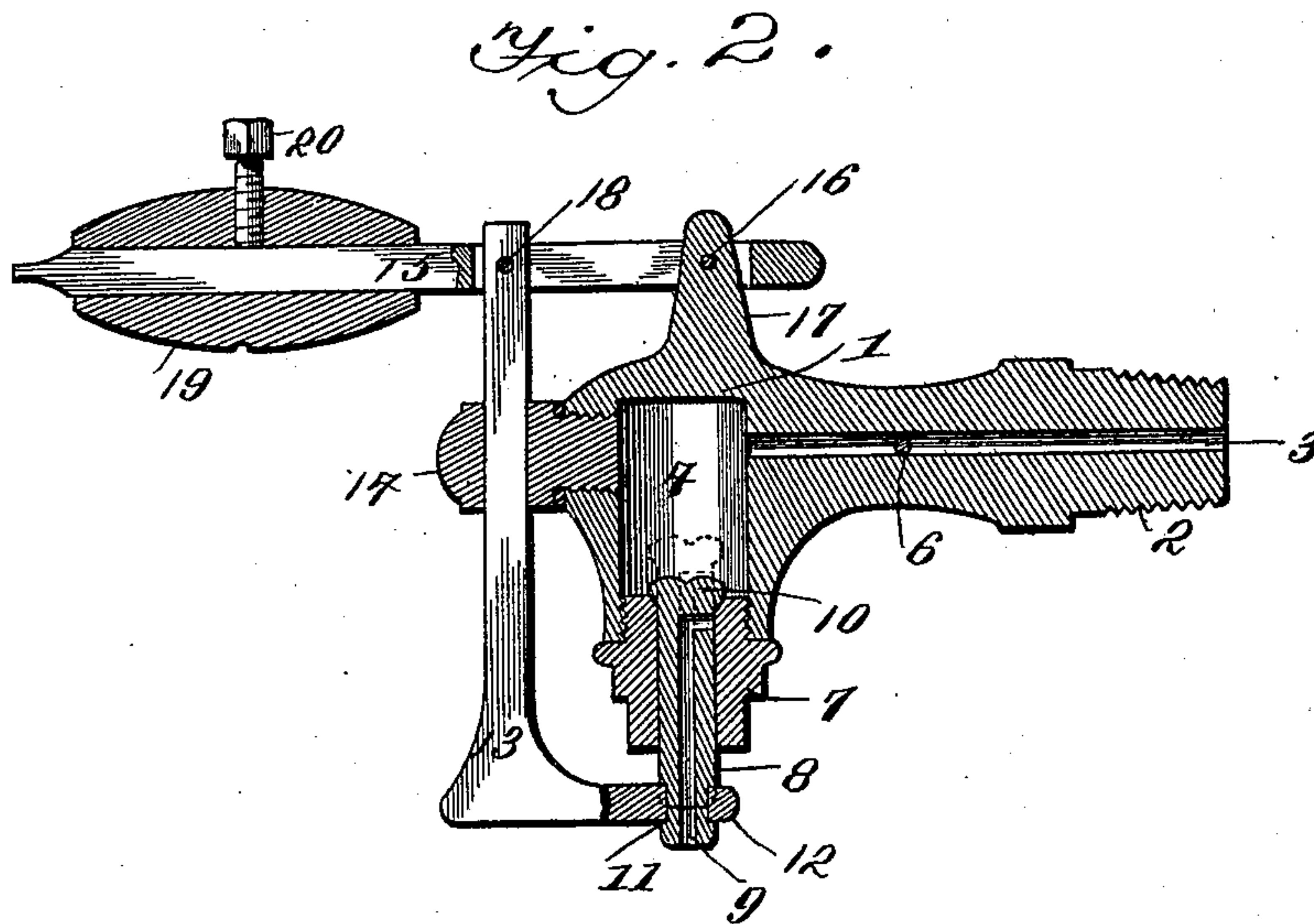
