F. W. LEIDECKER.

GAGE COCK.

APPLICATION FILED MAR. 31, 1914.

1,124,471. Patented Jan. 12, 1915.

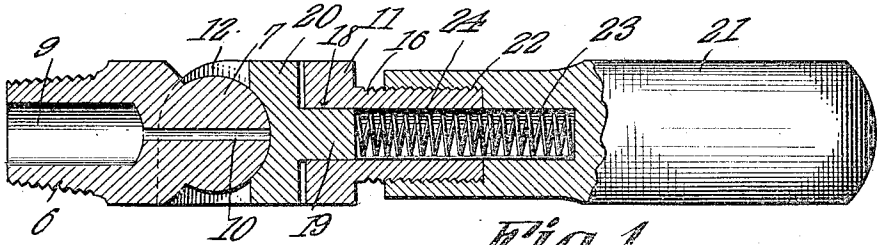


Fig. 1.

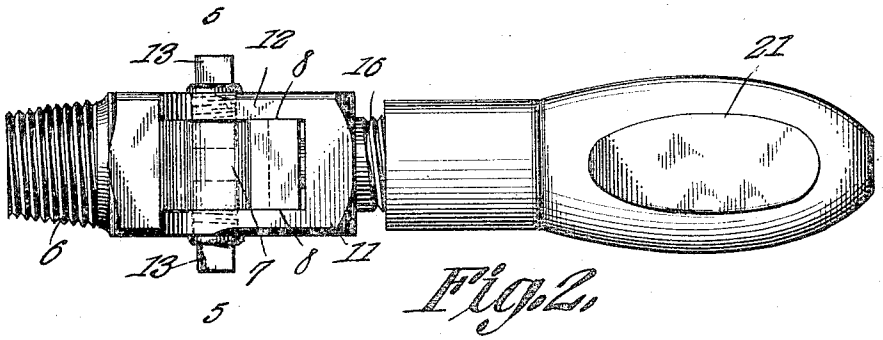


Fig. 2.

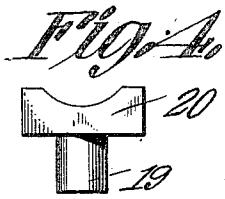


Fig. 4.

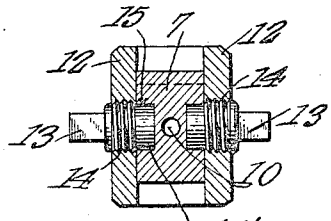


Fig. 5.

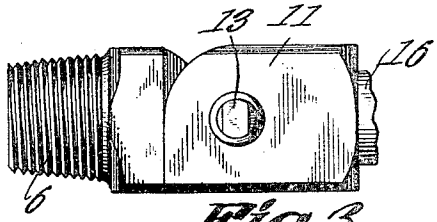


Fig. 3.

Witnesses

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GAGE-COCK.

1,124,471. Specification of Letters Patent. Patented Jan. 12, 1915.

Application filed March 31, 1914. Serial No. 828,598.

To all whom it may concern:

Be it known that I, FRANK W. LEIDECKER, a citizen of the United States, residing at Marietta, in the county of Washington and State of Ohio, have invented a new and useful Gage-Cock, of which the following is a specification.

This invention relates to gage cocks.

The object of the present invention is to provide a gage cock in which the wear of a valve or cutoff is automatically taken up, thus preventing the leakage of the device.

A further object is to improve generally the construction disclosed in my former Patent No. 711,983.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the drawings accompanying this specification and forming a part thereof, the preferred embodiment of my invention is illustrated, in which:—

Figure 1 is a sectional elevation of a gage cock characterized by this invention. Fig. 2 is a top plan view thereof. Fig. 3 is a fragmentary detail view in side elevation. Fig. 4 is a detail view of the valve seat. Fig. 5 is a cross sectional view taken on the line 5—5 of Fig. 2.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 6 is a nipple, externally threaded, so as to engage an opening in a boiler whose level is an indication of the amount of water therein. The rear extremity of the nipple is provided with the cylindrical valve member 7, the same being relatively smaller in transverse section than the nipple and is provided with straight walls 8. An enlarged passageway 9 extends through the nipple 6 and communicates with the restricted outlet duct 10 which extends through the valve member 7.

