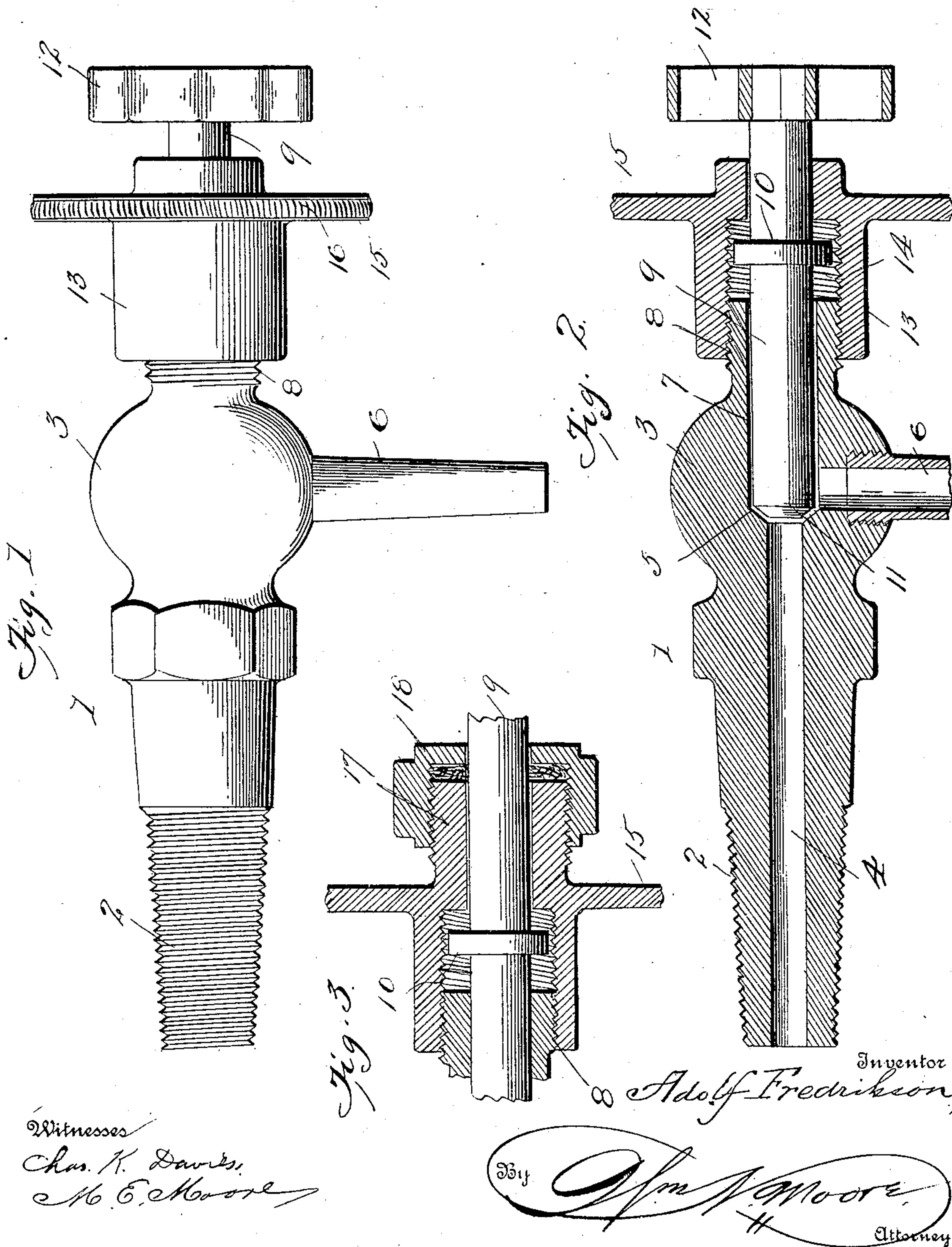


No. 856,047.

PATENTED JUNE 4, 1907.

A. FREDRIKSON.
GAGE COCK.

APPLICATION FILED JUNE 30, 1906.



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GAGE-COCK.

No. 856,047.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed June 30, 1906. Serial No. 324,235.

To all whom it may concern:

Be it known that I, ADOLF FREDRIKSON, a citizen of the United States, residing at Soudan, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Gage-Cocks, of which the following is a specification.

My invention relates to improvements in gage cocks, of the sort that are in common use upon the ordinary type of steam boiler, and one object of my invention is the provision of a gage cock which, when the slightest leak occurs, the valve may be readily re-ground to a perfect fit without relieving the pressure in the boiler or interfering in any manner with the functions of the boiler.

Another object of my invention, is the provision of a gage cock of great durability and strength possessing a valve stem which may be reversed end for end, so that as the valve becomes worn, it may be readily changed, so that the gage cock will have practically double the life of the gage cock now in common use.

My invention further has for its object, to produce a practical and efficient gage cock of simple construction, which will perform the functions of such a device in a thoroughly satisfactory manner.

With these and other objects in view, my invention consists of a plug formed with an interior valve seat, a shouldered stem provided with a valve to engage said seat, and a retaining sleeve mounted on the plug and engaging the shouldered stem to adjustably close the valve against its seat.

To attain the desired objects, my invention consists of a gage cock embodying certain other novel features of construction, combination and arrangement of parts substantially as disclosed herein.

Figure 1, is a side elevation of my improved gage cock as applied to an ordinary boiler. Fig. 2, is a longitudinal sectional view thereof, and Fig. 3, is a similar view of a slightly modified form of the invention.

