A. A. BENNETT.

HYDRANT.

APPLICATION FILED AUG. 12, 1909.

958,079.

Patented May 17, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

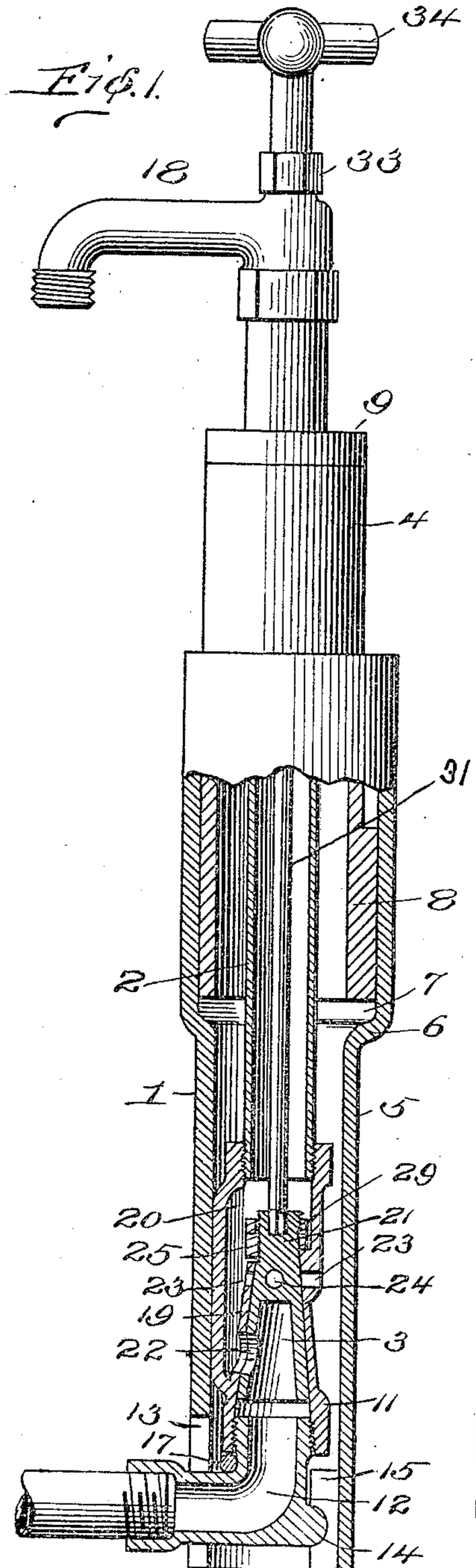
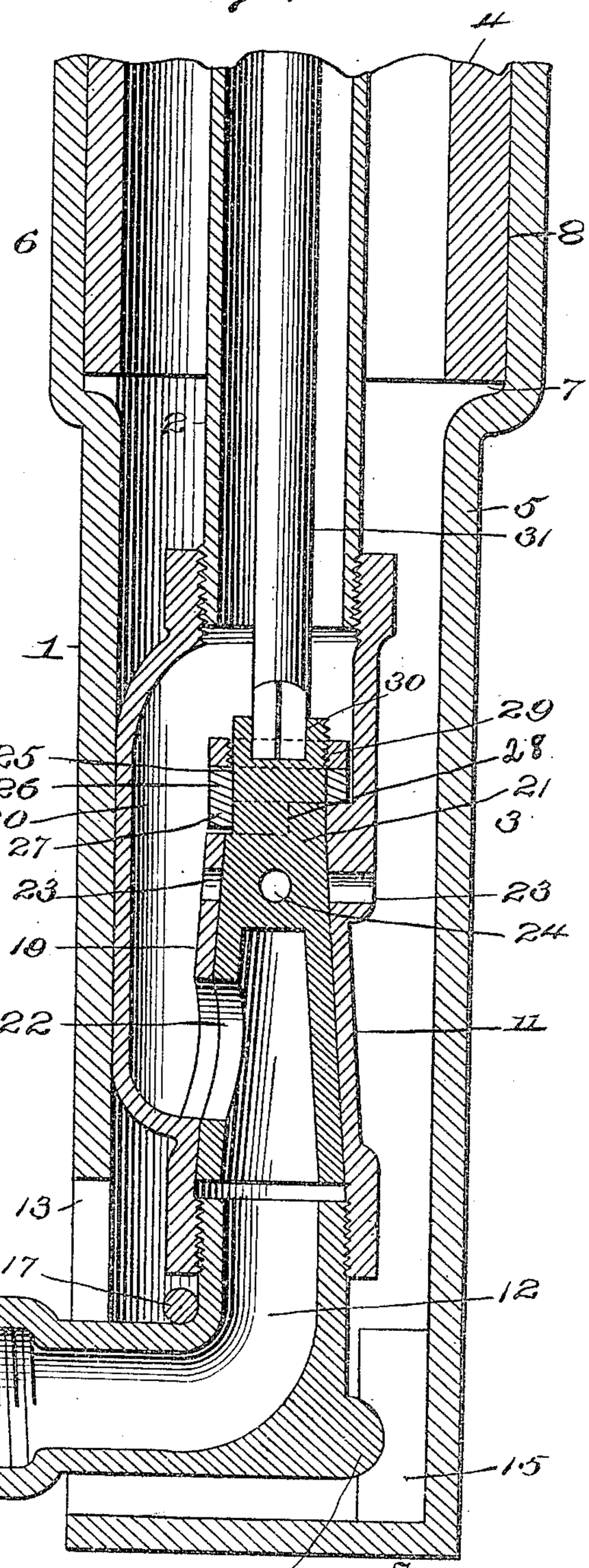


