

L. Y. SPEAR.
SUBMARINE BOAT.

APPLICATION FILED AUG. 14, 1908. RENEWED APR. 7, 1909.

922,056.

Patented May 18, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

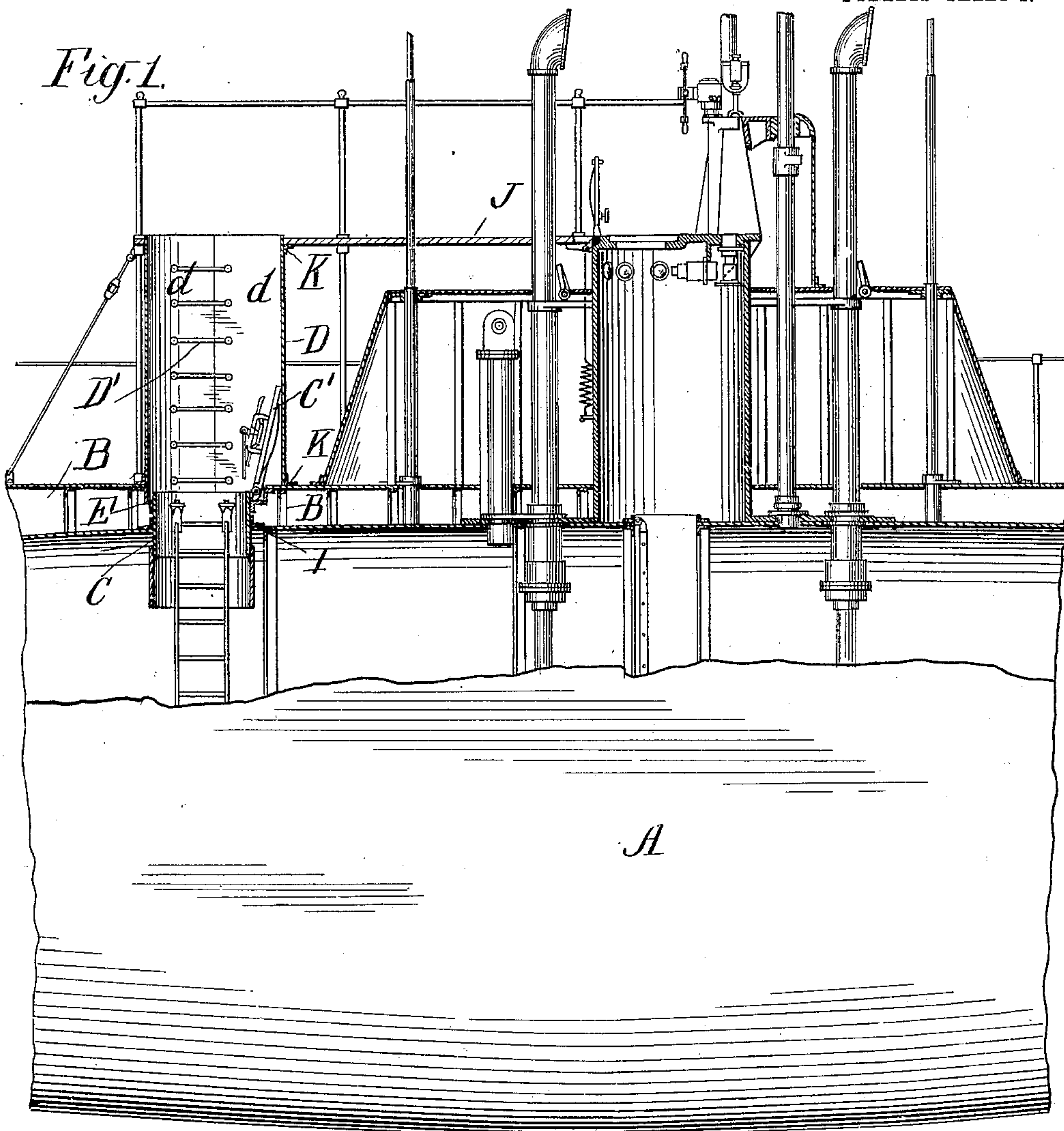
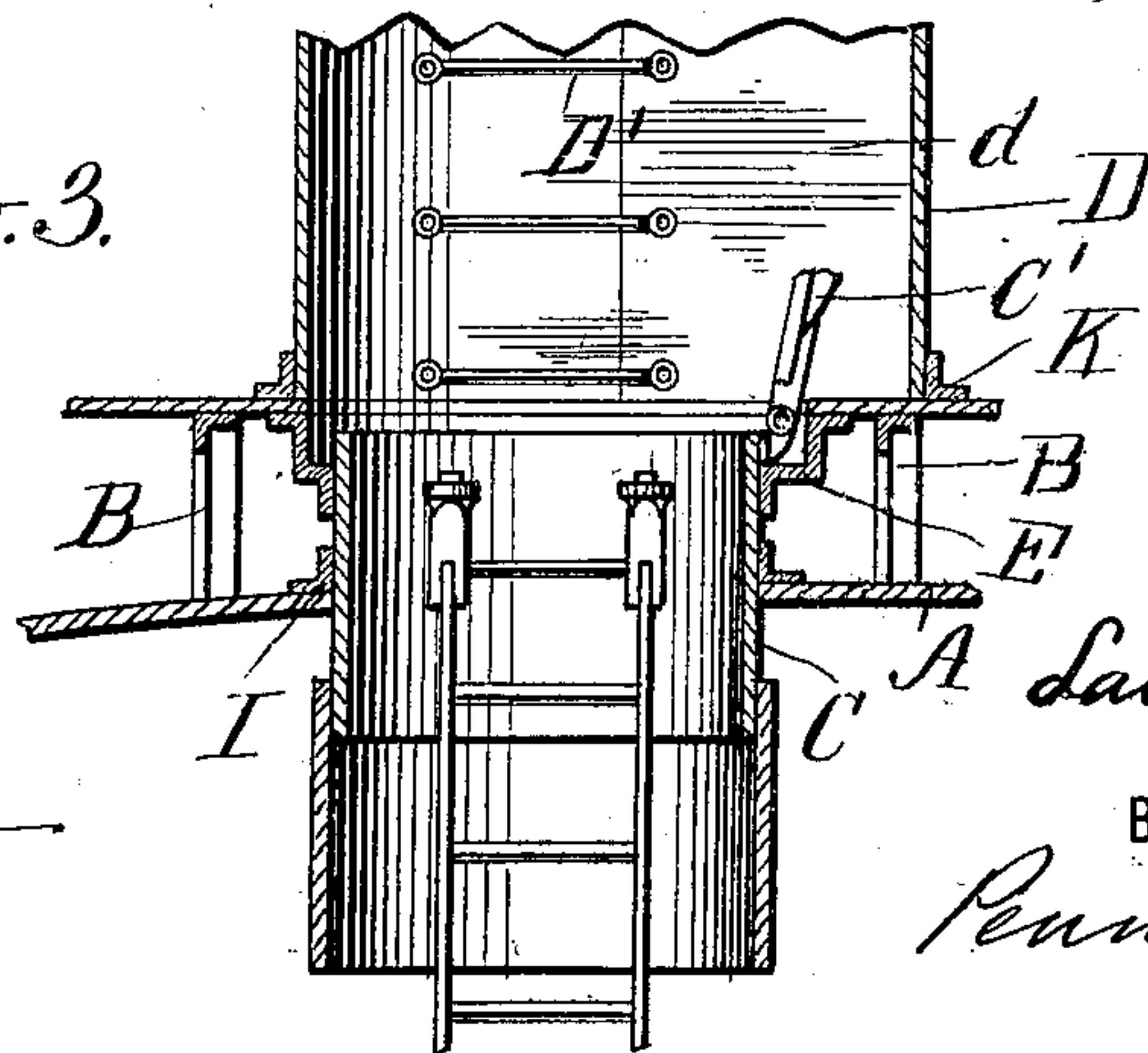


Fig. 3.



