No. 739,775. PATENTED SEPT. 22, 1903.

H. J. BAYARD.

BOAT OR VESSEL.

APPLICATION FILED DEC. 26, 1902.

NO MODEL. 3 SHEETS—SHEET 1.

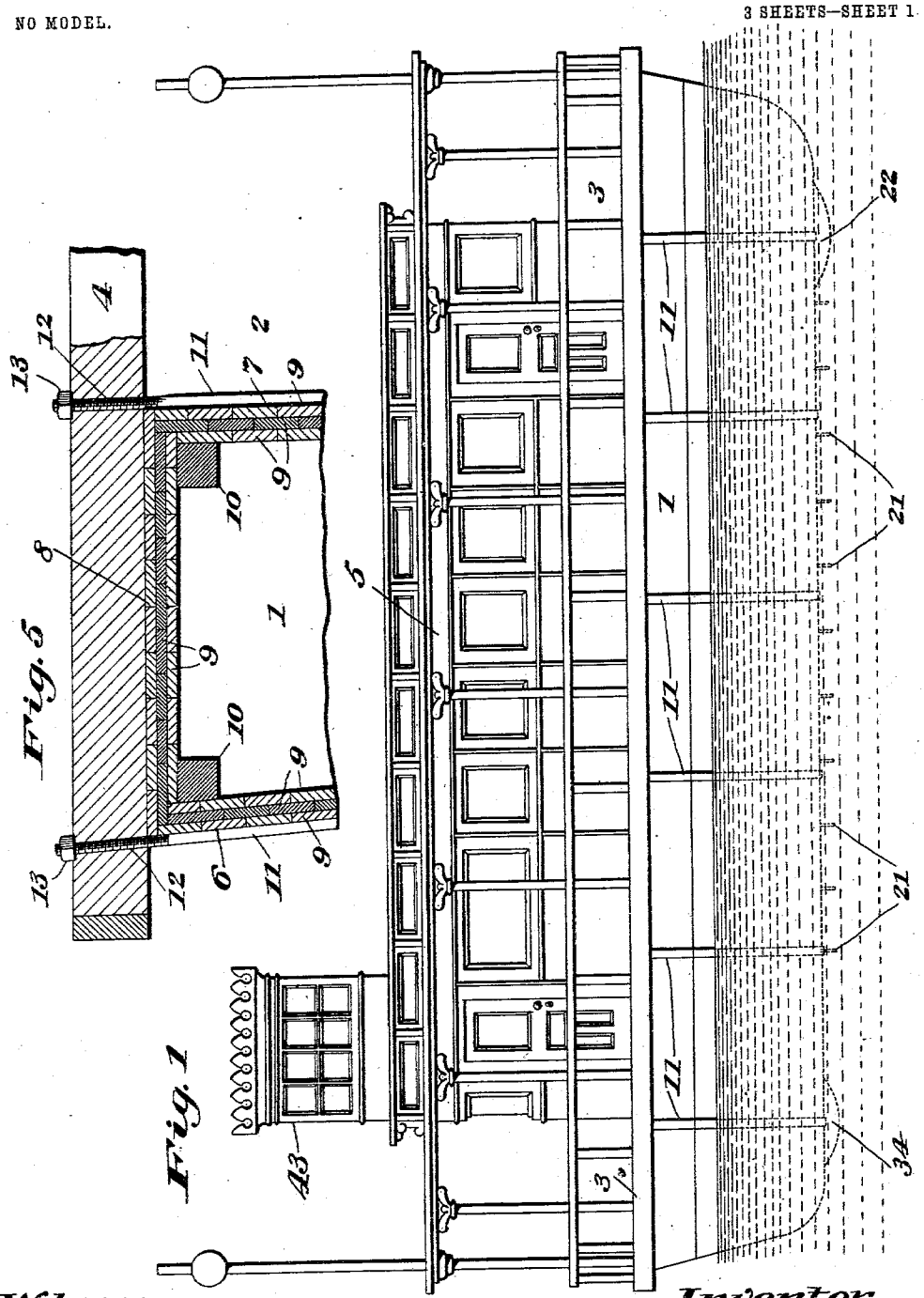


Fig. 5

Fig. 1

Witnesses

C. Caplinger

F. D. Thomas

Inventor

Hayram J. Bayard

By

J. D. Caplinger

Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 739,775. PATENTED SEPT. 22, 1903.