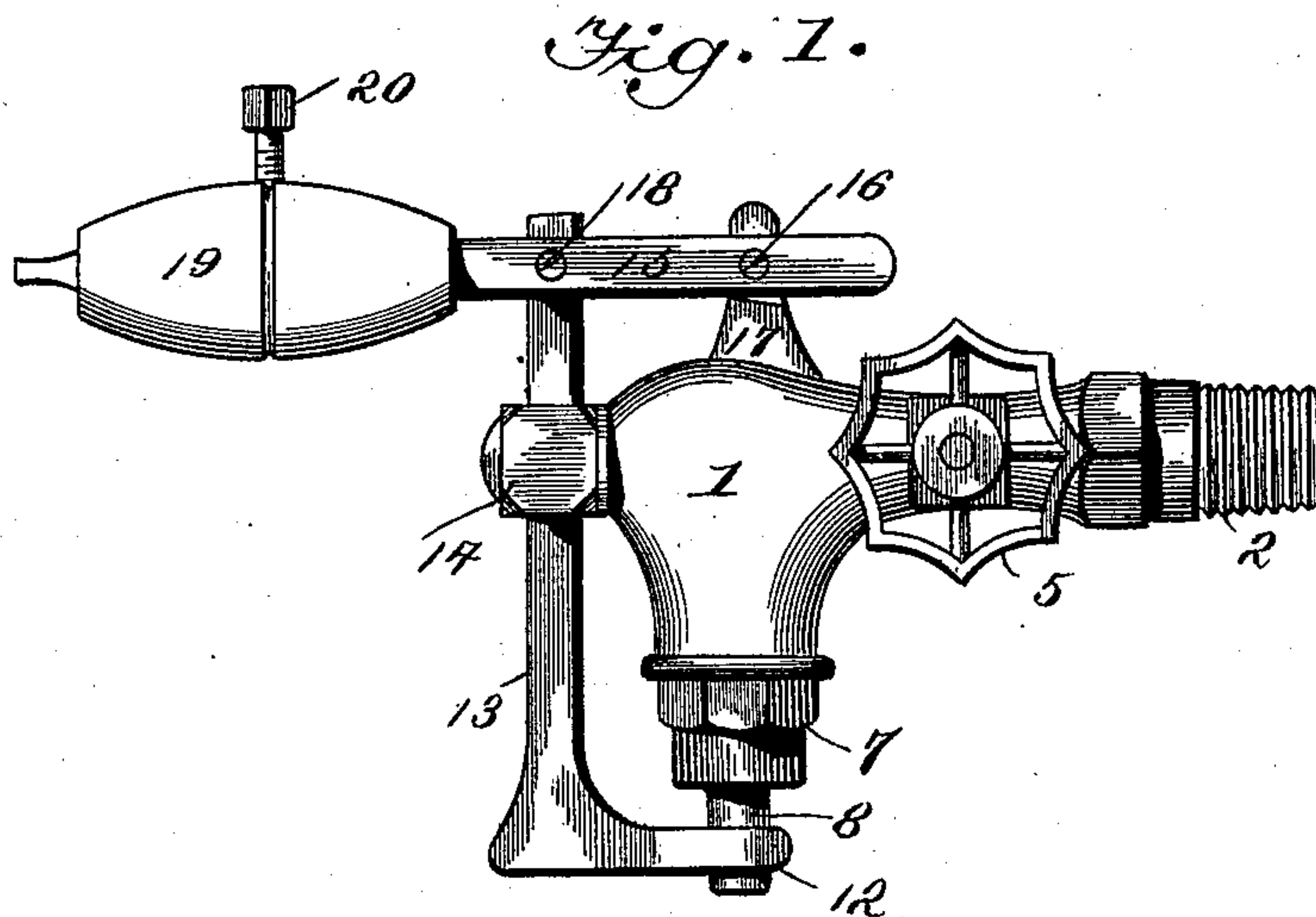


