

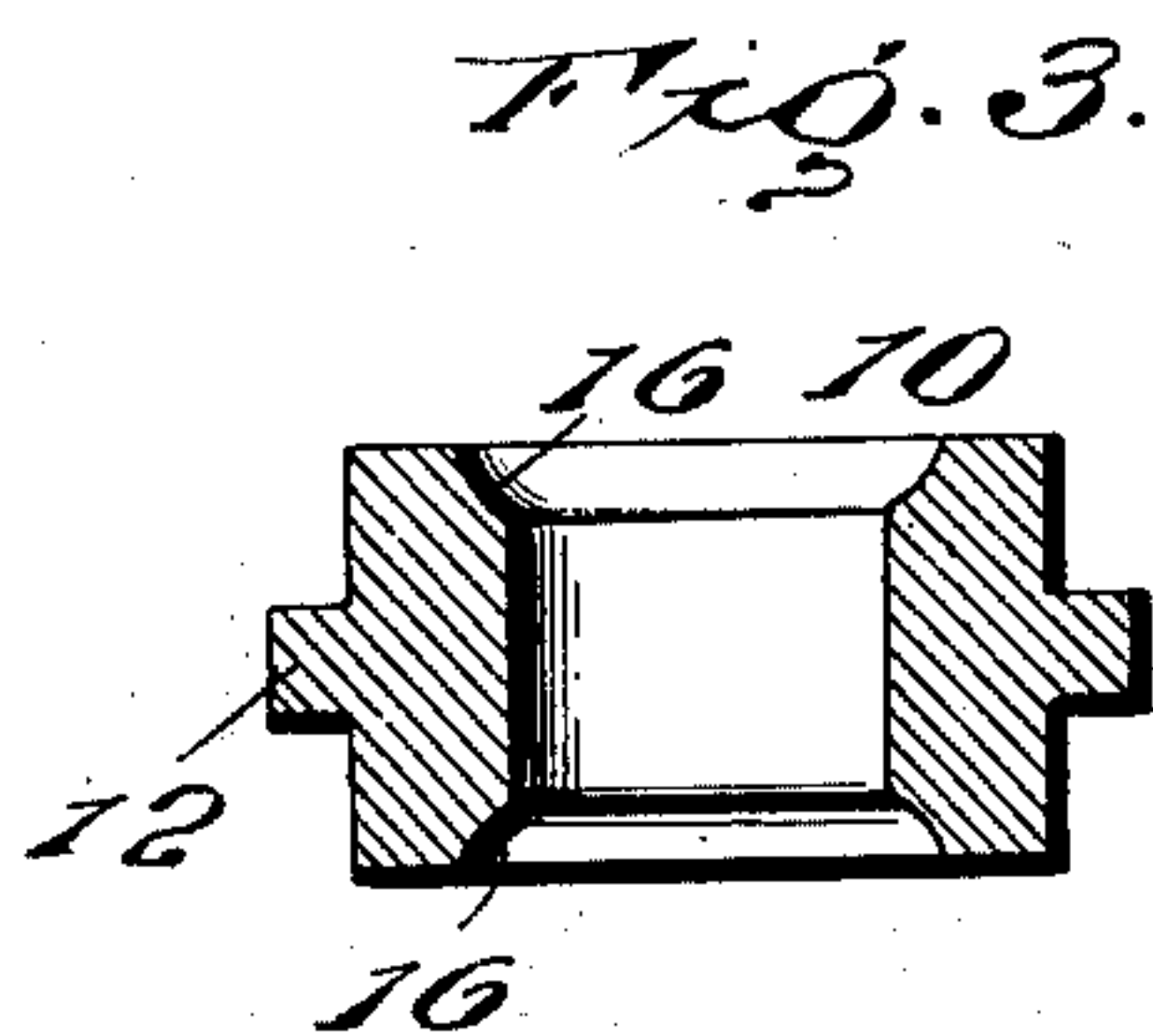
