

No. 673,674.

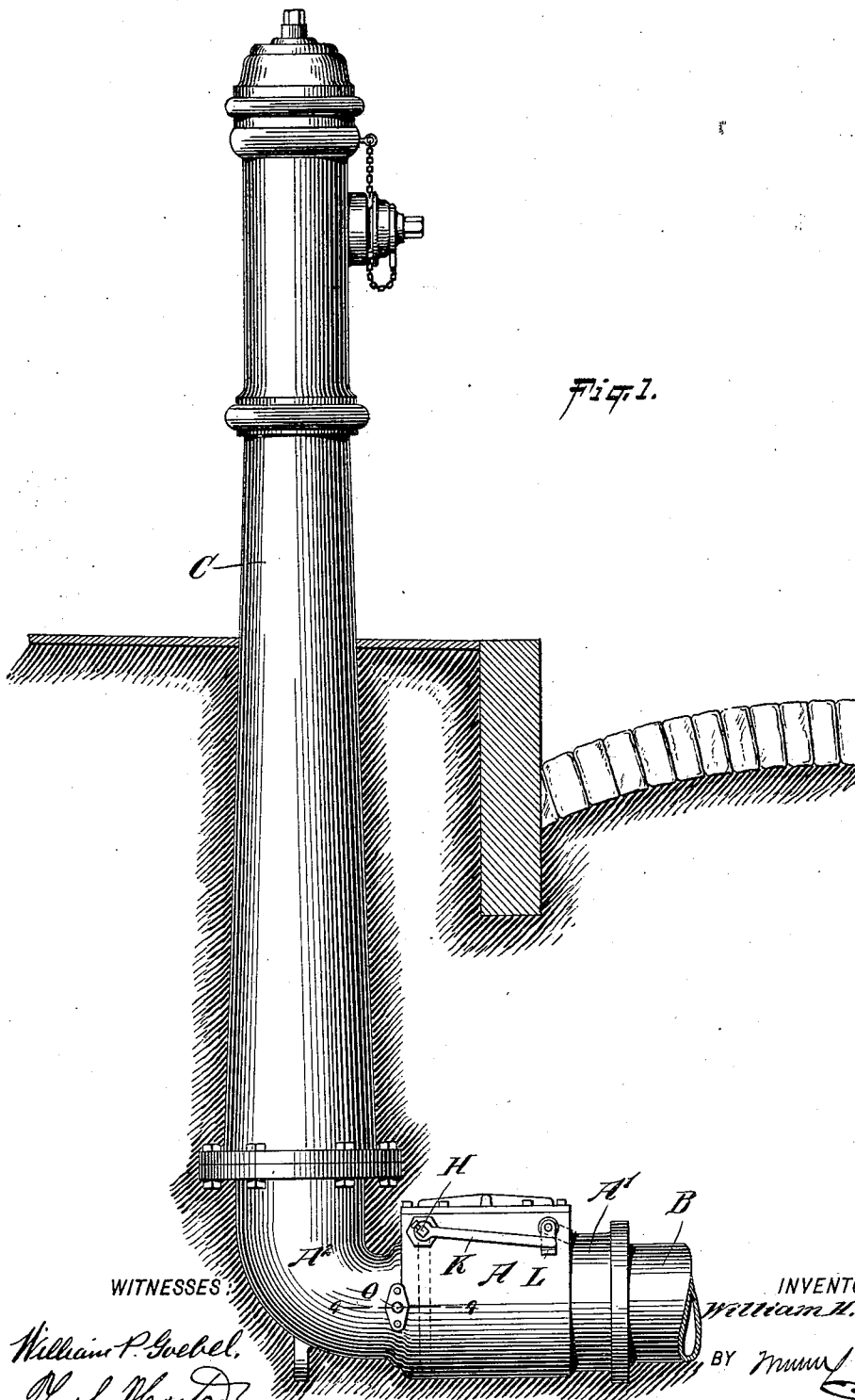
Patented May 7, 1901.

