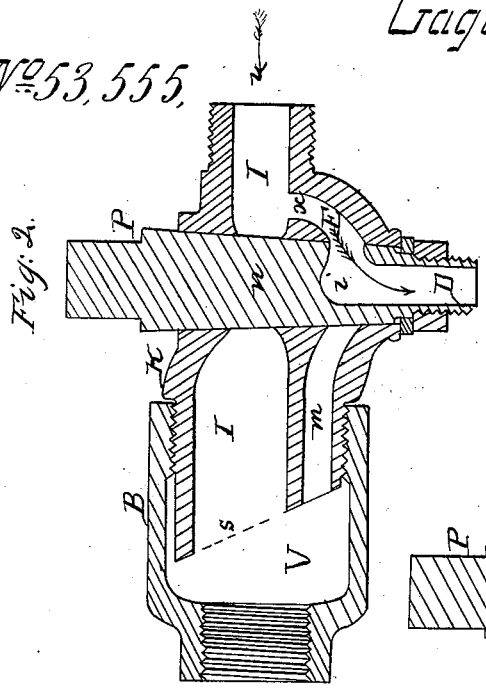
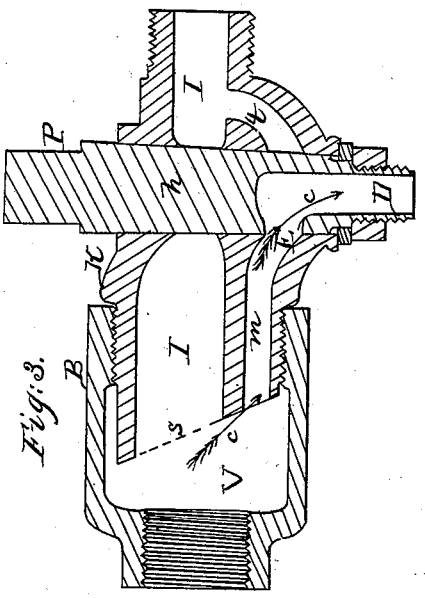
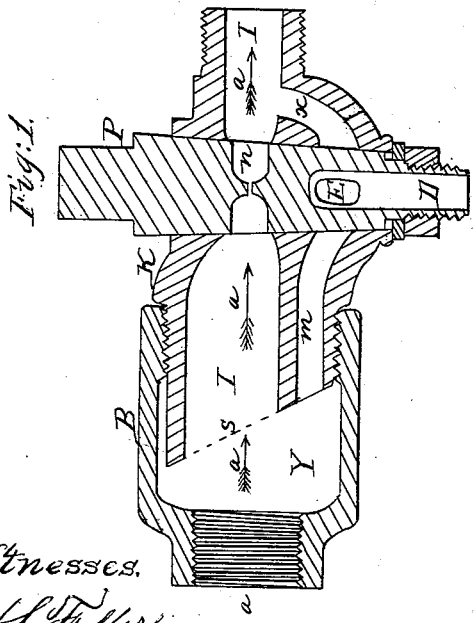
P. Ball,

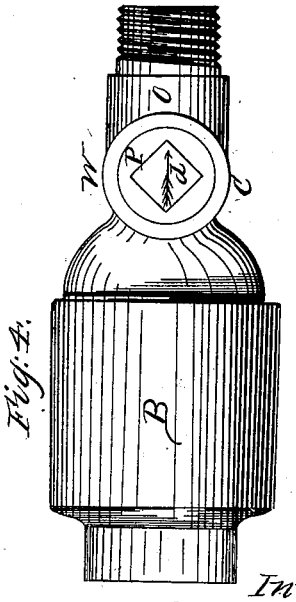
Gage Cock,

No. 53,555. Patented Apr. 3, 1866.









Witnesses.
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IMPROVEMENT IN GAGE-COCKS.

Specification forming part of Letters Patent No. **53,555**, dated April 3, 1866.

