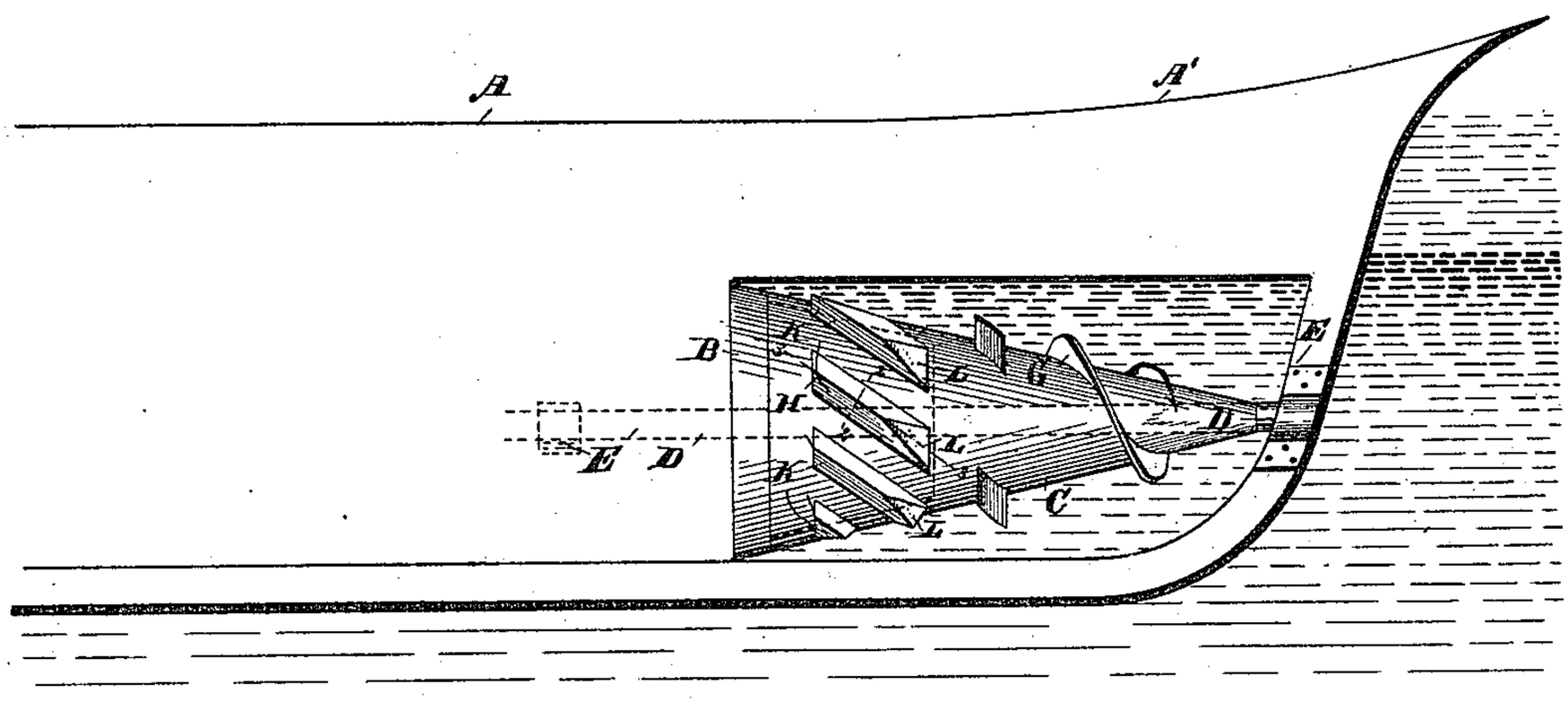
(No Model.)

G. ROOKE.

PROPULSION OF VESSELS.

No. 464,829. Patented Dec. 8, 1891.

Fig. 1.



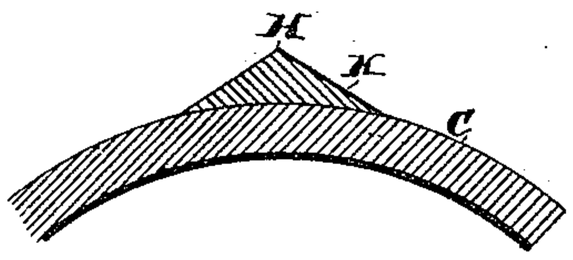


Fig. 2.