W. H. BAKER.
AUXILIARY VALVE FOR HYDRANTS.

(Application filed Oct. 29, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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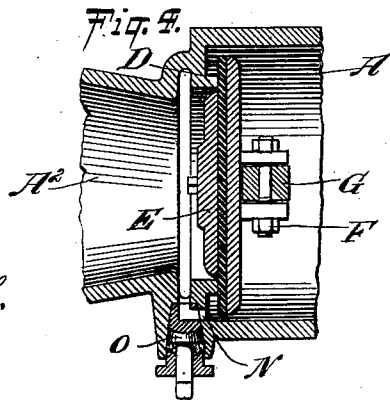
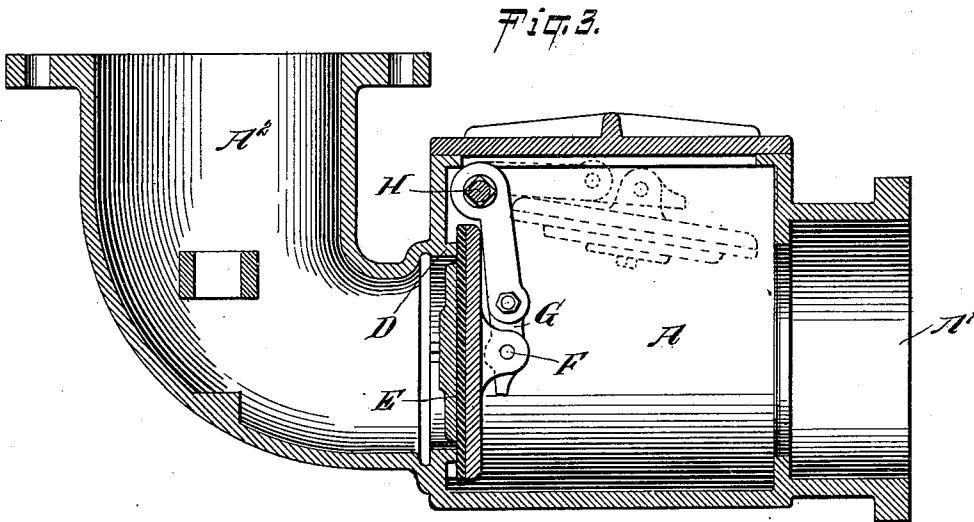
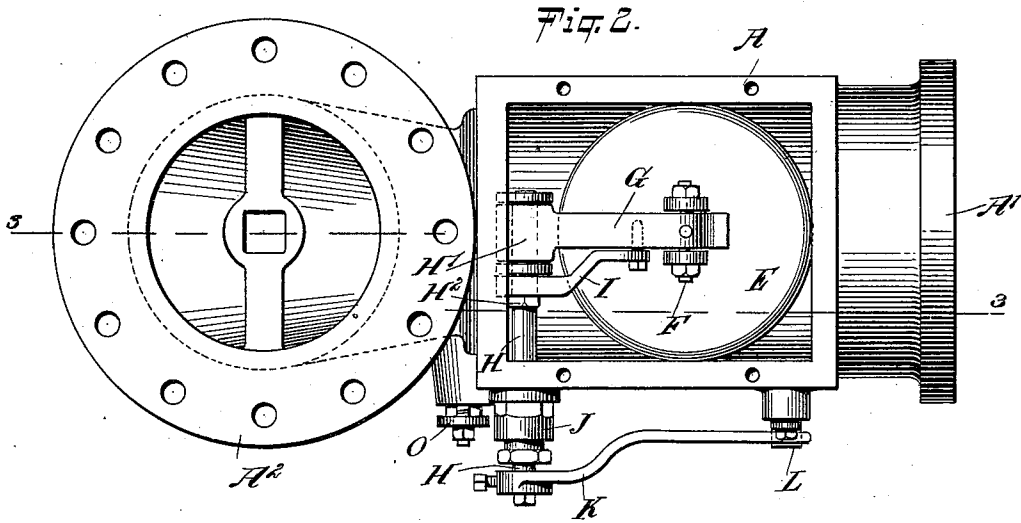
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2 Sheets—Sheet 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM H. BAKER, OF TRENTON, NEW JERSEY.

