

No. 675,752.

Patented June 4, 1901.

W. MULLER.  
GAGE COCK.

(Application filed Feb. 21, 1901.)

(No Model.)

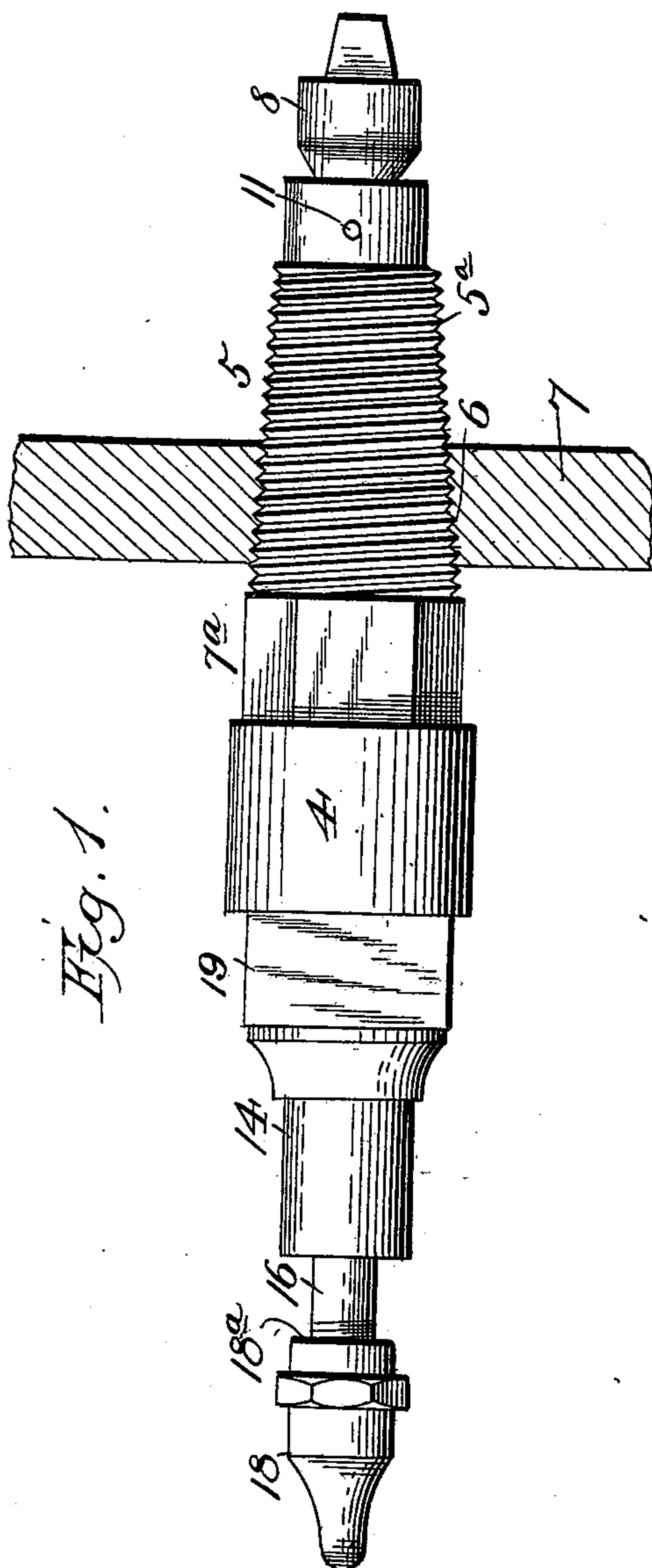


Fig. 1.

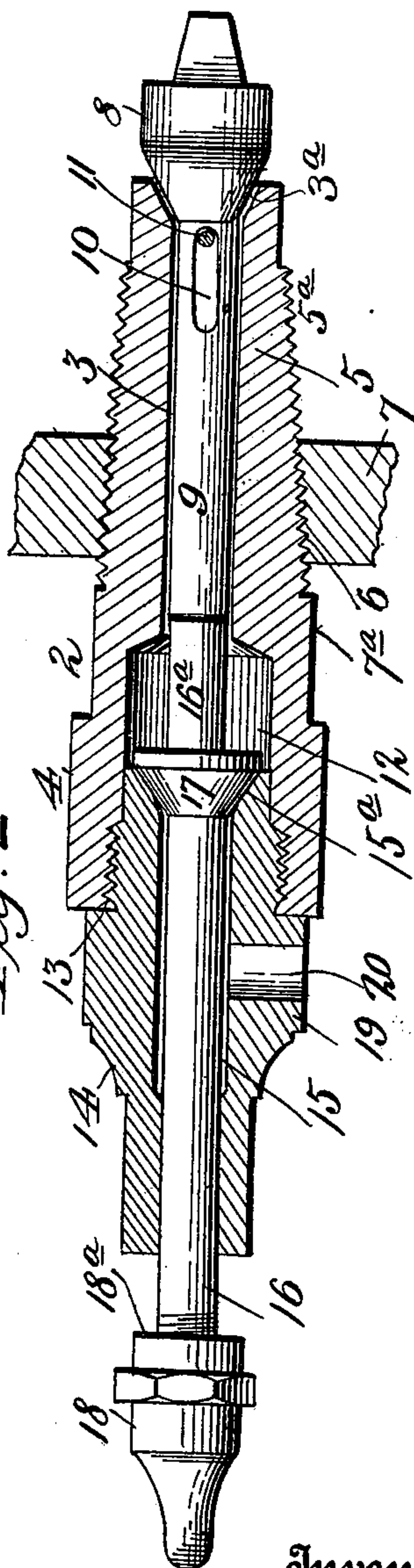


Fig. 2.

