

Aug. 25, 1925.

1,551,185

M. F. WATERS

GAUGE COCK

Filed Nov. 18, 1924

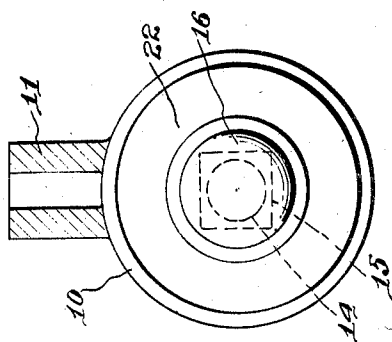


Fig. 2.

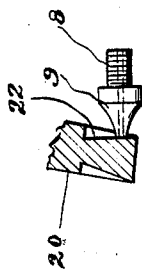


Fig. 3.

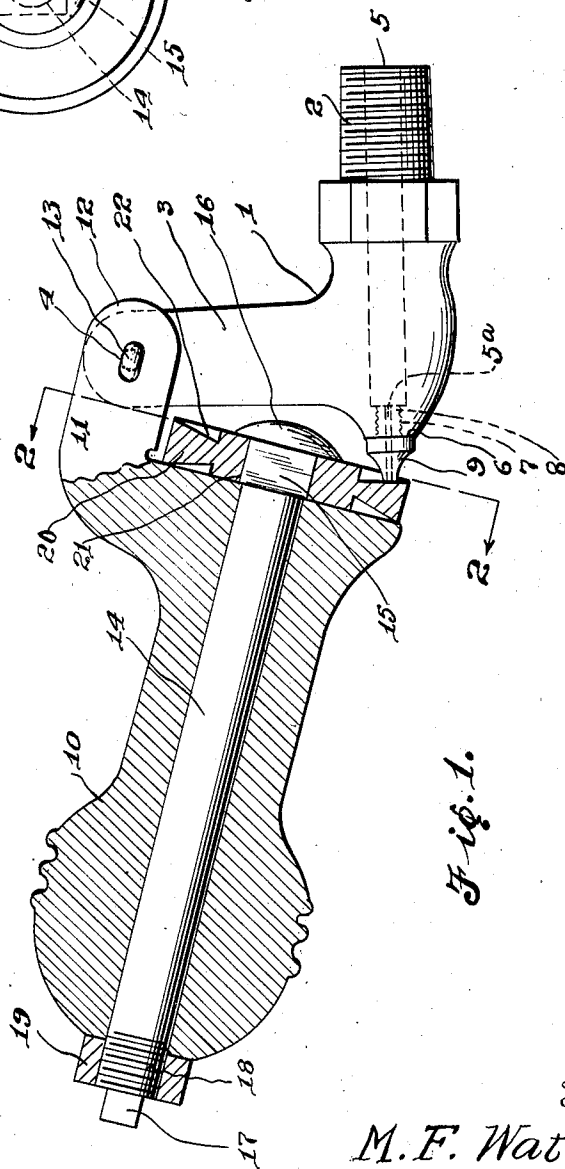


Fig. 1.

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## UNITED STATES PATENT OFFICE.

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## GAUGE COCK.

Application filed November 18, 1924. Serial No. 750,612.

*To all whom it may concern:*

Be it known that I, MILLARD F. WATERS, a citizen of the United States, residing at Tulsa, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Gauge Cocks; and I do hereby 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.

My invention relates to new and useful improvements in water gauge cocks for testing the water level in boilers and the like, and is an improvement on my pending application Serial No. 729,134 filed July 30, 1924.

The object of my present invention is to provide a gauge cock which is so constructed that the port sealing means will not be affected by heat, or corrosion. Another object is to arrange the parts of my device in such a manner that the port will seat on the valve sealing means at right angles, thus effecting a perfect seal.

With the above and other objects in view which will appear as the description proceeds, my invention consists in the novel features herein set forth, illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

Referring to the drawings, in which numerals of like character designate similar parts throughout the several views,

Fig. 1 is a view of my improved gauge, partly in section, showing the sealing disk and the position of the discharge port with relation thereto.