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

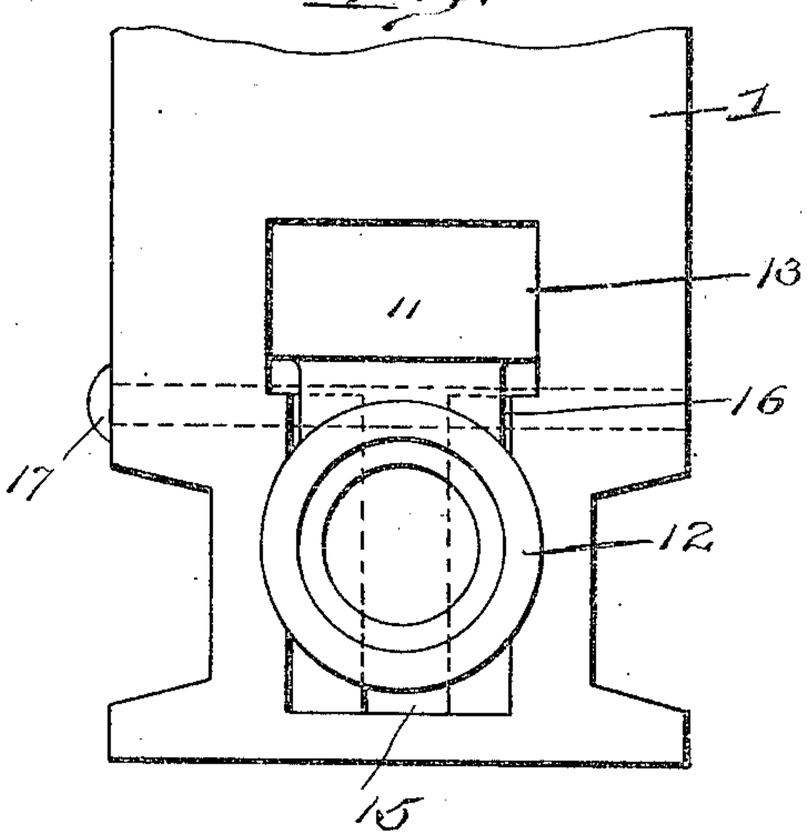


Fig. 4.

