R. H. TUCKER.

Ship's Hull.

No. 215,994. Patented May 27, 1879.

Fig. 1.

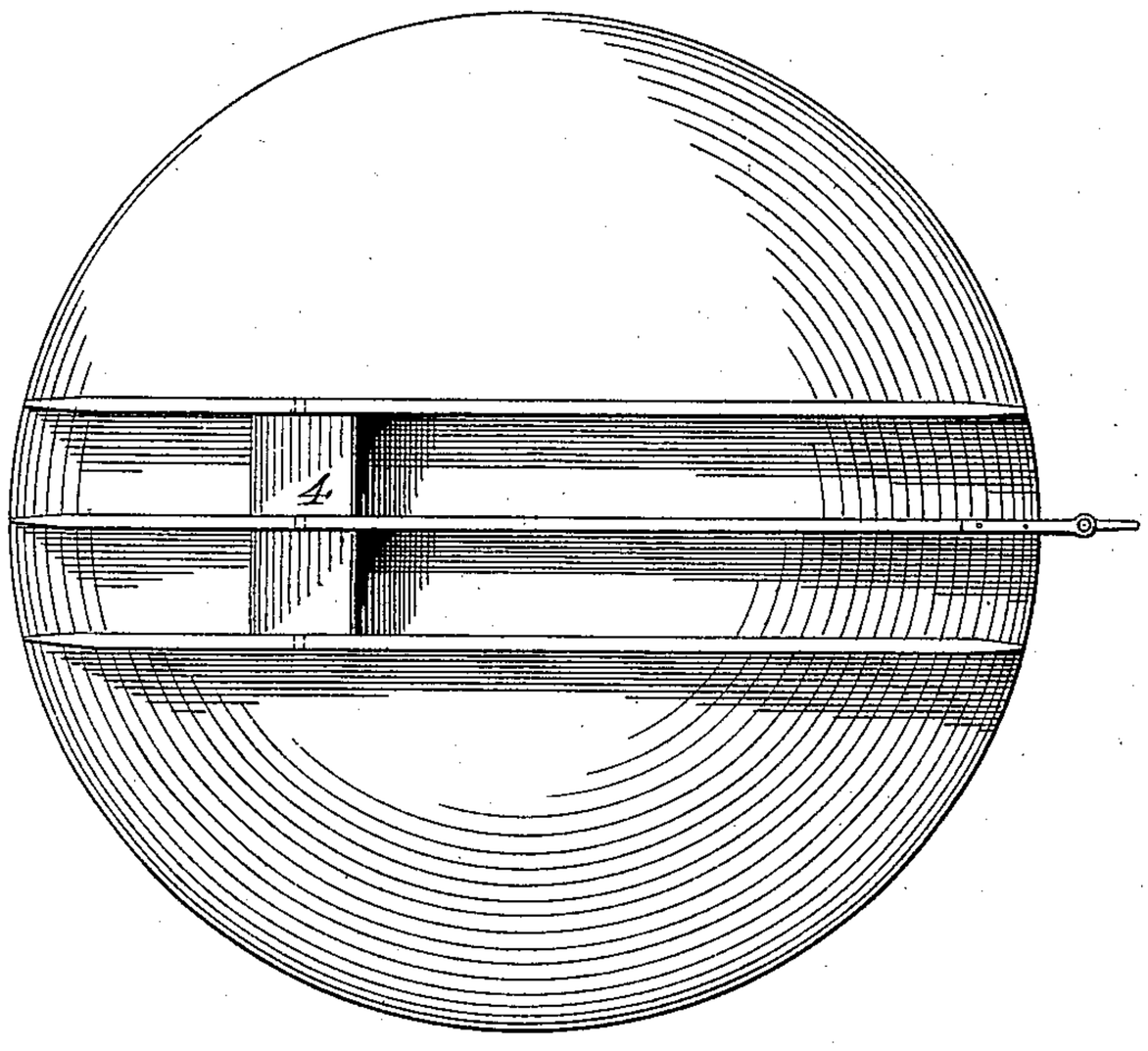
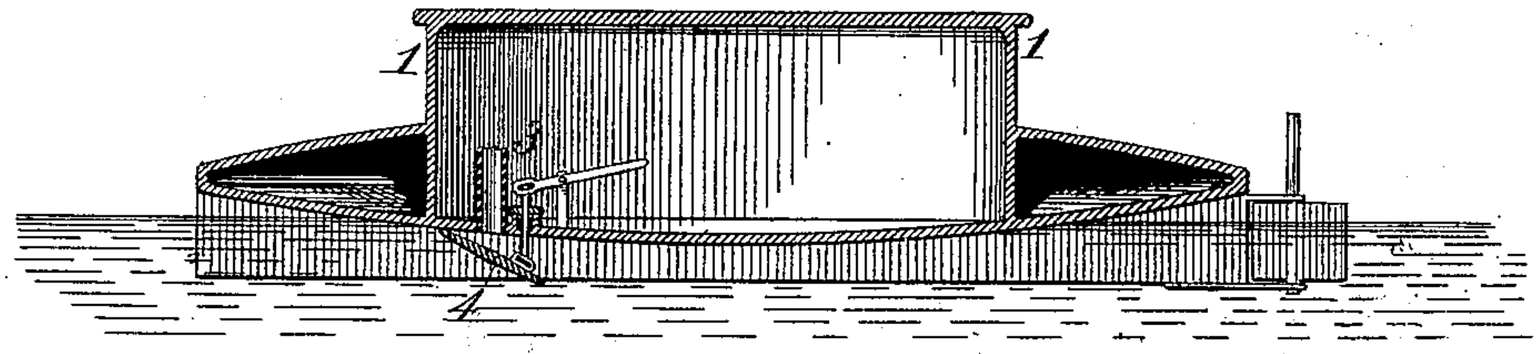


