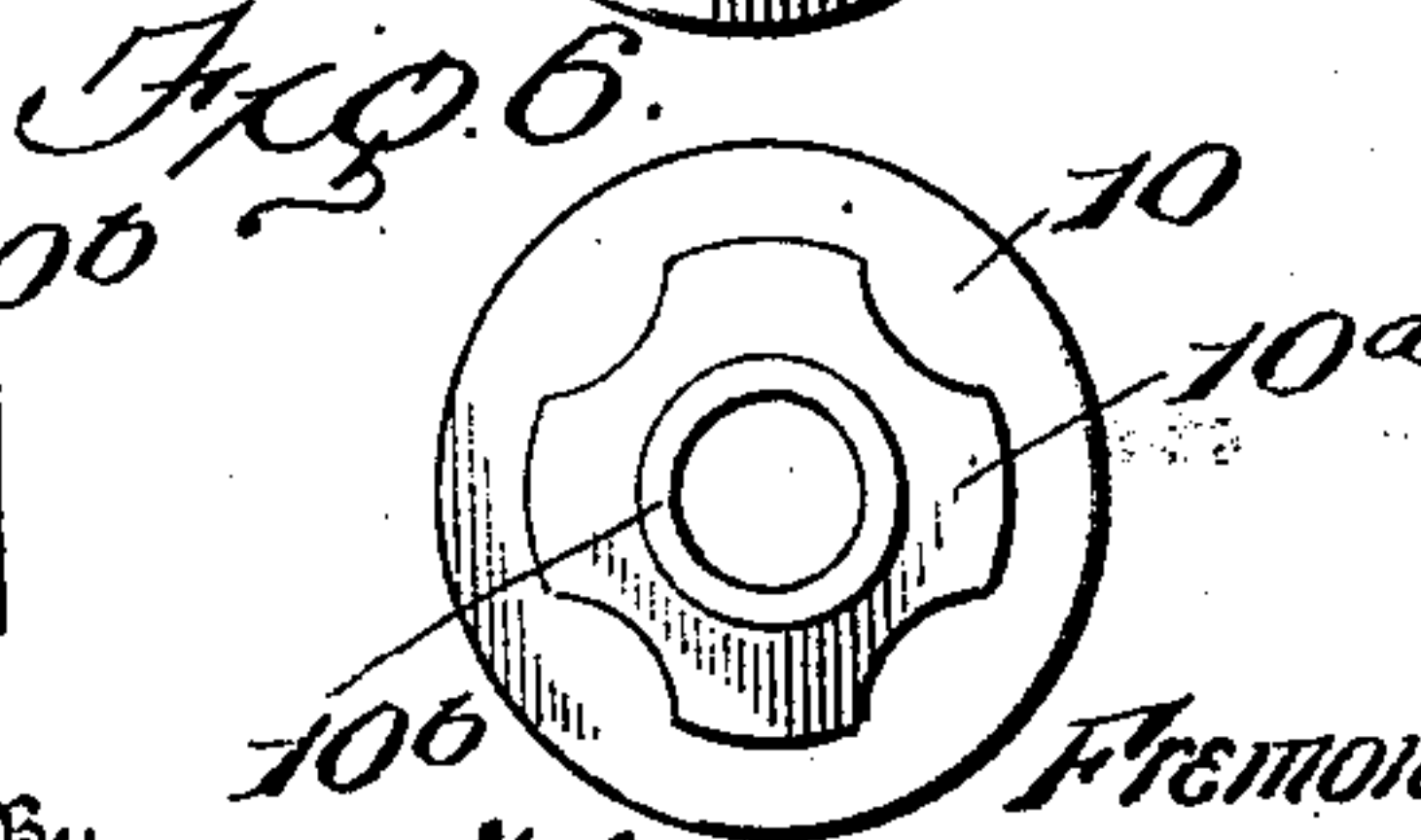
