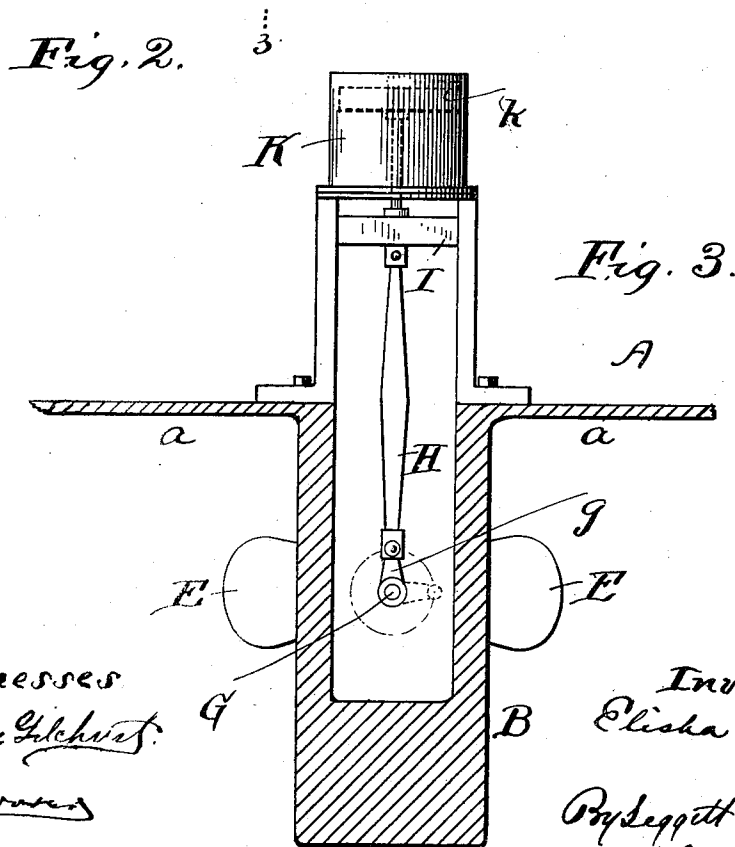
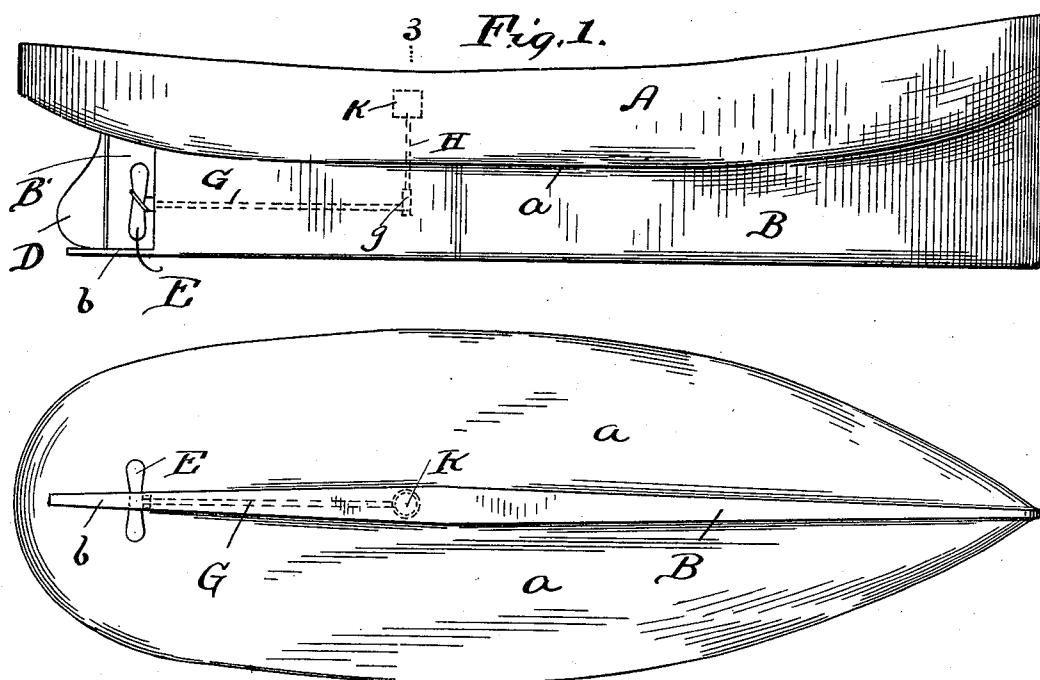


E. W. BABCOCK.
HULL OF STEAM VESSELS.

Patented Dec. 19, 1893.



