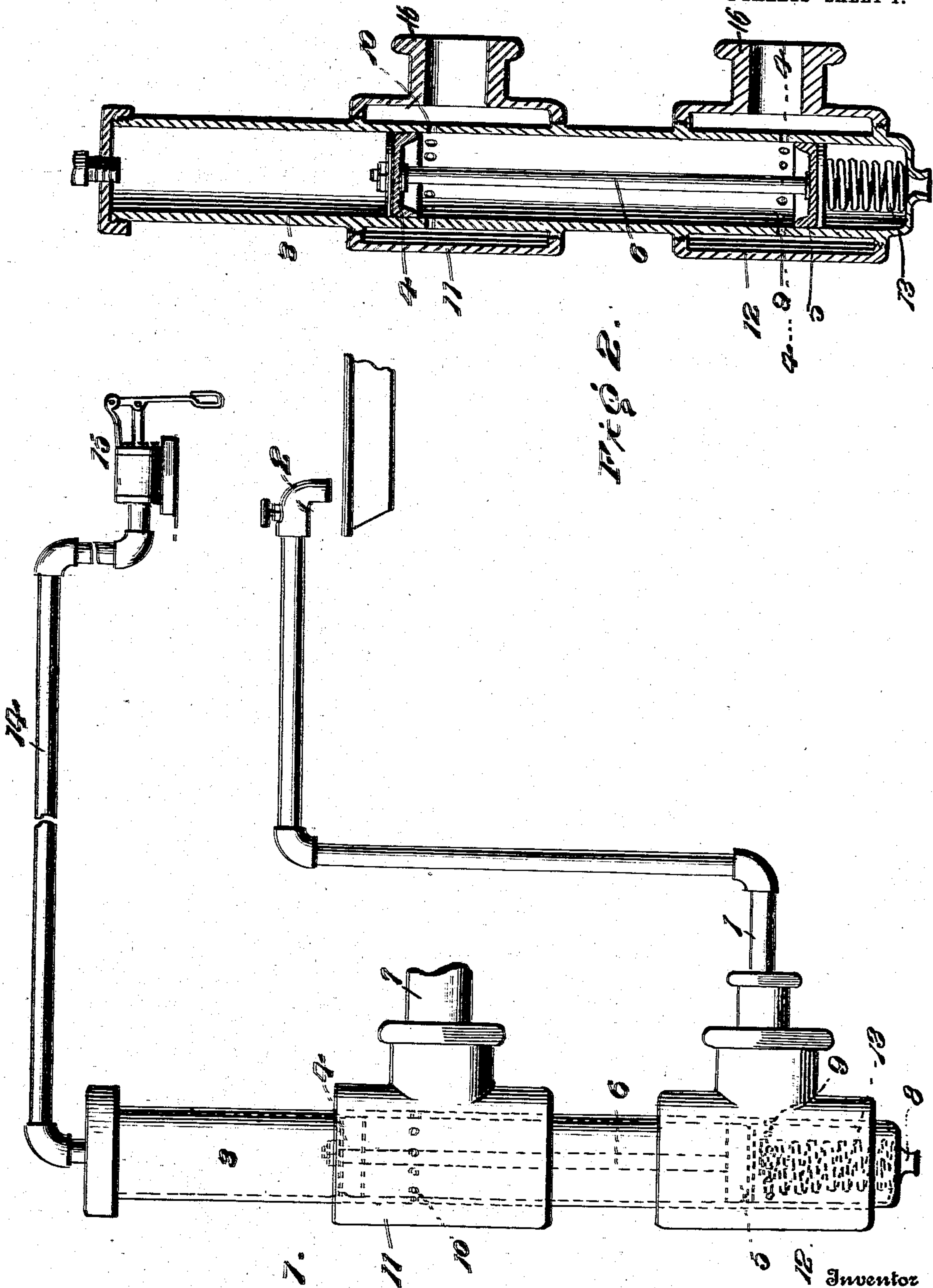


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WATER FIXTURE AND CONTROLLING MEANS THEREFOR.
900,818. APPLICATION FILED MAR. 21, 1907. Patented Oct. 13, 1908.
 2 SHEETS—SHEET 1.



