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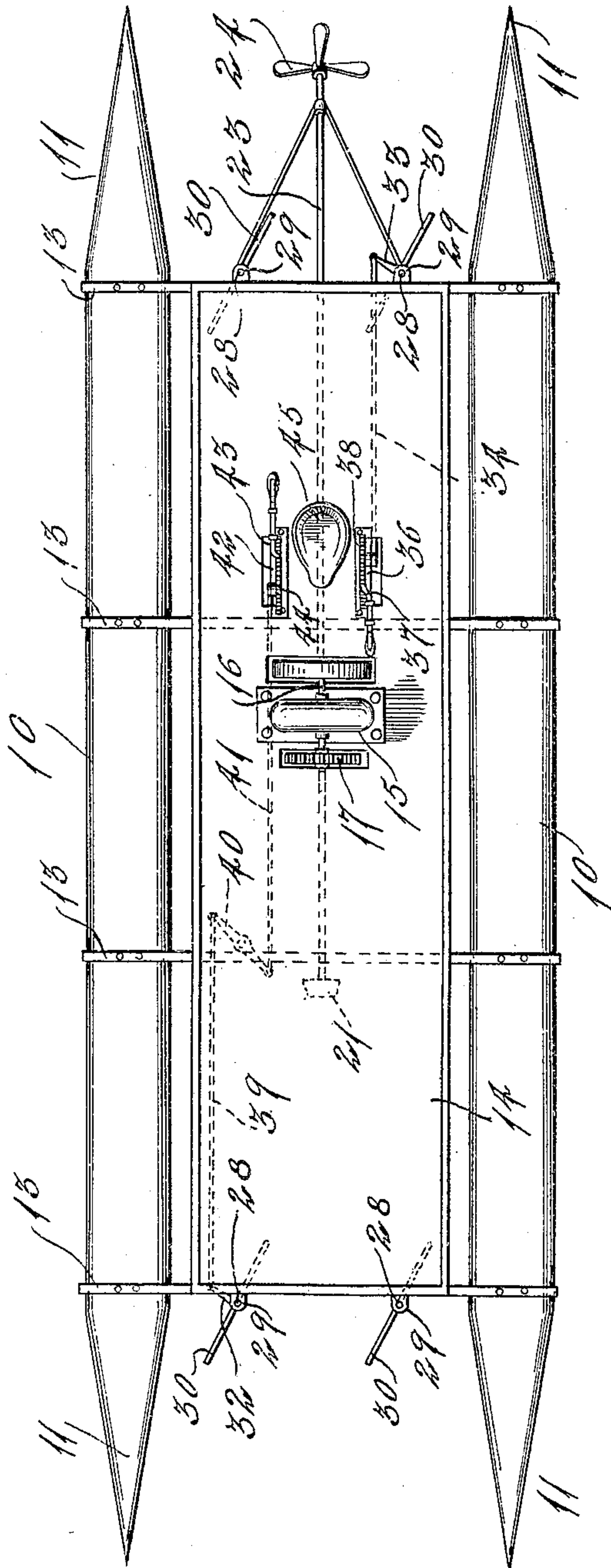
J. L. CRAWFORD.
MOTOR BOAT.

APPLICATION FILED MAR. 22, 1910.

Patented Dec. 20, 1910.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses
Jas. G. Grogan

[Signature]

Inventor
John L. Crawford

By *[Signature]*

Attorney &

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3 SHEETS—SHEET 2.

Fig. 2.

