(No Model.)

G. HAYDN.

BILGE WATER EJECTOR.

No. 322,374. Patented July 14, 1885.

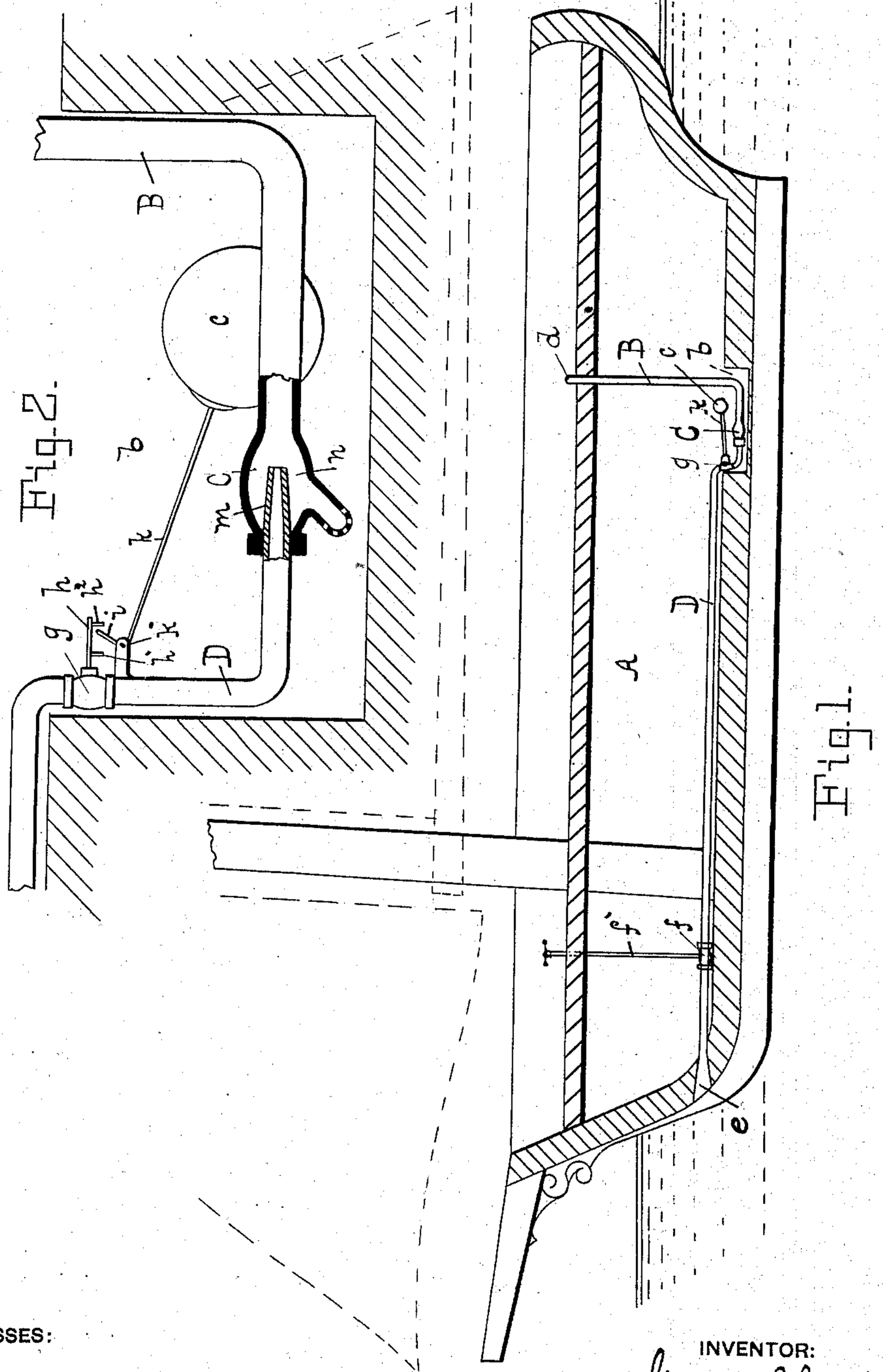

Fig. 2.

Fig. 1.

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE HAYDN, OF BALTIMORE, MARYLAND.

BILGE-WATER EJECTOR.

