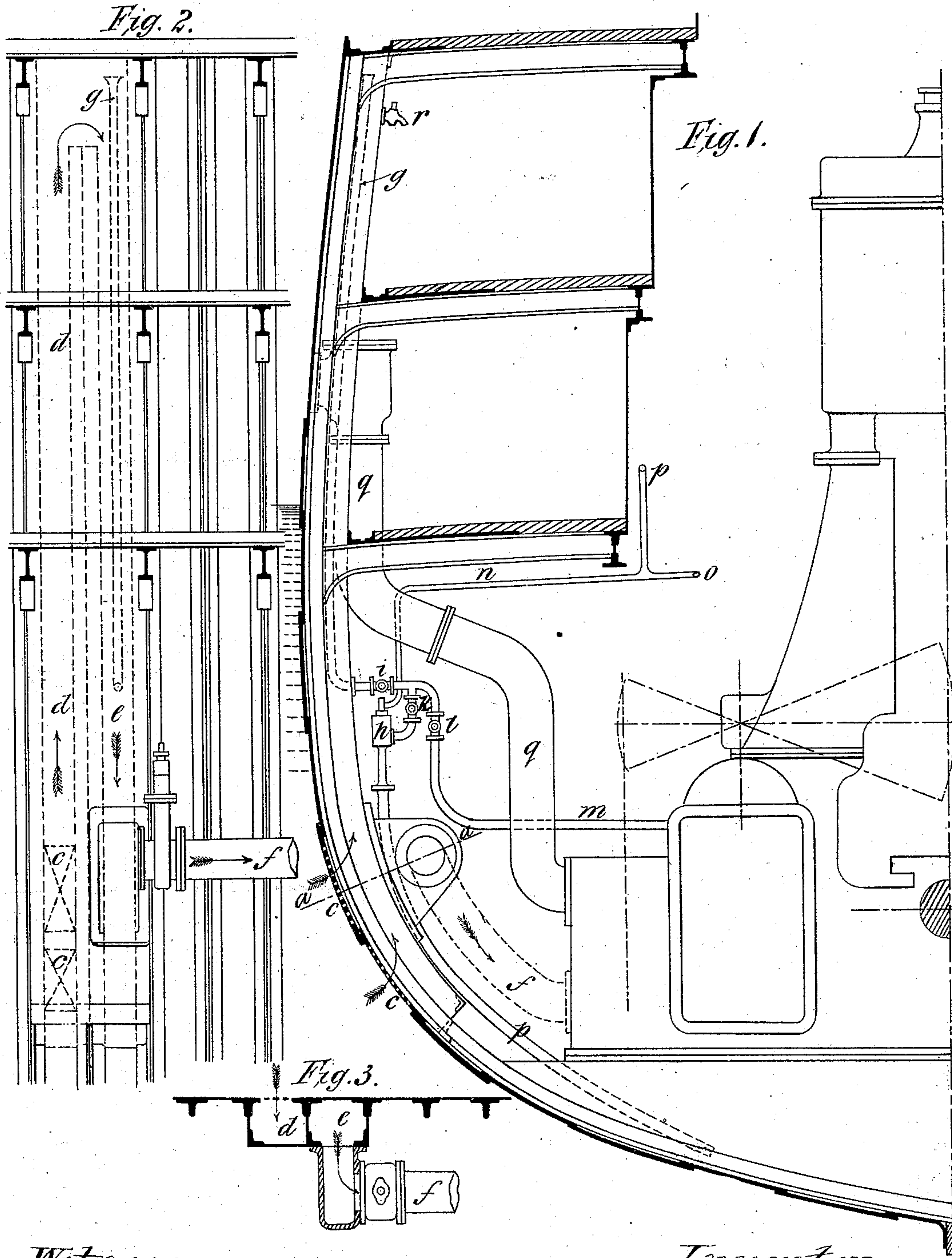


MECHANISM FOR SUPPLYING WATER TO SHIPS' ENGINES.

No. 274,761.

Patented Mar. 27, 1883.



Witnesses.
J. L. Ourand
W. C. Young.

Inventor.
Druitt Halpin
by W. H. Coolidge
Atty.

(No Model.)