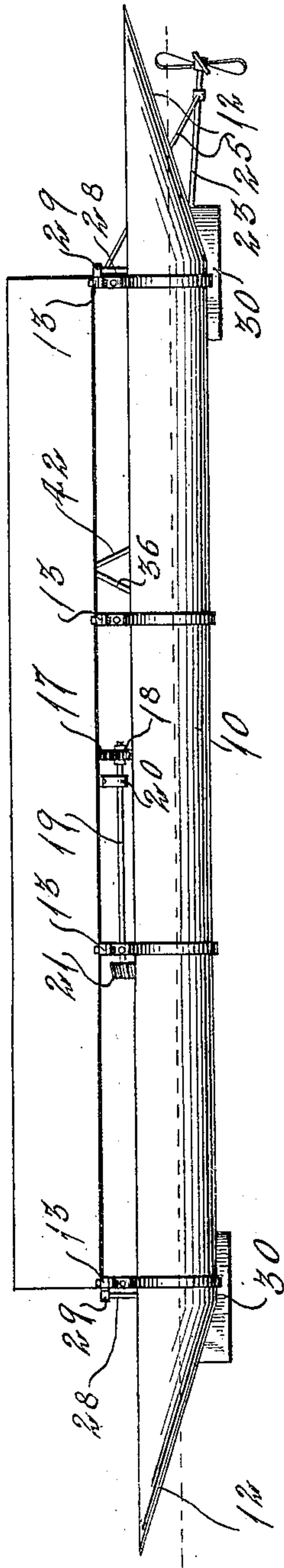
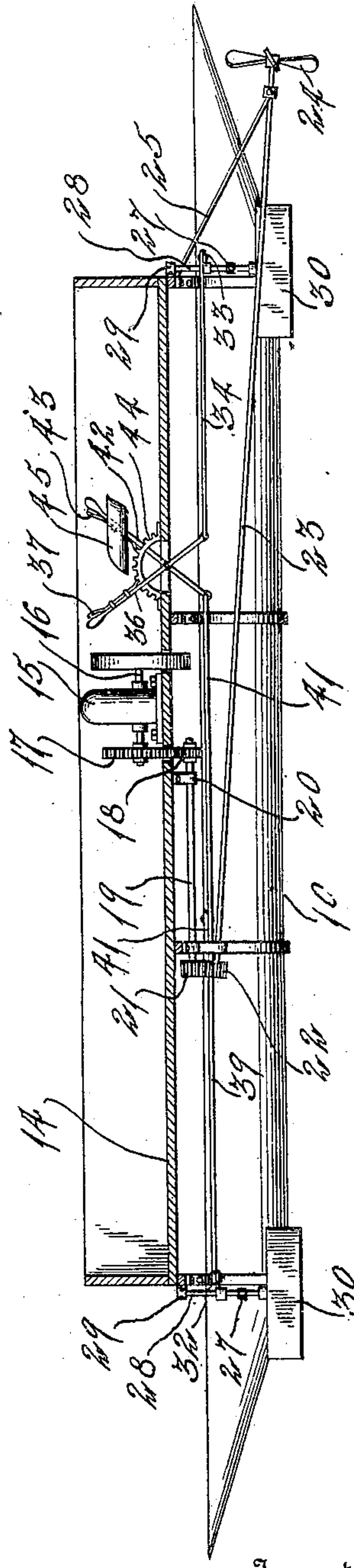


Fig. 3.



Witnesses
Jos Gregory

J. L. Crawford

Inventor
John L. Crawford

By

Charles Charles

Attorney

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3 SHEETS—SHEET 3.

Fig. 4.

