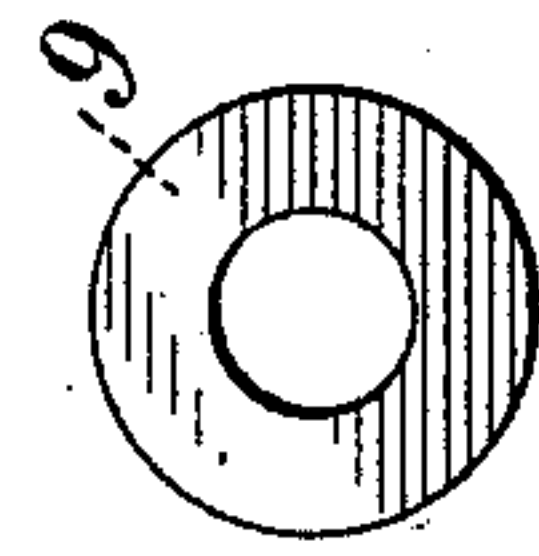
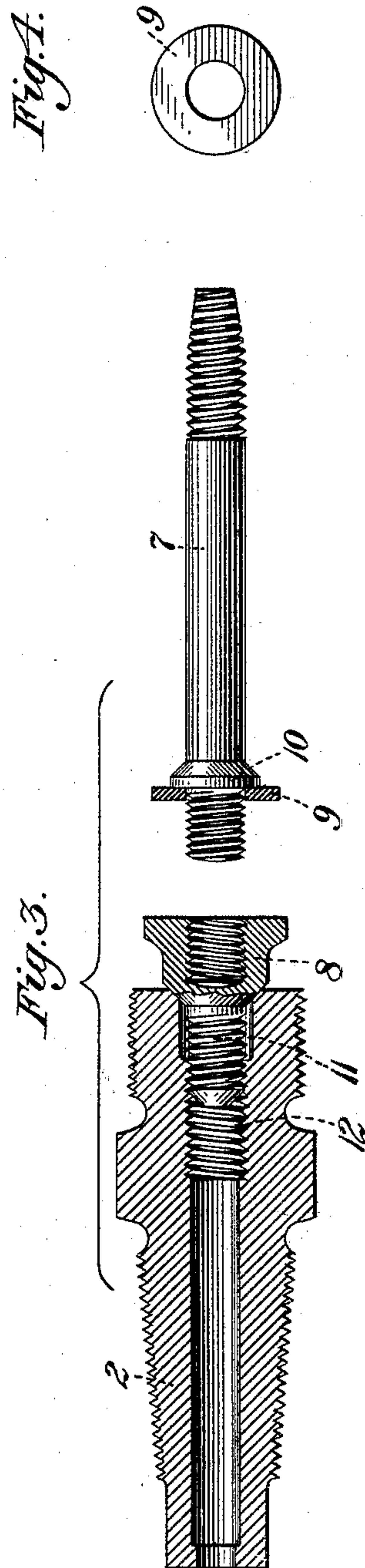
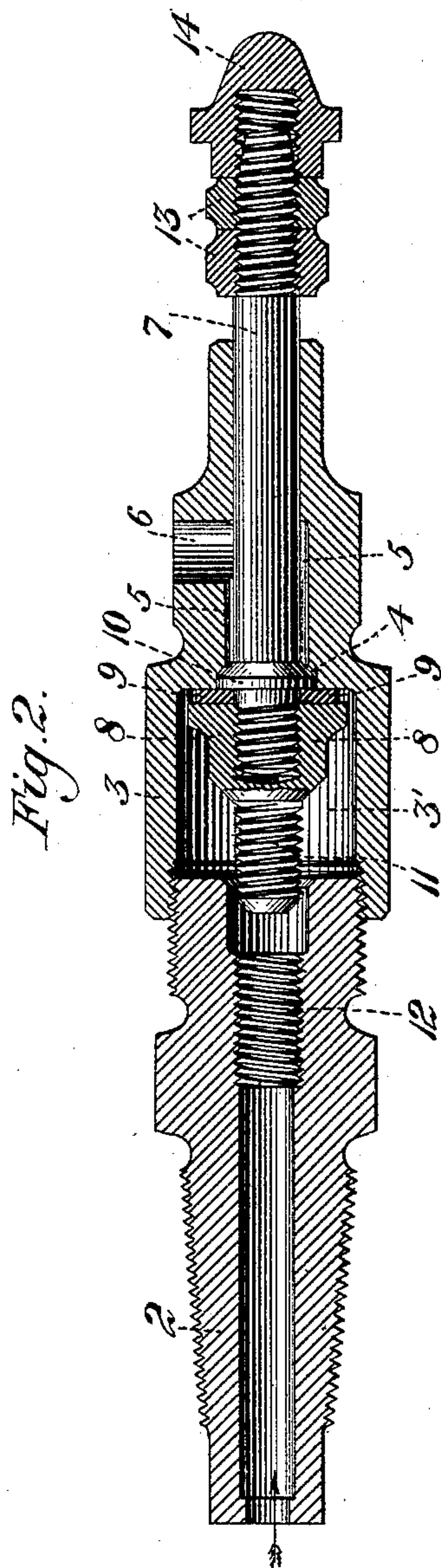
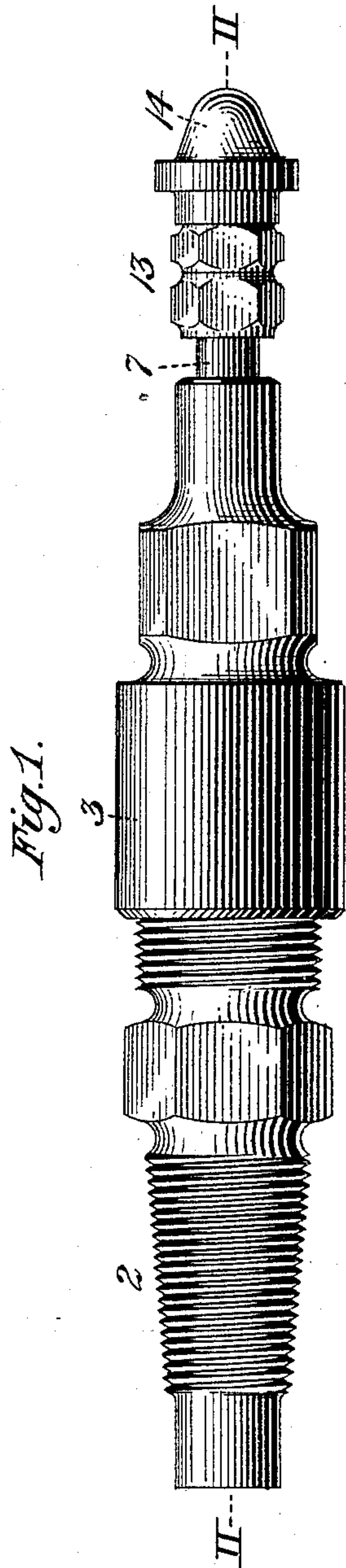