WITNESSES:

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2 SHEETS—SHEET 2.

Fig. 2.

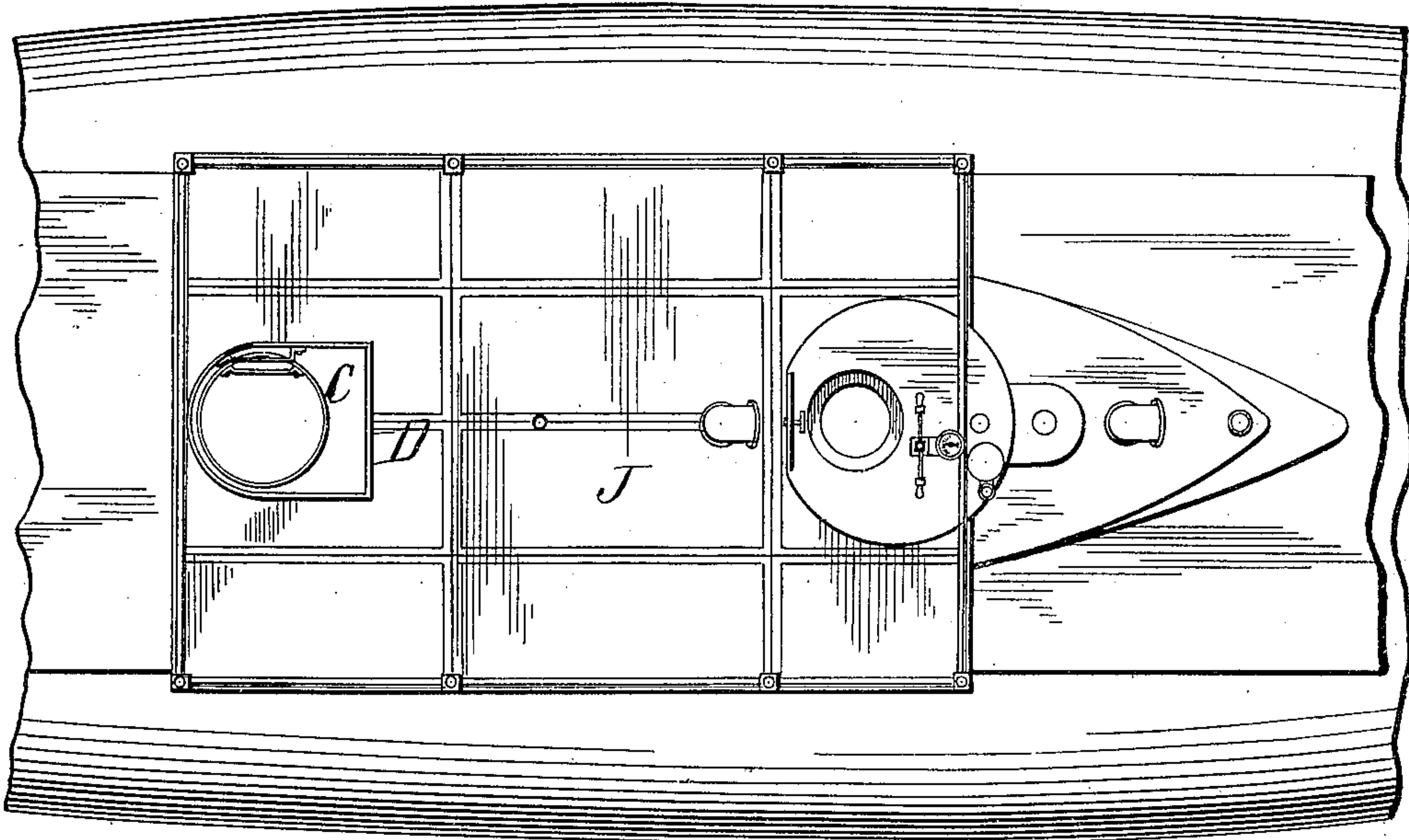


Fig. 4.