Referring to the drawings in detail: the numeral 1, designates the plug or body of the gage cock, formed with the tapered threaded portion 2, adapted to enter the boiler plate, and provided midlength, with the bulging valve chamber 3. A channel or passage 4, extends from the valve chamber to the end of the plug, and is ordinarily in

communication with the live steam. A valve seat 5, is formed in the valve chamber, at the end of the inlet passage 4, and a relief cock or spout 6, forms an outlet to the valve chamber.

The outer end of the plug, is provided with a valve stem opening 7, (preferably larger in diameter than the inlet opening to the plug) and this outer end or neck of the plug, is exteriorly threaded as at 8. Engaged in the longitudinal passage in the neck of the plug, is a valve stem 9, provided about midway its length, with an annular collar 10. This collar is preferably formed integral with the stem, but it may be secured thereto in any well known manner. The inner end of the stem, is beveled to form a valve 11, to engage the valve seat, and the outer end of the stem, is squared or otherwise mutilated to receive the small handle or wheel 12.

Fitted upon the outer or threaded neck of the plug, is an interiorly-threaded sleeve or thimble 13, formed in the head of which, is a chamber 14, to receive the shoulder on the valve stem. The inner wall of this sleeve or thimble when the sleeve is screwed down, is adapted to engage the collar on the stem and form an abutment to the same to hold the valve closed.

Formed integral on the head of the sleeve is an annular flange or rim 15, the periphery of which, is knurled or roughened as at 16, to form a convenient hand hold so that the sleeve may be readily rotated.

The construction illustrated in Fig. 3, is designed for extra large gage cocks or for heavy steam valves, and the only difference between this, and the valve just described, is that a threaded neck of extension 17, is formed on the head of the sleeve, and upon said threaded extension, is secured the packing nut 18.

With my improved gage cock in position for use, when it is desired to test the water in the boiler, by slightly unscrewing the sleeve on the neck of the plug, the valve is opened, and the water or steam escapes through the relief spout. The valve stem fits snugly in the neck of the plug, and as the valve chamber is of comparatively large area, there is no back pressure, so that when the valve is opened, the steam cannot escape by way of the valve stem. Leakage by way of the valve stem, is further prevented by means of

the collar on the stem, which when the valve is closed makes a close joint in the head of the sleeve.

Should the valve seat become incrustated, or the valve be cut by the steam, or should a leak occur from any other cause, the valve may be quickly re-ground without removing the pressure from the boiler. This is accomplished by pressure on, and rotation of the valve stem by means of the handle on the end of the stem. This action causes the valve to form a fresh engagement with the valve seat and a perfectly tight joint is quickly effected. When the valve becomes worn too much and the valve stem is too short, the stem is removed, and the opposite end finished up to form a valve, so that the valve stem has an exceedingly long life of usefulness.

From this description taken in connection with the drawings, it will be obvious that I have provided a gage cock which accomplishes all the objects herein set forth, which possesses many valuable features of improvement, and which is thoroughly satisfactory in every particular.

I claim:

1. In a gage cock, the combination with a tapered threaded plug having an outlet passage and a valve seat at the end thereof, an enlarged valve chamber contiguous to said seat provided with a relief spout, a valve stem opening formed in the outer portion of the plug larger than and in alinement with the outlet passage, of a valve stem fitting in said opening formed with a valve on its inner end for engagement with the valve seat, a rigid collar on the stem substantially mid-length, a handle on the outer end of the stem, and an interiorly threaded thimble engaging the outer threaded end of the plug, the inner face of the cavity in the thimble adapted to form an abutment for engagement with the collar on the stem, the thimble having a wide annular knurled flange for manipulation thereof.

2. In a gage cock, the combination with a threaded plug having an outlet passage and a valve seat at the end thereof, an enlarged valve chamber contiguous to said seat provided with a relief spout, a valve stem opening formed in the outer portion of the plug

in alinement with the outlet passage, of a valve stem fitting in said opening formed with a valve on its inner end for engagement with the valve seat, a rigid collar on the stem, a handle on the outer end of the stem, an interiorly threaded thimble engaging the outer threaded end of the plug, the inner face of the cavity in the thimble adapted to form an abutment for engagement with the collar on the stem, the thimble having a wide annular knurled flange to afford a grasping portion, the thimble being further provided with an outer threaded extension, and an interiorly threaded packing nut mounted thereon and encompassing the valve stem.

3. The gage cock herein described, comprising a plug having a tapered screw-threaded end for engagement with the boiler plate and having an outlet passage therein, a valve seat at the end of said passage, the plug being enlarged to form a valve chamber adjacent the valve seat, a relief spout in communication with the valve chamber, an enlarged valve stem passage leading from the valve seat to the outer end of the plug, the outer end of the plug being externally threaded, a valve stem of slightly less diameter fitting in the valve stem passage having on its inner end a valve for engagement with the valve seat, said stem formed with an integral collar about midlength and outside of the end of the plug, a wheel handle on the outer end of the stem, a thimble surrounding the stem and having internal screw threads for engagement with the threaded outer end of the plug, the inner wall of the thimble adapted to act as an abutment to engage the collar on the stem and hold the valve closed, the thimble formed with an integral wide annular flange having a knurled edge to provide a handhold, the thimble being further provided with an outer threaded neck extension encompassing the stem, and a packing nut secured thereon to prevent any leakage of steam from around the stem.

In testimony whereof I affix my signature in presence of two witnesses.

ADOLF FREDRIKSON.

Witnesses:

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R. R. McQUADE.