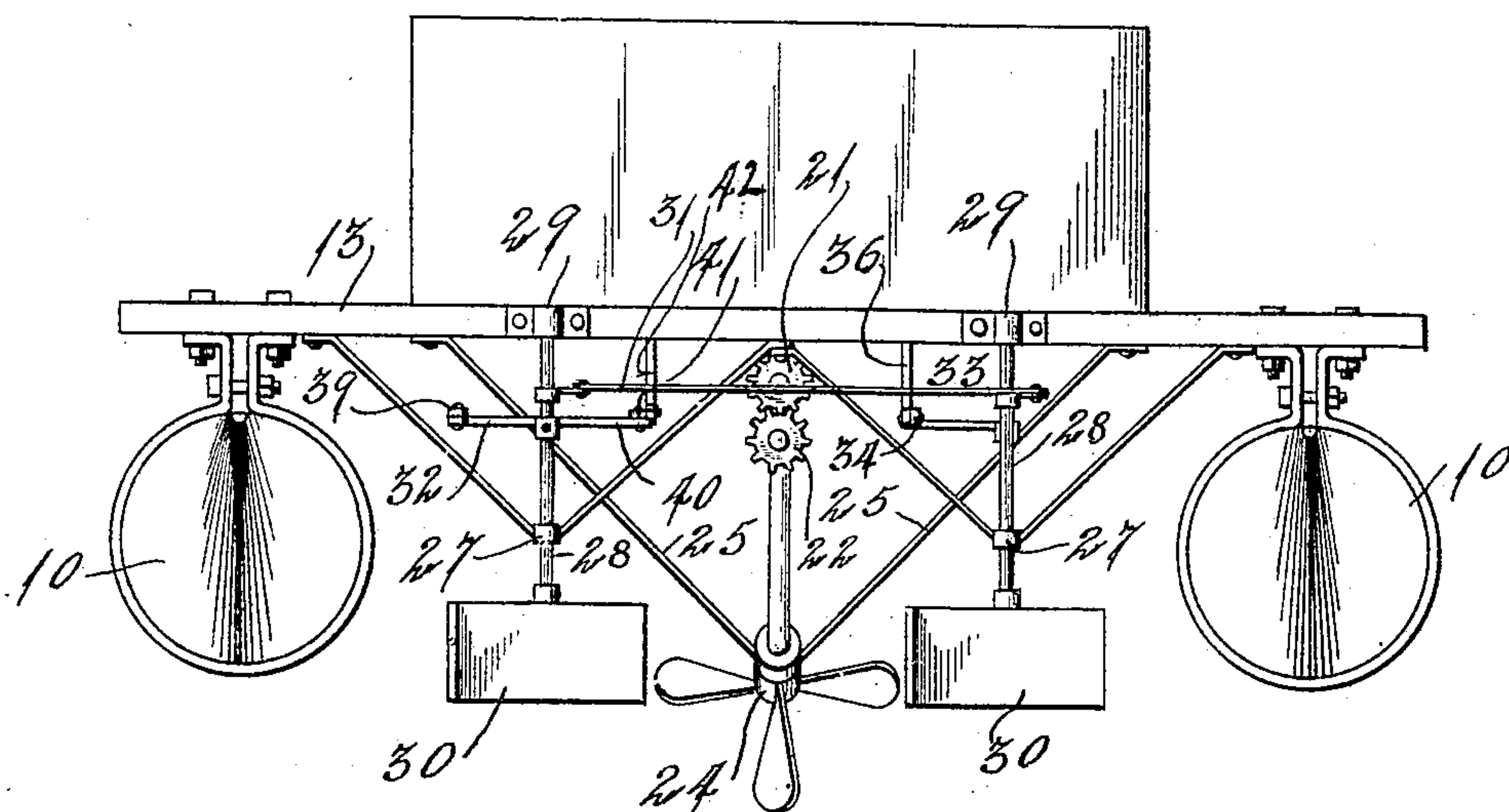
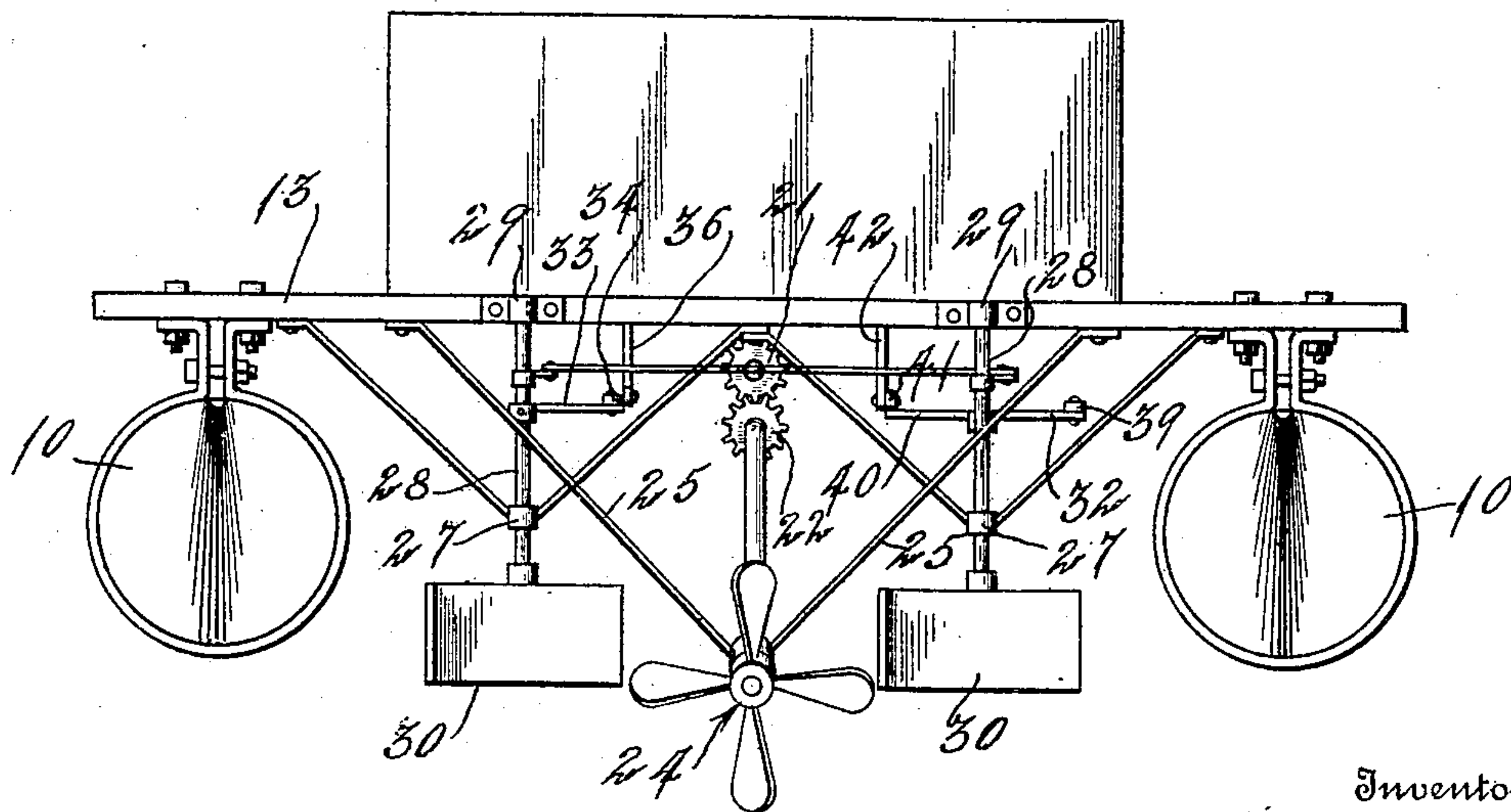