Witnesses
E. Byron Gilchrist
C. [unclear]

Inventor.
Elisha W. Babcock

By Leggett & Leggett
his attorneys.

UNITED STATES PATENT OFFICE.

ELISHA W. BABCOCK, OF LORAIN, OHIO.

HULL OF STEAM-VESSELS.

SPECIFICATION forming part of Letters Patent No. 510,877, dated December 19, 1893.

Application filed May 11, 1893. Serial No. 473,798. (No model.)

To all whom it may concern:

Be it known that I, ELISHA W. BABCOCK, of Lorain, in the county of Lorain and State of Ohio, have invented certain new and useful
5 Improvements in Steam Boats or Vessels; 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 pertains to make and use the same.
10 My invention relates to improvements in steam-boats or vessels, more especially steam-yachts or light-carriers; and it consists in certain features of construction and in combination of parts hereinafter described and pointed out in the claim, the object being to provide a construction of a hull for such vessels
15 whereby greater speed is capable of being attained by the vessel.

In the accompanying drawings, Figure 1 is
20 a side elevation of the hull of a vessel embodying my invention, showing also the propeller-wheel and means operatively connecting said wheel with the engine or driving-power. Fig. 2 is a bottom plan of the same, and Fig. 3 is
25 a section on line 3—3, Figs. 1 and 2.

Referring to the drawings, A represents the hull of a vessel, and *a* the bottom or bearing-surface of the same. Said bottom or bearing-surface is preferably flat, or approximately
30 so, as shown, and, at the central portion and extending lengthwise from the bow to the stern end of the hull of the vessel, the bottom of the hull is provided with a large keel, B. Said keel, at its rear end, excepting a small
35 portion *b* at the bottom of the keel, is cut away as at B', to accommodate the location and operation of the rudder D and propeller-wheel, E, the rudder being suitably supported between the bottom of the hull of the vessel and portion *b* of the keel, within the space
40 B' provided, as already indicated, by cutting away the rear portion of the keel.

The propeller E is located between the rudder and rear end of the body of the keel, and is operatively mounted upon the rear end of
45 a shaft G that is arranged preferably horizontally as shown, extends into and is suitably supported from the body of the keel. Shaft G is provided with a crank, *g*, that is operatively connected, by means of a pitman
50 or connecting-rod, H, with a vertically-reciprocating cross-head, I, rigid with the piston-rod of the piston *k* of cylinder K of a steam or elastic fluid engine supported preferably as shown centrally of the hull above the keel.
55 The keel is of course sufficiently wide and chambered or hollow to accommodate the location and operation of shaft G and crank *g* and pitman or connecting-rod H.

By the construction hereinbefore described,
60 it will be observed that there is nothing to impede or obstruct the action of the propeller-wheel upon the water, but the wheel is entirely free to act directly upon the water.

Having thus described my invention, what I
65 claim is—

In a steam-boat or vessel, a hull having a flat or approximately flat bottom, a keel centrally of and extending lengthwise of the bottom of the hull, said keel, at its rear end, being cut away to accommodate the location of
70 the rudder and propeller-wheel and being sufficiently wide and chambered to accommodate the location and operation of mechanism employed in operatively connecting the propeller-wheel with the steam-engine or driving-power, substantially as set forth.
75

In testimony whereof I sign this specification, in the presence of two witnesses, this 2d day of March, 1893.

ELISHA W. BABCOCK.

Witnesses:

C. H. DORER,
WARD HOOVER.