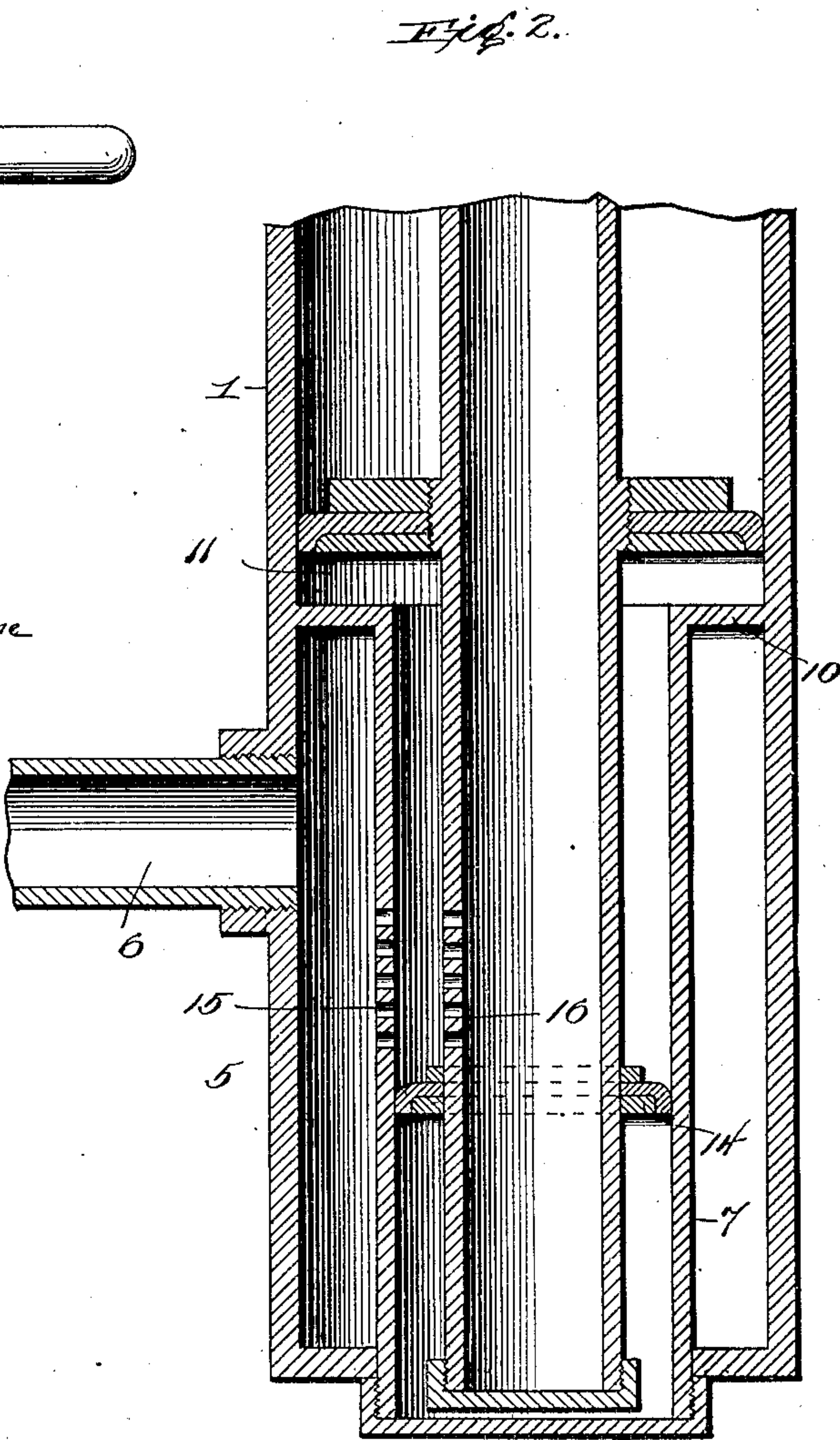
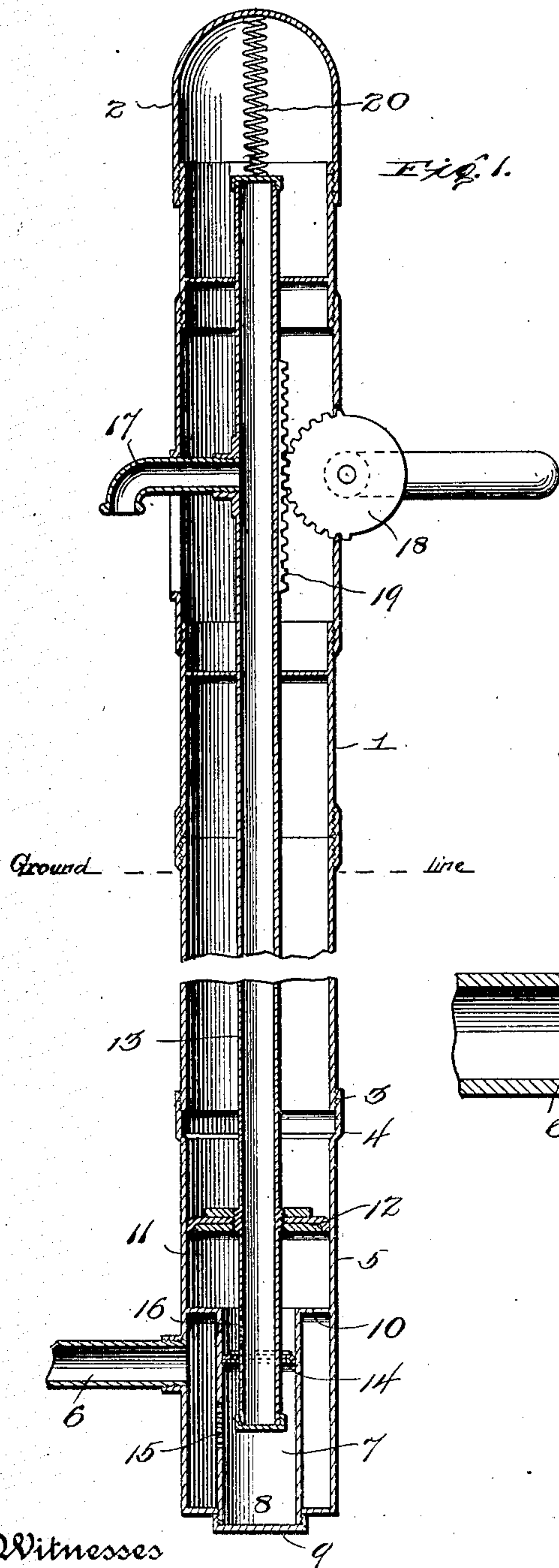