H. J. BAYARD.

BOAT OR VESSEL.

APPLICATION FILED DEC. 26, 1902.

NO MODEL. 3 SHEETS—SHEET 2.

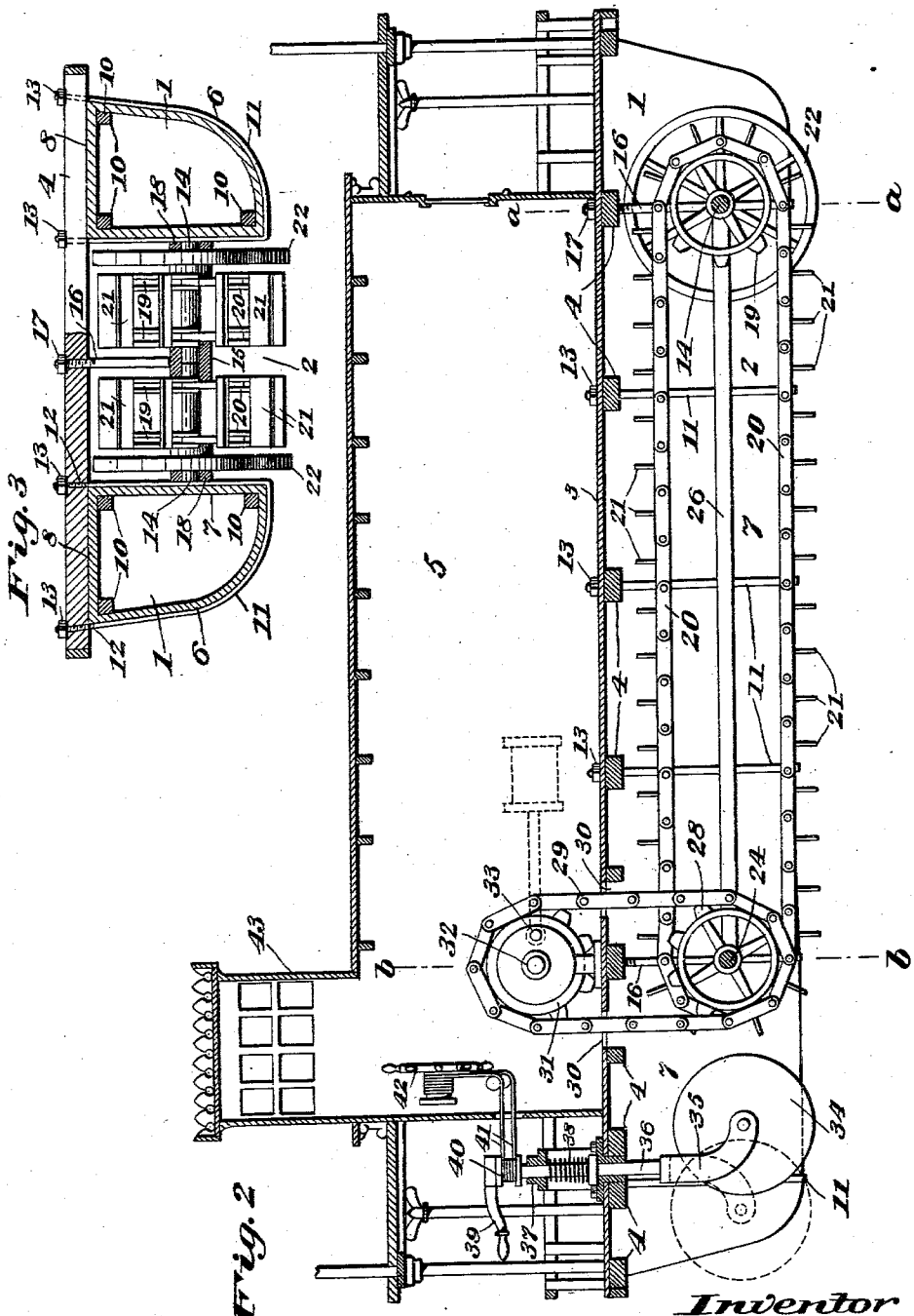


Fig. 3

Fig. 2

Witnesses

C. Caplinger

J. D. Thomas

Inventor

Hayriam J. Bayard.

