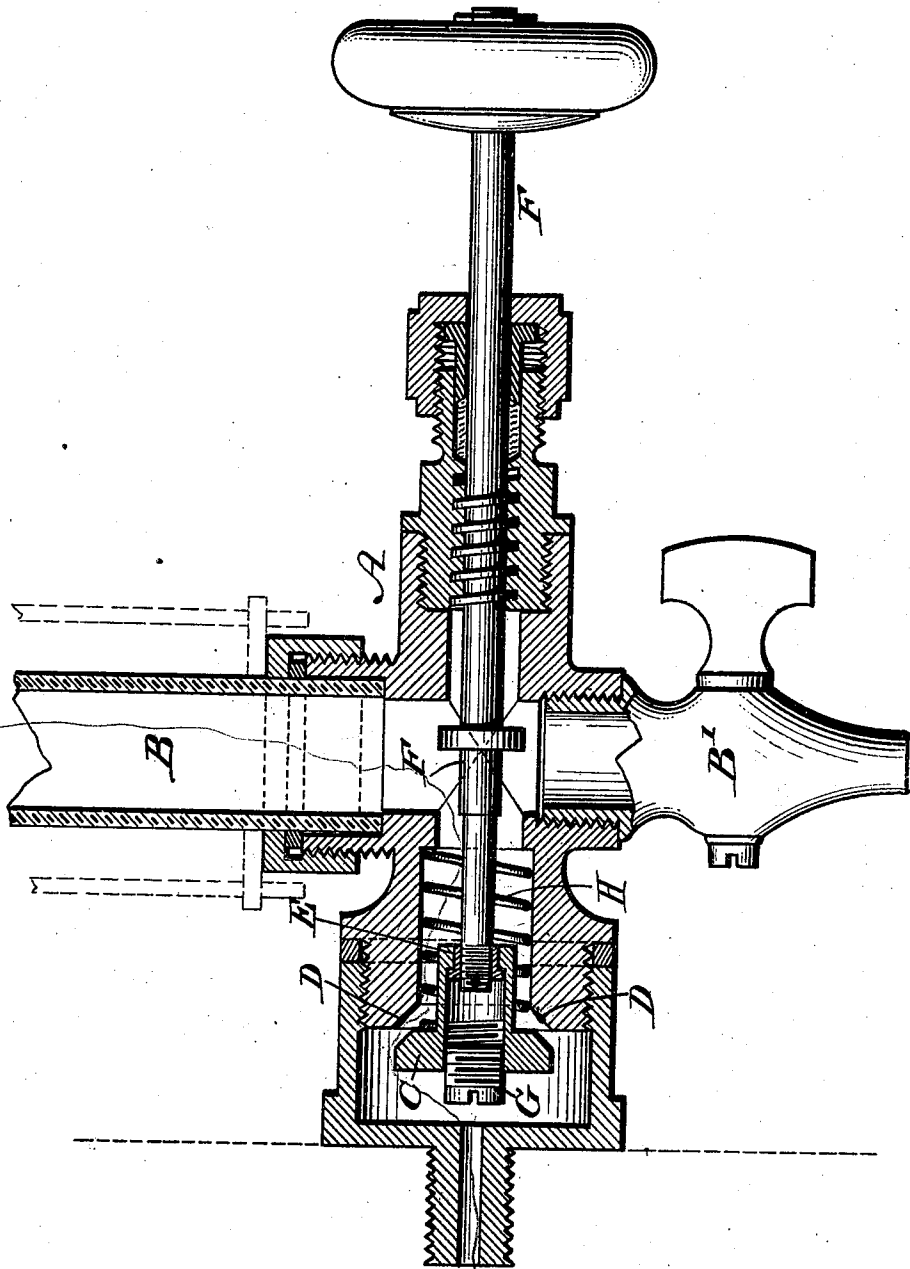


(No Model.)

C. B. MARSHALL.
WATER GAGE.

No. 502,128.

Patented July 25, 1893.