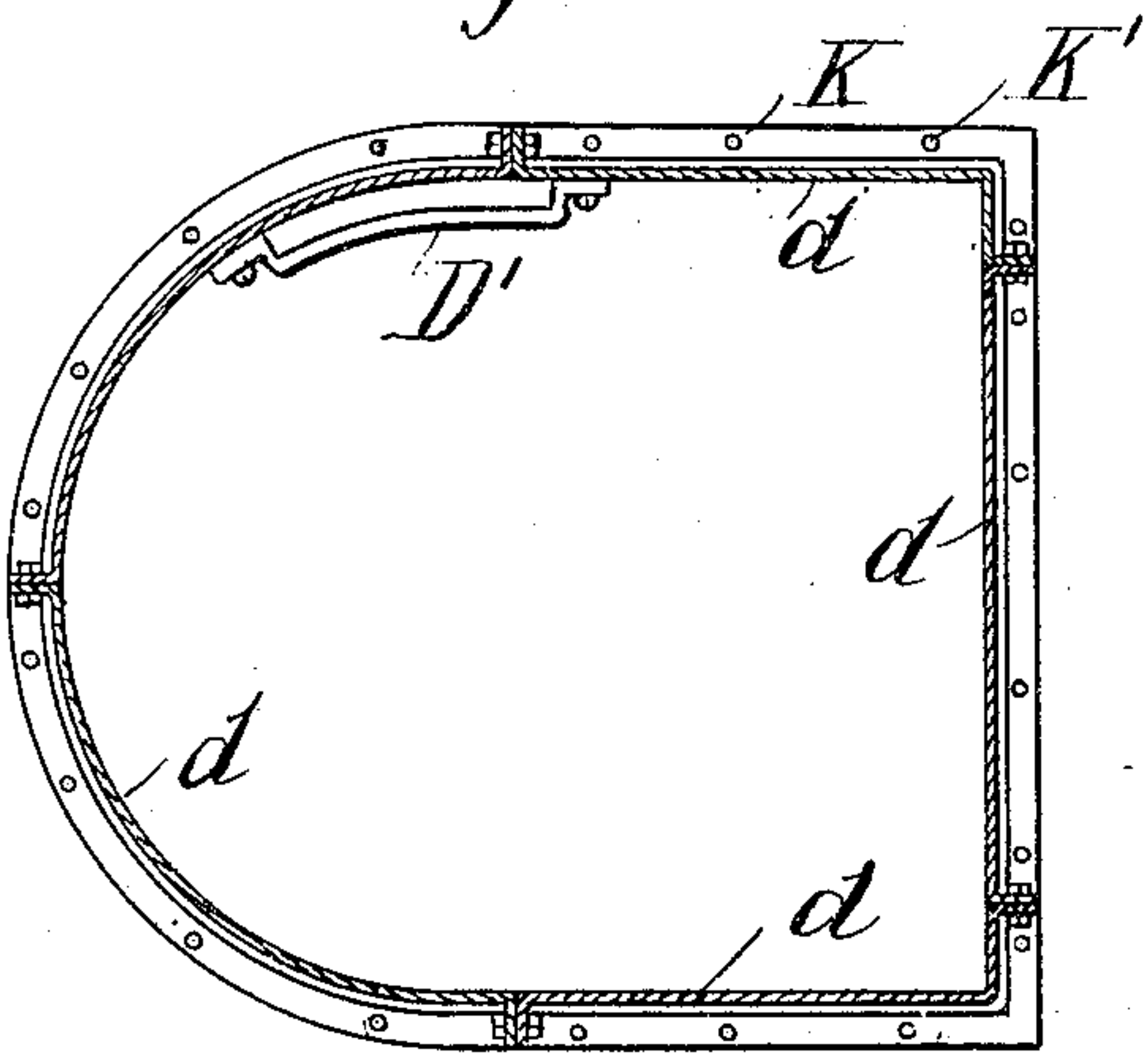