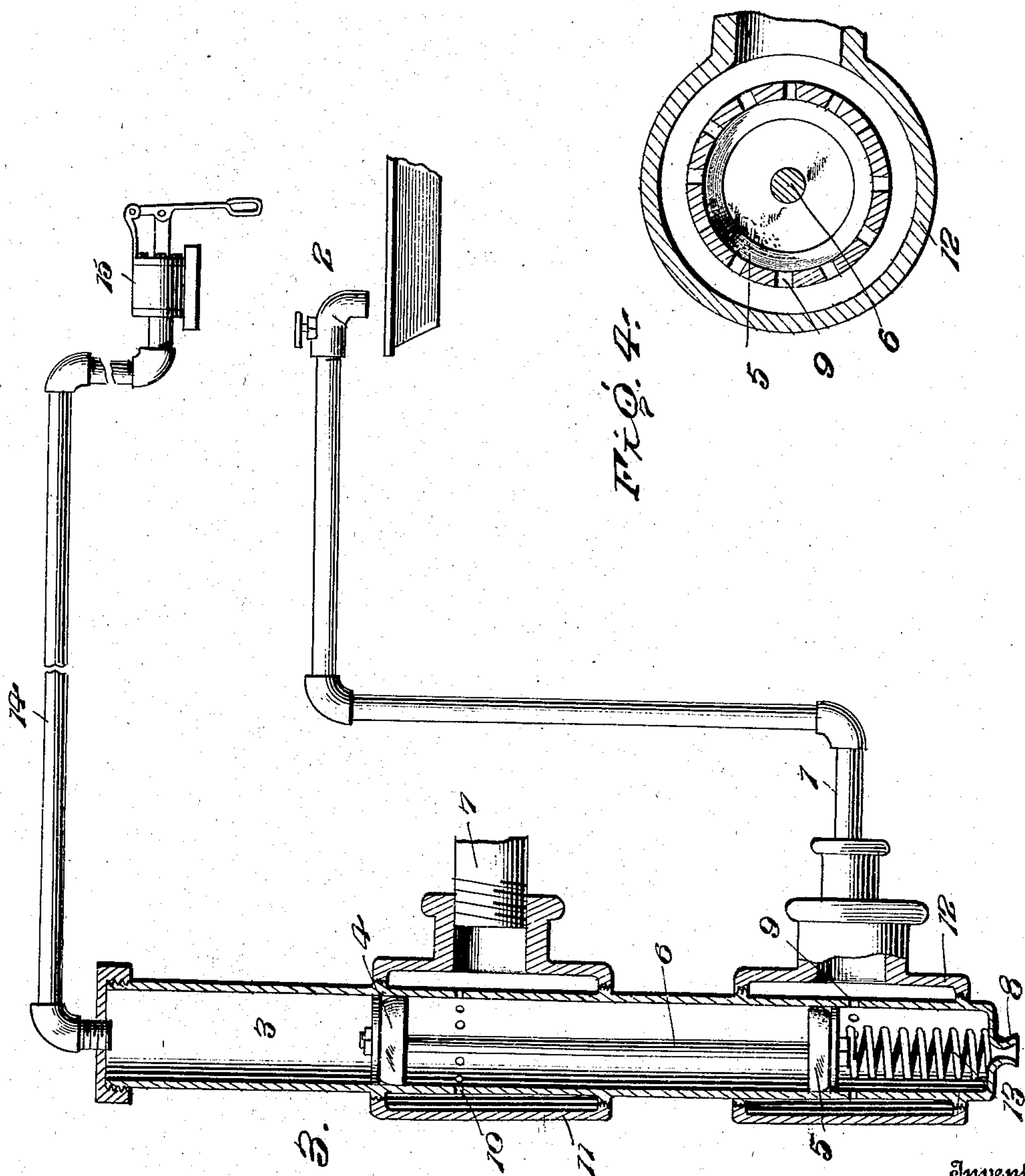
Witnesses
[Signature]
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Inventor
 R. D. Albright
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 Attorneys

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UNITED STATES PATENT OFFICE.

RALPH D. ALBRIGHT, OF REYNOLDSVILLE, PENNSYLVANIA.

WATER-FIXTURE AND CONTROLLING MEANS THEREFOR.

No. 900,818.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed March 21, 1907. Serial No. 363,672.

To all whom it may concern:

Be it known that I, RALPH D. ALBRIGHT, a citizen of the United States, residing at Reynolds-ville, in the county of Jefferson and State of Pennsylvania, have invented certain new and useful Improvements in Water-Fixtures and Controlling Means Therefor, of which the following is a specification.

The primary object of this invention is to prevent water standing in fixtures in exposed places and freezing therein to the detriment of the pipes.

The invention provides a novel construction whereby when the water is shut off in a hydrant or other fixture, the latter will be drained to a safe point below the line of freezing with the result that the hydrant or pipes are prevented from bursting.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a detail view of a water fixture and controlling means therefor embodying the invention. Fig. 2 is a sectional view of the barrel and pistons working therein showing the position of the latter when water is permitted to flow through the fixture and escape at the outlet. Fig. 3 is a longitudinal sectional view through the device. Fig. 4 is a transverse sectional view through one of the annular casings surrounding the pump barrel.

In the drawings, the numeral 1 indicates the service pipe provided with one or more outlets 2.

