No. 786,671. PATENTED APR. 4, 1905.

T. H. PARKER.

WATER CUT-OFF.

APPLICATION FILED JUNE 22, 1904.

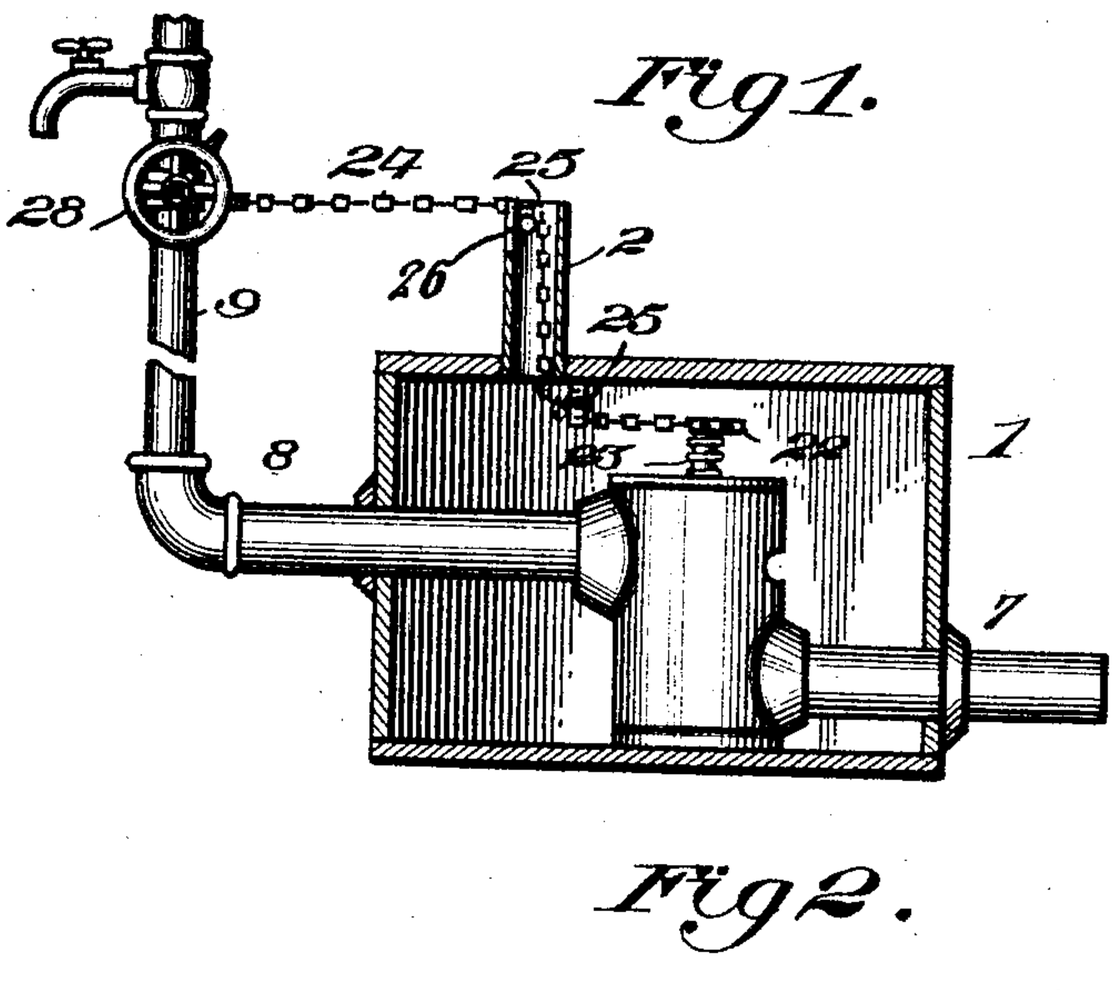


Fig 1.

Fig 2.

