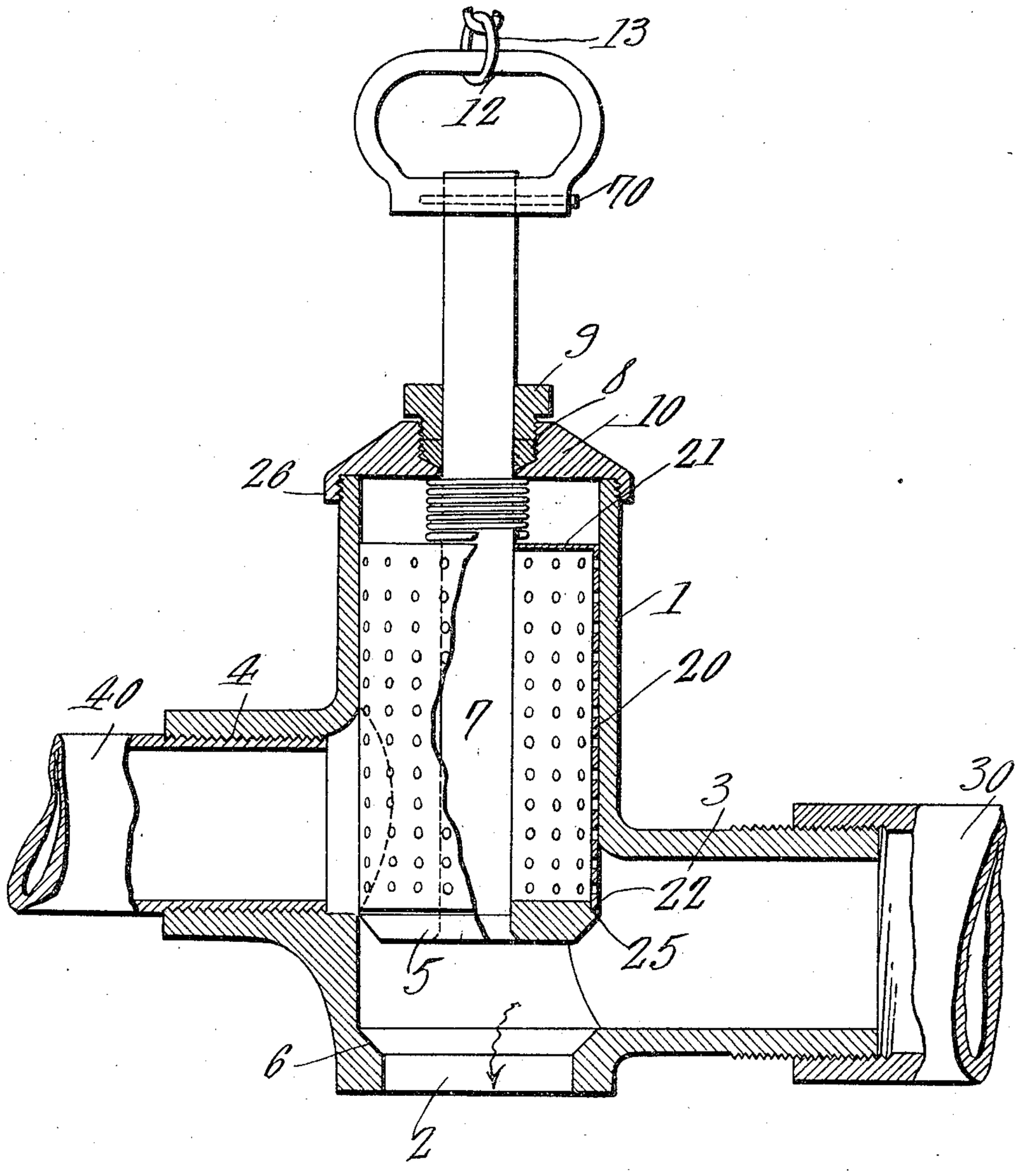
J. H. WATTERS.

FEED WATER STRAINER VALVE.

APPLICATION FILED OCT. 7, 1910.

999,532. Patented Aug. 1, 1911.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN HENRY WATTERS, OF AUGUSTA, GEORGIA.

FEED-WATER-STRAINER VALVE.

999,532. Specification of Letters Patent. **Patented Aug. 1, 1911.**

Application filed October 7, 1910. Serial No. 585,873.