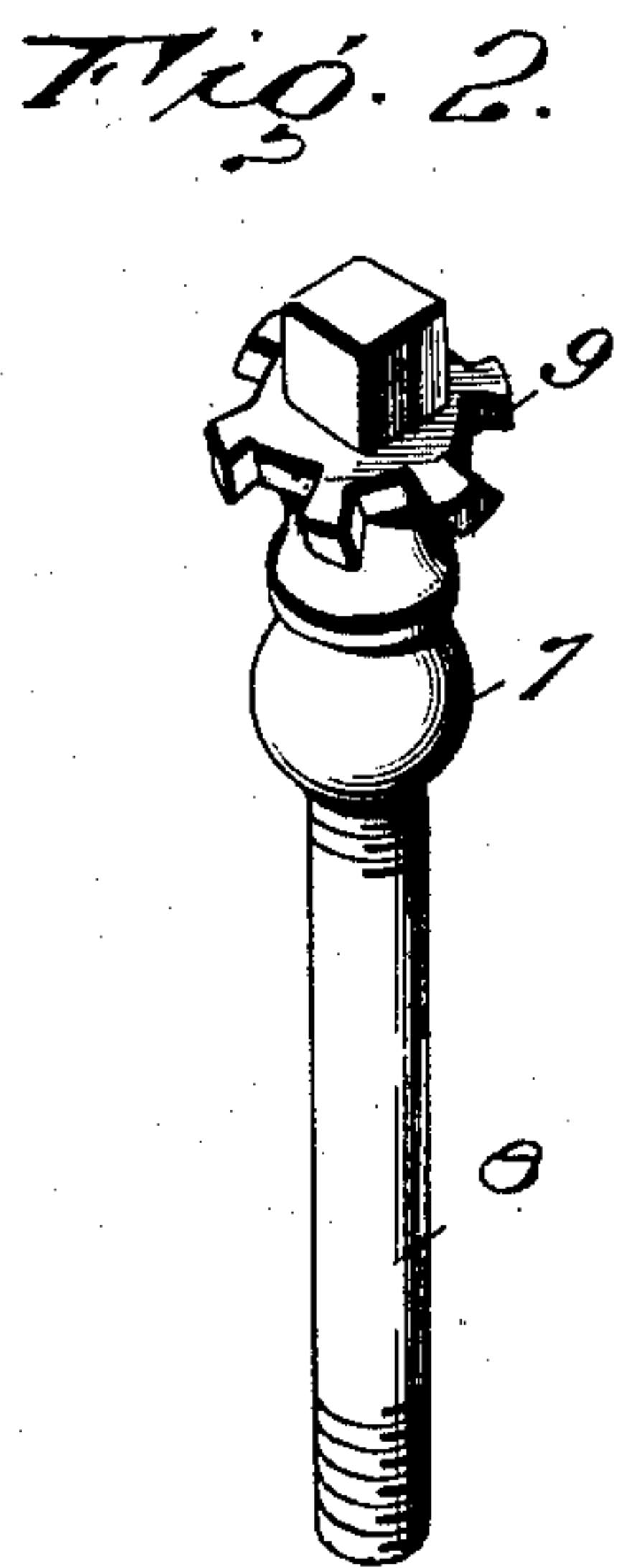
