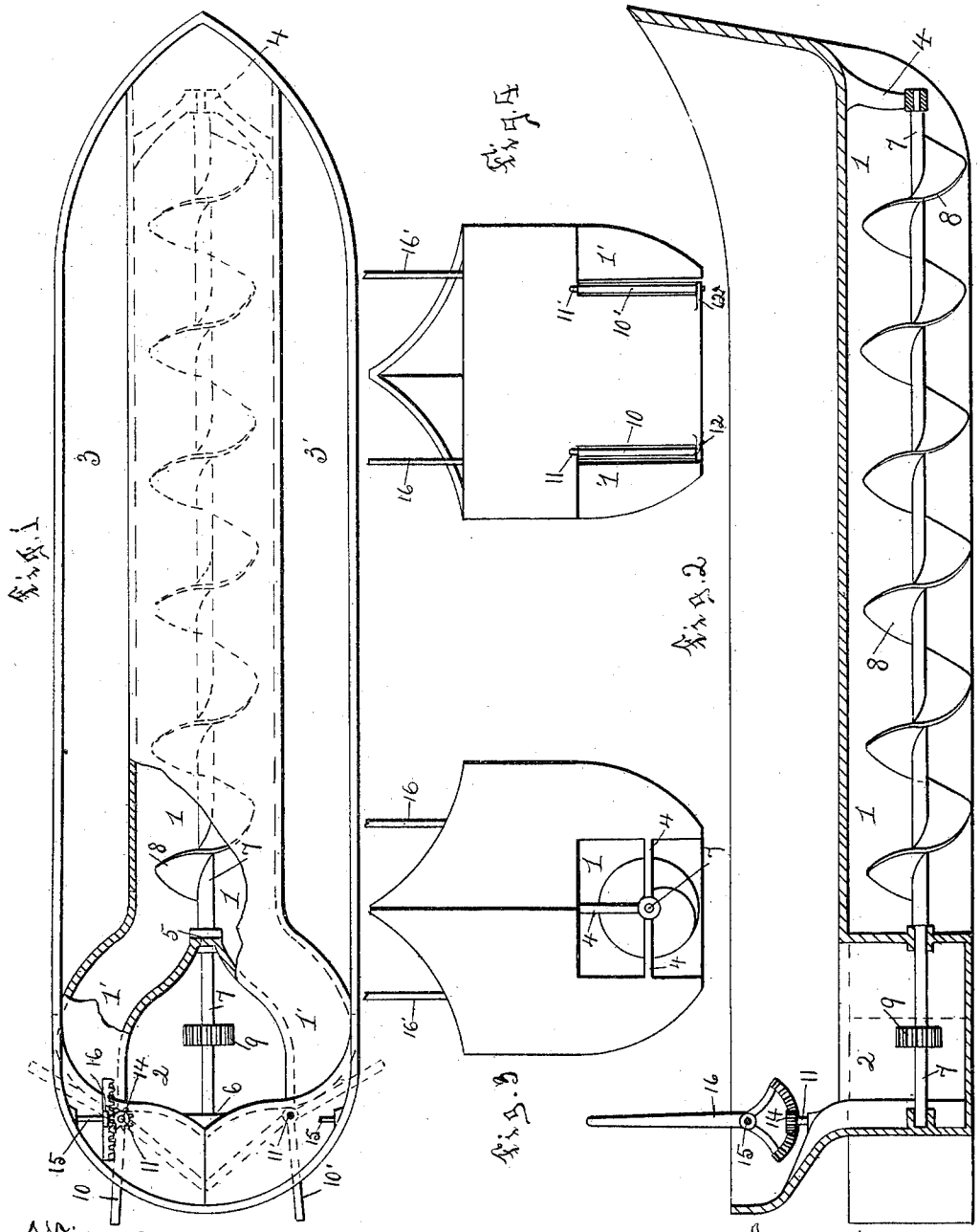
(No Model.)

# J. W. NOWAK.

## BOAT.

No. 600,483. Patented Mar. 8, 1898.