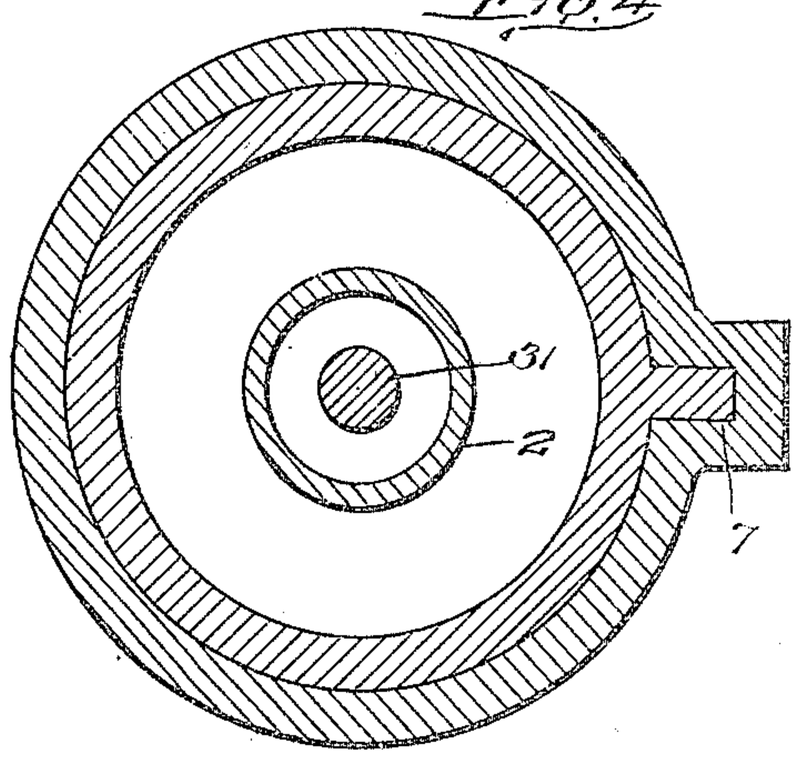


Fig. 5.

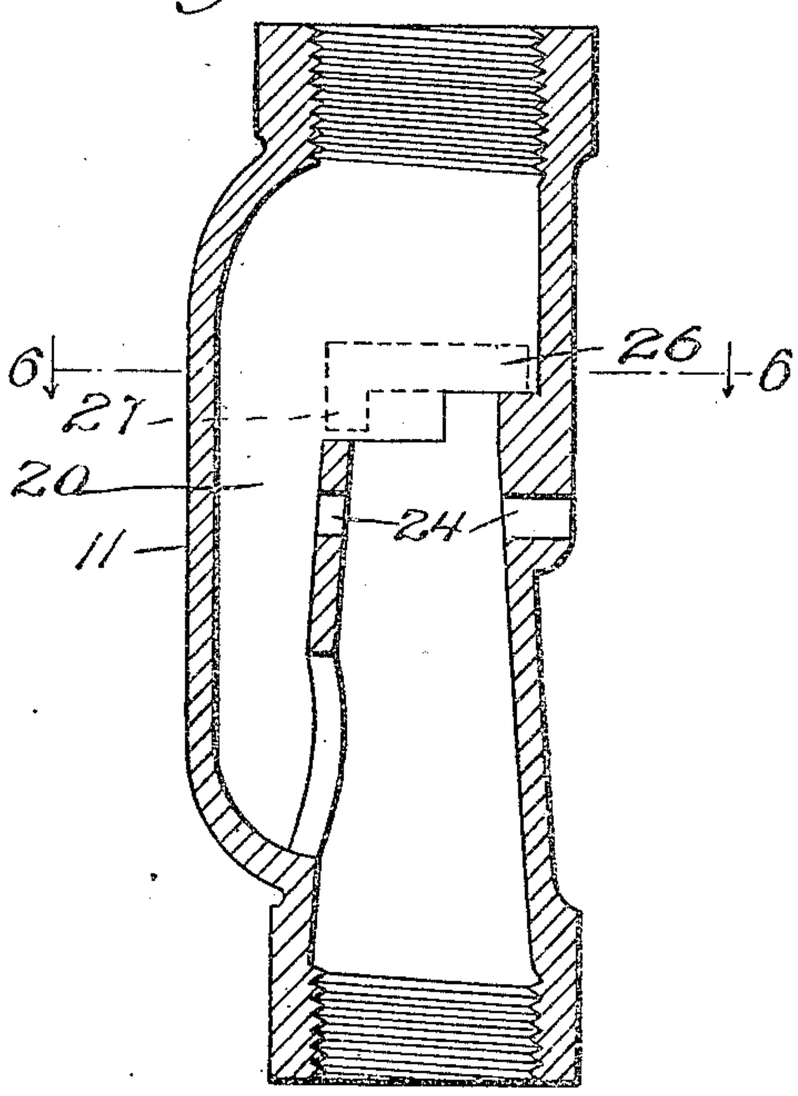


Fig. 6.