A yoke 11, including the forwardly projecting spaced arms 12 is adapted to receive the valve member 7 therein and pivotally support the same by the threaded trunnions 13. The said trunnions threadedly engage the openings 14 in the arms 12 and are provided with the cylindrical portions 14′ which project within the diametrically opposed bearings 15. The rearwardly projecting and externally threaded sleeve 16 is carried by the yoke, the opening 15 which communicates with a similar opening 18 which extends through the yoke, extending approximately central thereof, and which opening receives a guide lug or projection 19 of the valve seat member 20.

The valve seat member 20 is formed of some suitable metal acting in the capacity of a bushing and valve seat. I have found after extensive experience with gage cocks that unless some resilient means are provided for holding the valve seat tightly against the valve head a constant and useless waste of steam and water will be experienced and furthermore a direct and positive force applied to the valve seat will result in a wedged engagement between the moving parts, thus preventing their proper working, and furthermore that said positive force will prevent the valve seat from allowing for any irregularities which may occur in either of the contacting surfaces. The present device overcomes these objections and with this in view the bushing or valve seat 20 is provided with the rearwardly extending guide lug 19 slidably disposed within the opening 18 whereby the said bushing is prevented from becoming accidentally detached from the yoke. The bushing is thus limited to a sliding and rectilinear motion and is thus constrained to move directly against or away from the valve head 7.

A handle 21 internally threaded as at 22 which allows the same to engage the sleeve 16 and the advancement or retraction thereof, is thus provided. A spring receiving opening 23 projects inward in the handle and in which is housed the spring 24, the opposite end of which contacts with the extremity of the guide lug 19 of the valve seat and resiliently holds the same in contact with the valve head, thus providing for superficial contact therebetween and insuring a tight joint. The gage cock will thus be efficient in service, will remain tight even though the valve head 7 be other than exactly cylindrical in contour. The spring 24 is of such strength as to hold the valve seat in tight contact with the valve head, despite the pressure brought to bear thereagainst and communicated thereto through the passageway 9 and duct 10. By moving the han-

dle 21 the yoke is rotated, thus moving the valve seat and exposing the outlet duct 10, and the character of the discharge indicates the quantity of water in the boiler.

Having thus fully described my invention, what I claim is:—

1. A gage cock comprising a boiler engaging member with an outer cylindrical end and outlet duct extending therethrough, a yoke with spaced arms receiving the cylindrical end of said boiler engaging member, the said cylindrical end provided with transversely extending limited bearings extending therein, the spaced arms of the yoke provided with threaded openings extending therethrough registering with the aforementioned bearings, trunnions threadedly engaging the arm openings and provided with cylindrical portions projecting within the said bearings and rotatably mounting the said yoke, a valve seat member slidably positioned between the arms, and means for forcing the same into resilient contact with the cylindrical end of the said boiler engaging member.

2. A gage cock comprising a boiler engaging member with an outer cylindrical end and outlet duct extending therethrough, a yoke spaced with arms receiving the cylindrical end of said boiler engaging member, the said cylindrical end provided with transversely extending limited bearings extending therein, the spaced arms of the yoke provided with threaded openings extending therethrough registering with the aforementioned bearings, trunnions threadedly engaging the arm openings and provided with cylindrical portions projecting within the said bearings and rotatably mounting the said yoke, said trunnions provided with outstanding wrench engageable ends, a valve seat member slidably positioned between the arms, and means for forcing the same into resilient contact with the cylindrical end of the said boiler engaging member, the line of force of said resilient means extending through the axis of rotation of said yoke.

3. A device of the character stated, comprising a boiler engaging member with a cylindrical valve head projecting rearwardly therefrom and provided with a duct extending therethrough, a yoke including spaced arms rotatably receiving the cylindrical valve head therebetween, means rotatably engaging the valve head and carried by said yoke, rotatably mounting the former, the valve seat member slidably positioned between the arms of the yoke and provided with a cylindrical surface contacting with and conforming to the cylindrical valve head, said yoke provided with a rearwardly extending axial bore, the axis thereof extending through the axis of rotation of the said cylindrical valve head, said valve seat member provided with a rearwardly extending cylindrical projection fitting within and slidably held by the said last mentioned bore, a handle threadedly engaging said yoke, and a spring housed within the yoke axial bore, contacting with the said handle and with the said valve seat member, the line of force of said spring extending through the axis of rotation of the cylindrical valve head.

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

FRANK W. LEIDECKER.

Witnesses:
FRED PEEBLES,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."