To all whom it may concern:

Be it known that I, PHINEHAS BALL, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Gage-Cocks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

In the drawings, Figure 1 is a longitudinal section with the plug P in proper position for furnishing water for use, as indicated by the arrows *a a a a*. Fig. 2 is a similar section, with the plug turned in position so as to shut the water off from use, and, opening the drain-port *t*, the water flows out of the service-pipe, thus leaving them emptied of their contents, so as to prevent injury to them from freezing. Fig. 3 is a section, showing the gage closed and the port E in the lower end of the plug P turned against the passage *m*, whereby the water is forced in the direction of the arrows *c c c* and the wire screen or filter is washed off, and all sediment stopped in the chamber of the coupling B is blown or washed out of the chamber in B, and from the screen or filter through the opening D in the plug P into the open air. Fig. 4 is a top view, the positions in which plug P has to be turned to effect the several objects above named being indicated by letters of reference.

My improved gage-cock is made at first in the same manner as the common plug-cocks, leaving the plug solid against the direct current of the water, as represented by the arrows *a a a a*, Fig. 1. The port *n* is then drilled of such size as will be required to deliver the required quantity of water under the given head. The parts of the apparatus are, first, the body K, constructed with the proper plug-socket P, which plug P, after being turned, is ground water-tight into its seat in the usual manner. This body is cast with a water way or port, I I, and cleansing-port *m*, communicating with the chamber of the coupling B at the supply end of the cock, and also with a drainway or port, *t*, communicating with the waterway on the service end of the cock. The plug P is cast solid above the water-ports *m* and *t*, and hollow in the center below the port-line, having an orifice opening into this hollow channel E, Fig. 1, which is so constructed as to allow a free communication from the open air to both the supply and service ends of the cock.

Upon or over the water-way I, which is opposed to the supply, is soldered a screen or filter, S, the meshes or pores of which are smaller than the gaging-orifice *n*, the object of which filter is to prevent any fish or organic or inorganic substance passing this point of the water-way which could in any manner fill up the gaging-orifice *n*, and thereby stop the flow of water, thus rendering the apparatus useless as a gaging apparatus. All substances arrested by this screen or filter are either retained by this screen or filter itself or are lodged and retained in the chamber V, which is made of large dimensions for that purpose. The filter S is put upon the end of the cock in an inclined position for two purposes. One is to enlarge its surface, and the other is to have its position such as that, when it has become in any manner clogged by foreign substances in the water, by opening the port *m*, so that it shall communicate directly with the open air through the orifice E and the tube D. Then the pressure of the water will cleanse the filter S and the chamber V of all accumulated obstructions, and when so cleansed, then the apparatus will continue to act as when first put in operation.

The chambered coupling B is screwed upon the body of the apparatus K, as seen in Figs. 1, 2, and 3, and the whole apparatus is then put in line of any supply-pipe in any desired position by being coupled to the supply-pipes by the screws, as represented.

The operation of the apparatus is as follows: After the cock has been properly connected in the line and ready for use the point of the arrow or the plug P, Fig. 4, is turned toward O, Fig. 4, and then the water is flowing in its proper supply-course, indicated by the arrows *a a a a*, Fig. 1.

When the filter or screen has become fully or partially obstructed, then, by turning the point of the arrow, Fig. 4, toward C, the port *m*, Fig. 3, will be opened, and the chamber V and the filter S will be cleansed by the force of the water; and when it is desired to empty or drain a portion of the service-pipes beyond the cock to prevent freezing or for any other pur-

pose, then the point of the arrow on the plug P, Fig. 4, should be turned toward W, and the port *t* is opened, as shown in Fig. 2.

Having described my improved gage-cock, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination and arrangement, within the chamber V, of the filter S with the water way I and port *n*, as and for the purposes stated.

2. The combination of the coupling B with body K, having a water-way, I, and port *m*, arranged and operating substantially as set set forth.

3. The combination, with the plug P, of the ports *m*, *n*, and *t*, arranged and operating substantially as set forth.

PHINEHAS BALL.

Witnesses:

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