Fig. 5.



Witnesses.

Jos. Gugis

H. O. Sanders

Inventor

John L. Crawford

By

Charles Chandler

Attorney

UNITED STATES PATENT OFFICE.

JOHN L. CRAWFORD, OF EMORY GAP, TENNESSEE.

MOTOR-BOAT.

979,383.

Specification of Letters Patent. Patented Dec. 20, 1910.

Application filed March 22, 1910. Serial No. 550,878.

To all whom it may concern:

Be it known that I, JOHN L. CRAWFORD, a citizen of the United States, residing at Emory Gap, in the county of Roane, State of Tennessee, have invented certain new and useful Improvements in Motor-Boats; 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.

The invention relates to a boat and more particularly to the class of motor boats or float crafts.

The primary object of the invention is the provision of a boat including united parallel buoyancy members which will be under positive control of an operator, whereby the forward speed of travel of the boat may be instantly impeded when the occasion requires to bring the same to a standstill, and also that may be sharply turned leeway from a straight course at either the bow or stern ends of the boat.

Another object of the invention is the provision in which the frame structure thereof connects the buoyancy members and also supports the depending standards carrying the rudder mechanism whereby the boat may be guided in its course either from a straight course or leeway as the occasion demands, the rudders being disposed at both the stern and bow ends whereby sharp turns may be made while the boat is traveling upon a body of water.

A further object of the invention is the provision of a boat of this character in which the construction thereof is generally improved and simplified so as to increase the efficiency and operation of the boat, and also to enable the same to be manufactured at a minimum expense.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawings disclosing the preferred form of embodiment of the invention and pointed out in the claim hereunto appended.

In the drawings:—Figure 1 is a top plan view of a boat constructed in accordance with the invention. Fig. 2 is a side elevation thereof. Fig. 3 is a longitudinal sectional view through the boat. Fig. 4 is a front elevation. Fig. 5 is a rear elevation.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings by numerals 10 designates a pair of parallel buoyancy members each being formed of a hollow tube having opposite tapering ends 11 provided with beveled lower faces 12, the said members being arranged in spaced relation to each other and connected by transverse bars 13 each having loop extremities surrounding the members and upon these bars is suitably fixed a superimposed passenger platform 14 which may be of any desirable length and width and also formed from any suitable material, the marginal edge of the platform being provided with a suitable railing for the convenience of passengers.

