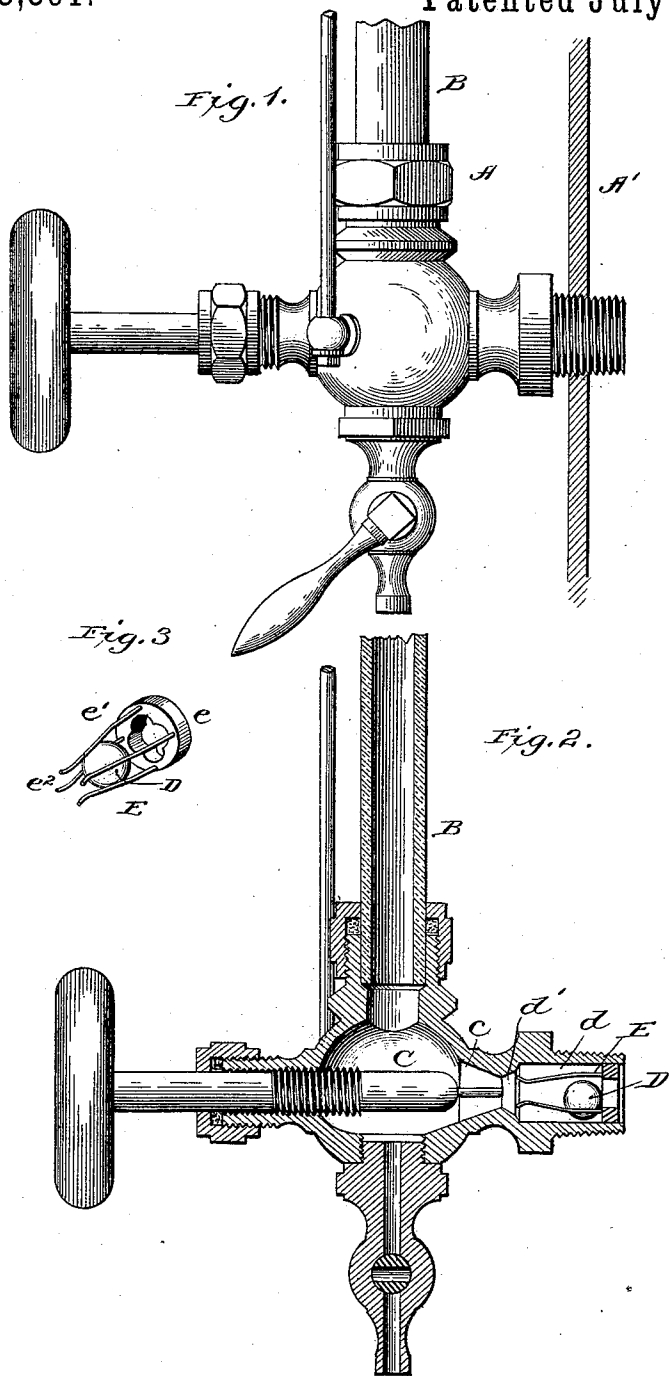


(No Model.)

F. L. WOLFE.  
SAFETY WATER GAGE.

No. 523,391.

Patented July 24, 1894.



Witnesses:  
Harry S. Arthur.  
John C. Hood.

Inventor:  
Frank L. Wolfe.  
By N. H. Singleton,  
Att'y

# UNITED STATES PATENT OFFICE.

FRANK LESLIE WOLFE, OF MEDFORD, ASSIGNOR TO THE CROSBY STEAM GAGE AND VALVE COMPANY, OF BOSTON, MASSACHUSETTS.

## SAFETY WATER-GAGE.

SPECIFICATION forming part of Letters Patent No. 523,391, dated July 24, 1894.

Application filed June 28, 1893. Serial No. 479,036. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK LESLIE WOLFE, a citizen of the United States, residing at Medford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Safety Water-Gages; 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.

This invention relates to an improvement in safety water gages, more especially the kind shown in United States Patent No. 208,963.

In this patent the ball which forms the safety device rolls back within the chamber when forced from its seat by the projected valve stem, by gravity, and there remains until there is a sudden opening, due to the breakage of the glass or other cause, when it is forced to its seat by the rapid inflowing of steam, and prevents the water or steam from escaping and injuring the attendant. However, for marine work, the ball will not always stay in its place when the vessel is rolling, but is liable sometimes to move up against its seat, and there remain, shutting off the water or steam from the gage glass, and thus defeating its purpose to disclose the height of water. To overcome any such liability of action of the ball is the object of the present invention, and the invention consists in providing the safety water gage valve with a stop, such stop having a holder which normally keeps it away from its seat and yet readily allows of the steam acting to force it to the seat.

In the annexed drawings: Figure 1 shows the lower portion of a safety water gage glass in position; Fig. 2, a section thereof, and Fig. 3, a detail perspective of the ball and its holder.

In the drawings, the letter A indicates a safety water gage (only one end being shown) attached to the boiler, A', in the usual way.

This gage has all the usual features, such as the sight glass, B; the valve, C; the valve seat, c; the ball, D; its chamber d, and the ball seat, d'; all constructed and arranged in the usual and well known way. Within the ball chamber, d, is to be placed the ball holder, E, which prevents the accidental lodging of the ball, D, against the seat, d'. In the present instance this holder consists of a ring, e, from which extend laterally several elastic prongs, e'. The space within these prongs is greater in diameter than that of the ball, E, and the latter is placed within these prongs, their free ends, e<sup>2</sup>, coming close enough together to hold the ball within the prongs. This holder with the ball, E, is placed within the chamber, d, so that the ring, e, is away from the ball seat, d', the prongs, e', extending toward such seat and free to expand within the chamber under the action of the ball whenever it is forced to the seat by the action of the outrushing steam. With such a construction it will be seen that, whatever may be the movement of the ball, D, except by force of the steam in case of accident, it will not and cannot roll against the seat, d', but will effectually be kept from the seat by the holder, E.

Having thus described my invention, what I claim is—

1. A safety water gage, provided with a valve seat, and a movable stop therefor, having a holder which normally keeps the stop away from its seat and yet readily allows of the steam acting to force it to its seat, as set forth.

2. A safety water gage, provided with a valve seat, a ball for closing the same, and the ball holder, E, having the prongs, e', as set forth.

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

FRANK LESLIE WOLFE.

Witnesses:

JOSHUA H. MILLETT,  
DUDLEY P. BAILEY.