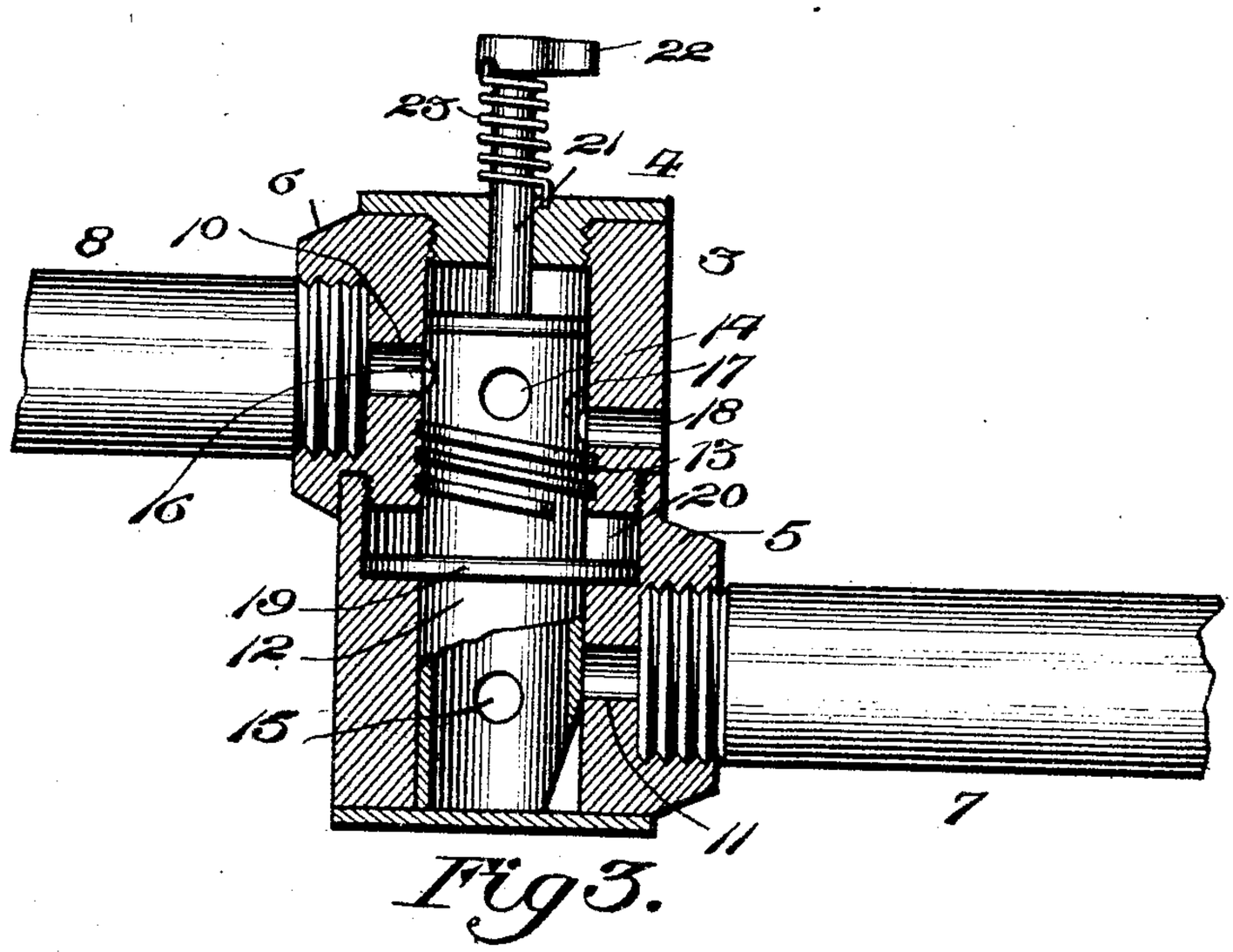
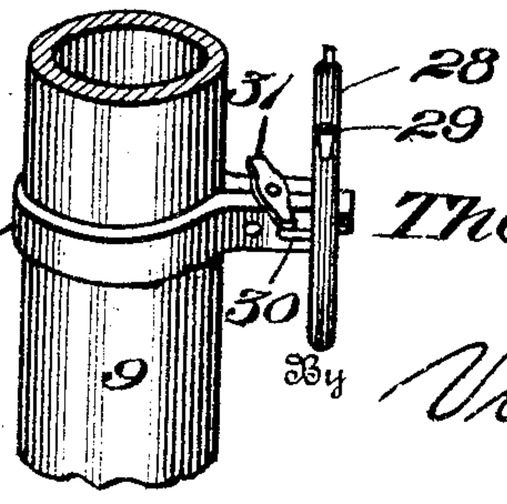


Fig 3.



Witnesses
Phil E. Barnes
E. B. Lakenan

Inventor
Thomas H. Parker
By Victor J. Evans
Attorney

No. 786,671. Patented April 4, 1905.

UNITED STATES PATENT OFFICE.

THOMAS H. PARKER, OF DALLAS, TEXAS.

WATER CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 786,671, dated April 4, 1905.

Application filed June 22, 1904. Serial No. 213,705.

To all whom it may concern:

Be it known that I, THOMAS H. PARKER, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented new and useful Improvements in Water Cut-Offs, of which the following is a specification.

This invention relates to an improved cut-off designed primarily for use in water systems to prevent freezing and wasting of the water.

The invention consists in a controlling-valve of special construction and operation located remote from the water-outlet and held normally closed against the pressure from the main supply, means being provided for manual operation to open the valve.

The preferred embodiment of the invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation, partly in section, showing the application of the invention. Fig. 2 is an enlarged elevation of the valve and connection, the valve-casing being shown in section and the valve being shown in normal or closed position. Fig. 3 is a perspective detail illustrating particularly the means for holding the valve open against its automatic closing means.

In the use of the invention illustrated the valve and connection are to be located remote from the water-outlet, and to effectively protect the parts I provide what I term a "valve-housing" 1, comprising a box-like structure, having a short upwardly-extending tubular section 2. The housing is arranged to contain the valve and connections, as hereinafter described, and for the particular purpose of the invention is buried or placed beneath the surface of the ground about on a level with the main service-pipe, the section 2 being of a length to extend to about the surface of the ground.