By

J. D. Caplinger

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 739,775. PATENTED SEPT. 22, 1903.

H. J. BAYARD.

BOAT OR VESSEL.

APPLICATION FILED DEC. 26, 1902.

NO MODEL. 3 SHEETS—SHEET 3.

Fig. 4

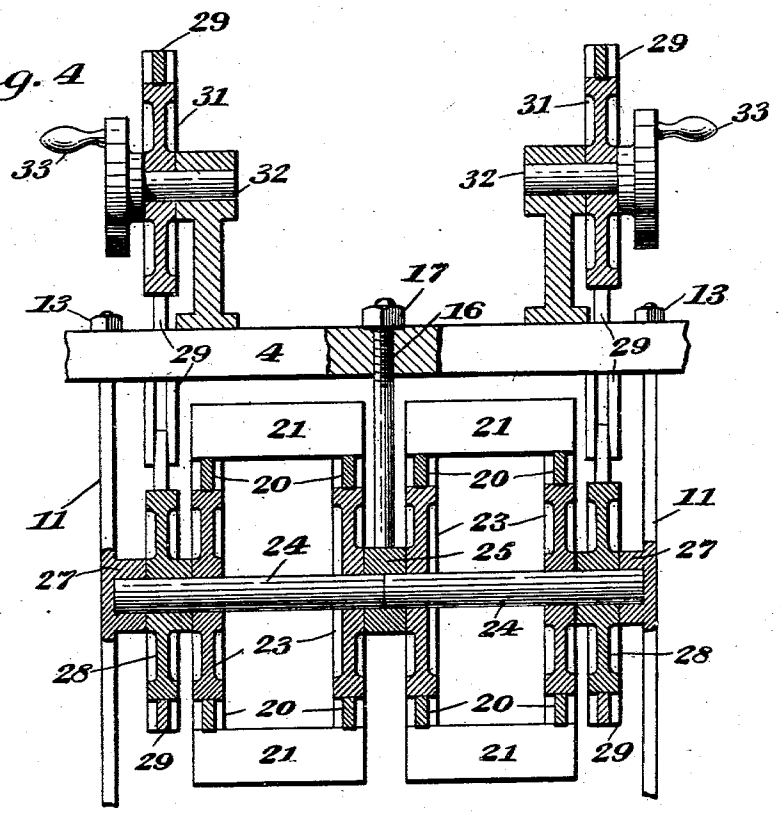
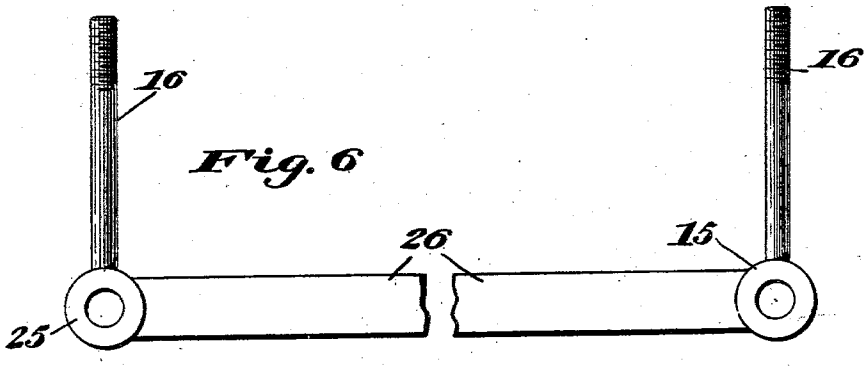


Fig. 6



Witnesses

C. Caplinger

J. D. Downs

Inventor

Hayram J. Bayard.

By

J. B. Caplinger

Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 739,775. Patented September 22, 1903.

UNITED STATES PATENT OFFICE.

HYRAM J. BAYARD, OF CHICAGO, ILLINOIS.

