No. 624,184. Patented May 2, 1899.

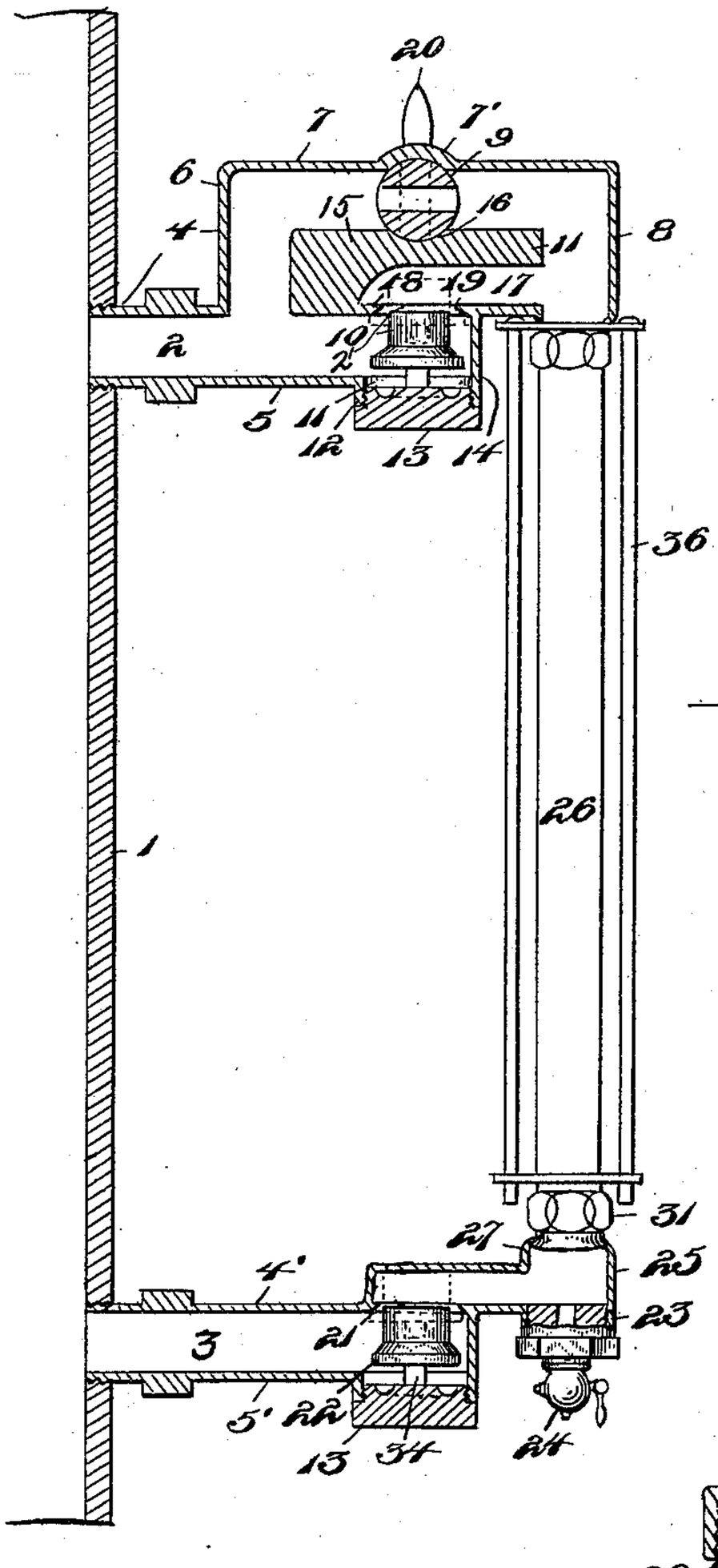
S. COOK.

WATER GAGE GLASS VALVE.

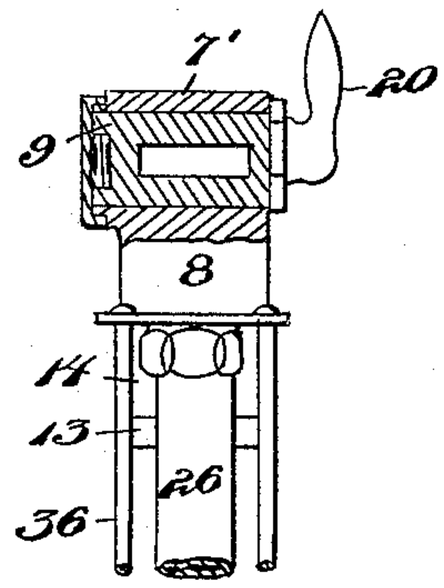
(Application filed June 13, 1898.)

(No Model.)

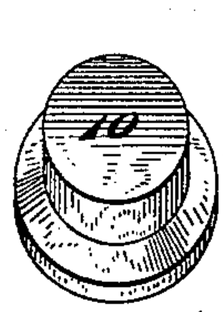
F fig. 1.



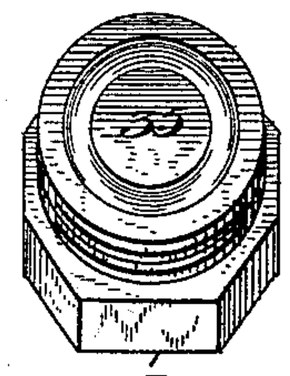
F fig. 2.



