

A. F. EELLS.  
BILGE-WATER ALARM.

No. 184,851.

Patented Nov. 28, 1876.

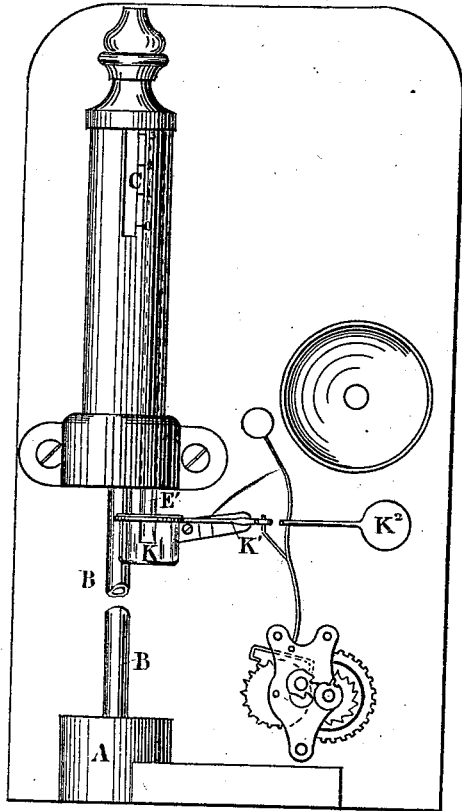


Fig. 1.

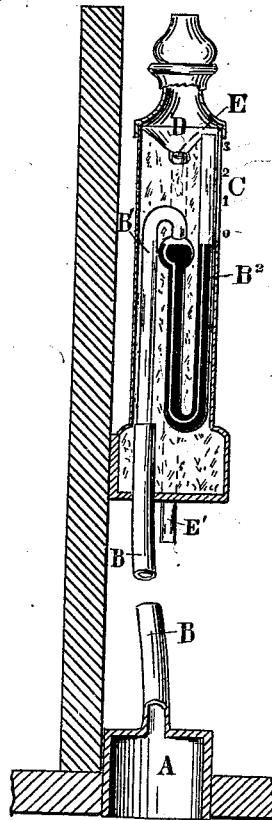


Fig. 2.

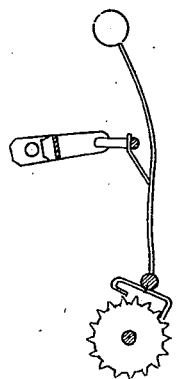


Fig. 3.

WITNESSES

*Franklin Parker*

*A. J. Bump*

INVENTOR

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# UNITED STATES PATENT OFFICE.

ALBERT F. EELLS, OF BOSTON, MASS., ASSIGNOR OF A PART OF HIS RIGHT  
TO SAMUEL C. LOUD, W. H. DOLE, AND F. B. DOLE, OF SAME PLACE.

## IMPROVEMENT IN BILGE-WATER ALARMS.

Specification forming part of Letters Patent No. 184,851, dated November 28, 1876; application filed  
October 23, 1876.

*To all whom it may concern:*

Be it known that I, ALBERT F. EELLS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Bilge-Water Alarm-Gages, of which the following is a specification:

My invention relates to a device for indicating, by a mercury-column and a graduated scale, the amount of leakage in the bilge of a ship, also to a device for giving an alarm when the leakage-water has reached a certain height in the ship; and consists in combining, with an alarm device and a mercury-column, a tube which extends to the hold of the ship, and terminates in a bell or water-chamber, the mouth of which opens downward, so that when the water rises above it, pressure is produced within the pipe, said pressure being transmitted to the mercury-column, and through the overflow of the mercury to the alarm device.

This device is not confined to ships' use, but may be applied to a variety of uses.

Figure 1 is an elevation of my invention. Fig. 2 is a vertical cross-section of the same. Fig. 3 shows a part of the let-off device.

In this device, A represents a fixed water bell or chamber, having its open end downward, as shown in Fig. 2. To the upper part of this bell I attach the air-pipe B, which communicates with the mercury-siphon B<sup>1</sup> B<sup>2</sup>, Fig. 2. The ascending arm B<sup>2</sup> of the siphon

terminates in the cup or receptacle D, from which a pipe, E E', leads to the counterpoise-cup K of the alarm-device let-off.

This alarm device will be found fully described in Letters Patent of the United States granted to me, and dated August 22, 1876, No. 181,323, entitled "Improvement in Fire-Alarms."

The operation of my device is as follows: When water begins to accumulate in the bilge it will flow upward into the bell or chamber A, and thus exert a pressure on the air in the bell A and tube B. This pressure will be transmitted to the mercury in the siphon B<sup>1</sup> B<sup>2</sup>, and cause the mercury to ascend the arm B<sup>2</sup>, and thus indicate on the graduated scale C the amount of water in the bilge. A continued rise of water in the bilge will cause the mercury in B<sup>2</sup> to overflow into the cup D, and thence through the pipe E E' to the counterpoise-cup K of the alarm device, and thus give the alarm.

I claim as my invention—

The combination of the water bell or chamber A, pipe B B, siphon B<sup>1</sup> B<sup>2</sup>, cup D, and pipe E E' with the let-off device K K<sup>1</sup> K<sup>2</sup> of the alarm mechanism, all operating together substantially as described, and for the purpose set forth.

ALBERT F. EELLS.

Witnesses:

FRANK G. PARKER,  
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