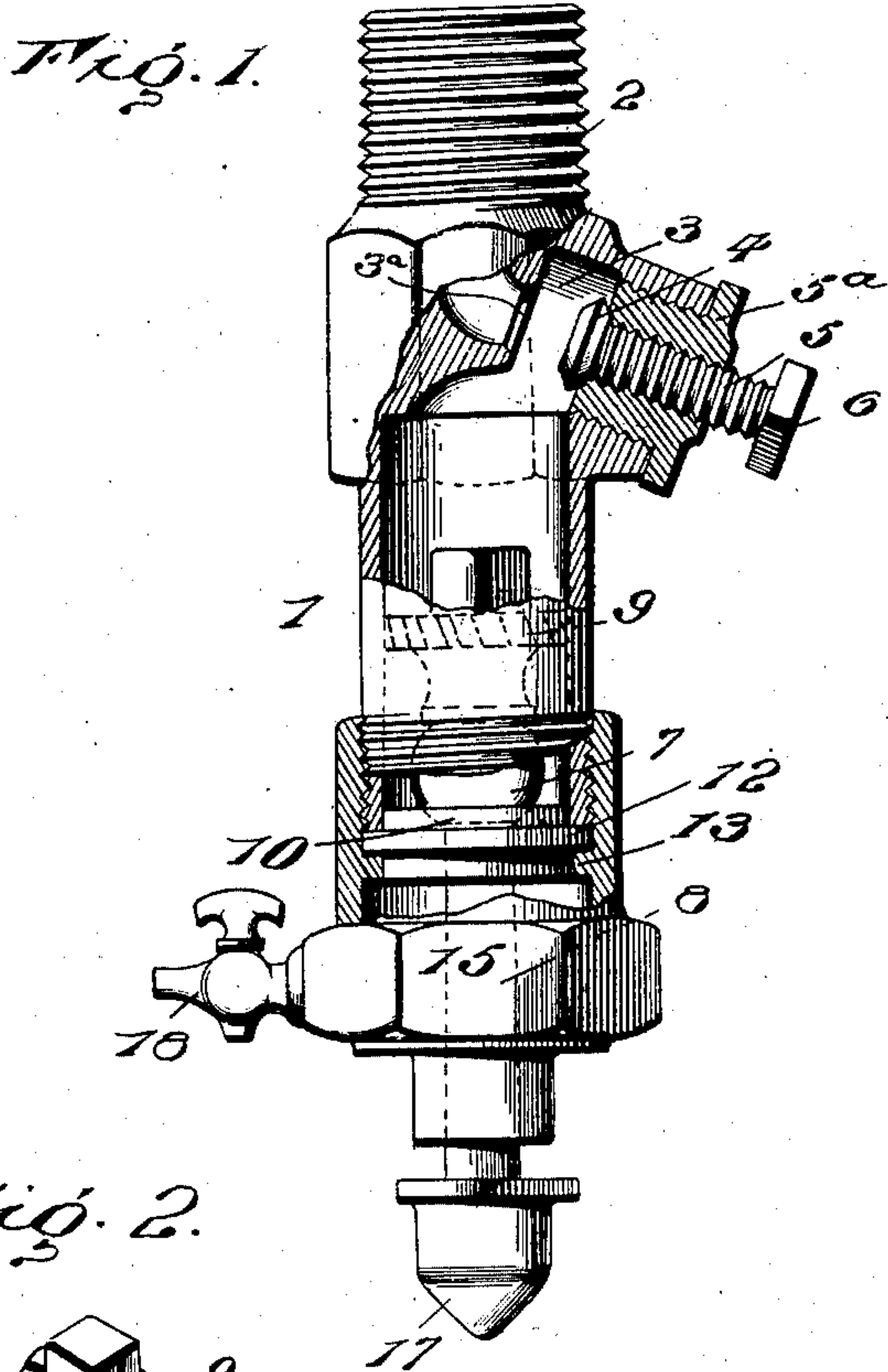
No. 742,002.