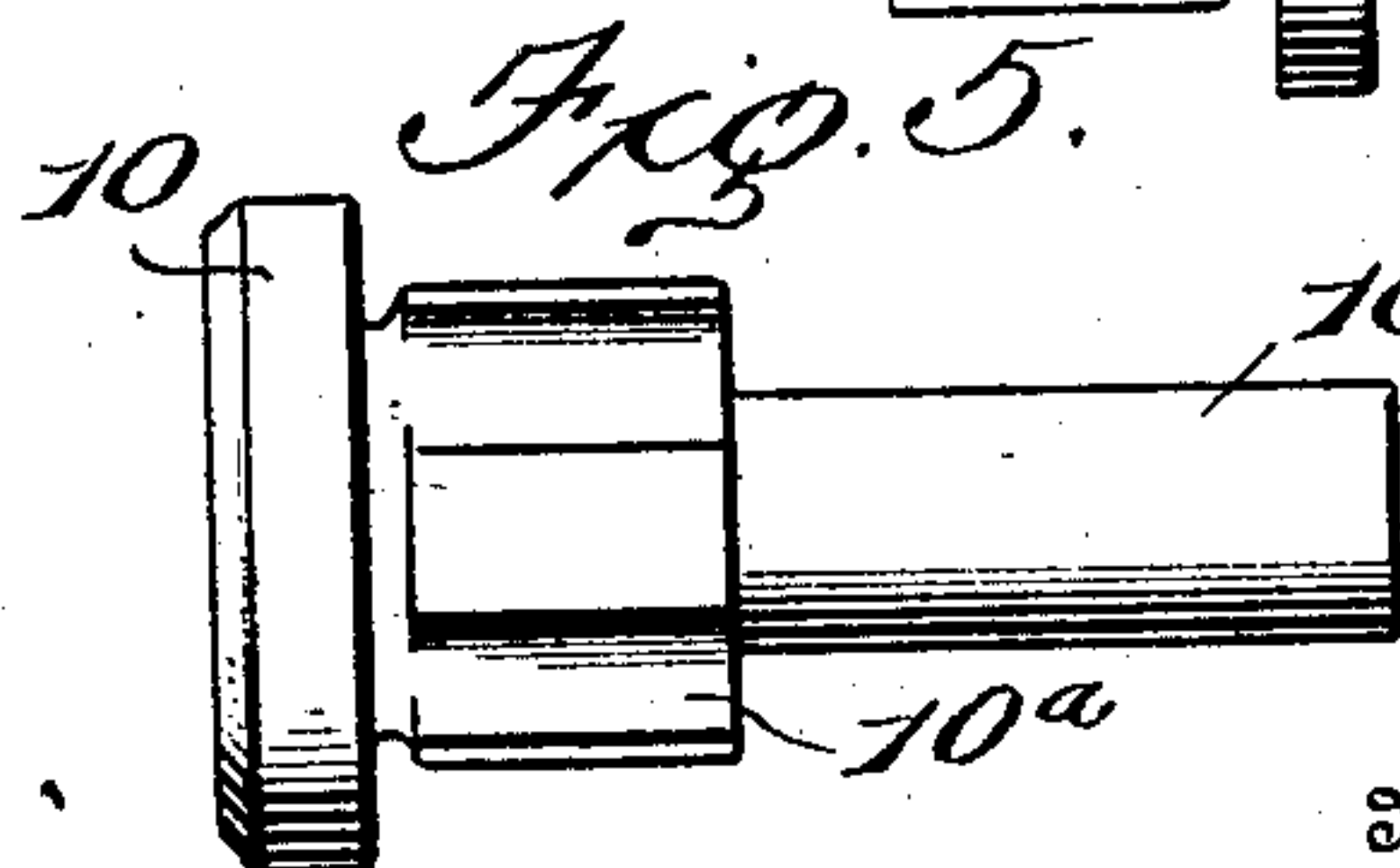