The valve proper comprises a casing 3 of hollow cylindrical form, having a removable cover 4 to permit convenient assembling of the parts. The wall of the casing is thickened on opposite sides near its ends, as at 5 and 6, to receive the threaded ends of short pipe-sections 7 and 8, respectively. These pipe-sections are of a length to extend through suitable openings in the housing-walls, pipe 7 being connected to the main service-pipe (not shown) and pipe 8 being connected to the supply-pipe 9.

The wall of the valve-casing is formed with a horizontally-disposed port 10, in alinement with pipe-section 8, and with a second port 11, in alinement with pipe-section 7, these ports establishing communication between the pipe-sections and the interior of the valve-casing.

The valve 12, of barrel form, fits snugly within the casing 3 and has a threaded connection therewith, as at 13, which serves to move the valve vertically when the latter is suitably operated. The valve is formed with two ports 14 and 15, adapted to register with ports 10 and 11, respectively, when the valve has been moved to open position or at its limit of upward movement. Other ports 16 and 17 are also formed in the valve, arranged to register with port 10 and with a port 18, respectively, formed in the casing, when the valve is in closed position or at its limit of downward movement.

To absolutely limit the vertical movement of the valve, I provide the latter with a circumferential flange or lip 19, arranged to lie within a recess 20, formed in the valve-casing, and through contact with the upper and lower walls of the recess limit the vertical movement of the valve, as will be evident.

A stem 21 projects vertically from the valve, passing through the casing-head 4 and provided at its upper end with a laterally-extending arm 22. A spring 23, coiled about stem 21 beyond the valve-casing, is secured at one end to the stem and at the opposite end to the valve-casing. The spring is arranged to maintain the valve in a closed position—that is, at the extreme of its downward movement.

A flexible connection 24, preferably a chain, is secured to the free end of arm 22 and is passed upward through the tubular section 2 of the housing, idler-pulleys 25 supporting it in its change of direction. The tubular section 2 may be slotted at its upper end, as at 26, to provide for the lateral passage of the chain.

The outlet end of the service-pipe 9 is pro-

vided with the usual faucet, and adjacent thereto I secure the means for operating the valve through chain 24.

27 is a band secured about the service-pipe and supporting in its projecting ends a small wheel 28, having a handle 29, to the periphery of which wheel chain 24 is secured, as shown. Projecting laterally from wheel 28 is a stud 30, and pivotally supported on the ends of band 27 is a latch-lever 31, so arranged that its end may be turned into the path of stud 30 and prevent rotation of the wheel, and hence prevent movement of the chain.

With the parts assembled as described the operator desiring a flow from the service-pipe faucet turns wheel 28, drawing on chain 24 to turn the valve 12. This movement of the valve elevates it through threaded connection 13 and registers ports 14 and 10 and 15 and 11, thus establishing open communication from the main service-pipe, through the valve-body, to the service supply-pipe 9. By releasing the pull on chain 24 the valve, through tension of spring 22, automatically returns to normal position, breaking registry of the ports described and bringing into register ports 16 and 10 and 17 and 18. Water in the service-pipe 9 will now freely flow back through the ports and valve and out to the ground. The freezing of water in the service-pipe 9 is thus prevented, or said pipe is maintained normally empty, and the automatic closing of the valve upon releasing the pull on chain 24 prevents undue wasting of the water. If a continued flow is desired from the faucet, the operator shifts latch 31 so as to engage stud 30, locking the wheel against the drawing power of the chain and preventing closing of the valve until desired.

The housing 1 is very effective as a protecting medium for the valve and connections and may be of any desired size, though I prefer to have it of a size to conveniently receive the parts mentioned.

The object in forming the valve with screw-threads, by means of which it is given a combined rotary and reciprocatory movement, is to prevent leakage and avoid the necessity of making the valve so tight that it would be difficult to turn. If the valve were not formed with screw-threads and were fitted tightly in the casing, it would work hard at first and after it became slightly worn would leak. The screw-threads avoid these disadvantages.

The device is applicable to any use in which a controlling-valve is desirable, and I contemplate such uses and also all obvious mechanical changes of structure or operation.

Having thus described the invention, what is claimed is—

An automatic cut-off comprising a valve-casing having an annular recess therein, a service-pipe connection and a supply-pipe connection, a valve within and having a threaded connection with the casing, said valve being formed with two ports adapted to register respectively with said pipe connections when the valve is opened, and with two additional ports adapted to register respectively with said service-pipe connection and with an escape-port formed in the valve-casing when the valve is closed, a circumferential flange on said valve located in said annular recess, manually-operable valve-opening means arranged to partially revolve the valve and elevate it within the casing through its threaded connection, and automatic means for depressing the valve to close it.

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

THOMAS H. PARKER.

Witnesses:
J. A. WOODARD,
C. COLLINS.