Witnesses:
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# UNITED STATES PATENT OFFICE.

JOHN W. NOWAK, OF ALLEGHENY, PENNSYLVANIA.

## BOAT.

SPECIFICATION forming part of Letters Patent No. 600,483, dated March 8, 1898.

Application filed May 24, 1897. Serial No. 637,898. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. NOWAK, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Boats; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in boats.

The invention has for its object the construction of a boat which is capable of traveling at a high rate of speed as well as being able to turn around within a small space and be stopped almost instantly.

With the above objects in view the invention finally consists in the novel construction, combination, and arrangement of parts, as will be hereinafter more specifically described in detail.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate similar parts, in which—

Figure 1 is a plan view of my improved boat partly broken away and in section. Fig. 2 is a side elevation of the same in section. Fig. 3 is a view of the forward end. Fig. 4 is a view of the rear end.

To put my invention into practice, I construct a boat-body of suitable material and form within its under side the water way or passage 1, which extends along from the forward end of the boat to a suitable distance near its rear end, where it terminates into the two branch water ways or passages 1′ and 1′. The space 2 between the branch waterways at the rear of the boat extend down to the bottom, as shown, and may be utilized as the engine-room from where the power is generated, and the spaces 3 and 3′ between the walls of the passage-way and the sides of the boat may be utilized as storage-rooms for cargo, ballast, &c. At the forward end of the main waterway is arranged the bearing 4, which is to be so constructed as to offer the least possible resistance to the movement of the boat.

At the rear end of the main passage-way and within the space reserved as the engine-room is formed the bearings 5 and 6. Fitted loosely within the said bearings is the shaft 7, and upon this shaft and within the portion which extends through the main waterway is secured the propeller-screw 8, and upon that portion of the shaft which extends into the engine-room is secured the gear-pinion 9, by which a rotary motion is transmitted to the propeller-shaft from a suitable engine or other source of power. At the rear end of the boat where the branch waterways terminate are arranged the rudders 10 and 10′, which are made fast to the upright shafts 11 and 11′. The lower ends of the shafts are seated within the lugs 12 and 12′, which project from the lower rear portion of the boat, and the upper portion of the shafts extend up through the rear end and have pinions 14 secured thereto. Across the inside of the rear end of the boat extends the stationary rod 15, which has suitably pivoted upon it the levers 16 and 16′, both of which are provided at their lower ends with gear-racks, which engage with the said pinions.

The boat being thus constructed and provided with a suitable engine coupled up to the propeller-shaft, when set in motion the propeller-screw is rotated at a high speed, which drives the boat forward at a rapid rate, and the water from main passage-way where the screw operates upon it escapes out through the branch passage-ways. When it is desired to turn the boat, the lever controlling the rudder upon that side of the boat is operated to bring the rudder in a position where it will close up the branch passage-way at that side, as shown by dotted lines, so that the water is compelled to issue from the branch passage-way at the opposite side, and should it be desired to stop quickly the power is shut off and both rudders turned to close up the branch passage-ways, as shown by dotted lines, thus causing a high resistance to the movement of the boat through the water. When it is desired to back the boat, both rudders are turned

backward and closed together, so that they may form a sharp angle, as shown by dotted lines.

In operating the rudders any suitable mechanism may be employed, as the one shown is only for the purpose of illustrating the necessary movement of the rudders, and in constructing the boat various changes may be made in the parts other than the waterways and rudders.

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

A boat provided at its under side with a waterway which terminates in two waterways at the stern, a shaft working in bearings in the front and rear of said waterway, a screw-propeller on said shaft, rudders at the ends of each waterway in the stern of the boat provided with upwardly-extended shafts each having a pinion on its upper end, a rod extending across the stern of the boat having levers pivoted thereto, said levers being provided at their lower ends with segmental racks which engage with the said pinions, substantially as shown and described.

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

JOHN W. NOWAK.

Witnesses:

JOHN W. GROETZINGER,

VARLOW MARES.