

E. M. HACKETT.

BOAT OR VESSEL.

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915,429.

Patented Mar. 16, 1909.

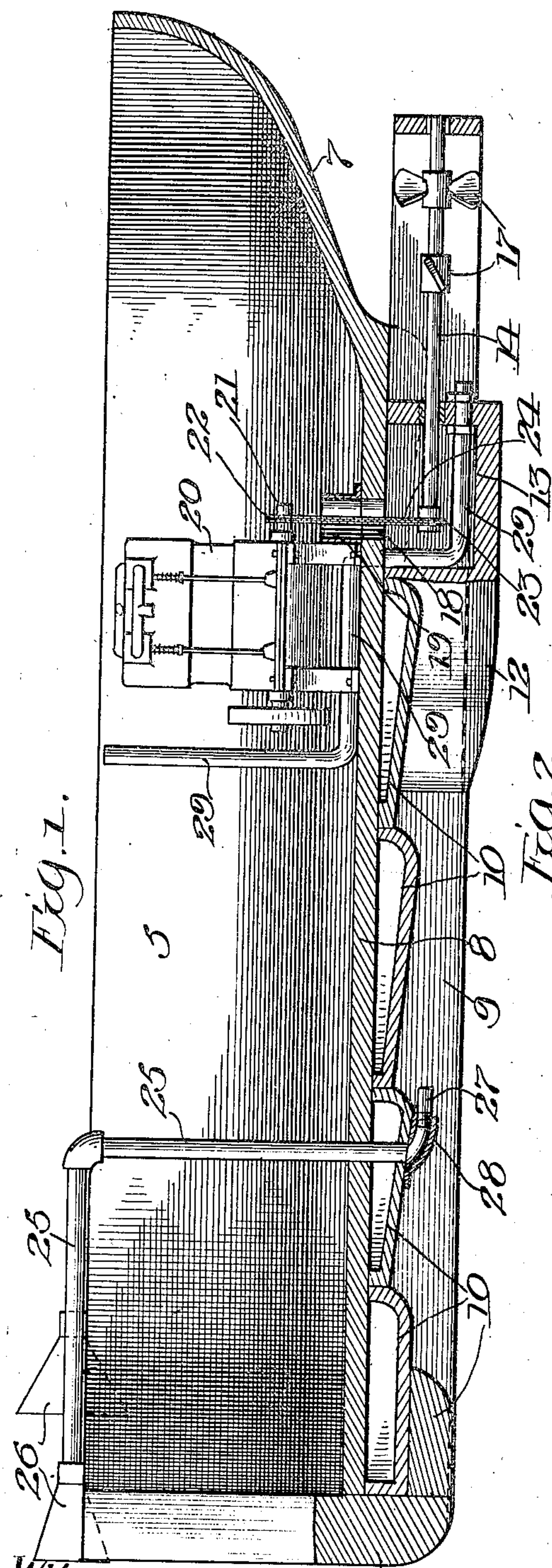


Fig. 1.