BOAT OR VESSEL.

SPECIFICATION forming part of Letters Patent No. 739,775, dated September 22, 1903.

Application filed December 26, 1902. Serial No. 136,520. (No model.)

To all whom it may concern:

Be it known that I, HYRAM J. BAYARD, a citizen of the United States of America, and a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Boats or Vessels, of which the following is a specification.

This invention relates to certain improvements in boats or vessels, and has for its object in part to provide a boat or vessel having a hull of an improved construction, whereby increased strength, stability, and buoyancy are imparted, and in part to provide propelling mechanism of a simple and inexpensive nature and of a compact, strong, and durable construction not liable to become deranged or broken while in use and by means of which boats or vessels may be propelled not only through the water, but also upon land and along roads and over fields, so that the boats or vessels provided with the improved propelling mechanism are especially well adapted for the use of touring, excursion, and hunting and fishing parties, rendering it possible to make trips of any desired lengths by either land or water, or both.

The invention consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved boat or vessel and of said propelling mechanism therefor, whereby certain important advantages are attained and the device is made simpler, cheaper, and otherwise better adapted and more convenient for use than various other similar devices heretofore employed, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a side elevation of a boat or vessel constructed according to my invention. Fig. 2 is a sectional view taken vertically and longitudinally through the boat or vessel and showing certain features of the propelling mechanism. Fig. 3 is a sectional view taken transversely and vertically through the forward part of the hull of the improved boat or vessel and showing certain features of the construction of the propelling mechanism. The plane of the section in which this view is taken is indicated by the line *a a* in Fig. 2. Fig. 4 is a sectional view similar to Fig. 3, but taken in the plane indicated by the line *b b* in Fig. 2 and showing certain features of the means for driving the propelling mechanism. Fig. 5 is an enlarged detail view showing certain features of the construction of the boat-hull, whereby the strength and buoyancy of the same are increased. Fig. 6 is an enlarged detail view showing the construction of the bearing for the propeller-shafts of the improved boat or vessel.

As shown in the views, the boat or vessel has its hull divided lengthwise into two parts or sections 1 1, which are separated from each other by a longitudinal space or channel 2, extended along the full length of the hull from bow to stern and adapted to receive the propelling and steering devices. Above the parts or sections 1 1 is extended a deck 3, laid on cross beams or joists 4 4, extended transversely across the hull and bridging the space or channel, as clearly seen in Figs. 2 and 3. 5 indicates a cabin erected upon the deck and of any desired kind and size.

Each of the parts or sections 1 1 of the hull is made pointed at each end, so as to lessen the resistance of the water to its passage therethrough as much as possible, and the outer side of each part or section 1 is made curved and sloping downwardly and inwardly, as shown at 6, while the inner wall 7 of each of the parts or sections is made straight and vertical, so that the side walls of the channel or space 2 are caused to be parallel for the entire length of the hull. Each part or section 1 of the hull is also closed at its top by a wall or roof 8, extended beneath the deck, and said parts or sections are made perfectly air and water tight, so that no water is permitted to enter therein. The preferred construction of the parts or sections 1 is shown in detail in Fig. 5, wherein the walls of the sections are shown as built up of a number of narrow wooden strips 9 9, extended lengthwise of the respective parts or sections and held together by means of white lead, there being, as herein shown, three thicknesses of said strips laid one upon another in each wall of each part or section 1 and the joints of the inner strips being covered or lapped over by the outer strips, so as to effectually

prevent the entry of water. Although I have herein shown the parts or sections as formed with three thicknesses of these lapped strips 9, I do not wish to be understood as limiting myself to the employment of three thicknesses exclusively, as in certain cases a greater number of thicknesses of the strips and in other cases but two thicknesses of the strips may be employed. At the angles of the parts or sections 1 there are provided reinforces 10 in the interior of each part or section.

For holding the parts or sections 1 1 in position beneath the deck I provide metal straps or bands 11, extended around the sides and underneath each part or section at suitable intervals, the extremities of each strap or band 11 being passed up through one of the deck-supporting beams or joists 4 above the corresponding part or section 1 of the hull and being screw-threaded, as shown at 12, to receive a nut 13, which when screwed tightly in position serves to clamp or bind the corresponding section of the hull securely in position beneath the neck. By this construction the use of spikes or bolts driven into the air and water tight sections 1 1 of the hull is altogether avoided and said sections are permitted to remain imperforate.