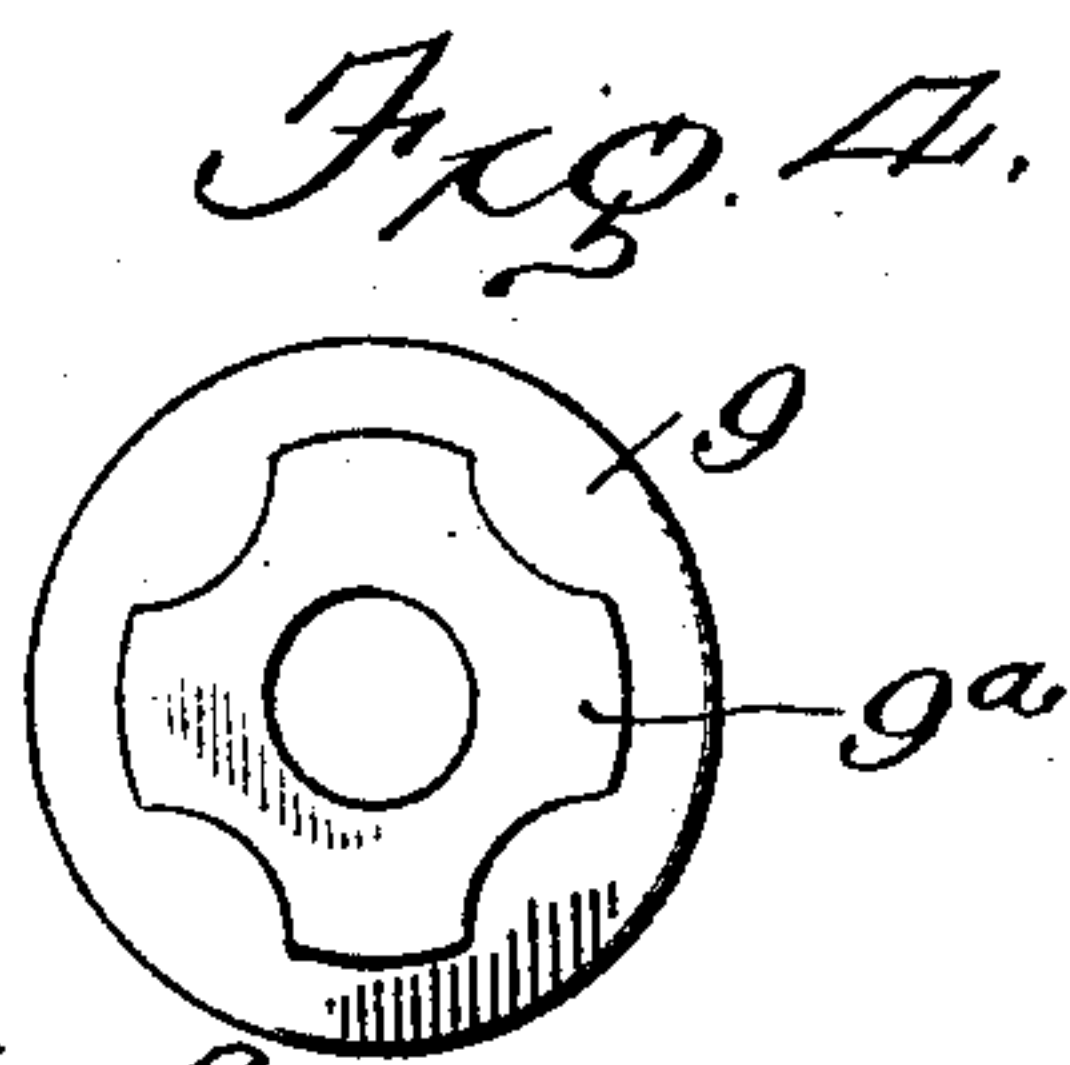
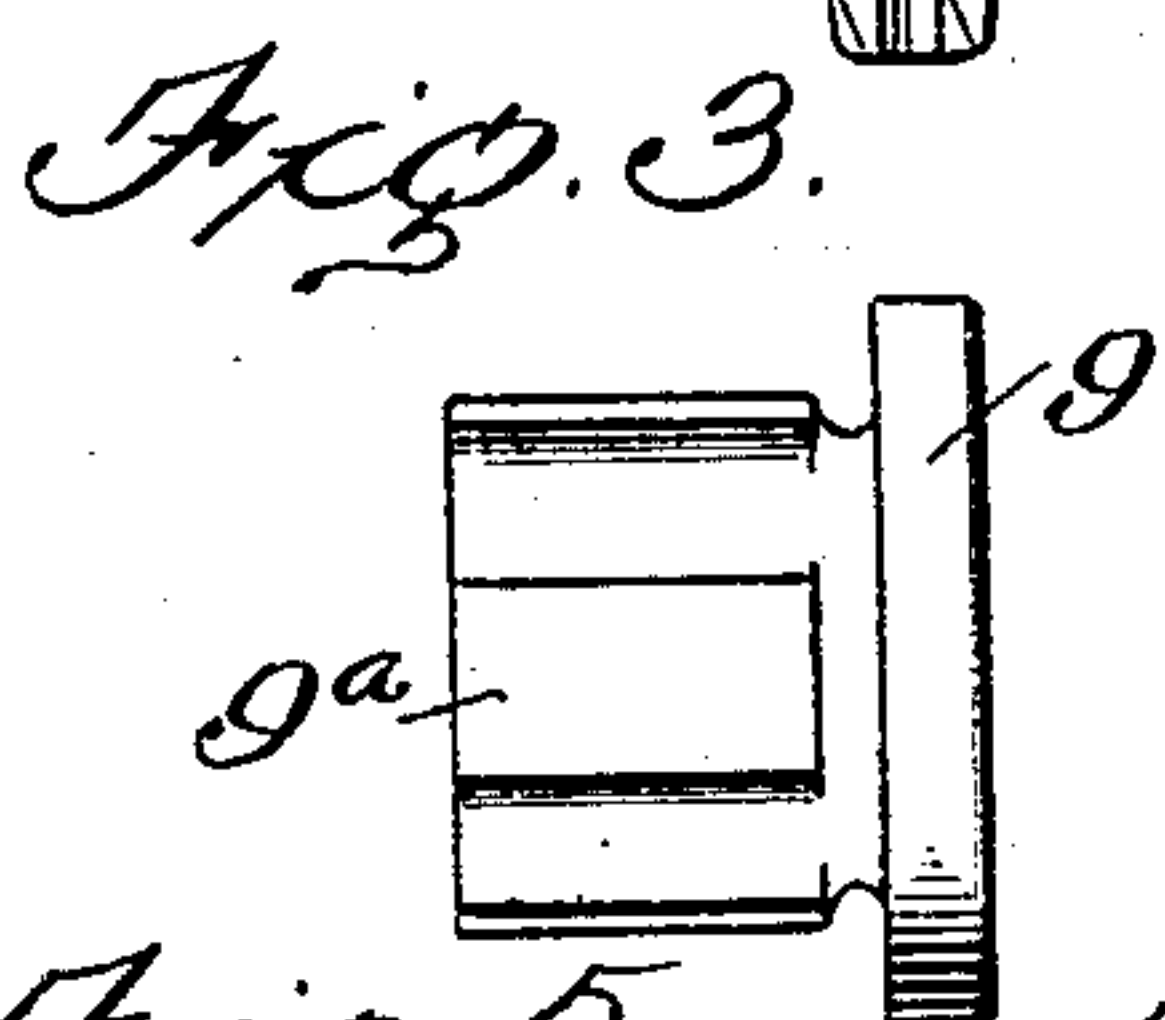
