No. 633,065. Patented Sept. 12, 1899.

J. P. BOULESQUE.

BOAT ADAPTED TO OPERATE ON LAND OR IN WATER.

(Application filed Apr. 22, 1899.)

(No Model.) 3 Sheets—Sheet 1.

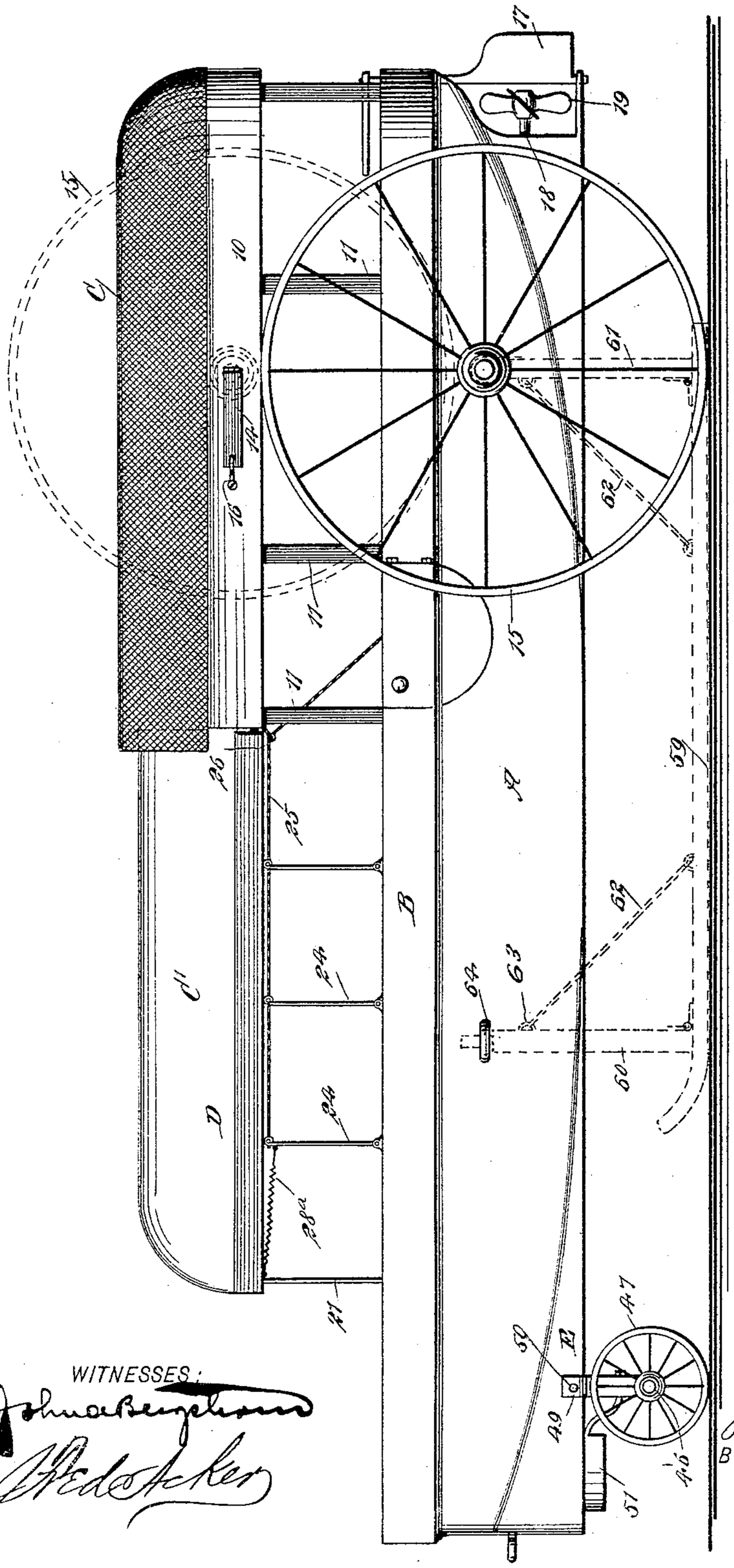

Fig. 1

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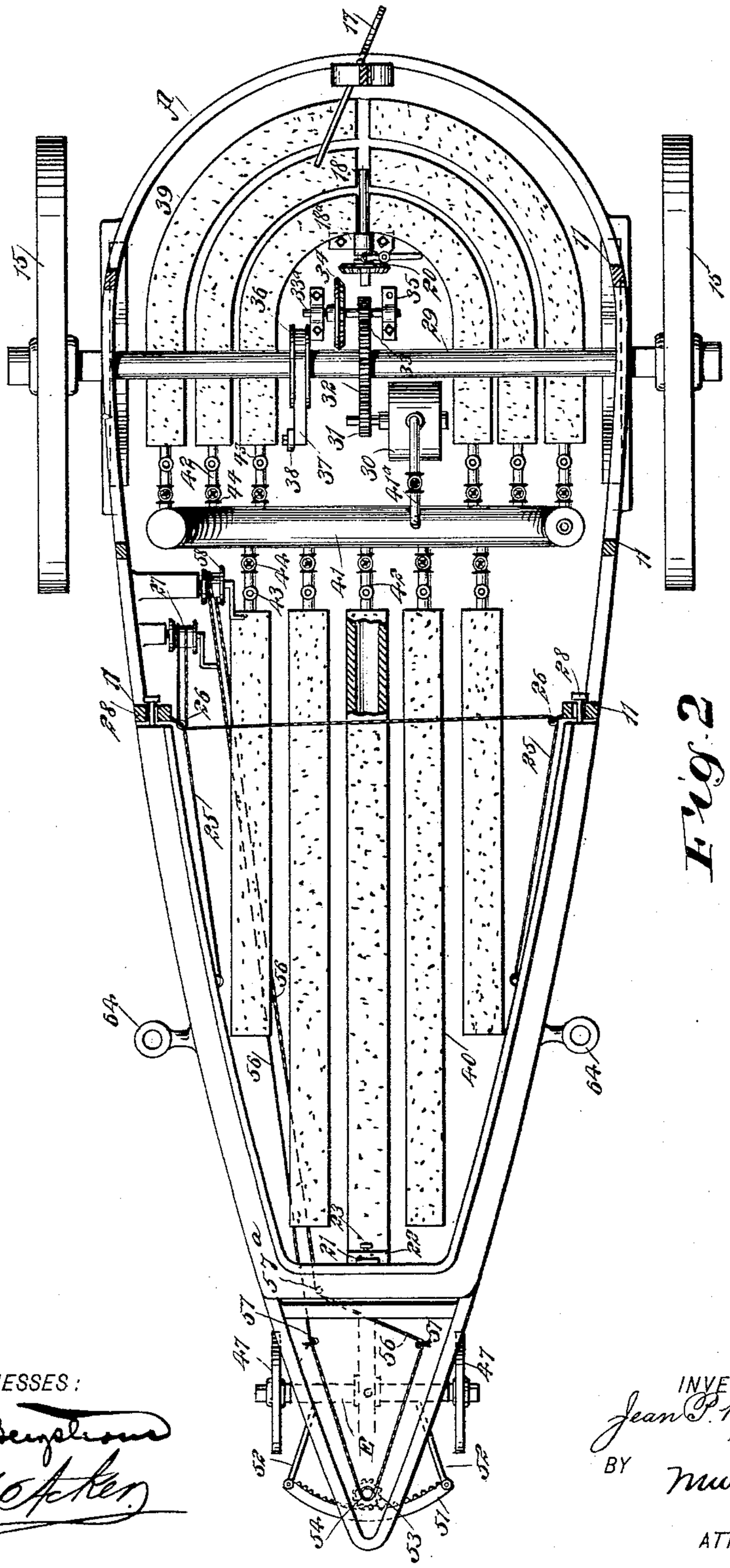

