C. E. ANGIER.

GAGE COCK.

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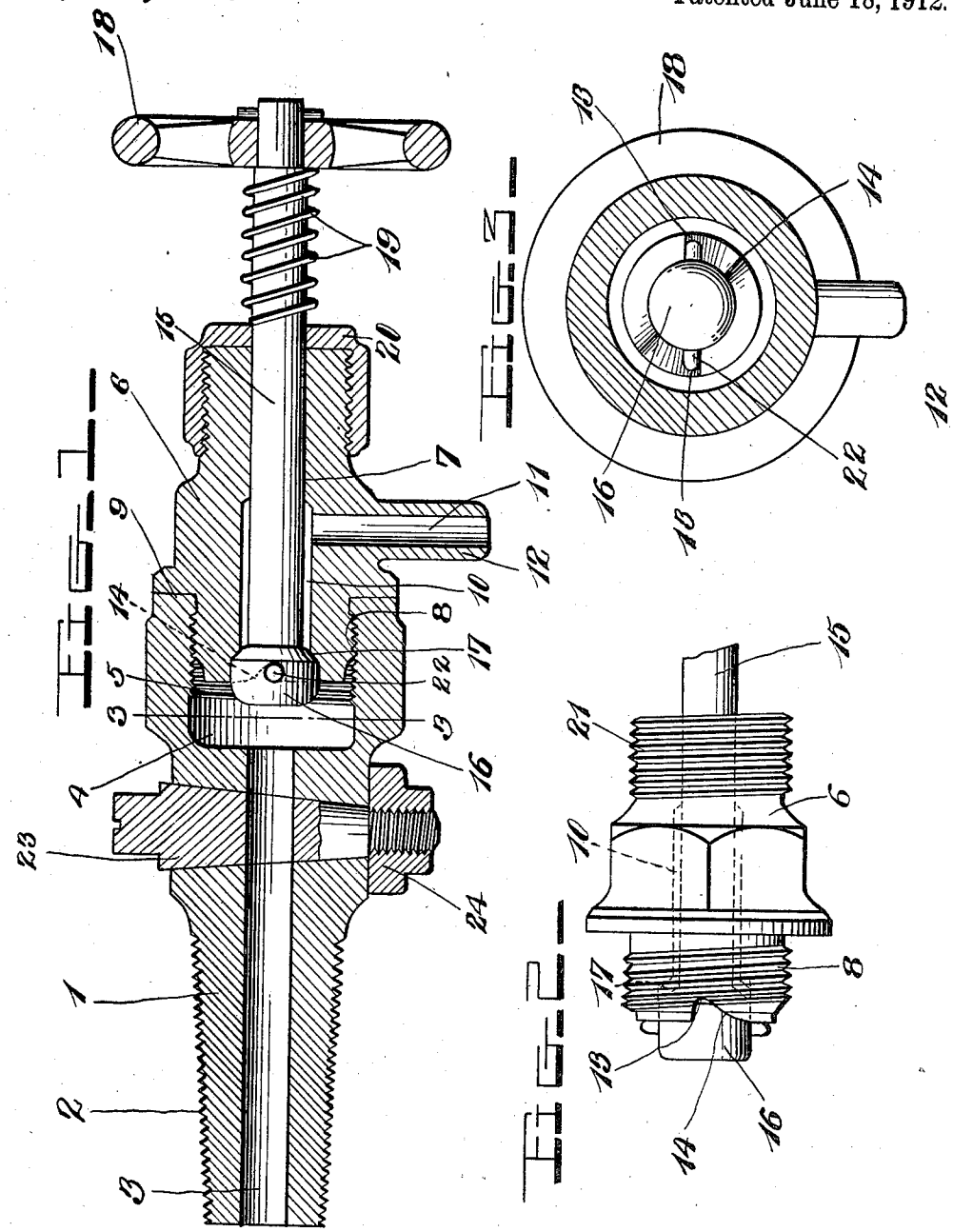
Patented June 18, 1912.



Witnesses

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GAGE-COCK.

1,029,963. Specification of Letters Patent. Patented June 18, 1912.

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To all whom it may concern:

Be it known that I, CARL EDWARD ANGIER, a citizen of the United States, residing at Beardstown, in the county of Cass and State of Illinois, have invented certain new and useful Improvements in Gage-Cocks, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in water or steam gage cocks and has for its object to provide a device of this character with improved means for opening and closing the valve thereof.

A further object of the invention resides in the provision of a device of this character wherein the valve is held in its closed position by means of a spring, and a further object resides in the provision of a cam face on the valve casing, which cam face is adapted to coöperate with portions of the valve, whereby said valve may be opened or closed by the mere turning of the stem thereof.

Still another object of the invention resides in providing a device which is extremely simple in construction, inexpensive to manufacture, and one which is very efficient and useful in operation.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawing forming a part of this application, Figure 1 is a longitudinal section through my improved gage cock. Fig. 2 is a side elevation of a portion of the valve casing, and, Fig. 3 is a transverse section through the device as seen on line 3—3, Fig. 1.