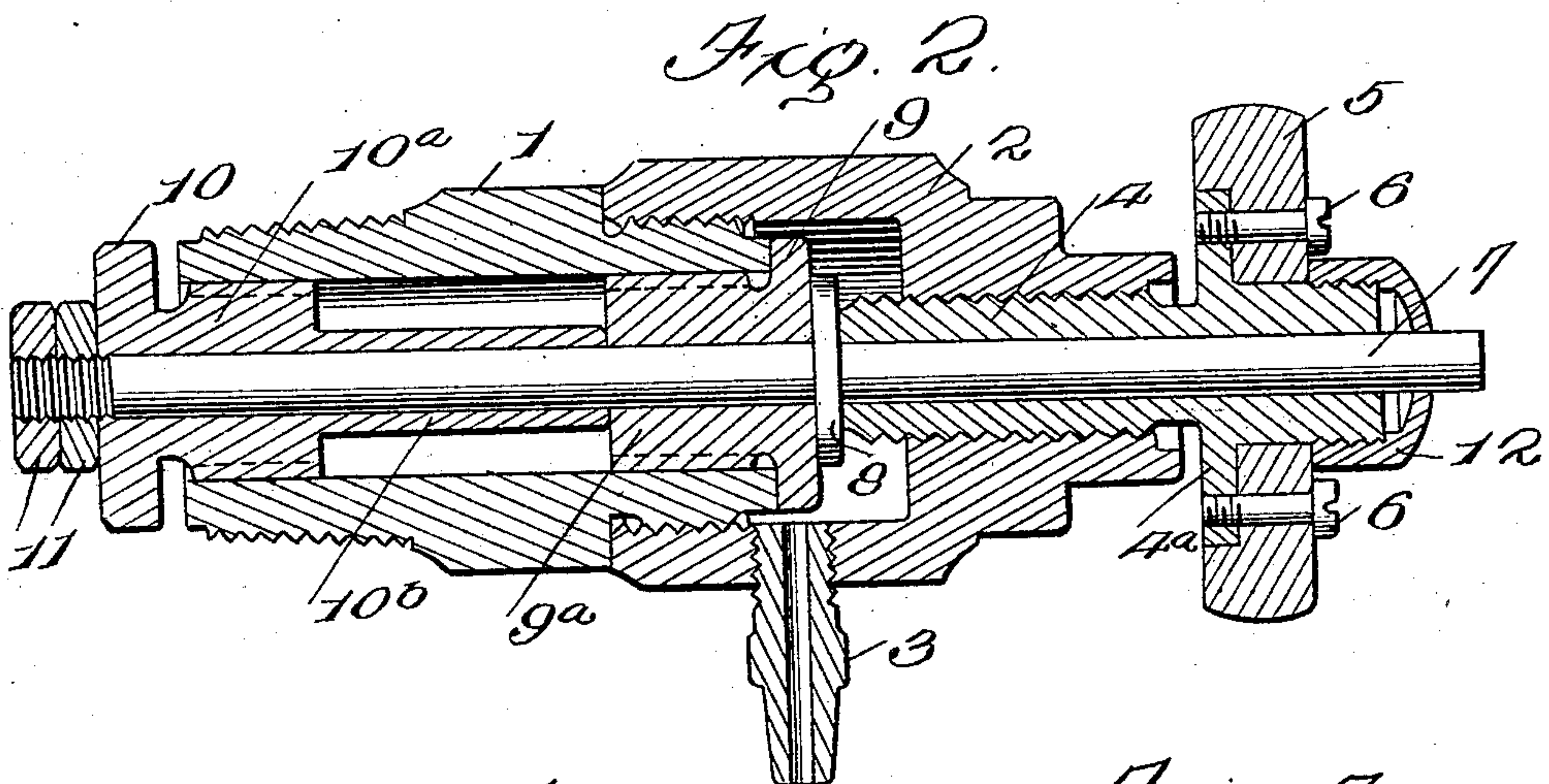