FIG. 2

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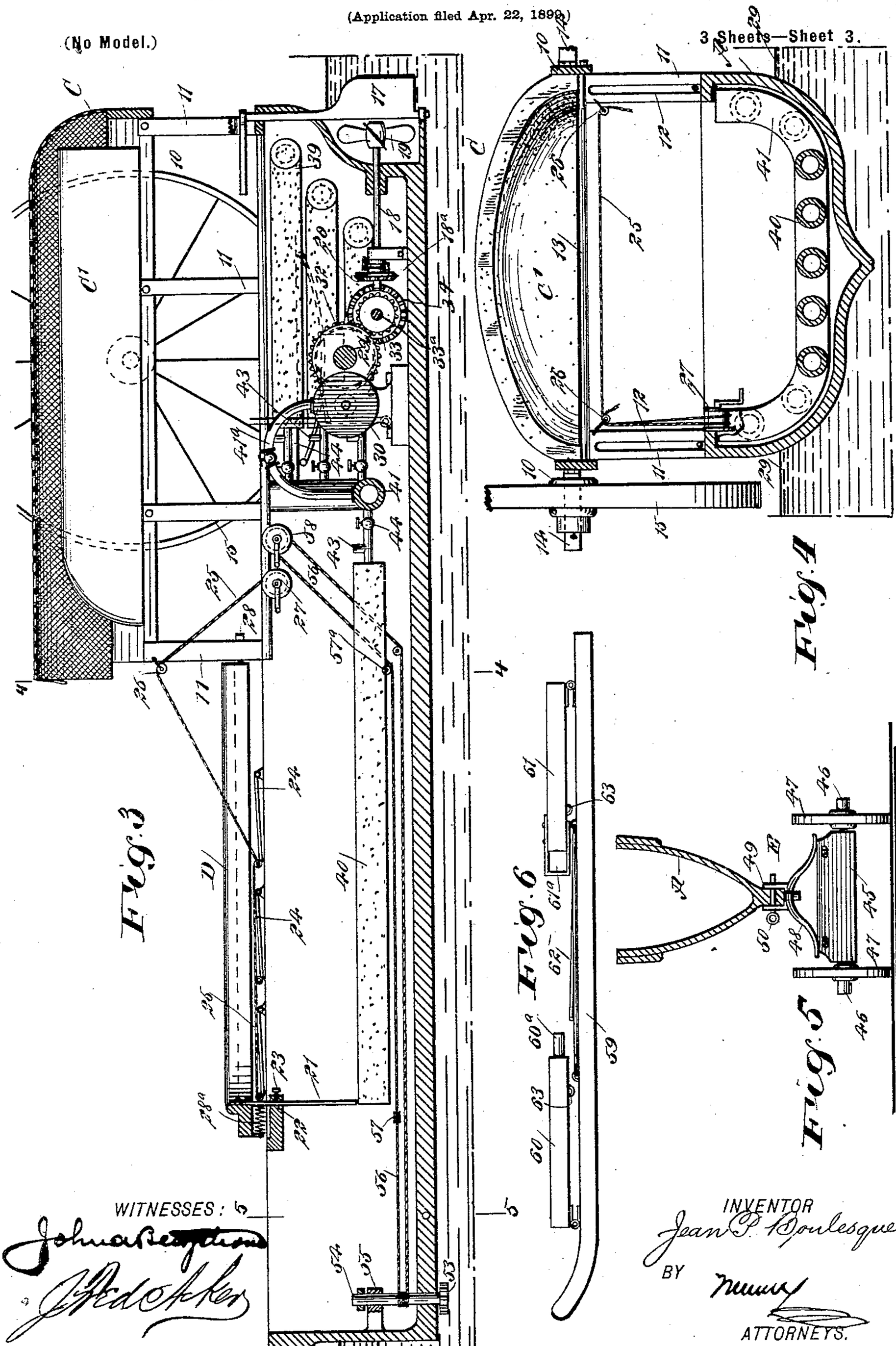

Fig. 4

Fig. 3

Fig. 6

Fig. 5

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BOAT ADAPTED TO OPERATE ON LAND OR IN WATER.

SPECIFICATION forming part of Letters Patent No. 633,065, dated September 12, 1899.