At the forward end of the channel or space 2 between the hull-sections 1 1 are arranged transverse shafts 14 14, alined with each other and arranged end to end, the lengths of said shafts being equal, so that their abutting ends are at the center of the space or channel. The said abutting ends of said shafts 14 are held for independent turning movement in a bearing 15, supported by a hanger 16, extended down from one of the deck beams or joists 4, and having a threaded upper end passed through said joist and provided with a nut 17, by turning which vertical adjustment of the bearing 15 may be effected. The outer ends of the shafts 14 are held to turn in bearings 18, carried on two of the straps or bands 11 at the sides of the channel or space 2, and vertical adjustment of the bearings 18 may be effected by turning the nuts 13 at the upper ends of said bands or straps 11, as will be readily understood. Each shaft 14 carries two sprocket-wheels 19 19 of equal size and similar arrangement, and over these sprocket-wheels are passed the forward bights of chain belts 20, formed of links upon which are carried blades 21, extended transversely across the space between the chain belts and adapted when actuated beneath the water to propel the boat or vessel through the same. The arrangement and proportion of the parts is such that the lower runs of the chain belts will be below the water-level, while the upper runs of said chain belts are above the water-level, so that the blades 21 upon said upper runs will afford no resistance to the propulsion of the boat or vessel through the water. Each shaft 14 also carries outside of its sprocket-wheels a large traction-wheel 22, fixed on the shaft and having a tread for engagement upon the ground, so that when the boat or vessel is to be driven over land said wheels 22 will serve to support and drive it along.

The propelling devices formed of the chain belts and blades 21 are extended rearwardly within and along the channel 2 and have their rear bights passed around other sprocket-wheels 23 23, also held upon independently-rotatable shafts 24 24, extended transversely in the space or channel 2 and end to end, with their inner abutting ends also supported to turn in a bearing 25, similar to the bearing 15 of the forward shafts 14 14, and also held on a hanger 16, having an adjusting-nut 17. The bearings 15 and 25 are connected together and braced by a rod or bar 26, extended between them, as shown in Fig. 6, said rod or bar being arranged centrally and lengthwise in the space or channel 2. The rear shafts 24 24 have their outer ends supported in bearings 27, carried by the straps or bands 11 at the sides of the channel, and said shafts 24 carry outside of their sprocket-wheels 23 other sprocket-wheels 28, fixed upon them and over which are passed the lower bights of drive-chains 29, which are extended up through an opening 30 in the deck at the top of the space or channel 2 and have their upper bights carried by spocket-wheels 31 on independently-rotatable shafts 32, which are mounted to turn in suitable bearings and have cranks 33 33, whereby they may be independently rotated by hand or from an engine of any preferred kind arranged at the rear end of the cabin 5.

34 indicates a steering-wheel located in the channel or space 2 at the rear of the shafts 24 24, and said wheel 34 is held in forks 35 upon a rounded stem 36, which is extended up through the deck of the boat or vessel and has its upper end held for turning and vertical sliding movement in a bearing 37 above the deck and provided with a tiller 39 and also with a drum 40, adapted to receive a rope or chain 41, the ends of which are carried into the cabin 5 and connected with a pilot-wheel 42 at the rear part of the cabin.

38 indicates a spring arranged on the stem 36 beneath the bearing 37 and arranged to hold said stem normally pressed down, so that the tread of the wheel 34 is adapted for elastic pressure upon the ground when the boat is operated on land. The tread of the steering-wheel 34 will be arranged in line with the treads of the traction-wheels 22 22, and the diameters of the several wheels are such that when the boat is driven upon land the propeller-blades 21 will be held out of contact with the ground.

The rear part of the cabin 5 is provided with a raised portion or extension 43 above its top and said raised portion has glazed walls, so that the steersman may readily view his course in steering the boat either upon land or in water.