(No. Model.)

F. SCHMEDLING.  
STEAM GAGE COCK.

No. 460,075.

Patented Sept. 22, 1891.



WITNESSES

Thomas W. Baxendale  
W. J. Corvini

INVENTOR:

Frank Schmiedling



# UNITED STATES PATENT OFFICE.

FRANK SCHMEDLING, OF RANKIN STATION, PENNSYLVANIA, ASSIGNOR  
OF ONE-HALF TO WILLIAM ROTTHOFF, OF SAME PLACE.

## STEAM-GAGE COCK.

SPECIFICATION forming part of Letters Patent No. 460,075, dated September 22, 1891.

Application filed June 25, 1891. Serial No. 397,452. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK SCHMEDLING, of Rankin Station, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Steam-Gage Cocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows my improved gage-cock in side elevation. Fig. 2 is a longitudinal axial section on the line II II of Fig. 1. Fig. 3 is a compound view showing the parts of the cock detached and the hollow barrel closed by the plug. In this view the barrel and plug are shown in axial section, the valve-ring in cross-section, and the stem in plan. Fig. 4 is a plan view of the valve-ring.

Like symbols of reference indicate like parts in each.

My invention relates to an improvement upon a gage-cock of well-known construction, having a hollow barrel which is screwed into the boiler-shell, and a stem provided with a valve which is held to its seat by internal boiler-pressure and is unseated by forcing in the stem. The valve being thus unseated permits the escape of steam or water, so that the operator, by observing the nature of the outflow, can know whether or not the water-level in the boiler is as high as the cock. A serious objection to cocks of this class has been that the valve which has been made generally integral with the stem rapidly wears, and as soon as the steam begins to leak is quickly cut thereby, so that the stem and valve must be removed and renewed. Such removal of the valve, by opening the gage-cock, affords a free outlet from the boiler, and as a preliminary operation it has been necessary to disuse and to draw the steam from the whole battery of boilers in connection with which the cock is employed.