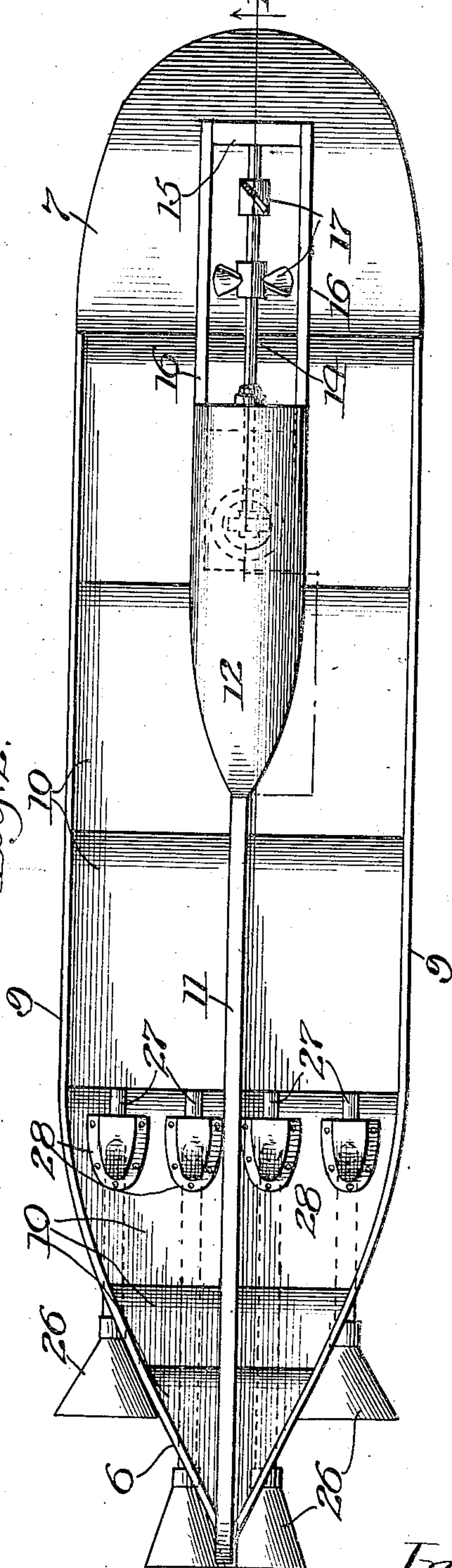


Fig. 2.

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UNITED STATES PATENT OFFICE.

EDWARD M. HACKETT, OF CHICAGO, ILLINOIS.

BOAT OR VESSEL.

No. 915,429.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD M. HACKETT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Boats or Vessels, of which the following is a specification.

This invention relates to improvements in a water craft whether propelled by steam, wind or otherwise, and for the navigation of still water, such as inland lakes or rivers, or for marine navigation; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of the invention is to provide a water craft, such as a steam-boat or ship, yacht, sailing vessel, row-boat or other vessel, for the navigation of water, which shall be so constructed that the suction or partial vacuum created by the movement of the body of the boat or vessel through and on the water will be practically overcome, so that the progress of the vessel will be greatly facilitated, thus requiring less power to propel it.

A further object of the invention is to so construct and arrange the parts of the craft that an air chamber or cushion will be provided between its bottom and the water, thus aiding in the support of the boat or vessel or adding buoyancy thereto.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains, to make and use the same, I will now proceed to describe it, referring to the accompanying drawing, in which—

Figure 1 is a vertical longitudinal sectional view taken on line 1—1 of Fig. 2 looking in the direction indicated by the arrows of a boat or vessel embodying the invention; and Fig. 2 is a bottom plan view of the hull of my improved boat or vessel.

Like numerals of reference, refer to corresponding parts throughout the different views of the drawing.

The reference numeral 5 designates the hull of a vessel which is herein shown as being equipped for propulsion by means of an engine which drives a shaft carrying a propeller or propellers of the ordinary or any preferred construction. The hull 5 may be

made of any suitable size, form and material, but is herein shown as having a pointed prow 6 and a rounded and upturned stern 7 with a flat bottom 8 which is provided at its side edges with downwardly depending flanges 9 which extend from the apex of the prow 6 to the rear portion of the hull, or to a point about where the stern begins to extend upwardly and rearwardly from the water line. The bottom 8 of the hull is reinforced from the prow rearwardly with a series of transversely disposed hollow members 10, all of which are rounded at their rear ends and most of which are tapered from their rear ends forwardly, as is clearly shown in Fig. 1 of the drawing.

Extended longitudinally from the front portion of the prow 6 and about midway between the depending flanges or boards 9 is a keel or center-piece 11 which terminates in a forwardly tapered enlargement 12 which is horizontally and longitudinally disposed on the rear portion of the bottom of the hull. The rear part of the enlargement 12 is provided with a chamber 13 in the rear wall of which is journaled the propeller-shaft 14 which is journaled at its rear end on a transverse portion 15 which unites two parallel bars 16 which are extended rearwardly from the rear end of the chamber 13 within the rear portion of the enlargement 12, as will be readily understood by reference to the drawing.