In carrying out my invention, I shall refer to the drawing in which similar reference characters designate corresponding parts throughout the several views and in which 1 indicates a sleeve member or casing, one end of which is tapered and threaded, as shown at 2, and the bore 3 of which communicates with a chamber 4 formed in the one end of said casing, that portion of the device forming said chamber being somewhat enlarged in diameter and internally threaded, as shown at 5. A shank member or additional casing 6 having a longitudinal bore 7 therethrough, has one end thereof externally threaded, as shown at 8, and engaged with the internally threaded portion 5 of the chamber 4, that portion of the member 6 which is threaded at 8 being reduced to form a shoulder 9 which is adapted to abut the peripheral edge of the member 1 when said member 6 is properly engaged with said sleeve member 1. The bore 7 is somewhat enlarged in diameter for a portion of its length, as shown at 10, this enlarged portion of the bore communicating with a passage-way or the like 11 formed in a lateral extension 12 of the member 6, and the inner peripheral edge of said member 6 which extends within the chamber 4, is provided at diametrically opposite points thereon with the cavities or recesses 13, the opposed wall of each recess being the continuation of a cam surface 14, the purpose of which will be hereinafter and more particularly described.

Extending longitudinally through the bore 7 is a shaft or stem 15, the inner end of which is provided with a head or valve 16 which is adapted to be seated in the valve seat 17 formed at the outer end of the enlarged bore portion 10 of said member 6. The outer end of the stem 15 is provided with a handle member or the like 18, and a coil spring member 19 which encircles said stem 15, has one end thereof contacting with said handle member 18, while the opposite end contacts with the cap member 20 which is threaded onto the threaded end 21 of the member 6, whereby it will be appreciated that the tendency of said spring to draw the stem outwardly, will normally position the valve 16 in the seat 17. The valve 16 forming a head on the one end of the stem 15, projects beyond the inner peripheral edge of the member 6 and has extending transversely therethrough a pin 22 which, projecting beyond diametrically opposite points on said valve, forms substantial lugs thereon adapted to enter the notches or recesses 13 in the peripheral edge of said member 6. Thus, from this construction, it will be seen that by turning the handle member 18, which will turn the stem and valve thereon, the pin 22 contacting constantly with the cam surfaces 14, will unseat the valve 16, simultaneously drawing inwardly upon the stem 15 against the tension of the spring 19. A continued turning of the handle member 18 to position the projecting ends of the pin 22 in contact with the flat peripheral edge of

the member 6, will retain the valve in its open position, due to the tension of the spring 19 thereon, but it will be appreciated that if the valve is merely turned sufficiently to permit the pin 19 to contact with portions of the cam surfaces 14, said valve will readily return to its closed position through the aid of the pressure of the water or steam which may be passing through the bore 3 and the tension of the spring 19. When the valve is held in its open position, it will be seen that the water or steam, as the case may be, may be permitted to pass from the boiler or the like through the bore of the member 1 into the chamber 4, from whence it will continue in its passage through the enlarged bore 10 out through the bore 11 of the lateral extension 12.

Of course, it is possible that after constant use, portions of the device may become damaged to such an extent as to require repairing, and in order to permit such repair, I provide the member 1 with the plug valve 23 which extends transversely therethrough and has the one end threaded and engaged with a nut 24, whereby the same may be securely held in position. When it is desired to effectively position this plug valve, it will only be necessary to loosen the nut 24, whereupon said plug valve may be slightly turned, and when the same has completely closed the passage-way of the door 3, said nut may again be turned home to secure said plug in this position. Any necessary repairs may then be made without danger of the steam or water escaping.

From the foregoing, it will be seen that I have provided a simple, inexpensive and efficient means for carrying out the objects of the invention, and while I have particularly described the elements which are most well adapted to perform the functions set forth, it is obvious that various changes in form, proportion and in the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the principles of the invention.

What I claim is:—

1. A gage cock comprising a casing provided with a longitudinal bore and having a chamber formed at one end thereof in communication with said bore, said chamber being internally threaded, an additional casing having an externally threaded portion thereon in engagement with the threaded portion of the referred to casing, said additional casing having a portion of the bore thereof enlarged in diameter and provided with a valve seat at the inner end thereof, the inner peripheral edge of said additional casing adjacent said valve being provided with notches and cam surfaces, a valve adapted to be mounted in the valve seat, a stem for said valve extending through the bore of said additional casing and provided with a handle member at the free end thereof, a spring member encircling said stem between the handle member and the additional casing, a pin extending through said valve, the projecting portions of which are adapted to be seated in the notches on the peripheral edge of said additional casing and also adapted to cooperate with the cam surfaces, and an outlet in communication with the enlarged bore portion of the additional casing.

2. A gage cock comprising a pair of sleeve portions in threaded engagement with one another, the one sleeve portion being provided with a chamber at the engaged end thereof, the other of said sleeve portions having a portion of the bore enlarged and provided with a valve seat at one end thereof, said last mentioned sleeve portion also having its inner peripheral edge provided with notches at diametrically opposite points thereon and the opposed walls of said notches formed into cam surfaces, a valve adapted to be mounted in the seat referred to, a stem for the valve extending longitudinally through the bore of the last mentioned sleeve portion and having its outer end provided with a handle member, a spring encircling said stem between the handle member and the referred to sleeve, and a pin extending transversely through the valve, the projecting portions of which are adapted to be seated in said notches and coöperate with the cam surfaces in the positioning of said valve.

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

CARL EDWARD ANGIER.

Witnesses:

LLOYD M. MCCLURE,

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