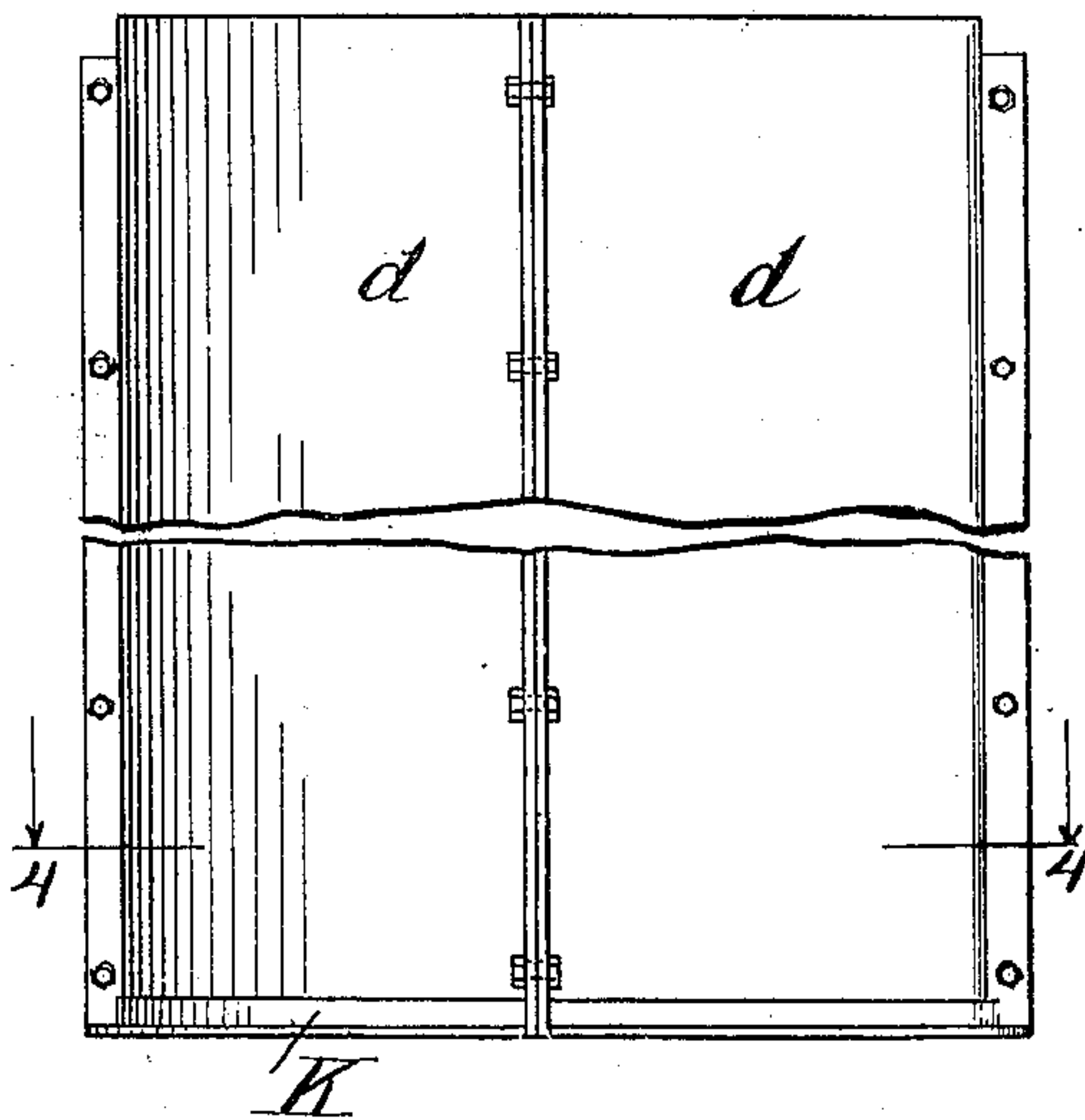