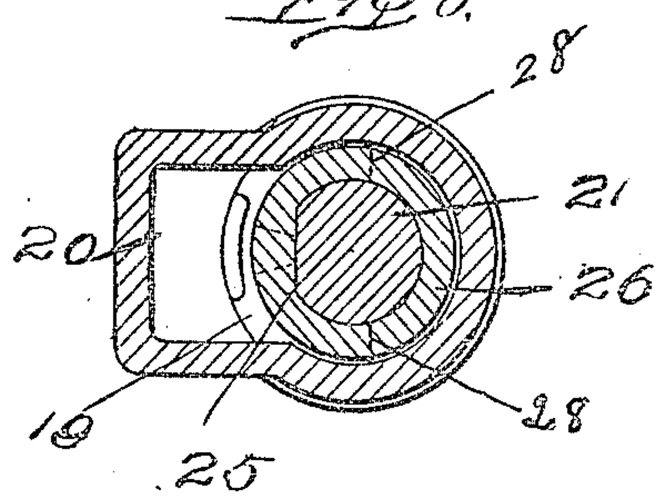
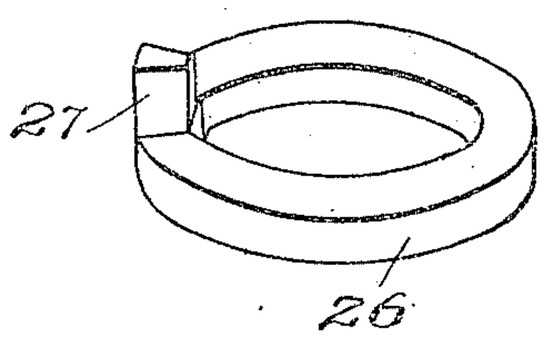


Fig. 7.



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UNITED STATES PATENT OFFICE.

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HYDRANT.

958,079. Specification of Letters Patent. Patented May 17, 1910.

Application filed August 12, 1909. Serial No. 512,554.

To all whom it may concern:

Be it known that I, ALBERT A. BENNETT, a subject of the King of Great Britain, residing at the town of Essex, Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Hydrants; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in hydrants.

The object of the invention is to provide a hydrant having an improved construction of cock or valve in which the valve plug is held in fluid tight engagement with its seat by the pressure of the water passing through the plug.

A further object is to provide a hydrant of this character in which a valve plug may be inserted or removed without taking up the hydrant.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a side view of a hydrant constructed in accordance with the invention showing its box or casing in section; Fig. 2 is an enlarged vertical sectional view of the lower end of the box and cock arranged therein; Fig. 3 is a side view of the lower end of the box or casing showing the manner in which the elbow for connecting the hydrant with the service pipe is engaged with the lower end of the hydrant box; Fig. 4 is a horizontal section through the telescopically engaged ends of the upper and lower sections of the hydrant box, showing the means whereby said sections are prevented from turning when the cock or valve is removed; Fig. 5 is a detail vertical sectional view of the valve casing, showing the valve plug removed and the stop collar in dotted lines; Fig. 6 is a horizontal sectional view of the valve casing in the line 6—6 of Fig. 5, showing the valve plug in place; Fig. 7 is a detail perspective view of the stop collar showing the stop lug thereon for limiting the movement of the valve plug when turned on or off.