PATENTED OCT. 20, 1903.

A. W. CADMAN.
GAGE COCK.

APPLICATION FILED JULY 19, 1902.

NO MODEL.



Witnesses

James H. Smith
Robert L. Smith

Inventor

A. W. Cadman.

By

J. H. Smith

Attorney

UNITED STATES PATENT OFFICE.

ALEXANDER W. CADMAN, OF EDGEWOOD PARK, PENNSYLVANIA.

GAGE-COCK.

SPECIFICATION forming part of Letters Patent No. 742,002, dated October 20, 1903.

Application filed July 19, 1902. Serial No. 116,192. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER W. CADMAN, of Edgewood Park, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gage-Cocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The primary object of this invention is to provide improved means externally located for positively cutting off communication between a boiler and a gage-cock when it is necessary to gain access to the valve or valve-chamber.

A further object is to so construct the valve and the seat thereof that when either becomes worn a practically new valve or valve-seat may be secured by a mere reversal or rearrangement of either or both of these parts.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation with a portion of the cock-casing broken away. Fig. 2 is a view of the valve and its stem removed. Fig. 3 is a transverse sectional view of the valve-seat.

Referring to the drawings, 1 designates the casing of a gage-cock; 2, the inlet-port in that end of the casing which is screwed into the boiler, such port at its inner or discharge end opening into the valve-chamber 3 through a wall 3^a, extended at an angle to such chamber. The inner end of the inlet-port opens centrally through the wall 3^a, and hence at an angle to the valve-chamber, so that it may be closed by a valve 4, whose stem 5 is extended through and is shown as working in a plug 5^a, screwed into an internally-threaded boss, also set at an angle, so as to be substantially concentric with the discharge end of the inlet-port, such boss facing the wall 3^a.

The valve 4 is formed with two faces, one designed to seat against the inlet-port when the valve is closed and the other against the valve-seat in the plug 5^a when the valve is opened. A steam and water tight joint is thus created, obviating the necessity for a

packing-nut for stem 5. By turning the head 6 of this valve passage through the inlet-port to the valve-chamber may be entirely cut off or opened at will. Hence by locating this positively-operated cut-off valve intermediate the boiler and the gage-valve all escape may be readily cut off when it is desired to gain access to the valve-chamber, and by having the port at an angle to the chamber the valve 4 will fit snugly thereover, entirely closing the opening and avoiding all danger of leakage. This cut-off valve being positively operated and its stem exteriorly positioned, the danger of injury to the operator by any escape through the gage-cock while repairing the latter is entirely avoided.

7 is the gage-valve; 8, the stem thereof; 9, the flutter disk or wheel, and 10 the valve-seat. The valve is shown as being spheroidal, with a center opening for the stem, which latter is shown as exteriorly threaded to engage an internal thread of the valve. It is obvious, however, that the valve may be secured in any preferred way and may be of any desired shape; but I have found that by rounding its contact-surfaces better contact is had with its seat and also that by securing it in place by a screw-thread the tendency is to cause it to tighten under the rotation of the stem consequent upon the action of the boiler-pressure against the flutter-wheel. When one side or face of the valve becomes worn, the valve may be removed from its stem, reversed, and immediately replaced.

The seat 10 is in the form of a sleeve, having a central exteriorly-located peripheral flange 12, which is designed to bear directly against an inwardly-extended shoulder 13, formed in the removable end section 15 of the gage-casing. Each end of the opening through the seat-sleeve is reamed or concaved at 16 to accommodate and insure the firm seating of valve 7. If the seat becomes worn at one end, it is only necessary to remove the section 15 and reverse the seat end for end, that portion previously engaged by the valve being then extended in the opposite direction. The valve-stem is, as ordinarily, extended through an opening in the end of the casing-section and fitted with a cap

17, against which pressure is applied to unseat valve 7, any outflow passing off through the ordinary outlet 18.

The advantages of my invention are apparent to those skilled in the art.

It will be seen that I have provided extremely simple and inexpensive means for prolonging the term of utility of a gage-cock and that access may be readily had to the interior of the cock, without waiting until the boiler is thrown out of use, by the mere adjustment of a positively-operated valve located intermediately of the boiler and the gage-valve and operated from the exterior of the casing.

I claim as my invention—

1. A gage-cock having, in combination, a casing, a removable section thereof having an inner shoulder, a valve-seat having a peripheral flange designed to be held by such shoulder against the outer end of the casing, such seat being reversible end for end, the exteriorly-threaded valve-stem, a flutter-wheel on such stem, and a valve capable of being reversed end for end, such valve having double faces, one only of which is used at a time, and also having a central threaded opening

for engaging the thread of the valve-stem, as set forth.

2. As an article of manufacture, a gage-cock comprising a casing having at one end an angularly-arranged inlet, a boss concentric with such inlet, a plug in such boss, a valve working in said plug for controlling said inlet, a removable section secured to the outer end of the casing, and having an inner flange, a valve-seat sleeve having a peripheral flange and correspondingly reamed at its two ends, said sleeve being reversible end for end and said flange being held by the flange of the removable section against the end of the casing, the exteriorly-threaded valve-stem extended through said sleeve, a flutter-wheel on said stem, and the valve reversible on said stem, said valve having a screw-threaded opening engaging the thread of the valve-stem, as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALEXANDER W. CADMAN.

Witnesses:

FRED H. STIMPEL,
A. G. SHARRA.