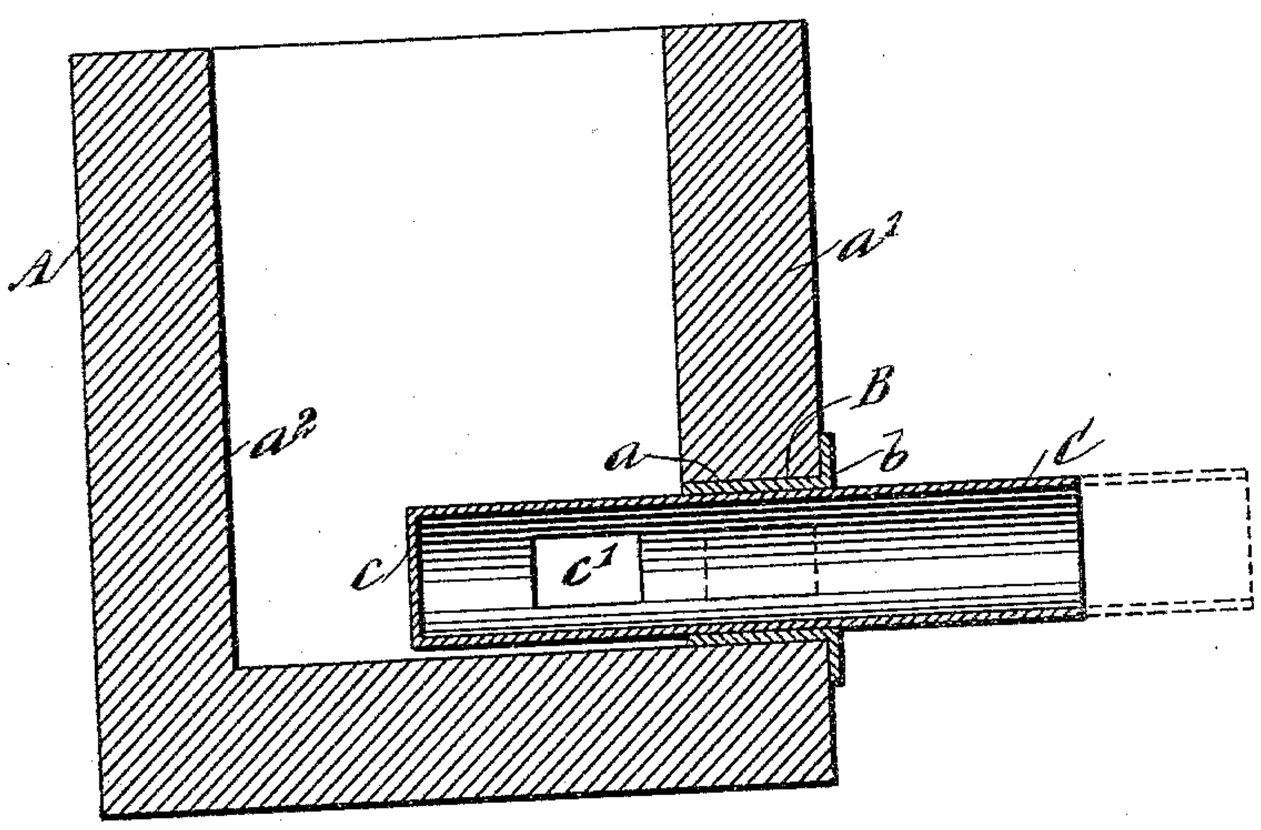
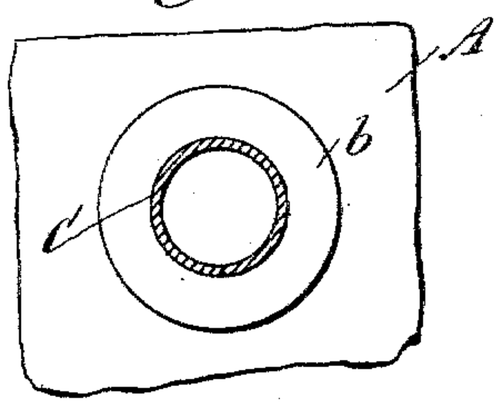


Fig. 3.



WITNESSES:

Edward Thorpe.