WITNESSES:

L. Douville,
O. F. Chagler.

INVENTOR
Charles B. Marshall.
BY
John D. Worthington
ATTORNEY.

UNITED STATES PATENT OFFICE.

CHARLES B. MARSHALL, OF PHILADELPHIA, PENNSYLVANIA.

WATER-GAGE.

SPECIFICATION forming part of Letters Patent No. 502,128, dated July 25, 1893.

Application filed April 8, 1893. Serial No. 469,547. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. MARSHALL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Safety-Cocks for Water-Gages, which improvement is fully set forth in the following specification and accompanying drawing.

My invention consists of a safety cock for a water gage, in which the cock is adapted to close automatically should the gage be broken, whereby escape of water from the boiler is prevented. Provision is made for opening the cock when so required, and other features are presented, as will be hereinafter set forth.

The figure represents a longitudinal vertical section of a safety cock for a water gage embodying my invention.

Referring to the drawing: A designates a cock, and B designates a water column or gage connected therewith, said cock being adapted to be attached to a boiler in any suitable manner. Within the shell of the cock between the base of the gage B, and the attaching end of the cock, is a valve or head C, which has a seat D on said shell, said valve being hollow and having therein, at the forward end the sleeve E, to which is screwed the valve stem F, said sleeve being loose in the valve, and having on its exterior a shoulder which contacts with a shoulder on the interior of the valve, whereby the latter may be moved against its seat, and thus closed by the proper operation of the valve stem. On the rear end of the valve is a screw plug G, which is so located that when the valve is operated in the reverse direction, it strikes said plug and thus moves the valve from the seat, and opens the same.

Bearing against the valve C, and a shoulder on the bore of the shell of the cock, is a light spring H, whose pressure is sufficient to hold the valve open, so that water may pass through the cock and enter the gage when the parts are in normal or operative condition, it being evident that as the cock and gage are filled with water, the pressure on opposite sides of the valve C is almost equal,

the spring H serving to overcome the direct impact of the entering water against the back of the valve, whereby the latter remains open.

Should the gage be broken or leak, as the valve is relieved of the pressure of water on the gage side, it immediately closes, and thus the water cannot escape from the boiler through the cock. When a proper gage is re-applied and secured in position, the stem F is operated to open the valve, and thus water is permitted to flow through the cock and enter the gage, the effect of which is evident. In this operation of the stem, the valve slides inwardly on the sleeve as a guide, and when the stem abuts against the plug G, the valve is removed from its seat, and accordingly opened.

Should it be desired for any purpose to close the valve by means of the stem F, the latter is properly rotated, whereby the sleeve E engages with the valve owing to the shoulders thereof, and the valve is advanced against its seat. When the stem is rotated in the opposite direction the valve may slide on the sleeve and open, due to the pressure of the spring H, or the plug G may be engaged by the stem, and the valve opened by the same. In this condition, the cock B' may be opened, and the gage B readily cleansed by the running water when so desired.

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

1. In a safety gage, a valve casing, a valve having a seat on said casing provided with a stem loosely connected with one end thereof, and a screw plug in the opposite end, said connection of stem and valve being movable in said valve, said parts being combined substantially as described.

2. A valve casing, a valve having a seat on said casing, a loose sleeve in said valve having a shoulder adapted to bear against a shoulder on the said valve, a stem secured to said sleeve and a plug in the other end of the valve from the sleeve, said parts being combined substantially as described.

3. A safety cock for a water gage, having a valve therein, between the gage and boiler end, a sleeve loosely fitted in said valve, a

valve stem engaging with said sleeve, and a spring bearing against said valve, said parts being combined substantially as described.

4. A valve casing, a valve having a seat on
5 said casing, and provided with a loose sleeve in one end thereof, and a plug in the opposite end, said sleeve having the valve stem secured thereto, and a spring bearing against said valve so as to normally raise the same

from its seat, said sleeve having a shoulder to bearing against a shoulder on the inner face of the valve, said parts being combined substantially as described.

CHARLES B. MARSHALL.

Witnesses:

JOHN A. WIEDERSHEIM,
A. P. JENNINGS.