To all whom it may concern:

Be it known that I, JOHN H. WATTERS, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented a new and useful Feed-Water-Strainer Valve, of which the following is a specification.

This invention relates to water purification, and more especially to filters of that type which employ a strainer; and the object of the same is to produce a strainer whose body or casing shall have an outlet normally closed by a valve. The construction is such that when the strainer has to be cleaned, the valve is raised to permit the discharge of sediment which may have accumulated and also to allow the flow of liquid to flush out the device and drive out the sediment.

The accompanying drawing is a section view through this device with the strainer raised within its casing to permit flushing, and I have described it as inserted between the tank of a locomotive and the feed water injector, simply because it was devised primarily for that use and a strainer when employed at this point soon becomes foul and needs cleaning.

In the said drawing the numeral 1 designates a casing, here shown as cylindrical, having an opening 2 in its lower end, a lateral inlet branch 3 entering through its side wall just above said opening, and a lateral outlet branch 4 opening through its opposite side wall at a little higher point, the whole being preferably cast in one piece.

5 is a valve head movable vertically within the casing and closing downward against a seat 6 around the opening 2, and 7 is a stem rising from said valve, passing through packing 8 held by a gland nut 9 in the cap 10 of the casing, and having a handle 12 at its upper end, from which handle if desired a chain 13 may lead to a remote point. The inlet branch 3 is connected by a hose nut or any other suitable form of coupling with a hose 30 that leads to a supply tank, and the outlet branch 4 is connected with a pipe 40 that leads to the injector of an engine.

It follows from the construction thus far described that when the valve head is raised as shown the water flowing in through the hose 30 will pass out the opening 2 in the direction of the arrow and little if any will pass out the pipe 40—in fact if the inlet branch 3 is set sufficiently low, none of the inflowing water could at this time reach the outlet branch 4.

The strainer used in connection with this valve consists of a cylindrical body 20 having a closed upper end 21 (except for an opening through which the stem 7 passes) and an open lower end 22 which fits onto a shoulder 25 around the valve head 5. This strainer may be of perforated brass or of wire netting, but it must have sufficient strength to withstand the pressure and the usages to which it is to be put. Surrounding the stem between the cap 10 and the upper end 21 of the strainer is an expansive spring 26.

In use, the parts are coupled up as described, or 30 may communicate with any source of liquid supply and 40 with any point to which it is to be delivered. Under ordinary conditions the valve head 5 will be closed upon its seat, and the liquid flowing into 30 must pass twice through the perforations in the body of the strainer before it flows out the branch 4 and pipe 40. Of course in time the strainer opposite the inlet branch 3 will become fouled with dirt and accumulations of matter too large to pass through its perforations, and this sediment will bank up in the branch 3 until the flow of liquid is retarded to an extent requiring attention. The operator raises the handle 12 (or pulls on the chain 13 if he be at a remote point), with the result that the parts assume the position shown in the drawings, and as soon as the valve head 5 uncovers the opening 2 the rush of fresh water will wash out the accumulated sediment and will also wash clean the interior of the inlet branch 3. When he releases his grip on the handle (or chain) the parts resume their normal position and the water passing out the pipe 40 will be strained as it should be.

At long intervals it may be necessary to replace the strainer material, and this is accomplished by removing the cap 10 and taking the handle off the stem by withdrawing the pin 70 or disconnecting whatever form of attachment is used, then slipping off the cap, the spring and the strainer, substituting a new strainer, and replacing the parts.

I do not limit myself to the sizes, shapes,

proportions or materials, nor to details of construction further than as set forth in the following.

What is claimed as new is:

The herein described strainer valve, the same comprising an upright casing having an opening in its lower end surrounded by a valve seat, an inlet branch at one side just above said opening, an outlet branch at the other side at a higher level, and a cap closing its upper end; combined with a valve adapted to close upon said seat and having a shoulder around its upper corner, a stem rising from the valve and passing loosely through said cap, means detachably connected therewith for permitting the raising of said stem, a cylindrical strainer having a closed upper end surrounding the stem and an open lower end resting in said shoulder on the valve with its body fitting slidably within said casing, and an expansive spring between the upper end of the strainer and said cap.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN HENRY WATTERS.

Witnesses:
G. E. BEST,
JAS. D. SLEDGE.