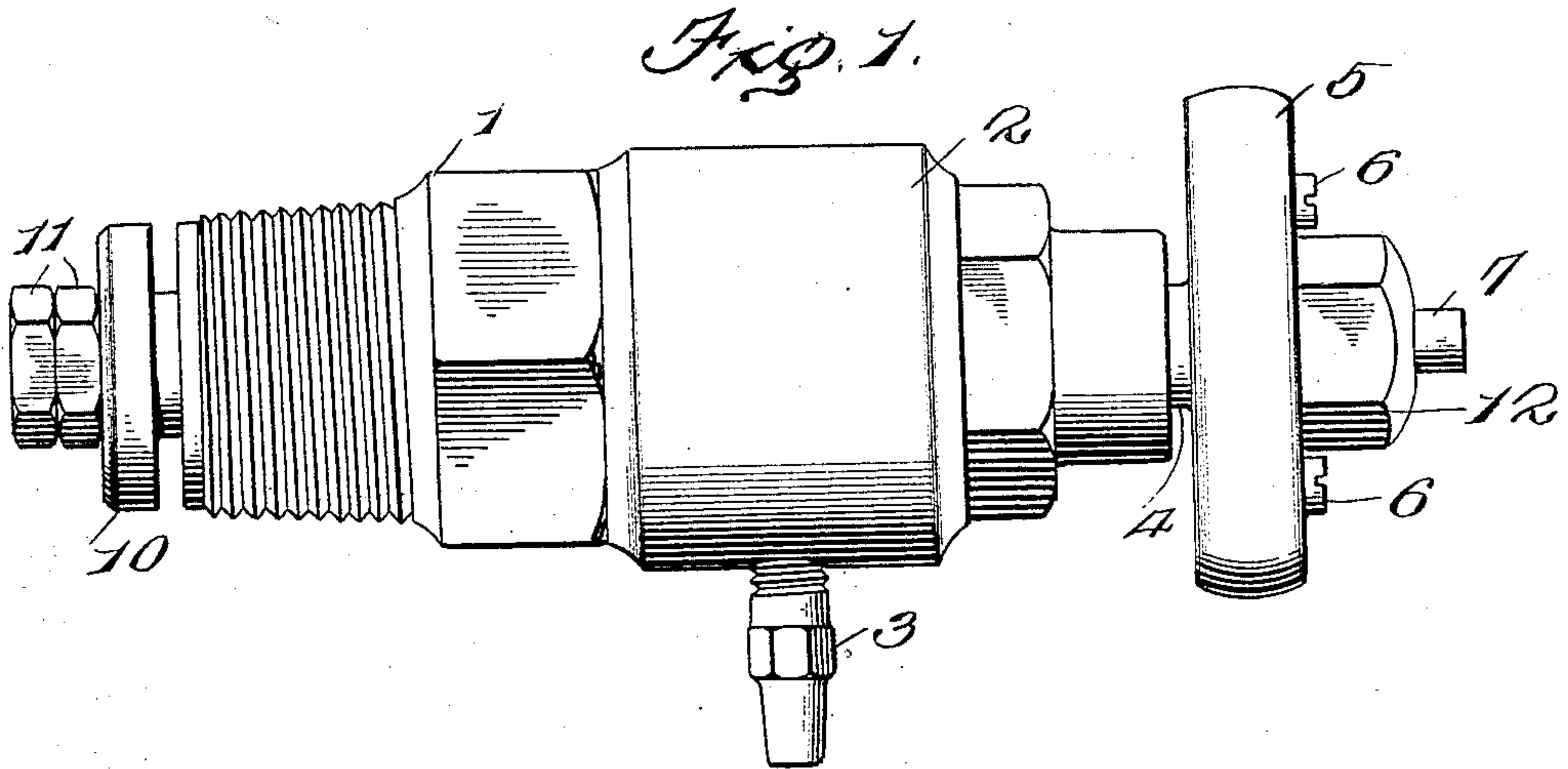


