(No Model.)

S. STUCKY.

Hydraulic Propulsion of Ships.

No. 243,656. Patented June 28, 1881.

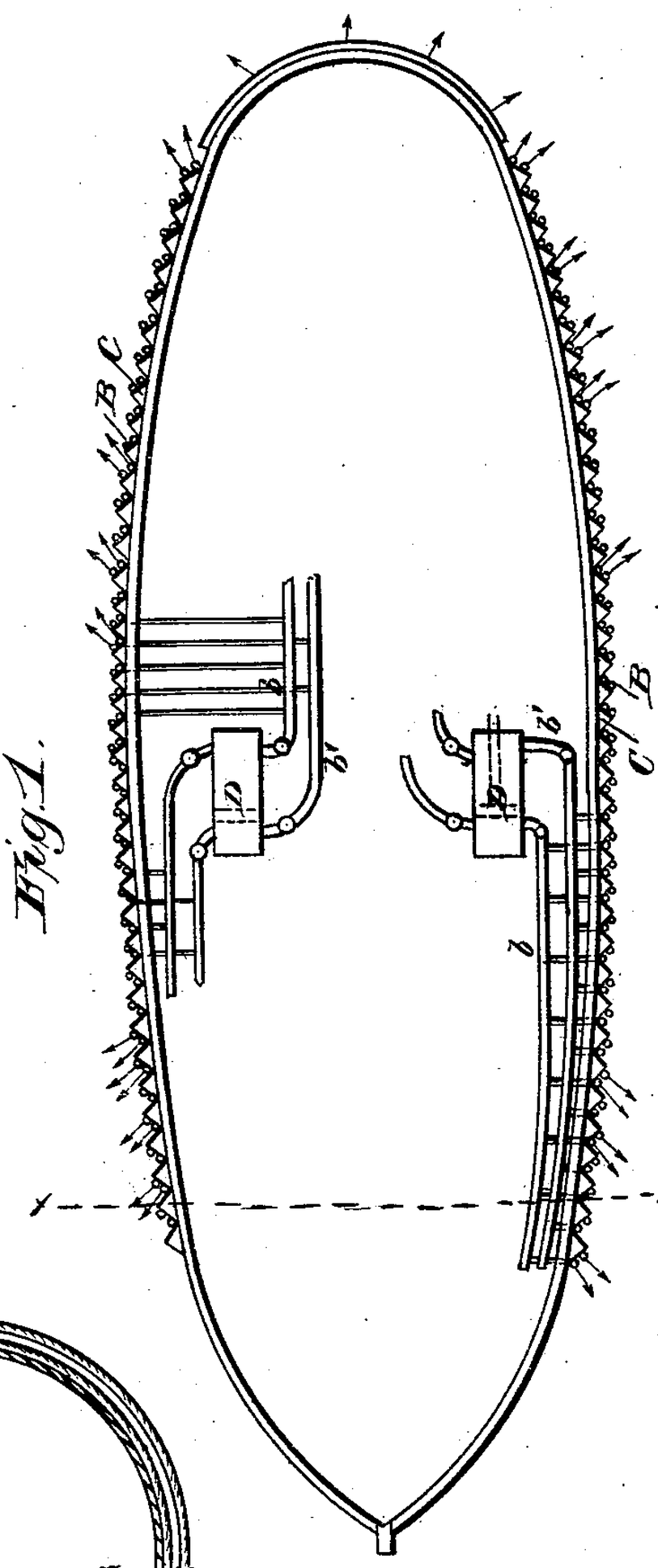

Fig. 1.

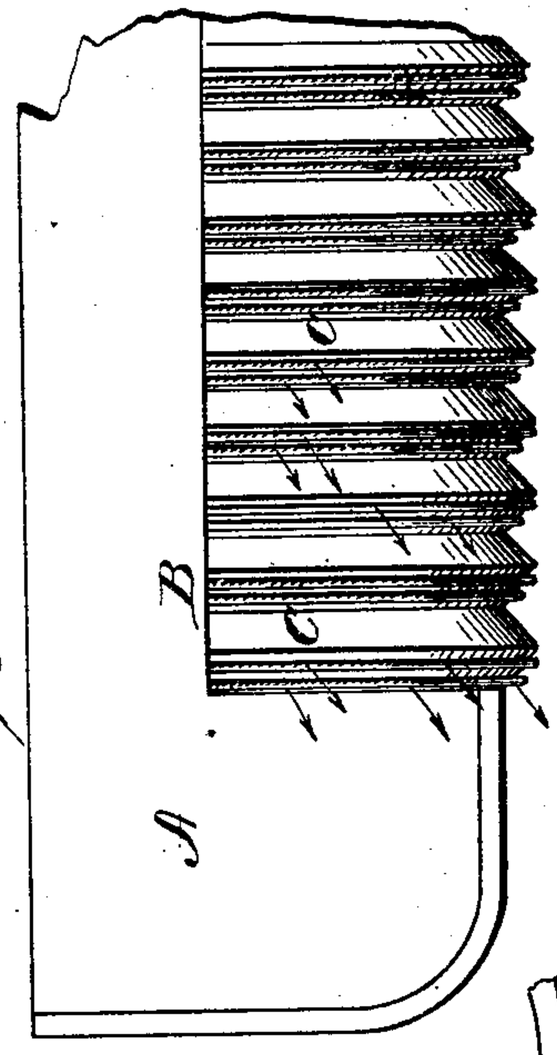

Fig. 2.