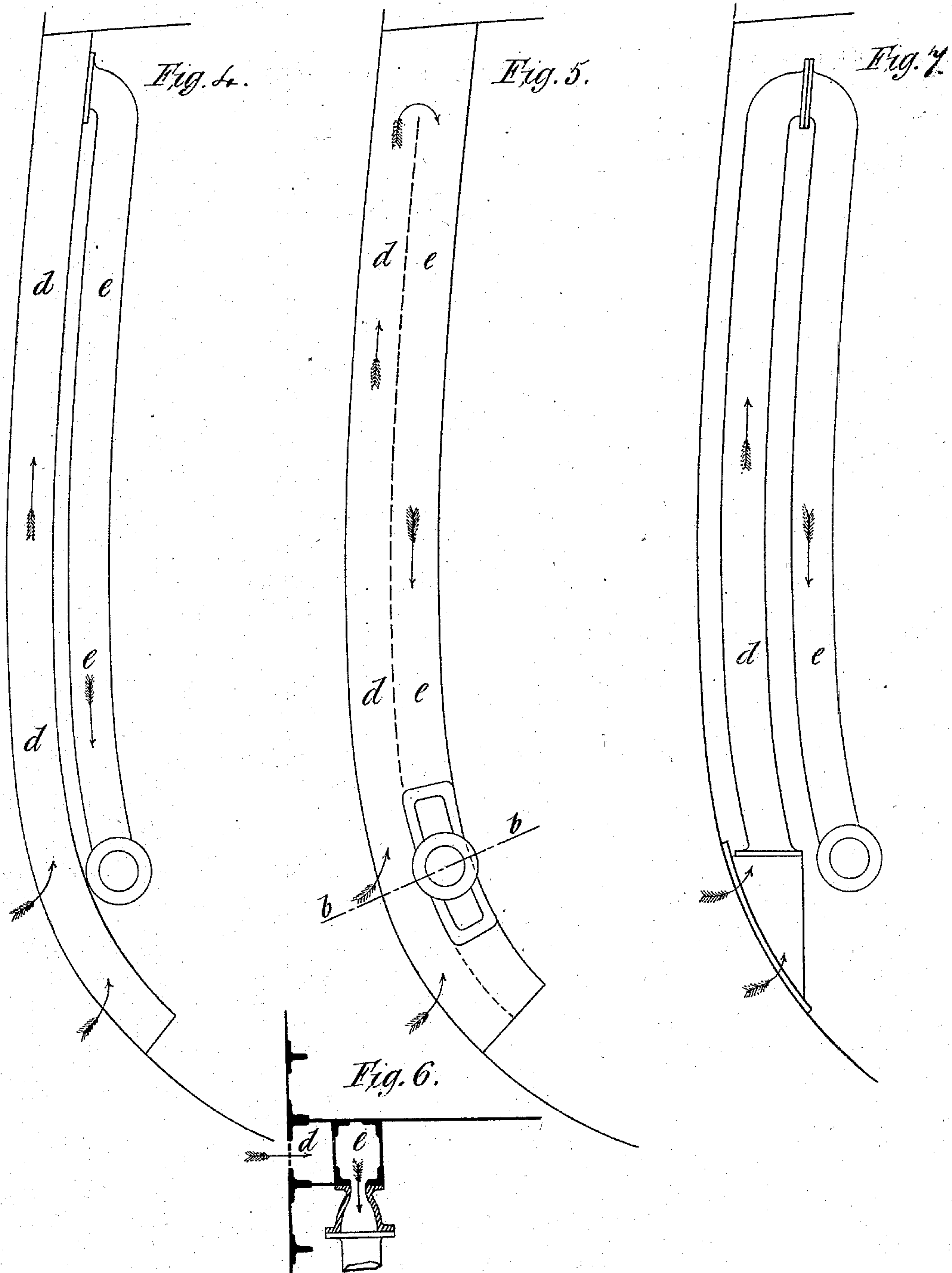
D. HALPIN.

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

DRUITT HALPIN, OF WESTMINSTER, ENGLAND.

MECHANISM FOR SUPPLYING WATER TO SHIPS' ENGINES.

SPECIFICATION forming part of Letters Patent No. 274,761, dated March 27, 1883.

Application filed July 18, 1882. (No model.) Patented in Germany January 27, 1880, No. 12,348; in England July 25, 1881, No. 3,251; in France September 15, 1881, No. 145,311, and in Belgium September 30, 1881, No. 55,795.

To all whom it may concern:

Be it known that I, DRUITT HALPIN, a subject of the Queen of Great Britain and Ireland, residing at Victoria Chambers, in the city of Westminster, Kingdom of Great Britain and Ireland, have invented new and useful Means for Supplying Water to Marine-Engines in Steamships or Vessels, (for which I have obtained patents in Great Britain, No. 3,251, bearing date July 25, 1881; France, No. 145,311, bearing date September 15, 1881; Belgium, No. 55,795 B, bearing date September 30, 1881, and Germany, No. 12,348, bearing date January 27, 1880,) of which the following is a specification.

For drawing the required supplies for marine-engines from the external water the side of the vessel is usually pierced below the water-line with holes provided with cocks or valves. In case of fracture or derangement of these cocks or valves, or of their becoming detached from the vessel's side, there is great danger of flooding the vessel, and it is difficult to repair or replace such fittings without incurring expense and delay in docking the vessel.