F. KOBLER.  
 DUPLEX GAGE COCK.  
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915,361.

Patented Mar. 16, 1909.



Witnessed

*J. M. McNamee*  
*W. H. Woodson*

By

*Fremont Kobler*  
*J. H. Macay, Attorneys*



# UNITED STATES PATENT OFFICE.

FREMONT KOBLE, OF CHIHUAHUA, MEXICO.

## DUPLEX GAGE-COCK.

No. 915,361.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed October 29, 1908. Serial No. 460,173.

*To all whom it may concern:*

Be it known that I, FREMONT KOBLE, a citizen of the United States, residing at Chihuahua, in the State of Chihuahua and Republic of Mexico, have invented certain new and useful Improvements in Duplex Gage-Cocks, of which the following is a specification.

The present invention is in the nature of a duplex gage cock and has for its primary object to provide a device of this character which can be readily applied to a boiler or like member and in which one of the valves is normally forced toward its seat by means of the steam pressure within the boiler so as to obviate all likelihood of either steam or hot water escaping in such quantities as to scald or injure the operator.

The invention further contemplates a gage cock which is simple and inexpensive in its construction, can be readily manipulated, and will not become clogged by mud or sediment when in use.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a gage cock embodying the invention, Fig. 2 is a longitudinal sectional view through the same, Fig. 3 is a side elevation of the outer valve, Fig. 4 is an end view thereof, Fig. 5 is an end view of the inner valve, and Fig. 6 is a side elevation of the inner valve.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawing, the numeral 1 designates a tubular stock which is substantially cylindrical in shape and is threaded at both ends upon its exterior. One end of the stock is adapted to be screwed within an opening in the side of a boiler or like member, while the opposite end has a cap 2 applied thereto. It may be noted that in the present instance, the middle portion of the tubular stock is enlarged, the said enlargement serving to limit the amount the stock can be screwed into the boiler and also engaging the cap to insure a tight connection with the said member. A nipple 3 which is designed to be connected to the gage, is applied to one side of the cap which is formed with an internally threaded opening ar-

ranged in alinement with the bore of the stock. A sleeve 4 is fitted within this opening in the cap and the portion of the sleeve projecting outwardly beyond the cap is formed with an integral collar 4<sup>a</sup> having a handle 5 secured thereto by any suitable means such as the screws 6.