The propelling devices formed of the chains 20 and blades 21 are independent of each other, so that when the boat is in the water one of said devices may be operated independently of the other, either forward or in reverse, so as to assist in steering the improved boat or vessel. This is an especial advantage in case of any accident to the steering-wheel 34, or in case it is desired to make a shorter turn than could be accomplished by means of said steering-wheel alone.

When the boat is in the water and it is desired to transport it over land to some other point, it is only necessary to steer to the shore and to drive the boat or vessel ahead until the traction-wheels 22 22 engage upon the bank, whereupon further movement of the propelling devices will act through said traction-wheels to propel the boat upon the shore and out of the water, after which the boat will be turned to permit the steering-wheel 34 to be at the front, so that the device may be more readily steered and driven along roads and over fields to any desired point. The steering-wheel 34 is also capable of being completely turned upon the axis of its stem 36, as indicated in dotted lines in Fig. 2, to better adapt it for use on land.

From the above description of my improvements it will be seen that the improved boat or vessel constructed according to my invention is of an extremely simple and inexpensive nature and is especially well adapted for use, particularly by touring, excursion, and hunting and fishing parties, since it permits of being driven along roads and over fields as well as through the water, so that much inconvenience which would be caused by transportating supplies and outfits is avoided and the trips of such parties may be made much more pleasant and agreeable. It will also be obvious from the above description that the improved boat or vessel constructed according to my invention is capable of considerable modification without material departure from the principles and spirit of the invention, and for this reason I do not wish to be understood as limiting myself to the precise form and arrangement of the several parts of the device as herein set forth in carrying out my invention in practice.

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

1. A boat or vessel comprising a hull formed of two parallel water-tight parts extended side by side and separated by a space or channel, independently-rotatable shafts extended transversely of the space or channel and end to end adjacent to opposite ends of the space or channel, sprocket-wheels on the respective shafts, chains extended around the sprocket-wheels and provided with propeller-blades, driving means for imparting movement to said chains, and traction-wheels carried on the shafts at one end of the space or channel and arranged to engage the ground to drive the boat or vessel over the same, and a steering-wheel mounted to turn at the other end of the space or channel and held by forks having a stem passed up and held to turn in the deck of the boat or vessel, substantially as set forth.

2. A boat or vessel comprising a hull formed of two parallel water-tight parts extended side by side and separated by a space or channel, independently-rotatable shafts extended transversely of the space or channel and end to end adjacent to opposite ends of the space or channel, sprocket-wheels on the respective shafts, chains extended around the sprocket-wheels and provided with propeller-blades, driving means for imparting movement to said chains, and traction-wheels carried on the shafts at one end of the space or channel and arranged to engage the ground, to drive the boat or vessel over the same, substantially as set forth.

3. A boat or vessel comprising a hull formed of two parallel water-tight parts extended side by side and separated by a space or channel, independently-rotatable shafts extended transversely of the space or channel and end to end adjacent to opposite ends of said space or channel, sprocket-wheels on the respective shafts chains extended around the sprocket-wheels and provided with propeller-blades, driving means for imparting movement to said chains, traction-wheels carried on the shafts at one end of the space or channel and arranged to engage the ground to drive the boat or vessel over the same, and a steering-wheel arranged at the opposite end of said space or channel and also adapted for engagement on the ground for steering the boat or vessel, substantially as set forth.

4. A boat or vessel comprising a hull formed of two parallel water-tight parts extended side by side and separated by a space or channel, independently-rotatable shafts extended transversely of the space or channel and end to end adjacent to opposite ends of the space or channel, sprocket-wheels on the respective shafts chains extended around the sprocket-wheels and provided with propeller-blades, driving means for imparting movement to said chains and comprising independently-rotatable shafts arranged above the hull and having sprocket-wheels and chains extended around said sprocket-wheels and also around sprocket-wheels on two of the shafts in said space or channel, traction-wheels on the shafts at one end of the space or channel and a steering-wheel located at the opposite end of the channel, substantially as set forth.

Signed at Chicago, Illinois, this 6th day of December, 1902.

HYRAM J. BAYARD.

Witnesses:
H. L. BROWN,
J. D. CAPLINGER.