(No Model.)

J. C. JENSEN.
WATER GAGE COCK.

No. 587,262.

Patented July 27, 1897.



Witnesses

John D. Dime
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UNITED STATES PATENT OFFICE.

JENS C. JENSEN, OF PENTWATER, MICHIGAN, ASSIGNOR OF THIRTEEN-SIXTEENTHS TO FRED NIELSEN AND JAMES T. ASH, OF SAME PLACE.

WATER-GAGE COCK.

SPECIFICATION forming part of Letters Patent No. 587,262, dated July 27, 1897.

Application filed August 7, 1896. Serial No. 602,075. (No model.)

To all whom it may concern:

Be it known that I, JENS C. JENSEN, a citizen of the United States, residing at Pentwater, in the county of Oceana and State of Michigan, have invented a new and useful Improvement in Water-Gage Cocks, of which the following is a specification.

My invention relates to an improvement in water-gage cocks to be used on steam-boilers of all descriptions. It is manufactured from brass, steel, nickel, or other metals.

My invention relates to water-gage cocks for steam-boilers; and its objects are to provide a gage-cock having means for automatically closing the valve by the pressure of the steam behind it, to provide a small opening for the escape of water and steam from the cock when opened, in order that the jet may be confined within a small trough or pipe and conveyed to a reservoir or tank, and thus prevent the escaping steam and water from coming in contact with the surface of the boiler and causing it to rust, and also to provide a gage-cock which can be readily cleaned or repaired when there is a pressure of steam in the boiler and without stopping the engine. These desirable objects are attained by the construction shown in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side view of my improved water-gage cock, and Fig. 2 is a vertical sectional view thereof.

Like reference-numerals indicate like parts wherever they occur.

Referring to the drawings, 1 designates the main or body portion of my gage-cock, which is shown as being provided with a screw-threaded end 2 for attachment to the boiler. A comparatively small opening or bore 3 extends from the end of the body portion to a valve-chamber 4. A hand-wheel 5, having a screw-threaded shank tapped in the side of the body portion, may be operated to close the bore when it is desired to clean or repair the cock. The inner end of the shank is pointed and fits a socket 6 in the opposite side wall of the bore, the shank serving as a valve-stop to close the opening, as will be readily understood.

The valve-chamber 4 is open at its lower

end and internally screw-threaded to accommodate a removable valve-seat 7. This plug is bored centrally and has a conical valve-seat at its upper end. Passing through the bore in the plug 7 is a valve-stem 8, having an aperture 9, extending from its lower end upward to a point near its upper end, where the aperture is deflected laterally outward through one of its side walls. The upper end of this stem is formed into a head 10, which conforms to the shape of the seat in the plug 7. The lower end of the valve-stem is provided with a contracted neck 11, forming a seat for a collar 12 on the lower end of an arm 13.

The arm 13 has a vertical extension which passes through a screw-plug 14, fitted in a threaded aperture which extends into the compression-chamber 4 in line with the bore 3.

The lever 15 is pivoted at 16 to a lug 17, rising from the body portion of the cock. This lever is pivoted at 18 to the arm 13, and at the outer end of said lever a wooden handle 19 is adjustably attached by a screw-bolt 20.

The operation of my gage-cock is as follows: When it is desired to open the valve, the lever 15 is raised, and with it the arm 13 and the valve-stem 8. When the valve-stem is raised to the position shown in dotted lines in Fig. 2, the aperture 9 communicates with the bore 3 through the valve-chamber 4 and permits the escape of water and steam. When the lever 15 is released, the valve-stem is forced down by the action of the steam in the valve-chamber behind the head 10, and the greater the pressure of steam the more tightly will the head be forced into its seat in the plug 7. If it is desired to operate the valve from a distant point, as in an adjoining room, the handle 19 may be removed and a cord or wire may be attached to the lever 15. The lever and handle are not designed to serve as weights to close the valve. The pressure of steam behind the valve-head renders the closure automatic.

If for any reason the valve fails to work properly, the hand-wheel 5 is turned to stop the aperture 3, and the plug 7 may then be removed at any time for repairs or renewal without stopping the engine or reducing the

pressure on the boiler. If the bore 3 should become clogged, it can be easily cleaned by removing the plug 14 and passing a wire of the right size through the bore, without interfering with the continuous operation of the boiler and engine.

Duplicate parts of my gage-cock may always be kept on hand and may at any time be placed in position while the steam is at full pressure.

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

1. In a gage-cock, the combination of a main stem or body portion having a bore closed by a plug-valve, a valve-chamber in communication with said bore, a detachable plug provided with a valve-seat for closing the valve-chamber, a valve-stem passing through the plug carrying a valve and an arm and lever attached to the stem for opening the valve, the closing of the valve being effected by the action of steam in the valve-chamber, substantially as described.

2. A water-gage cock comprising a stem or body portion having a comparatively small bore, a transversely-intersecting plug-valve for said bore, a valve-chamber at the outer end of said bore, a detachable plug at the lower end of said chamber and provided with a valve and seat in its upper end, a valve-stem passing through the plug, and having an enlarged head forming the valve, the stem provided with a right-angled bore, a detachable arm connected to the lower end of the valve-stem, and having a vertical branch passing through a detachable plug in line with the opening in the stem or body portion of the cock, and a lever for operating the arm to open the valve, the latter being closed by the lever or the pressure of steam in the chamber, substantially as described.

JENS C. JENSEN.

Witnesses:

W. T. EVANS,
R. R. GALE.