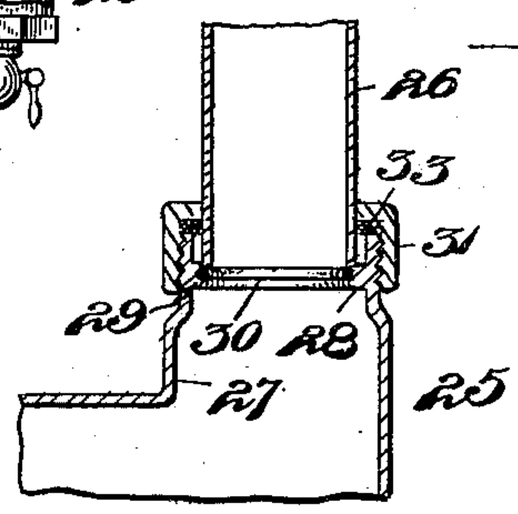
F fig. 3.



F fig. 4.



F fig. 5.



WITNESSES:

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SAMUEL COOK, OF WILMERDING, PENNSYLVANIA.

WATER-GAGE-GLASS VALVE.

SPECIFICATION forming part of Letters Patent No. 624,184, dated May 2, 1899.

Application filed June 13, 1898. Serial No. 683,281. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL COOK, a citizen of the United States of America, residing at Wilmerding, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Water-Gage-Glass Valves, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in water-gage-glass valves.

The object of my invention is to provide a device of this class which automatically cuts off the overflow of water or the escape of steam from the boiler when the gage-glass is broken.

A still further object of my invention is to provide a device of this class in which the gage-glass can be attached to its holder without injury to the person attempting same while the steam is being generated in the boiler.

My invention consists in providing the upper gage-cock with a cut-off and stop valve and the lower gage-cock with a similar stop-valve, the valves working automatically when the cut-off is turned.

My invention further consists in the novel combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and particularly pointed out in the claims hereunto appended.

In the drawings, Figure 1 is a longitudinal sectional view of my improved device. Fig. 2 is a vertical sectional view of the cut-off for the upper gage-cock with a part of the gage-glass attached. Fig. 3 is a perspective view of one of the valves. Fig. 4 is a perspective view of one of the valve-plugs. Fig. 5 is a longitudinal sectional view of a part of the gage-glass with the rubber washer attached and lower gage-cock.

Like numerals of reference indicate corresponding parts throughout the several views of the drawings, in which—

1 indicates the boiler, having steam and water outlets 2 and 3, forming the upper and lower gage-cocks. The outlets have walls 4, 4′, 5, and 5′. The wall 4 has secured to its outer end a vertical wall 6, which has secured thereto a horizontal wall 7, which is convexed at or about its center, as at 7′, and forms a seat for a part of the cut-off. The wall 7 has secured thereto a vertical wall 8, and these walls form a chamber for the cut-off 9 and stop-valve 10, which are suitably arranged therein. The ends of the walls 5 and 5′ have a circular cut-away portion 11 therein, and have formed integral therewith a screw-threaded collar 12, which is adapted to receive the screw-threaded valve-plug 13. The end of the collar 12 has an extension 14 formed integral therewith, which is used as a closure for the steam-outlet 2. The upper end of this extension has a partition formed integral therewith, the upper edge of which is concave at or near its center, as at 16, which coincides with the convex portion of the wall 7 to allow the cut-off to operate therein and also forms a seat for a part of the cut-off. The partition 15 is cut away, as at 17, forming a chamber for the valve 10 to operate therein, and the low part 18 of the partition 15 has a valve-seat 19 formed thereon for the valve 10. The cut-off 9 has a handle 20 to operate the same.

The wall 4′ has a circular cut-away portion therein, the edge of which forms a valve-seat 21 for the stop-valve 22, and another circular opening is formed near its free end, which has a screw-threaded collar 23 formed integral therewith and which is adapted to receive a screw-threaded discharge-cock 24. The outer edge of the screw-threaded collar 23 has a vertical wall 25 formed integral therewith and is adapted to receive the gage-glass 26 in conjunction with the wall 27, which is formed integral with and extends above the wall 4′. A lug or extension 28 is formed on the inner face of the walls 25 and 27 and has a ridge 29 formed thereon. A rubber gasket 30 is forced upwardly and extends over said ridge and is adapted to securely hold the lower end of the gage-glass in position.

31 is a hollow screw-threaded cap which fits around the walls 25 and 27 and has abutting against its inner face a washer 33, which forms a seal around the periphery of the gage-glass.

34 34 are valve-rods, and 35 are seats therefor.

36 are protecting-rods for the gage-glass.

The operation of my improved water-gage-glass valve is as follows: When the gage-glass is broken, the cut-off is turned, thereby

sealing the passage 2, and the steam will then force the valve 10 against the valve-seat, thereby closing the steam-outlet, and the water will perform a similar function to the valves 22 in the water-outlet, thereby sealing the same. This allows another gage-glass to be placed in position without any inconvenience.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In a water-gage-glass valve, the combination of suitable steam and water outlets, a partition arranged in said steam-outlet, passages formed by said partition and having a valve-seat arranged on the lower edge thereof and a seat for the cut-off on the upper edge thereof, a cut-off and stop valve operating in said steam-outlet, and a stop-valve operating in said water-outlet, substantially as herein shown and described.

2. In a water-gage-glass valve, the combination of a steam-outlet having a partition suitably arranged therein, a cut-off seat and stop-valve seat arranged on said partition, a cut-off and stop valve operating in said steam-inlet, a water-outlet having a wall arranged therein, a valve-seat arranged on said wall, and a valve operating in said water-outlet, substantially as herein shown and described.

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

SAMUEL COOK.

Witnesses:
JOHN NOLAND,
H. H. PATTERSON.