Fig. 5.

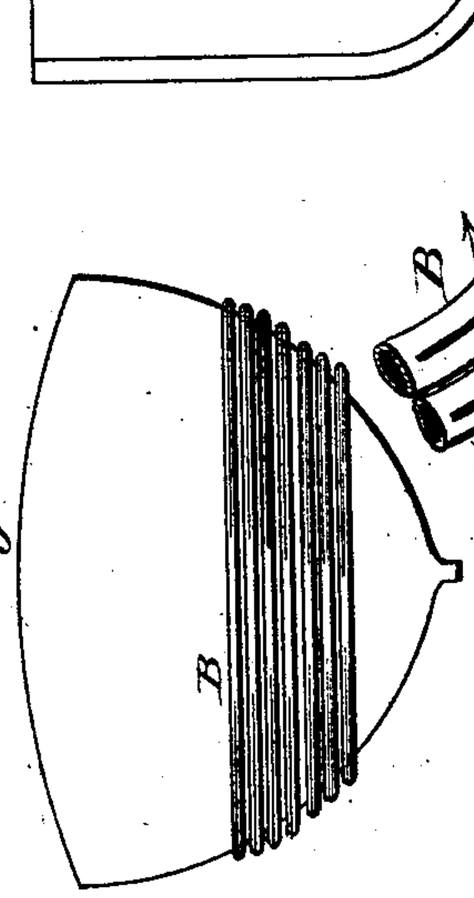

Fig. 3.

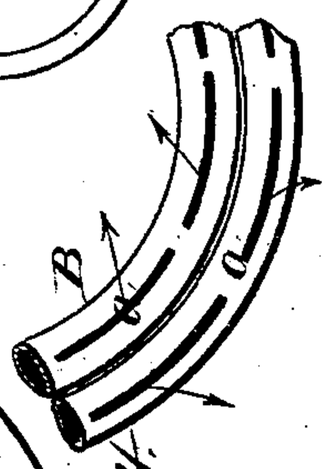

Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

STEPHEN STUCKY, OF LINCOLN, ALABAMA.

HYDRAULIC PROPULSION OF SHIPS.

SPECIFICATION forming part of Letters Patent No. 243,656, dated June 28, 1881.

Application filed May 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN STUCKY, of Lincoln, in the county of Talladega, and in the State of Alabama, have invented certain new and useful Improvements in Hydraulic Propulsion of Ships or Vessels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in a novel method and means for propelling vessels, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view of the hull of a vessel embodying my invention. Fig. 2 is a partial side view, and Fig. 3 a rear view, of the same. Fig. 4 is a detail view, and Fig. 5 section through *x x*.

My invention relates to that class of vessels which are propelled by ejecting water from pipes arranged in the sides of the vessel; and it consists in certain details of construction hereinafter more fully set forth.

In Figs. 1 and 2 I have shown the hull A provided with numerous pipes, B B, running from a certain point below the water-line on one side, under the bottom, and up to a corresponding point on the opposite side. These pipes are arranged in groups of two or more, and between the groups are triangular divisions C C, running the same as the pipes. The pipes B on each side are further arranged in two divisions, those around the rear portion of the hull being used for propelling the vessel forward and those in front of the middle being used for moving backward.

All the pipes are provided with narrow slots *a a*, as shown in Fig. 4, said slots being arranged in the propelling-pipes, so that water under pressure will pass out at different angles rearward, while the slots in the backing-pipes are arranged to emit the water at different angles forward.

On each side of the vessel the two divisions of pipes are connected in the following manner: Every alternate group is connected to one supply-pipe, which receives water through a pipe, *b*, from one end of a force-pump, D, while the other alternate groups are connected to a similar supply-pipe, that receives water through a pipe, *b'*, from the other end of the force pump. Suitable stop-cocks are, of course, provided to cause the water to be forced to either the propelling or backing pipes, as desired. When the pump is in operation it forces water at one stroke through the slots in alternate groups of pipes, and at the return-stroke through the slots in the other alternate groups of pipes, thus discharging the water in intermittent jets.

The water may be supplied to the pump or pumps through pipes leading from the bow of the vessel or in any other suitable or convenient manner.

The triangular divisions C protect the pipes from injury, and also reduce the friction of the hull in the water, because when the vessel is in motion there is a vacuum formed behind each division, the water actually being in contact with the extreme angles of said divisions only.

For flat-bottomed boats the pipes may be arranged to run horizontally, as shown in Fig. 3.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the force-pump D, provided with the pipes *b b'* at its opposite ends, of the pipes B, provided with the elongated slots *a*, one of the alternate groups of the pipes B being connected with the pipe *b* at one end of the pump-cylinder, and the other alternate group of the pipes B being connected with the pipe *b'* at the opposite end of the cylinder, substantially as described, and for the purpose set forth.

2. The hull A, provided with the triangular divisions C and pipes B, having slots *a*, in combination with the force-pump D and pipes *b b'*, substantially as described, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of April, 1880.

STEPHEN STUCKY.

Witnesses:

J. J. MCCARTHY,

H. J. ENNIS.