No. 860,424.

PATENTED JULY 16, 1907.

G. H. TRAXEL.
HYDRANT.

APPLICATION FILED MAR. 19, 1906.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE H. TRAXEL, OF MAYSVILLE, KENTUCKY.

HYDRANT.

No. 860,424.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed March 19, 1906. Serial No. 306,787.

To all whom it may concern:

Be it known that I, GEORGE H. TRAXEL, a citizen of the United States, residing at Maysville, in the county of Mason and State of Kentucky, have invented certain new and useful Improvements in Hydrants, of which the following is a specification.

This invention relates to hydrants, and has special reference to an improvement in that type of hydrants embodying vertically movable stand pipes carrying the discharge spout or nozzle.

To this end the invention contemplates a simple and practical construction wherein the freezing of the hydrant is entirely obviated, besides providing against the wasting of the drain water as is common to the ordinary types of hydrants.

In many forms of hydrants the water which is drained out of the stand pipe when the hydrant is shut off is discharged outside the hydrant casing directly into the earth. This not only involves a considerable waste of water but at the same time frequently so dampens the earth as to be a detriment to adjacent foundations and cellar constructions.

In overcoming the above objections to the ordinary hydrants the present invention provides a construction wherein no water is discharged exterior to the hydrant casing and at the same time freezing is obviated.

With these and many other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts which will be hereinafter more fully described, illustrated, and claimed.

The essential feature of the invention, involved in the valve mechanism for controlling the admission of water and the disposal of the drain water, is susceptible to some modification without departing from the scope of the invention, but the preferred embodiment of the latter is shown in the accompanying drawings, in which—

Figure 1 is a sectional view of a hydrant embodying the present invention showing the parts arranged in the position they occupy when the hydrant is closed or shut off. Fig. 2 is an enlarged sectional view of the valve mechanism showing the elements thereof arranged in the positions they occupy when the hydrant is open or running.

Like reference numerals designate corresponding parts throughout the drawings.

In carrying out the invention the usual hydrant casing 1 is employed which is made up of a number of pipe sections suitably joined together, and which casing is sunk into the ground to a point below the freezing line where connection is made with the water main or water supply pipe. In the present invention the external hydrant casing 1 is provided at its upper end above the ground with a closing or covering cap 2 and

at its lower end within the ground has coupled thereto by a screw threaded or equivalent joint 3 the upper end 4 of a cylindrical valve case 5 closed at its lower end and having suitably connected to one side thereof a water inlet pipe 6 which connects with the water main for supplying the hydrant.