Fig. 2 is a view taken on line 2—2 of Fig. 1, and

Fig. 3 is a detail view of the screw threaded tip for engaging the sealing disk.

In the drawings, 1 represents the body portion of my improved gauge cock, and is preferably composed of brass, threaded at one end 2 to enable it to be screwed into a boiler head (not shown). On the upper side of the body 1, I provide an upwardly extending lug 3, integral therewith and having an aperture 4 therein. 5 designates a longitudinally extending passage in the body 1, which terminates at the end 6 of the body in a smaller threaded aperture 7 as shown in dotted lines, Fig. 1, to receive the threaded neck 8 of a tip 9, also provided

with a passage 5<sup>a</sup>, which registers with the passage 5. This tip is composed of a very hard material, preferably Monel metal, which is neither expanded nor contracted by changes in temperature nor affected by the action of acids, rust or corrosion.

10 represents a handle of heavy material, at one end of which is an extension 11 comprising two apertured ears 12, which engage the lug 3 of the body 1 and are adapted to receive a cotter pin or the like, 13, which also passes through the aperture 4 in the lug 3.

As in my pending application, I provide a longitudinally extending rod 14, rotatable in the handle 10, terminating at its inner end in an enlarged squared portion 15, having a shoulder or head 16 integral therewith. The other end of the rod 14 is squared as at 17 to receive a wrench or the like, and threaded at 18, just below said squared end 17, to receive a lock nut 19.

On the squared portion 15 is a removable circular disk 20 provided with a squared aperture 21 which corresponds in shape with the squared portion 15 and is adapted to be revolved thereby. This disk is preferably composed of a substantially soft metal and is beveled inwardly from its periphery on both faces thereof as shown at 22, Fig. 1, at such an angle that the tip 9 will engage said disk at right angles, thus producing a perfect seal of the ports 5, 5<sup>a</sup>.

The operation of my device is similar to that shown in my pending application before referred to. The threaded portion 2 of the body is screwed into a boiler head, the lug 3 extending upwardly and supporting the handle 10 on its pivot. The weight of the handle forces the sealing disk 20 against the hard tip 9, causing the same to be seated therein and sealing the port 5<sup>a</sup> of the exhaust outlet.

By raising the handle 10, the seal is broken and steam or water allowed to exhaust. After one portion of the beveled face of the disk 20 becomes worn, the disk is turned to a new place, by loosening the lock nut 19 and applying a wrench to the end 17. The disk may also be turned over on a new face by simply removing the lock nut 19 and pulling out the rod 14.

It is obvious that with my improved device, a perfect seal may be obtained, due to the tip 9 of hard material engaging the

disk 20 of softer substance at right angles.

From the foregoing, it is believed that my invention may be clearly understood without further description, it being borne 5 in mind that numerous changes may be made in the details of construction without departing from the spirit of the invention as disclosed in the appended claims.

What I claim and desire to secure by Letters Patent is:—

10 1. A gauge cock adapted to be secured to a boiler head including an apertured body portion, a handle pivoted to said body portion, a sealing disk on said handle beveled inwardly from its periphery on its port 15 engaging face, the mouth of the aperture in said body portion being adapted to en-

gage the beveled portion of said disk at right angles thereto.

2. A gauge cock adapted to be secured to 20 a boiler head, including an apertured body portion having a tip of harder material than said body, a handle pivoted to said body portion, a sealing disk on said handle beveled inwardly from its periphery on its port- 25 engaging face, said tip being adapted to engage the beveled portion of said disk at right angles thereto.

3. A gauge cock as claimed in claim 2, wherein said tip is composed of Monel metal. 30

4. A gauge cock as claimed in claim 2 wherein said disk is beveled on both faces.

In testimony whereof I affix my signature.

MILLARD F. WATERS.