J. L. McCabe

INVENTOR

D. W. Willard

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

DANIEL W. WILLARD, OF REDLANDS, CALIFORNIA.

OUTLET AND CUT-OFF FOR IRRIGATING-FLUMES.

SPECIFICATION forming part of Letters Patent No. 559,651, dated May 5, 1896.

Application filed January 2, 1896. Serial No. 574,091. (No model.)

To all whom it may concern:

Be it known that I, DANIEL W. WILLARD, of Redlands, in the county of San Bernardino and State of California, have invented a new and Improved Outlet and Cut-Off for Irrigating-Flumes, of which the following is a full, clear, and exact description.

The invention relates to devices for controlling the outlets of flumes employed for irrigating purposes, and the object of the invention is to provide devices of this character at a price to warrant their employment in large quantities and which will possess the desired durability.

A further object is to provide devices of this character capable of certain novel adjustments for regulating the outflow, or cutting off of the same, all as hereinafter particularly described.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional plan view of a portion of an irrigating-flume having my device applied thereto. Fig. 2 is a transverse vertical section thereof, and Fig. 3 is a section on line 3 3 of Fig. 1.

The flume A may be formed of wood, composition, or like materials, as usual. My improved devices for controlling the outlet of water to the distributing-furrows are applied to the flume in any desired number, only one being shown in the drawings.

In accordance with my invention the flume is formed with any desired number of orifices a, and in each there is tightly fitted a bushing B of a length equal to the thickness of the wall a' of the flume, the bushing preferably having a flange b that lies against the front of the flume. In the bushing B is fitted a sheet-metal tubular plug C, in the form of a shell, the outer end of which is open and the inner end c closed, the plug and its closed inner end being formed integral. In the side of the tubular plug, near the inner end, there is formed an orifice c', and the diameter of this orifice is less than the thickness of the flume-wall and less than the length of the bushing. The tubular plug fits sufficiently tight in the bushing to prevent leakage, or any appreciable leakage, and so that the said plug will maintain its adjusted position. The plug is capable of a longitudinal movement in the bushing, and it is of a greater length than the distance from the front of the bushing to the rear wall a^2 of the flume, so that in no event can the plug be pushed so far in as to bring the outer end within the bushing, but will have its outer end projecting sufficiently to be grasped, even if its inner end be pushed into contact with the inner wall of the flume. With this construction the tubular plug C is capable of both a sliding and a rotary movement in the bushing, and thus the outflow of the water may be regulated in two ways—that is, the orifice c' may be brought partly or wholly within the bushing, or the orifice, or so much of it as is exposed within the flume, may be presented to the flow of the water, or the tube turned to have the orifice downstream. A further advantage of the rotary movement is that in case the plug binds in the bushing the former may be turned to release it, instead of knocking inward by a blow that might injure it.

The orifice c', it will be seen, is made rectangular. This form of orifice, when partly within the bushing, will not clog with seeds or weeds as readily as will a round orifice.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with an irrigating-flume, of a hollow plug in the form of a metallic shell, the inner end of which is closed, said closed end being integral with the shell, the said plug being constructed to have a sliding movement to bring the orifice within the flume for the outlet of water, or without the interior of the flume for closing said outlet or regulating the same, and to have a rotary movement serving to present the orifice upstream or downstream for additionally regulating the outlet, substantially as set forth.

2. The combination, with an irrigating-flume, of a hollow plug in the form of a metallic shell, the inner end of which is closed, said closed end being integral with the shell, the said plug having a sliding movement to bring the orifice within the flume for the outlet of water, or without the interior of the flume for closing said outlet or regulating the same, and the rotary movement serving

to present the orifice upstream or downstream for additionally regulating the outlet, the plug further, when in the innermost position in contact with the inner wall of the flume, having its outer end projected beyond the outer wall, substantially as set forth.

3. The herein-described outlet and cut-off for irrigating-flumes, comprising a bushing and a tubular plug fitting said bushing, said plug having its inner end closed and formed with an orifice adjacent to said closed end, the orifice being of less diameter than the length of the bushing, and the plug further having a sliding movement in the bushing, to withdraw its orifice within the bushing, and a rotary movement to present the orifice upstream or downstream when the devices are in place in a flume, substantially as described.

DANIEL W. WILLARD.

Witnesses:
EDMUND BEDFORD,
RALPH R. RICHEY.