(No Model.)

A. MARTY.

SHIP.

No. 346,211. Patented July 27, 1886.

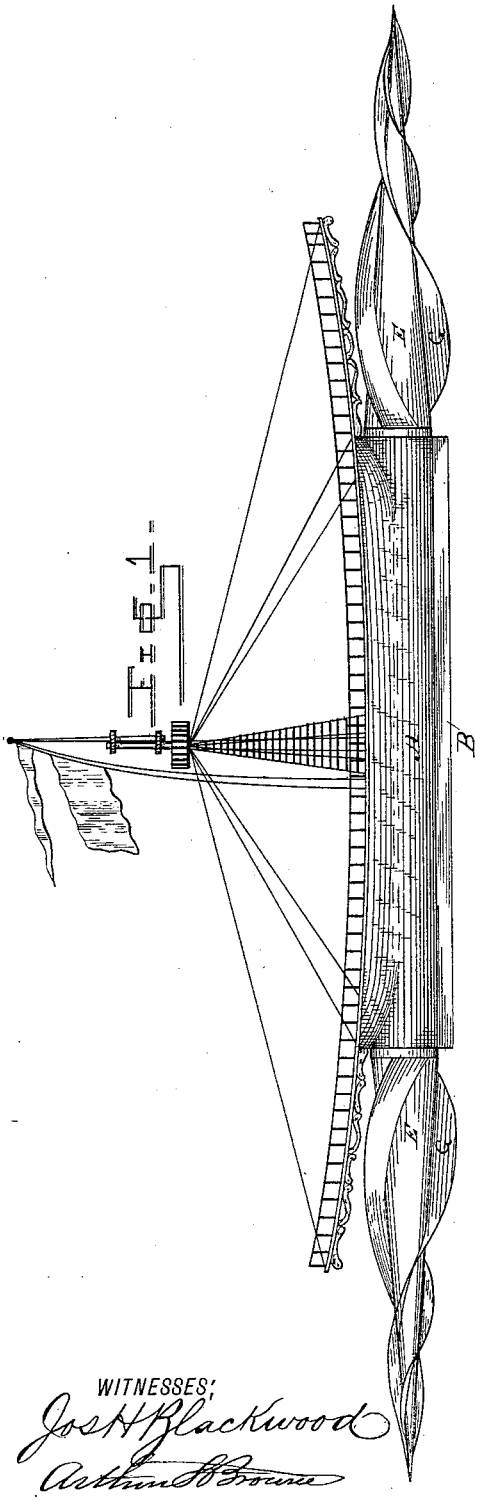

Fig. 1.

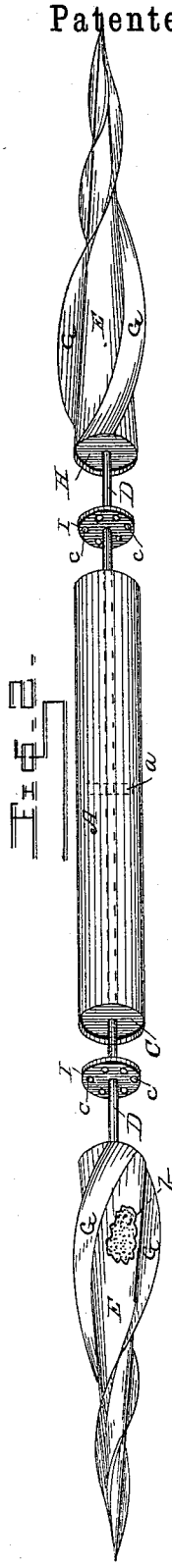

Fig. 2.

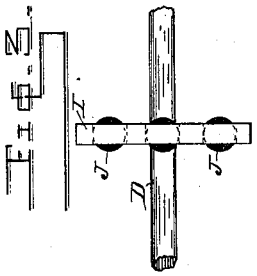

Fig. 3.

WITNESSES:
Jos. H. Blackwood
Arthur S. Browne

INVENTOR:
Auguste Marty
by Wm. H. Doolittle
Attorney

UNITED STATES PATENT OFFICE.