Fig. 5.



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LAWRENCE Y. SPEAR, OF QUINCY, MASSACHUSETTS.

SUBMARINE BOAT.

No. 922,056.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed August 14, 1908, Serial No. 448,463. Renewed April 7, 1909. Serial No. 488,489.

To all whom it may concern:

Be it known that I, LAWRENCE Y. SPEAR, a citizen of the United States, whose residence and post-office address is at Quincy, Massachusetts, have invented certain new and useful Improvements in Submarine Boats; 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.

When a submarine boat of the now established type is running on the surface of the water its hull and superstructure are so completely awash, on account of the low freeboard, that the deck hatches are necessarily closed, and access to the bridge or platform can be had only through the conning tower, the hatch of which under ordinary circumstances, is left open.

The object of the present invention is to afford, under such conditions, a passage for getting into and out of the boat without passing through the conning tower. It gives the crew a chance to get fresh air occasionally by coming on deck, and aids ventilation since the hatch controlling this passage may be left open most of the time when in the light condition.

Referring to the drawings which illustrate the preferred form of the invention, and in which the same reference letters are applied to like parts throughout; Figure 1 is an elevation, partly in section of the central portion of a submarine boat of the established type and equipped with my invention; Fig. 2 is a plan view of the same; Fig. 3 is a sectional detail of a deck hatch surrounded by the hatch trunk of my invention; Fig. 4 is a sectional plan on the line 4—4 of Fig. 5; and Fig. 5 is a central section of the hatch trunk.

The hull A of the vessel carries the ordinary superstructure B with flat deck, of vessels of this type. The superstructure may be closed against water or provided with scuppers or holes giving free passage for the water to the space within the superstructure, as is customary. The coaming C of the deck hatch projects from the hull of the boat and is attached thereto by angles I. Hatch cover C' is hinged in position to rest on this coaming when closed, and is provided with the usual means for fastening it on the inside when desired. Attached to coaming C and

closing the space between it and the underside of the deck is a flanged plate E. This plate is necessary only when the superstructure is open to the water as described above.

Surrounding the deck hatch and its cover, and preferably rising to a height at least equal to that of the conning tower, is the hatch trunk D which is secured at its lower end to the bridge or platform J which is extended to meet it. This trunk is entirely closed against ingress of water except at the top, which is raised to the level of the bridge and consequently will not be flooded in any but extremely rough water, such as would necessitate the closing of even the conning tower hatch. The trunk, therefore, affords a safe passage from within the vessel to the bridge, and is preferably provided, for that purpose, with ladder rounds or steps D' which may of course be replaced by an ordinary ladder if desired.

In order that the hatch trunk may be collapsed and stowed away below when the vessel is to be submerged, I preferably build it up of several vertical strips of plating d detachably secured at their lower ends to the deck and at their upper ends to the bridge or platform J, and collapsibly secured to one another. In the preferred form specifically illustrated the several strips of the hatch trunk D are attached to the deck and bridge by suitable flanges K and bolts K' and are flanged along their vertical edges so that they may be bolted together as shown.

The construction of the bridge or platform J here shown comprises an extension of the ordinary bridge from immediately about the conning tower to the hatch trunk, and is made up of a number of vertical stanchions with tie rods, supporting the bridge grating with a hand or guard rail around it. It will be observed that the hatch trunk surrounds the hatch and its cover, so that the hatch may be opened and closed while the trunk is in place.

What I claim is:—

1. A submarine or submergible boat having a deck hatch in combination with a bridge or platform and a water-excluding hatch trunk surrounding the hatch and cover and extending up to the platform.

2. A submarine or submergible boat having a deck hatch, in combination with a bridge or platform and a water-excluding

collapsible hatch trunk surrounding the hatch and its cover and extending up to the platform.

3. A submarine or submergible boat having a deck hatch, in combination with a bridge or platform and a water-excluding collapsible hatch trunk surrounding the hatch and its cover and extending up to the platform said hatch trunk being made up of
5
10 several vertical strips of plating having edge

flanges bolted together, and secured at top and bottom to the platform and the deck respectively.

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

LAWRENCE Y. SPEAR.

Witnesses:

F. L. BRAKE,

W. D. FESLER.