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# UNITED STATES PATENT OFFICE.

WILLIAM MULLER, OF ALLEGHENY, PENNSYLVANIA.

## GAGE-COCK.

SPECIFICATION forming part of Letters Patent No. 675,752, dated June 4, 1901.

Application filed February 21, 1901. Serial No. 48,373. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM MULLER, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Gage-Cocks, of which the following is a specification.

My invention relates to gage-cocks; and the object of the same is to produce a cock of this description which can be cleaned and repaired while the boiler is under full steam. With this object in view I have devised a cock having two valves—an inner and an outer one—which are so arranged that when the inner one is seated it holds the outer one unseated; but when the inner one is removed for repairs the outer one, which is located within the boiler, is seated and prevents the escape of steam and water.

The novel construction by which the above results are accomplished is fully described in this specification and claimed, and illustrated in the accompanying drawings, forming a part thereof, in which—

Figure 1 is a side elevation of my gage-cock, together with a fragment of a boiler-head shown in section. Fig. 2 is a longitudinal section of the cock.

Like numerals of reference designate like parts in the different views of the drawings.

The numeral 2 designates the inner body portion of my cock, which is uniformly bored longitudinally at 3 and is provided with an enlarged portion 4. One end 5 of the body 2 has a tapering outer contour and is provided with threads 5<sup>a</sup>, thus forming a conical threaded shank 5. In practice this shank 5 is screwed in an aperture 6 in the head 7 of a boiler, and thus forms a steam-tight joint.

The body 2 is made hexagonal at 7<sup>a</sup> to accommodate a wrench. The inner end of the bore 3 is reamed out at 3<sup>a</sup> to form a seat for a conical valve 8. This valve 8 is formed integral with a stem 9, which extends into and loosely fits the bore 3. To limit the movement of the stem 9 to prevent it and the valve 8 from falling into the boiler, a slot 10 is formed therein which engages a pin 11, extending transversely the shank 5.

The enlarged previously-mentioned portion 4 of body 2 is pierced by an aperture 12,

which connects with the bore 3. The open end of this aperture 12 is threaded at 13, and fitting within this threaded portion is an outer body portion 14. This body portion 14 is bored longitudinally at 15, and loosely fitting this bore is a stem 16, provided with a conical valve 17. To accommodate this valve 17, the inner end of the bore 15 is reamed out at 15<sup>a</sup>. A portion 16<sup>a</sup> of the stem 16 extends beyond the valve 17 and loosely fits the bore 3 and contacts with the end of the stem 9, and thus limits the movement of this stem and keeps the valve 8 from seating. The shank 16 also projects beyond the outer end of the bore 15 and is fitted with a head 18, squared at 18<sup>a</sup>. The body portion 14 is also squared at 19 to accommodate a wrench and transversely apertured at 20 to permit the water and steam to flow out.

In operation my gage-cocks are fitted in the head of a boiler in the neighborhood of the water-level, three being employed on each boiler and located one above the other in an inclined plane. The shanks 5 are screwed into the boiler-head. When the gage-cock is assembled as shown in the drawings, the stems 9 and 16 will abut and the valve 8 will be held out of its seat; but the action of the steam will hold the valve 17 normally seated. When it is desired to ascertain the height of water in the boiler, the head 18 is pressed on with a stick or rod and the stem 16 forced inwardly, thereby unseating the valve 17 and permitting the water and steam to flow out around the stems 9 and 16 and through the aperture 20. The aperture 15 is contracted at 21 to prevent the steam from coming straight out.

In cleaning or repairing the valve 17 the body portion 14 is detached by screwing it out, which will permit the valve 8 to seat, and thus prevent the escape of steam. When the repairs have been completed, the portion 14 is once more screwed in, which will unseat the valve 8 again.

I may make the portion 16<sup>a</sup> of the stem 16 a little shorter than shown in the drawings, which would permit the valve 8 to seat. Then when the head 18 is forced back in testing the stems 9 and 16<sup>a</sup> would abut and the valve 8 would be unseated. This modified form

would possess all the advantages of the other form except that the valve 8 would be exposed to more wear.

I do not wish to be limited as to details of construction, as these may be modified in many particulars without departing from the spirit of my invention.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent, is—

In a gage-cock, the combination of a first body portion longitudinally apertured and provided with a threaded shank, a slotted stem loosely fitting the aperture in said body portion and provided with a valve fitting a seat in the end of said aperture, a pin extending transversely said body portion and

through the slot in said shank, a second longitudinally-apertured body portion detachably connected to said first body portion, a stem loosely fitting the aperture in said second body portion and provided with a valve fitting a seat in the end of said aperture, said stem being arranged to abut the stem of the valve in said first body portion to hold said valve normally out of its seat, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM MULLER.

Witnesses:

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F. G. RADELFINGER.