At a convenient point centrally of the platform is fixedly arranged thereon a vertical motor or engine 15 the same being of any desirable type having a horizontally arranged driving shaft 16 which has fixed thereto at its free end a gear wheel 17 meshing with a gear wheel 18 fixed to one end of a horizontal counter shaft 19 journaled in suitable bearings 20 beneath the platform 14. This counter shaft 19 also has fixed to its opposite end a bevel gear 21 meshing with a beveled pinion 22 fixed to the inner end of a rearwardly inclined propeller shaft 23 the latter being provided at its outer rear end with the usual bladed propeller wheel 24 and is rotatably supported centrally between the buoyancy members 10 in depending brackets 25 suitably secured to the cross bars 13 connecting the buoyancy members beneath the platform of the boat.

Secured to the cross bars 13 at the bow and stern ends of the boat are the upper ends of downwardly converging rudder braces the same being connected in pairs at their lower ends by bearings 27 in which are mounted vertical rotatable rudder stems or hangers 28 the upper ends thereof being journaled in suitable bearings 29 carried by the said cross bars 13, while the lower ends of these stems or hangers 28 have fixed thereto guide rudders each being formed of a flat elongated plate 30 and which rudders are disposed at opposite sides of the longitudinal axles of the propeller shaft 23 and in spaced relation to each other.

The rudders at the bow and stern of the boat are connected together in pairs by connecting rods 31 each being pivoted at its

opposite end to suitable crank arms on said hangers 28 at points above the rudders whereby upon moving one rudder of the pair the remaining rudder thereof will be
 5 simultaneously moved in the same direction therewith. Fixed to one hanger 28 of each pair of rudders at the bow and stern of the boat are crank arms 32 and 33 to which
 10 thereto and to the lower end of a manually operable throw lever 36 projecting upwardly through a suitable opening in the platform 14, the lever being pivoted to the platform and carries a spring controlled locking dog
 15 37 normally engaging a toothed segment 38 rising vertically from the said platform of the boat.

To the crank arm 32 is pivotally connected a shifting rod 39 the same being also piv-
 20 otally connected to a rocking lever 40 pivoted to one of the cross bars 13 below the platform and to this lever is pivotally connected a further shifting rod 41 the latter being pivotally connected to a manually op-
 25 erable throw lever 42 projecting above the platform and pivoted thereto. This throw lever 42 carries a spring controlled locking dog 43 normally engaging a toothed seg-
 30 ment 44 rising vertically from the platform 14 of the boat. It will be noted that the throw levers 36 and 42 are positioned at opposite sides of an operator's seat 45 super-
 posed above the platform in convenient reach of an operator when occupying the
 35 said seat.

In operation presuming the buoyancy members 10 are partially submerged in a body of water and that the motor has been started for speeding the boat forwardly, the
 40 rudders having been positioned for directing the said boat in a straight course, it now being desired to impede the speed of travel of the boat to avoid a foreseen collision the operator actuates simultaneously

both throw levers 36 and 42 to effect the
 45 shifting of the pairs of rudders at the bow and stern of the boat whereby said rudders will assume a position transversely of the space between the buoyancy members which
 50 will result in bringing the boat to a standstill in a convenient and quick manner to obviate the possibility of a collision. Now in steering the boat to determine its course of travel it is necessary for the operator to
 55 manipulate either or both of the throw levers 36 and 42 so as to effect the turning of the rudders at either or both the bow and stern ends of the boat whereby the turning of the boat may be accomplished to change the
 60 direction of travel thereof from a straight course to any desirable direction leeway. Furthermore it is clearly apparent that by the arrangement of the rudders at both ends
 65 of the boat it enables a sudden and sharp turn to be made of the boat when afloat in a body of water.

What is claimed is:—

A boat comprising buoyancy members, cross bars uniting the buoyancy members in spaced parallel relation to each other, a pro-
 70 peller shaft, brackets fixed to the cross bars forming bearings for the propeller shaft, rudders arranged at the bow and stern ends of the buoyancy members, braces fixed to the cross bars forming bearings for the rudders, a platform superimposed upon the cross bars, means supported by the platform
 75 for driving the propeller shaft, and separate means operative upon the rudders to independently shift the same at either the bow
 80 or stern ends of the buoyancy members.

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

JOHN L. CRAWFORD.

Witnesses:

H. E. ZENICKER,
 ALBERT WILLIAMS.