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

RICHARD H. TUCKER, OF WISCASSET, MAINE.

IMPROVEMENT IN SHIPS' HULLS.

Specification forming part of Letters Patent No. **215,994**, dated May 27, 1879; application filed November 1, 1878.

To all whom it may concern:

Be it known that I, RICHARD H. TUCKER, of Wiscasset, Lincoln county, Maine, have invented an Improvement in the Construction of Ships, of which the following is a specification.

My invention relates to the construction of ships and other craft; and consists in the peculiar shape of the hull, by which it is better adapted to ride upon the surface of the water and to be propelled and managed with facility.

It is specially adapted to the mode of propulsion by the direct application of a fluid under pressure to the water beneath the bottom, and is shown in connection with my improved pneumatic propelling apparatus, more fully set forth in an application filed of even date herewith.

In the drawings, Figure 1 shows the bottom of the hull, and Fig. 2 a vertical section through the center from stem to stern.

My object is to produce a form of hull which will displace the body of water required for the specific gravity of the vessel and cargo as far as practicable near the surface; and, further, to give the best lines for the easiest approach and retreat of the water relatively to the vessel in motion. For these purposes I construct the lower part of the hull with its upper and lower surfaces formed in the shape of a section of a sphere, the proportions of depth to width being about one (1) to twenty (20) for each section—that is to say, for deck and bottom. This shape I have found by trial gives the best results, allowing the craft, whether light or loaded, to approach the water by the easiest lines of resistance, and to permit the water displaced in the passage to return to the sides of the hull in a manner best calculated to facilitate the motion of the vessel.

The main carrying part of the hull is raised, as shown in Fig. 2, at 1 1, to a sufficient height above the spherical surface proportioned to the size of the craft; but the annular space surrounding this central part may be utilized for the stowage of freight, or may be separated by an air-tight bulk-head into compartments, and serve to buoy the vessel, if at any time desirable.

For the propulsion of this craft, I have shown in the drawings my improved arrangement and construction of channels between the keels with the valves and air-pipes. As this construction has been fully described in the specification of the application heretofore referred to, it need not be further explained here. The valves in this form of hull are located preferably, as shown in Fig. 2, forward of the center; or they may be placed midships without material disadvantage.

The engines for driving the air or other fluid are located within the hold, and communicate with the pipe 3, which discharges against the valve 4, acting against the water toward the stern, and against the water in the other direction.

Having thus fully described my invention, I claim—

1. The hull of a vessel the upper and lower surfaces of which are formed of sections of spherical surfaces, as set forth.

2. The described hull formed of spherical surfaces, and provided with a raised central portion, as set forth.

3. In combination with a hull made with the described spherical surfaces, the keels having channels between and provided with valve and air-pipe, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RICHARD H. TUCKER.

Witnesses:
L. W. SEELY,
J. W. HAMILTON JOHNSON.