AUXILIARY VALVE FOR HYDRANTS.

SPECIFICATION forming part of Letters Patent No. 673,674, dated May 7, 1901.

Application filed October 29, 1900. Serial No. 34,773. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BAKER, a citizen of the United States, and a resident of Trenton, in the county of Mercer and State of New Jersey, have invented a new and Improved Auxiliary Valve for Hydrants, of which the following is a full, clear, and exact description.

The invention relates to fire-plugs or fire-hydrants; and its object is to provide a new and improved auxiliary valve located between the supply-main and the fire-plug and designed for shutting off the water-supply from the hydrant or plug in case the latter is to be removed for repairs or for other purposes.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in 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 side elevation of the improvement as applied, the street being shown in cross-section. Fig. 2 is an enlarged plan view of the improvement with the cover of the valve-casing removed and the valve in an open position. Fig. 3 is a sectional side elevation of the same on the line 3 3 in Fig. 2 with the valve in a closed position, and Fig. 4 is a sectional plan view of the same on the line 4 4 in Fig. 1.

In fire-plugs or fire-hydrants as heretofore constructed it was customary to run the feed-pipe from the supply-main in the street direct to the plug without any stop-valve in the feed-pipe. Now when a fire plug or hydrant was out of order and was to be removed for repairing or for replacing it by a new one then it became necessary to turn off the water in the supply-main at the intersection of the adjacent streets between which the said plug was located, thus shutting off the water-supply for the whole block and sometimes, owing to leakage, stopping the water-supply for several blocks while repairs were being made, thereby causing annoyance to consumers and damage in case of fire in the vicinity owing

to lack of water. The defects mentioned have been partly overcome by the insertion of a key-valve in the street between the supply-main and the plug; but in this case it was necessary to build a valve-box up to the surface of the street. This valve-box not only proved an eyesore in a well-paved street, but at the same time required frequent repairing, owing to leakage and the wearing away of the pavement around the iron stop-box cover. In dirt streets the valve-box proved to be an obstruction to travel, especially when the dirt washed away and left the box projecting above the surface of the street. By the use of my auxiliary valve presently to be described in detail all the defects mentioned above are completely overcome, as the above-described valve is under the sidewalk.

The valve-box A of the auxiliary valve is connected at its inflow end A' with a feed-pipe B, connected with a supply-main in the usual manner. The outlet end A² of the casing A is connected with the lower end of a fire hydrant or plug C of any approved construction. A valve-seat D is arranged in the casing at the outflow end A², and on this valve-seat is adapted to be seated a valve E, normally, however, held in an open position, as shown in Fig. 2. The valve E carries on its back a pivot F, engaged by the free end of an arm G, hung on the round portion H¹ of a pintle H, mounted to turn in suitable bearings arranged on the casing A, and on the square portion H² of said pintle is secured an arm I, connected with the side of the arm G, so as to hold said arm, and with it the valve E, in an uppermost position when the pintle H is locked in place, as shown in Figs. 1 and 2, and to allow the said valve E to close and to seat on its seat D when it is desired to shut the water off the hydrant C, as herein-after more fully explained.

The pintle H extends through a suitable stuffing-box J to the outside of the casing A, and on the outer end of said pintle is secured a lever K, normally held in a horizontal position by an angular arm L, pivoted to the outside of the casing A, as indicated in Figs. 1 and 2. When the lever K is in this extreme horizontal position and is held therein by the arm L, then the valve E is in an up-

permost open position under the cover of the casing, as indicated in Fig. 2 and in dotted lines in Fig. 3, (see also Fig. 1,) and the water from the supply-main can flow through the casing A and its seat D to the fire-plug or fire-hydrant C, and when the valve therein is opened water passes through the outlets of the fire-hydrant to the fire-hose or other parts connected with the same.