3 indicates a barrel in which pistons 4 and 5 are arranged to reciprocate, said pistons being connected by means of a rod 6 for synchronous movement. The supply pipe is indicated at 7. The barrel 3 is provided at its lower end with an opening 8 constituting a drain or waste for the escape of water standing in the service pipe after the supply has been cut off. The barrel has an outlet 9 and an inlet 10, the latter being in communication with the supply pipe 7 and the outlet in

communication with the service pipe 1. The piston 5 controls outlet 9, whereas the piston 4 prevents the water passing into the upper end of the barrel 3. That part of the barrel embraced between the pistons 4 and 5 is at all times in communication with the supply and under pressure so that the instant the outlet 9 is uncovered, the water will pass from the barrel into the service pipe.

It is to be understood that the barrel is either located below frost line or otherwise protected to prevent freezing. The outlet 9 as well as the inlet 10 may consist of a single opening or a series of openings, and in the latter construction, said openings extend around the sides of the barrel. A casing 11 surrounds the portion of the barrel having the series of inlet openings 10 and a corresponding casing 12 surrounds the lower portion of the barrel having the series of outlet openings 9. A space is provided between the exterior of the barrel and the inclosing portion of each casing, and the latter is provided with a coupling end 16 to which the pipes 1 and 7 are connected in the accustomed way. The pistons 4 and 5 each comprise a cup washer and plates, the cup washers being oppositely arranged with their hollow sides facing so that the water confined between them normally tends to expand the edge portions of the washers and force them in close contact with the inner walls of the barrel, thereby preventing any leak and automatically compensating for wear.

The outlet controlling piston 5 normally occupies a position above the outlet when the water is shut off, and when the water is turned on, the piston 5 occupies a position below the outlet, thereby admitting of an uninterrupted flow from the supply pipe 7 into the barrel, thence outward through the outlet 9 and into the service pipe 1 and out through the outlet thereof. The piston 5 may be moved by any means upon the application of force to the rod 6. A spring 13 normally presses the piston 5 upward so as to shut off the supply of water to the service pipe when the rod 6 is relieved from stress or pressure. The spring 13, while arranged in the lower portion of the barrel may be disposed in any position so long as it serves to move the piston 5 to cut off the supply from the outlet 9. The pistons 4 and 5 fit within the barrel so as to reciprocate therein. Pressure applied to the piston 4 sufficient to overcome the resilience of the spring 13 and the

friction between the pistons and the barrel, will cause the pistons to move downward and uncover the outlet 9 and permit the water to flow from the barrel into the service pipe and out through the outlet thereof. As shown, a pipe 14 connects the upper portion of the barrel 3 with a pump 15 which may be of any type to admit of creating a pressure within the upper portion of the barrel and upon the piston 4 to effect movement thereof, and the piston 5 connected therewith. The pump 15 may be of any air compressing type to condense the air in the barrel above the piston 4 to cause movement thereof to effect uncovering of the outlet 9 when it is required to draw water from the outlet 2. When the pressure upon the piston 4 is relieved, the spring 13 regaining itself, returns the piston 5 to normal position and cuts off supply to the outlet 9, thereby permitting the water in the service pipe 1 to flow back through the outlet 9 into the lower portion of the barrel and out through the waste or drain 8. The pistons 4 and 5 are of like area and since the water is confined between them, the force exerted upon one piston is counterbalanced by the force exerted upon the other piston and since the two pistons are connected by the rod 6 for simultaneous movement, pressure applied to the piston 4 is transmitted to the piston 5 and moves the latter against the action of the spring 13, the latter returning the pistons to normal position when the operating force or pressure is relieved.

35 Having thus described the invention, what is claimed as new is:

In a device of the character described, the combination of a barrel provided at one end thereof with a waste opening and communicating at the opposite end with an air supply pipe, the said barrel being provided with an upper annular row of openings and a lower annular row of openings, a pair of annular casings surrounding the barrel and communicating respectively with the upper set of openings and the lower set of openings, a service pipe communicating with one of the casings, a supply pipe communicating with the opposite casing, a pair of pistons mounted within the cylinder and connected by a rod for simultaneous movement, the space between the pistons being greater than that between the two sets of openings, a spring interposed between the end of the barrel provided with the waste opening and one of the pistons and operating to normally move the pistons so that the space between the same is in communication with the inlet pipe while the service pipe is in communication with the waste opening, and an air pump cooperating with the air supply pipe at the opposite end of the barrel to force air into the barrel and move the pistons against the action of the spring so that the space between the same is in communication with both the supply pipe and the service pipe.

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

RALPH D. ALBRIGHT. [L. s.]

Witnesses:

LEONARD HENNINGER,
JONATHAN WHITMORE.