Referring more particularly to the drawings, 1 denotes the hydrant box or casing in which is arranged the water conducting pipe 2 and the cock or valve 3 for connecting said pipe with the service pipe. The box or casing 1 may be of any suitable length and is preferably formed in upper and lower sections 4 and 5. The upper end of the lower section 5 of the box is provided with an enlarged upper end 6 with which the lower end of the upper section 4 is telescopically engaged. In one side of the enlarged upper end 6 is formed a vertically disposed groove or channel 7 with which is slidably engaged a lug 8 formed on one side of the lower end of the upper section 4 of the box whereby said sections are held against turning. On the upper end of the box is arranged a cap 9 in which is formed a centrally disposed passage 10 through which the upper end of the pipe 2 projects. In the lower portion of the box is arranged the valve or cock 3, the casing 11 of which has a screw threaded engagement with the lower end of the pipe 2, as shown. The lower end of the valve casing 11 has a screw threaded engagement with an elbow 12 arranged in the lower end of the box and having one of its ends projecting from the latter in position to connect with the service pipe. The elbow 12 is inserted in the lower end of the box through a suitably shaped opening 13 formed in one side of the box and on the inner portion of the elbow is formed a laterally projecting lug 14 which is adapted to fit in a recess 15 formed in the lower end of the box, as shown. The lower end of the box is preferably reduced to form a seat 16 which is preferably of such size as to snugly fit the lower portion of the elbow which is held therein by means of a transversely disposed stop pin 17 arranged through the lower portion of the box, as clearly shown in the drawings. By means of the seat 16 and the recess 15, with which the lug 14 is engaged, the elbow will be securely held in position in the lower end of the box to permit the valve casing to be screwed into and out of engagement with the same. The upper end of the valve casing is squared to receive a suitable wrench whereby the casing is screwed into and out of engagement with the elbow.

On the upper end of the water conducting tube 2 is arranged a discharge spout 18 through which the water is discharged from the hydrant.

In the valve casing 11 is formed a tapered valve seat 19 with which connects a by-pass 20 extending to the upper portion of the casing and communicating with the lower end of the water conducting tube, as shown. In the seat 19 is mounted a substantially conical shaped hollow valve plug 21 having formed in one side a discharge port 22 which is adapted to be brought into and out of alinement with the by-pass when the plug is turned in one direction or the other. In the valve casing and communicating with the by-pass are drain ports 23 which are connected by a drain passage 24 formed in the valve plug 21 when the latter is turned to a closed position, whereby the water in the by-pass of the valve casing and in the water conducting pipe 2 may be drained off when the valve is closed.

The upper end of the valve plug 21 projects above the valve seat 19 and is provided on one side with a flat surface 25. With the upper end of the valve plug is adapted to be engaged a stop collar 26 having a flat surface adapted to engage the flat surface on the upper end of the plug whereby the collar is held against rotation on the plug. On the collar 26 is formed a downwardly projecting stop lug 27 which is adapted to engage stop shoulders 28 formed on the upper end of the valve seat when the plug is turned therein thereby limiting the movement of the plug when the same is turned on or off. The upper end of the valve plug, above the collar 26, is threaded and on said threaded end is screwed a collar retaining nut 29 whereby the collar is held in operative position on the upper end of the valve plug. The nut 29 is preferably provided with wrench engaging lugs whereby the same is screwed on and off the upper end of the valve plug. The upper end of the valve plug is formed with a squared socket 30 with which is engaged the lower end of a valve stem or operating rod 31 which extends upwardly through a stuffing box 33 arranged on said spout. On the upper end of the rod 31 is secured a suitable handle 34 whereby the rod may be turned to open or close the valve at the lower end of the hydrant box.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claim.

Having thus described my invention, what I claim is:

In a hydrant of the character described, a box, a service connection arranged in the lower end of said box, a valve casing having a screw threaded engagement with said connection, a tapered valve seat in said casing, said seat and casing having formed therein drain ports and a by-pass, a substantially conical hollow plug arranged in said seat, said plug having a discharge port adapted to be turned into and out of engagement with said by-pass, and a drain passage adapted to be turned into and out of engagement with said drain ports, stop shoulders formed on the upper end of said valve seat, a stop collar on the upper end of said valve plug, means on said stop collar to engage the stop shoulders on said seat, to limit the movement of said plug, and an operating rod and handle connected with said plug whereby the latter is turned on or off.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALBERT ANDREW BENNETT.

Witnesses:
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T. GERALD MCHUGH.