10 When it is desired to remove the fire-hydrant or fire-plug C, then it is necessary first to dig down under the sidewalk to lay bare the connection between the plug and the outlet A², as well as the casing A, and the operator now swings the arm L to one side, so that the valve E becomes unlocked and by its own weight can swing downward against the seat D, so as to close the outlet of the casing, it being understood that when this takes place and the valve in the plug C is opened then the valve E is held against its seat D by the pressure of the water in the supply-main. The plug C can now be disengaged from the outlet A² and removed for repairs or for placing a new plug in position on the outlet A². In order to conveniently open the valve E after the plug C is again in position, it is necessary to equalize the pressure on both sides of the valve E, and for this purpose a by-pass N is provided in the casing A, (see Fig. 4,) and this by-pass is controlled by a plug or valve O, operated by the application of a wrench or other suitable tool to its outer squared end. When the plug C is in position, the operator first turns the plug or valve O, so as to establish communication between the interior of the casing A and the outlet A² to equalize the pressure on both sides of the valve E. The operator now takes hold of the lever K and swings the same upward, so as to cause the pintle H to turn and the arm G to swing upward to carry the valve E back into its uppermost normal position. The lever K is then supported at its free end by the arm L, so that the valve E remains in an uppermost position. As soon as the valve E moves off its seat communication is again established between the supply-main and the fire hydrant or plug C, and the hydrant can now be used for its legitimate purposes.

From the foregoing it is evident that the water can be readily shut off from the fire plug or hydrant C without interfering with the free flow of the water through the supply-main in the street, and at the same time the hydrant or fire-plug can be readily removed for repairs or for replacing by a new one without escape of water, it being understood that leakage is prevented in the casing A, especially as the valve E is held to its seat by the pressure of the water in the supply-main. It will also be seen that the street need not be disturbed at all, as it is only necessary to dig down under the sidewalk to lay bare the casing, it being evident that such digging is necessary at any rate in order to obtain access

to the fastening devices connecting the plug with the inflow or feed pipe.

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

1. An auxiliary valve for a fire-plug, comprising a casing arranged between the supply and the inlet to the fire-plug, a valve hinged in the casing and adapted to close the outlet to the casing, and to be held to its seat by water-pressure from the supply-main, a lever exterior of the casing, for operating the valve, and means carried by the casing and with which the lever engages to hold the valve in an open position, substantially as described.

2. An auxiliary valve for a fire-plug, comprising a casing arranged between the supply and the inlet to the fire-plug, a valve in the casing, an arm pivoted to the valve, a pintle mounted in the casing and carrying said arm, said pintle extending to the outside of the casing, a lever secured to the outer end of the pintle, and means carried by the casing and with which the lever engages to hold it in such position that the valve will be held open, substantially as described.

3. An auxiliary valve for a fire-plug, comprising a casing, a valve in the casing, an arm having one end pivoted to the valve, a pintle mounted in the casing and upon which the other end of the arm is loosely mounted, the said pintle extending to the outside of the casing, a second arm carried by the pintle to turn therewith and secured to the first-named arm, a lever secured to the outer end of the pintle, and means for locking the lever in position to hold the valve open, substantially as described.

4. An auxiliary valve for a fire-plug, comprising a valve-casing arranged between the supply-main and the entrance to the fire-plug, a valve hinged in said casing and adapted to close the outlet of the casing, said valve being held to its seat on said outlet by water-pressure from the supply-main, a by-pass in the casing for equalizing the pressure on opposite faces of the valve to allow of easily opening the valve, and a valve independent of the first-named valve for controlling the by-pass, as set forth.

5. An auxiliary valve for a fire-plug, comprising a casing, a valve in the casing, an arm having one end pivoted to the valve, a pintle mounted in the casing and carrying said arm, said pintle extending to the outside of the casing, a lever secured to the outer end of the pintle, and a swinging arm mounted on the casing and with which the lever engages, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM H. BAKER.

Witnesses:

JOHN H. FETTER,
JOHN M. TITUS.