My invention relates to means of avoiding these evils, which I effect in the following manner: Within the vessel, close at the side thereof, I form a water-tight siphon-chamber, extending from below the water-line up some distance above the water-line, and I divide this chamber into two channels by a vertical partition extending from the bottom nearly to the top thereof. At the bottom of one of these channels I make an aperture or apertures to the external water, and at or near the bottom of the other channel I make all the necessary apertures with their cocks or valves for the several water-supplies. Thus the external water has no direct passage to the interior of the vessel, but has to ascend the one channel of the siphon-chamber to a level above the water-line, and passing over the partition descends the other channel to give the required supplies. At the top of the siphon-chamber I provide a cock or valve, which can be opened to admit air so as to prevent siphon action in the chamber. Thus, if any of the cocks, valves, or pipes within the vessel should become fractured or deranged, the communication with the external water can be entirely cut off by opening the air

cock or valve, and the fractured or deranged part can be repaired without the necessity for docking. In cases where the internal connections to the chamber require supply before the engines are started the chamber may be provided at the top with an ejector-pump or other exhauster so as to withdraw the air from the chamber and charge it from outside with water ready for the supply of these connections, the blow-off water may be discharged through the siphon-chamber, the blow-off valve or cock being for this purpose fitted along with the supply valves or cocks to the wall of the siphon-chamber. The siphon-chamber may be formed in various ways so as to suit the structure of the vessel or the position which it may most conveniently occupy.

Referring to the accompanying drawings, Figure 1 is a part transverse section of a vessel at the engine-room. Fig. 2 is a part elevation of the side; and Fig. 3 is a sectional plan on *a a*, Fig. 1.

I have assumed that in this case each frame of the vessel consists of a pair of angle-irons placed back to back. Between these angle-irons I introduce plates, projecting inward, to form the sides and partition of the siphon-chamber, divided into its two channels, *d* and *e*, which I cover by plates secured to angle-irons, riveted to the projecting plates. The middle partition stops short of the top of the chamber sufficiently far to give free passage for water from the ascending channel *d* to the descending channel *e*. Openings *c c*, which may be grated, are made through the ship's side at or near the bottom of the channel *d*, and a suitable communication, *f*, with its necessary valves, is made from the bottom of the channel *e* to the condenser and feed-pump or other place requiring water-supply. By opening an air-cock, *r*, situated near the top of the chamber, its action as a siphon can, when required, be arrested. The siphon action may be started by means of a steam-ejector, *h*, exhausting the air by a pipe, *g*, which is led up within the chamber nearly to its top. This pipe may also have a branch, *m*, communicating with the condenser, so that when a partial vacuum exists in it the air may be exhausted without using the ejector. Cocks *i*, *k*, and *l* are provided to shut off the pipe *g*

from communication with the ejector and condenser, or with either. The ejector *h* may be employed to create a partial vacuum in the condenser to aid in starting the engines. The steam for working the ejector may be taken from the main boilers or the donkey-boiler by either branch *o* or *p* of the steam-pipe *n*. It is obvious that, instead of an ejector, an air-pump or other exhauster may be employed for the purpose of charging the siphon, or the siphon may, in the first place, have its air and water ejected by introducing a current of steam, by the subsequent condensation of which a vacuum condition will be produced, causing the water to ascend the channel *d* so as to charge the siphon. The discharge from the condenser is delivered in the usual way by the pipe *q*, having its external opening above the water-line. As shown in Fig. 4, the ascending channel, *d*, may be formed, as described, between a pair of the frames of the vessel, the descending channel, *e*, being a pipe attached to the upper end of *d*. As shown in Fig. 5, and in the sectional plan, Fig. 6, the channels may be formed in the angle where a bulk-head meets the side of the vessel, or two pipes, *d* and *e*, may be employed to constitute the siphon, as shown in Fig. 7. When the construction of

the channels is modified, as shown in Figs. 4, 5, 6, and 7, or otherwise, the air-cock and ejector can be applied to them as described with reference to Figs. 1, 2, and 3.

What I claim is—

A steamship or vessel, in which supplies for the engines are drawn from the external water, provided with a separate water-tight siphon-chamber located within and close to one side of the vessel, and extending from below the water-line to a point above the water-line, said chamber being provided with two channels divided by a vertical partition, one, the ascending channel, communicating with the exterior of the vessel below the water-line, and the other, the descending channel, communicating with the interior of the vessel, whereby a direct opening through the side of the ship or vessel below the water-line for the supply of water is avoided, in combination with suitable means for charging or discharging said channel, substantially as described.

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Witnesses:

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