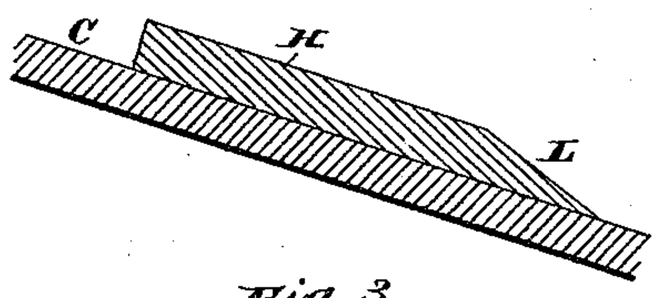


Fig. 3.

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GEORGE ROOKE, OF EMPORIA, KANSAS.

PROPULSION OF VESSELS.

SPECIFICATION forming part of Letters Patent No. 464,829, dated December 8, 1891.

Application filed May 25, 1891. Serial No. 394,031. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ROOKE, of Emporia, county of Lyon, and State of Kansas, have invented certain new and useful Improvements in Steamboats, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to improve the bow of a ship so that its speed may be materially increased.

My invention consists in forming the bow in two separate parts, one normally above and the other below the water-line, and in providing a revolving conical beak (or extension of that part of the bow which is under water) having blades that tend to draw the ship through the water, and having peculiar spiral projections back of the blades that diminish the pressure of water upon the bow and thus tend to increase the speed of the ship.

My invention is designed to be employed chiefly upon steamships, (but may be used elsewhere,) and the blades are designed to supplement the action of a screw-propeller or paddles, while the spiral projections diminish the resistance to motion of the ship through the water.

In the accompanying drawings, Figure 1 is a side elevation of so much of the forward part of the hull of a boat as is necessary to illustrate my invention. Fig. 2 is a section on the line 2 2 of Fig. 1, and Fig. 3 is a section on the line 3 3 of Fig. 1.

Referring to the letters on the drawings, A indicates the hull of a boat, which is provided at its bow with a separate deck part A′ and between the keel and the water-line with a conically-tapered part B, which may be built into the boat or may be provided in one already built by removing a part of the hull and rebuilding that portion of it. Any kind of boat, whether old or new, may thus be adapted to use my improvements.

C indicates a conical beak, whose base is of the same diameter as the part B where the beak joins it and whose sides form a continuation of the taper of that part. It is mounted by means of the shaft D on suitable bearings E in the exterior of the vessel and in the forward part of the keel F, respectively, and is adapted to be rapidly revolved by any suitable mechanism. (Not shown in the drawings.) Upon the forward end of the beak are provided blades G, so arranged thereon as to tend to draw the boat through the water when the beak is revolved. Near the largest part of the beak and behind the blades on the beak are provided spirals H, that preferably consist of ribs arranged obliquely and parallel to each other. They should be so constructed (substantially as shown in section in Figs. 2 and 3, for example) as to throw the water away from the bow of the boat, thereby diminishing the resistance against its onward movement and at the same time, so as to cause in themselves the minimum resistance to rotation and to forward motion. The form illustrated in the drawings I regard as preferable for the spirals; but it may be varied. In this form, as shown in the section, Fig. 2, the beak being rotated in the direction of the arrow, it would be seen that the incline K will tend to throw the water away from the submerged part B of the bow, and, as it were, open the cavity for the passage of the bow. The front ends of the spiral ribs are tapered at L, so as to wedge their way into the water as the boat advances, and also tend, like the inclined sides K, to throw the water away from the submerged part of the bow.

What I claim is—

In a boat, the combination of a revoluble conical beak C, provided with blades at its forward end and spirals H in rear thereof, each sprial having the incline K upon one side and the front incline L, and means for rotating the beak, substantially as set forth.

In testimony of all which I have hereunto subscribed my name.

GEORGE ROOKE.

Witnesses:
N. B. IRELAND,
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