As shown, the propeller-shaft is equipped with one or more propellers 17 of the ordinary or any preferred construction, and has its front end extended into the chamber 13 which communicates through an opening 18 and a suitable collar or sleeve 19 with the hull 5 of the vessel.

Mounted on the upper surface of the floor or bottom 8 is an engine 20, of any suitable kind or type, on the driving-shaft 21 of which is mounted a sprocket-wheel 22 which is geared to a sprocket-wheel 23 by means of a chain 24 used for driving the propeller-shaft. Extended through the floor 8 and one of the transverse members 10 near the prow of the hull are a series of pipes 25 which are preferably extended at their upper ends forwardly, as shown, and each is equipped with a funnel 26 for the intake of air. The lower end of each of the pipes 25 is rearwardly deflected as at 27 just below the rear end of the member 10 through which they project, yet above the lower edges of the

flanges 9, so that they will be free to supply air to the chambers formed by said flanges and the keel or center-piece 11.

Surrounding the lower and deflected portions 27 of the pipes 25 are a series of forwardly tapered shoes or casings 28 which terminate at their rear ends abruptly, as shown. Extended upwardly in front of the engine 20, then horizontally and then downwardly into the chamber 13, and then through the rear wall of said chamber, is another air-pipe 29 which may or may not have at its upper end a funnel for the intake of air.

Instead of using a sprocket-chain and sprocket-wheels on the driving-shaft of the engine and on the propeller-shaft for driving the latter, it is apparent that said shafts may be geared together in any suitable or well-known manner.

From the foregoing and by reference to the drawing it will be readily understood and clearly seen that, as the craft is driven through the water by means of a propeller or otherwise, the downwardly extending flanges or boards 9 will form an air-chamber to which air will be supplied through the pipes 25, thus forming an air-cushion on which the vessel will ride, and also preventing suction or a partial vacuum in its progress. The air supplied through the pipe 29 to the rear portion of the chamber 13 will also prevent suction and decrease the vacuity at the rear end of the vessel.

From the above description and explanation it is obvious that a boat or vessel constructed according to my invention is susceptible of considerable modification without material departure from the principles and spirit of the invention, and for this reason I do not desire to be understood as limiting myself to the precise form and arrangement of the several parts thereof as herein set forth in carrying out my invention in practice.

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

1. In a boat or vessel, the combination with a hull having a longitudinally disposed air-chamber beneath its bottom, of a series of

pipes communicating at their lower ends with said chamber and extended upwardly from the bottom of the vessel so as to receive air at their upper ends, and a series of transversely disposed hollow reinforcing members on the lower surface of the bottom of the hull within the air chamber thereof.

2. In a boat or vessel, the combination with a hull having on each of the sides of its bottom a downwardly and longitudinally disposed flange, of a series of pipes located near the front end of the vessel and having their lower ends located between the said flanges and their upper ends arranged for the intake of air, and a series of transversely disposed hollow reinforcing members secured to the lower surface of said bottom.

3. In a boat or vessel, the combination with a hull having a flat bottom, of pendent flanges longitudinally extended at a distance apart from the prow of the hull rearwardly, a keel longitudinally and rearwardly extended from the bottom of the hull about midway between said flanges and terminating near the rear portion of the vessel in a forwardly tapered enlargement, a series of pipes located in the front portion of the hull and having their lower ends rearwardly extended within the compartments provided by said flanges and keel.

4. In a boat or vessel, the combination with a hull having a flat bottom, of transversely disposed hollow reinforcing members secured to the lower surface of said bottom, a pendent flange located at each edge of the bottom, a keel longitudinally extended between said flanges and terminating near the rear portion of the vessel in a forwardly tapered enlargement, said enlargement having in its rear portion a chamber, a series of pipes located in the front portion of the hull and communicating at their lower ends with the compartments formed by the flanges and keel, and another pipe extended through and to the rear of the chamber of said enlargement.

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