One of the distinctive features of the invention resides in setting within the closed lower end portion of the cylindrical valve case an interior valve chamber 7 essentially consisting of a cylinder of less diameter than the case 5 and of an open ended formation. The lower open end 8 of the said valve chamber extends through an opening in the bottom of the case 5 and may be closed by a screw cap 9. This is unessential, however, as any closed construction may be provided for the case 5 and the inside chamber 7.

The upper open end of the interior chamber 7 is rigid with a flange head 10 extending to the inner wall of the case 5 to close in the space about the valve chamber 7, and said open end of the latter is in constant communication with the upper portion of the case 5 which constitutes a drain water chamber 11, which drain water chamber is closed in at the top by a movable chamber head 12 preferably consisting of a leather packing cup fitted upon the vertically movable stand pipe 13.

The vertically movable stand pipe 13 is provided with a closed lower end working inside of the chamber 7 and carrying an exterior leather packing cup 14 constituting a cutoff valve whose edge registers with the interior wall of the chamber 7 and has a movement over and past the water inlet 15 provided in the side of the chamber 7 and usually consisting of a perforated or slitted section. A corresponding water passage is provided in the wall of the stand pipe 13 above the valve 14 so that when the latter is lowered below the water inlet 15 the supply of water can freely pass from the pipe 6, through the ports 15 and 16 into the pipe 13 and thence out through the discharge spout or nozzle 17 carried by the upper end portion of the stand pipe 13 and working through the usual slot in the side of the hydrant casing above the ground.

The operating device preferably employed for reciprocating the stand pipe 13 essentially consists of a crank operated adjusting gear 18 journaled in suitable bearings upon the hydrant casing above the ground, and meshing with a rack section 19 fitted to the stand pipe. In connection with this operating device there is preferably associated a closing spring 20 interposed between the top end of the stand pipe 13 and the top of the cup 2, the tension of said spring being normally exerted in a direction for moving the stand pipe to a position for closing the cut-off valve.

After using the hydrant the stand pipe is moved upwardly to carry the valve 14 above the water inlet 15. This cuts off the supply of water while at the

same time opening up communication through the water passage 16 between the drain water chamber 11 and the stand pipe, whereby water in the latter may be drawn into the said chamber and held therein until forced out of the same back into the stand pipe when the hydrant is again opened up.

It will be understood that changes in the form, proportion and minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed, and desired to be secured by Letters-Patent, is:—

1. In a hydrant, a reciprocatory stand pipe closed at its lower end and having an opening in its side for the ingress and egress of liquid and also having an exterior cut-off valve disposed below said opening and an exterior head disposed above the opening, in combination with a casing in which the stand pipe is movable up and down and the cut-off valve and head are snugly fitted; the said casing having a liquid-inlet opening in its side arranged to be overrun by the cut-off valve of the stand pipe and adapted to be connected with a source of liquid supply.

2. In a hydrant, the combination with an exterior casing having an opening in its lower portion adapted to be connected with a source of liquid supply, and a valve chamber of smaller size in cross-section than the exterior casing, arranged in the lower portion of said casing, and open at its upper end and closed at its lower end and having an exterior flange disposed above the liquid inlet opening in

said casing and also having a liquid inlet opening in its side below said flange; of a reciprocatory stand pipe arranged in the casing and valve chamber and closed at its lower end and having an opening in its side for the ingress and egress of liquid and an exterior cut-off valve disposed below said opening and snugly fitting the valve chamber and arranged to overrun the opening in the side of the valve chamber and also having an exterior head snugly fitted in the exterior casing, above the valve chamber.

3. In a hydrant, the exterior casing carrying at its lower end a valve case having a supply pipe connection at one side and a closed drain water chamber within the upper part thereof, a separate interior smaller valve chamber set within the valve case and provided in one side thereof at an intermediate point with a water inlet and the upper end of which valve chamber is in constant communication with the drain water chamber, the vertically movable stand pipe carrying the spout and having its lower end working inside of the interior valve chamber, said stand pipe being provided in the lower end portion thereof with a water passage opening into the valve chamber and below the plane of said water passage with an external packing cup constituting a cutoff valve engaging the wall of the valve chamber, and a leather packing cup fitted to the stand pipe above the interior valve chamber and constituting a movable head for closing in the drain water chamber.

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

GEORGE H. TRAXEL.

Witnesses:

MILTON JOHNSON,
ROBT. RASP.