The objects of my invention are to provide a valve which shall be more efficient and durable than any heretofore known and which can be exposed for renewal or repair without opening an outlet from the boiler.

Referring now to Figs. 1 and 2 of the drawings, 2 represents the hollow tubular barrel of the gage-cock having an external screw-thread

enabling it to be screwed into a socket in the boiler. 3 is a tubular piece adapted to be screwed removably upon the end of the barrel to form a continuation thereof. The part 3 has at the end next the barrel 2 an enlarged chamber 3' in which the valve operates. At the front end of this chamber is the valve-seat 4, situate at the end of a cylindrical passage 5, which is of larger diameter than the valve-stem, and which terminates at a lateral steam-opening 6. The valve-stem 7 extends through the part 3, and within the chamber 3' is screwed into a hollow plug-head 8. The valve-disk 9 is an annulus, preferably of soft metal, such as lead, which is fitted around the end of the valve-stem and is clamped between a shoulder 10 and the head 8. The inner end of the head 8 is composed of a threaded plug 11, adapted to be screwed into a threaded socket 12, formed in the interior of the barrel 2. The outer end of the valve-stem 7 is provided with one or more nuts 13, which act as stops to prevent the stem from being moved inwardly sufficiently far to cause the engagement of the threaded plug 11 with the socket 12, and at the extreme end of the stem 7 is a removable head 14, against which the stick or tool is pushed for the purpose of unseating the valve.

Fig. 2 shows the parts in operative position, the valve 9 being forced against the seat by steam-pressure and serving to prevent the escape of steam from the boiler. When it is desired to test the water-level in the boiler, the operator presses upon the head 14 and forces the stem 7 inwardly, thereby unseating the valve and permitting the steam or water to escape through the channel 5 and the lateral opening 6. On releasing the pressure on the stem the valve is immediately re-seated by the internal pressure in the boiler. If now it be desired to uncouple the parts for the purpose of repair or replacing the valve, I first remove the head 14 and the nuts 13, push in the valve 7 until the threaded plug 11 engages the socket 12, and then turn the valve-stem so as to cause the plug to be screwed into the socket and to close tightly the barrel 2, the end of the head 8 fitting for this purpose against a seat at the end of the tubular barrel. The part 3 is then unscrewed



and removed, and finally the stem 7, with the valve 9, is unscrewed, leaving the parts in the condition shown in Fig. 3, the orifice of the boiler being completely closed by the plug at the end of the head 8. When the valve has been renewed or repaired and it is desired to couple the parts together again, I screw the end of the stem 7 into the head 8, so as to clamp between these parts the valve 9, then screw on the tubular portion 3, unscrew the plug 11 from the socket 12 and fit the nuts 13 and head 14, thus putting the parts in the position shown in Fig. 2. It will thus be apparent that the operation of the apparatus can be arranged with the greatest facility, there being no necessity for disuse of the boilers during the renewal or repair of the valve.

The parts of the apparatus may be modified in various ways by the skilled mechanic. For example, instead of making the valve-disk 9 detachable from the valve-stem it may be made integral therewith, although for various reasons it is desirable to have it in a separate piece, and such arrangement is claimed by me specifically. Other changes will suggest themselves to those skilled in the art. For example, the valve-stem may be moved longitudinally by a screw action instead of a direct push.

I claim—

1. In a gage-cock, the combination, with the hollow barrel, of a valve-stem having a de-

tachable end adapted to be inserted into the barrel to close the same, substantially as and for the purposes described. 35

2. In a gage-cock, the combination, with the hollow barrel, of a longitudinally-movable valve-stem, and a valve-disk detachably secured to the stem, substantially as and for the purposes described. 40

3. In a gage-cock, the combination, with the hollow barrel, of a longitudinally-movable valve-stem, a plug detachably secured to the end thereof and adapted to be screwed into the barrel, and a valve clamped between the stem and plug, substantially as and for the purposes described. 45

4. In a gage-cock, the combination, with the hollow barrel, of a valve-stem having a detachable end adapted to be inserted into the barrel to close the same, and a detachable hollow extension for the barrel, substantially as and for the purposes described. 50

5. In a gage-cock, the combination, with the hollow barrel, of a valve-stem having a detachable end adapted to be inserted into the barrel to close the same, and a stop 13 to limit the motion of the stem, substantially as and for the purposes described. 55

In testimony whereof I have hereunto set my hand this 22d day of June, A. D. 1891. 60

FRANK SCHMEDLING.

Witnesses:

W. B. CORWIN,  
H. M. CORWIN.