Passing loosely through the tubular stock and the sleeve 4, is a stem 7 which is provided at an intermediate point in its length with an integral collar or enlargement 8 normally located within the cap 2. Fitted over the stem 7 and bearing against this enlargement 8, is a valve 9 designed to engage the outer end of the tubular stock which projects within the cap 2. This valve 9 is formed with a valve stem 9<sup>a</sup> which fits within the tubular stock and serves to guide the valve in its movements, the said valve stem being fluted to admit of the passage of the steam around the same. A second valve 10 which faces in an opposite direction to the valve 9 and is designed to engage the inner end of the stock 1, is also fitted upon the stem 7 and is also provided with a valve stem 10<sup>a</sup> similar in construction to the valve stem 9<sup>a</sup>. A pair of nuts 11 which are threaded upon the inner ends of the stem 7 serve to retain the two valves 9 and 10 in position upon the stem, the valve 10 carrying a tubular extension 10<sup>b</sup> which abuts against the valve stem 9<sup>a</sup> and serves to hold the valve 9 against the enlargement 8. The distance between the two valves 9 and 10 is slightly greater than the length of the tubular stock so that one of the valves is closed when the opposite valve is open, and vice versa. Attention may here be directed to the fact that the valves have flat seats which last much longer than conical seats.

The pressure within the boiler normally tends to hold the valve 10 upon its seat, but by grasping the handle 5 and screwing the sleeve 4 inward, the inner end of the sleeve may be caused to engage the valve 9 so as to force it upon its seat and hold the valve 10 in open position. The sleeve 4 turns independently of the stem 7 so that there is no rotary motion of the valves such as would cause the valves and valve seats to become cut. A packing nut 12 is applied to the outer end of the sleeve 4 and engages the stem 7 to prevent any steam or hot water passing around the stem and scalding the hand when operating the gage cock. Attention is directed to the fact that the cap 2 together with all at-



tached parts can be readily removed with pressure in the boiler so that if by accident the gage cock should become broken off at the boiler there would be a probability of the inner valve 10 being thrown upon its seat by the boiler pressure and preventing the steam and water escaping and injuring the men in charge.

Having thus described the invention, what is claimed as new is:

1. In a gage cock, the combination of a tubular stock, a cap applied to the stock, a stem passing loosely through the stock, and valves carried by the stem for engaging opposite ends of the stock, the distance between the valves being greater than the length of the stock so that one of the valves is open when the opposite valve is closed.

2. In a gage cock, the combination of a tubular stock, a cap applied to the stock, a stem passing loosely through the stock, and valves carried by the stem for engaging opposite ends of the stock, the said valves being provided with fluted valve stems which operate within the stock and the distance between the valves being greater than the length of the stock so that one valve is open while the opposite valve is closed.

3. In a gage cock, the combination of a tubular stock formed at its end portions with valve seats, a stem passing loosely through the stock and formed with an enlarged portion, a valve fitted upon the stem and abutting against the enlarged portion, a second valve fitted upon the stem and provided with an extension for engaging the first mentioned valve to hold it against the enlargement, the said valves being adapted to cooperate with the before mentioned valve seats, and means for holding the valves in position upon the stem.

4. In a gage cock, the combination of a tubular stock, provided at its end portions with valve seats, a cap applied to the stock, a sleeve threaded within the cap and ar-

ranged in alinement with the bore of the stock, a stem passing loosely through the stock and also through the sleeve, valves carried by the stem for cooperation with the before mentioned valve seats, and means for turning the sleeve to control the valves.

5. In a gage cock, the combination of a tubular stock provided at its ends with valve seats, a cap applied to the tubular stock, a sleeve threaded within the cap and arranged in alinement with the bores of the stock, a stem passing loosely through the stock and the sleeve, a pair of oppositely facing valves carried by the stem and designed to cooperate with the valve seats, the distance between the valves being greater than the distance between the valve seats so that one of the valves is open while the opposite valve is closed, and means for turning the sleeve to control the valves.

6. In a gage cock, the combination of a tubular stock, provided with a pair of valve seats, a cap applied to one end of the tubular stock, a sleeve threaded within the cap and arranged in alinement with the bore of the stock, a stem passing loosely through the stock and the sleeve and formed with an enlargement engaged by the sleeve, a pair of oppositely facing valves carried by the stem and cooperating with the valve seats, the distance between the valves being greater than the distance between the valve seats so that one of the valves is open while the opposite valve is closed and the steam pressure within the boiler normally tending to move the stem in one direction to close one of the valves, and means for turning the sleeve to move the stem in the opposite direction.

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

FREMONT KOBLER. [L. s.]

Witnesses:

CHAS. F. STURTEVANT,  
GASTON DE GAUGUE.