AUGUSTE MARTY, OF VERA CRUZ, MEXICO.

SHIP.

SPECIFICATION forming part of Letters Patent No. 346,211, dated July 27, 1886.

Application filed April 26, 1886. Serial No. 200,173. (No model.) Patented in Mexico March 11, 1886.

To all whom it may concern:

Be it known that I, AUGUSTE MARTY, a citizen of the French Republic, residing at Vera Cruz, Mexico, have invented certain new and useful Improvements in Ships, (for which Letters Patent of the Republic of Mexico were granted March 11, 1886;) 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.

This invention relates to that class of vessels which are provided with buoyant screw-propellers of large size in proportion to the size of the vessels, whereby the vessel may be capable of attaining a very high rate of speed. It is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a vessel provided with my improvements. Fig. 2 is a perspective view of the propelling mechanism detached, and Fig. 3 is a side view of an anti-friction device interposed between the hull of the vessel and the buoyant propellers.

A is the hull of the vessel, which is of cylindrical shape, and B is the sharp keel thereof. The cylindrical hull is shown in Fig. 2 detached from the keel and other parts of the vessel. At each end this hull is furnished with a head, C. Extending throughout the hull in the longitudinal center thereof is a shaft, D, upon the ends of which are mounted the buoyant propellers E E. This shaft may be rotated from any suitable source of power, it being shown with a wheel, *a*, which transmits the power to the shaft.

The propellers E E are mounted at each end of the shaft, at both ends of the vessel, so that the vessel may be run in both directions with equal facility. Each propeller is composed of a conical shell, which is pointed at one end, and is at its juncture with the hull of the same diameter therewith. This shell is filled with cork, as indicated at *b* in Fig. 2, which not only serves to render the shell buoyant, but at the same time strengthens it, making it solid instead of hollow. Each propeller is of a length only slightly inferior to that of the hull. Each shell is provided on its exterior with a series of spiral propelling-blades, G G, which by their action on the water serve to propel the vessel. Each propeller has on its inner larger end a head, H, corresponding to the heads C C on the hull. Between the propeller-heads and the hull-heads are located wheels I I, which are mounted and turn easily upon the shaft D. These wheels are provided with a number of circular apertures, *c c*, in which are loosely held a series of anti-friction balls, J J.

In Fig. 2, the several parts are, for the purposes of illustration, shown separate from each other; but it will be readily understood, when the parts are in their proper relative and operative positions, as in Fig. 1, that the anti-friction balls will be in contact with the adjacent heads C and H on the hull and propellers. These constitute an admirable anti-friction device, which renders the rotation of propellers very easy.

The large size of the propellers, in relation to the size of the vessel itself, renders it possible for the vessel to attain an extraordinary high velocity, the entire construction being adapted with that single end in view. The larger diameter of the buoyant propellers being equal to that of the hull, the vessel itself presents no opposition to the water except the little which is afforded by the keel, which is very slight, since the latter may be made very sharp.

I claim as my invention—

1. A vessel having a cylindrical hull, and a propelling-shaft extending throughout the entire length thereof, in combination with conical buoyant screw-propellers located at both ends of said shaft, said conical propellers being pointed at their outer ends, and of a diameter at their ends adjacent the hull equal to that of the hull, substantially as set forth.

2. A vessel having a cylindrical hull, and a propelling-shaft extending throughout the entire length thereof, in combination with conical buoyant screw-propellers located at both ends of said shaft, said conical propellers being hollow and filled with cork, substantially as set forth.

3. The cylindrical hull, provided with heads C C and the propelling-shaft, in combination with buoyant propellers at both ends of said shaft, said propellers having heads adjacent to the hull, wheels rotatively mounted on said

shaft between the adjacent heads on said hull and propellers, and anti-friction balls carried by said wheels between said heads, substantially as set forth.

4. In a screw-propeller, in combination with a shaft, and propellers at both ends of said shaft, the rotary wheels provided with the anti-friction balls, and mounted on said shaft between the heads of the hull and propellers, substantially as and for the purpose described.

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

AUGUSTE MARTY.

Witnesses:

ARTHUR S. BROWNE,

J. H. BLACKWOOD.