SPECIFICATION forming part of Letters Patent No 322,374, dated July 14, 1885.

Application filed July 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HAYDN, of the city and county of Baltimore, and State of Maryland, have invented a new and Improved Device for the Discharge of Bilge-Water and Similar Accumulations; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in bilge-water ejectors in which the same is operated by the forward movement of the vessel and the outside pressure of the water, and also devices automatically operated by which the ejector is started and stopped, as illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view of the vessel, showing the position of the device; and Fig. 2, a detail view of the bilge-well, the ejector, and mechanism to automatically operate the same.

The letter A designates the hull of the vessel, provided with a suitable bilge-well, *b*, in which the ejector C is placed, the latter being constructed on any of the well-known principles, and to one end of which is connected the discharge-pipe B, which extends above the deck, with its delivering end *d* above the water-line of the vessel, and to the other end the pressure-pipe D, which terminates below the water-line with a flared mouth, *e*. In the pipe D is placed a cut-off valve, *f*, provided with the stem *f'*, which extends above deck, and by which the valve *f* may be operated therefrom, in case it should be desired to do so. The pipe D is also provided with a cut-off valve, *g*, which is operated automatically by the rise and fall of the water in the bilge-well, and which may be constructed in any suitable manner with a projecting stem, *h*, on which are two projections, *h'* and h^2, by which it is operated by the short end *i* of the lever *k* coming in contact with either.

The lever *k* is pivoted to the valve at *k'*, and provided with a float, *c*, which, as the water in the well *b* accumulates, is floated thereon, thus bringing the end *i* of the lever *k* in contact with the projection *h*, and thereby pressing the stem *h* inward, and opening the valve *g*, which permits the pressure-water to pass to the ejector, and which in its passage therethrough draws in through the holes in the neck of the ejector, and ejects through the pipe B the water from the bilge-well, the pressure in the pipe D being derived from the forward movement of the vessel acting on the flared mouth *e*, and by the same being submerged.

When the bilge-water has all been ejected from the well *b*, the float *c* will be lowered therewith, which will bring the end *i'* of the lever *k* in contact with the projection h^2, thereby drawing the stem *h* outward, and thus closing the cut-off valve *g*, which will remain so until the bilge-water has again accumulated in the well, when it will be opened, as above stated, and so on.

The pressure-water being ejected from the nozzle *m* will form a vacuum in the chamber *n* as it passes to the discharge-pipe B, which will draw into the said chamber the bilge-water, and thus eject the same.

By this arrangement the bilge-water is ejected automatically, and in case anything should get wrong with the automatic device, the valve *f* can be closed, thus effectually preventing the flooding of the vessel.

Having fully described my invention, what I claim, and wish to secure by United States Letter Patents, is—

1. In a bilge-water ejecting device, the combination of the vessel A, the ejector C, arranged in the bilge-well, and adapted to receive the water therefrom, the discharge-pipe B, arranged to deliver the water from the bilge-well above the water-line of the vessel, the pressure-pipe D, arranged with the inlet-opening below the water-line of the vessel, by which, as the vessel moves through the water, a pressure is generated in the said pipe, and the automatic valve *g*, placed in the pipe D, and adapted to cut off and open communication between the ejector C and the pipe D by the float *c*, secured to the end of the pivoted lever *k*, its position being changed or regulated by the rise and fall of the bilge-water, whereby when the water in the bilge-well accumulates in sufficient quantity the valve *g* is opened, and the pressure generated in the pipe D by the movement of the vessel is permitted to act on the ejector C, by which the water is

taken from the bilge-well through the ejector C and pipe D, and delivered above the water-line of the vessel.

2. The vessel A, the ejector C, the discharge-pipe B, with its outlet-opening above the water-line of the vessel, the pressure-pipe D, with its inlet-opening below the said water-line, the valve *g*, the stem *h*, by which the valve is operated, and the projections *h'* and *h²*, secured to the stem *h*, and placed sufficiently apart thereon to permit the short end *i* of the lever *k* to move either way a certain distance without operating the valve, in combination with the pivoted lever *k*, provided with a float, whereby the bilge-well is permitted to fill with water before the ejector is put in operation, and when in operation to remain so until all the bilge-water is ejected.

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

GEORGE HAYDN.

Witnesses:

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