Application filed April 22, 1899. Serial No. 714,041. (No model.)

To all whom it may concern:

Be it known that I, JEAN PIERRE BOULESQUE, of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and useful Improvement in Boats, of which the following is a full, clear, and exact description.

The object of my invention is to so construct a boat that it may be utilized as a conveyance upon either land or water, and, furthermore, to provide means for expeditiously and conveniently converting the boat into such shape as to adapt it for use in traveling upon the land when taken out of the water, and to provide means for preparing the boat for launching upon the water when it is no longer needed as a conveyance upon land.

Another object of the invention is to provide a means whereby the fuel or the material adapted for use in connection with the motor may be compactly and abundantly stored in a small compass and supplied to the motor whenever occasion may demand.

A further object of the invention is to provide a means for steering the boat when upon land, which steering apparatus is independent of the rudder employed when the conveyance is used upon the water.

A further object of the invention is to provide a convenient means of mounting the boat upon wheels and of dismounting the boat therefrom.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved boat, illustrating wheels attached thereto enabling the boat to be drawn over the land and likewise showing in dotted lines the runners employed for launching the boat when the wheels have been removed. Fig. 2 is a plan view of the boat, the supports for the fixed canopy being in horizontal section. Fig. 3 is a longitudinal vertical section through the boat. Fig. 4 is a transverse section through the boat, said section being taken near the stern and on the line 4 4 in Fig. 3. Fig. 5 is a transverse section through the bow portion of the boat, illustrating the manner in which a truck is secured to the keel, the section being on the line 5 5 in Fig. 3; and Fig. 6 is a detail side elevation of one of the runners employed when the boat is to be launched.

A represents the hull of the boat, B the gunwale, and C a fixed or permanent canopy, which is preferably made of a reticulated or perforated material in order to admit the greatest possible amount of air to the occupant of the boat. The fixed canopy C is located at the stern of the boat and is attached to side and end beams 10, which in their turn are supported by standards 11, and the forward standards are provided with vertical slots 12, as shown in Fig. 4. The frame of the fixed canopy is braced by rods 13, that extend from standard to standard, as is also shown in Fig. 4. Spud-axles 14 are hinged to the side beams 10 of the fixed canopy, and these spud-axles are adapted to carry wheels 15, intended to support the stern of the boat when said boat is to be used as a land conveyance. When the spud-axles are not in use, they are folded against the side beams 10, as shown in Fig. 1, and held in position by a suitable lock 16.

A rudder 17 of the usual type is provided for the boat at the stern, and the boat is likewise provided with a propeller-shaft 18, mounted in suitable bearings 18^a, and a propeller 19 of any type is secured to the outer end of the propeller-shaft, the inner end of the propeller-shaft being provided with a beveled gear 20.

In connection with the fixed canopy a movable canopy C′ is provided adapted to cover the bow portion of the vessel. This canopy C′ is sustained by a frame D, which frame is provided at its bow end with a standard 21, held to slide in a guide 22, secured within the hull, and a set-screw 23 is employed to hold the standard in position in the guide. The frame D is supported at the sides by a series of rods 24, that are hinged to the gunwale of the vessel, the upper ends of which rods are adapted for engagement with the under surface of the frame D. A cord 25 is secured to each set of rods 24 at the top portion of said rods, and these cords pass over pulleys 26, attached to the forward standards 11 of the fixed can-

opy, and said cords 25 lead toward the stern to an engagement with a drum 27, as shown in Fig. 2. The sternward ends of the frame D are provided with pins or reduced sections 28, adapted to slide in the grooves or slots 12 in the forward standards of the fixed canopy, so that the frame D may be raised and lowered, as desired, and prior to dropping the frame D the canopy C′ sustained thereby is slipped beneath the fixed canopy resting on the cross-bars 13. Springs 28ª are secured to the bow-rods 24 and to the frame D, the said springs tending normally to draw the hinged rods 24 downward upon the gunwale, as shown in Fig. 3.

Near the stern of the vessel a drive-shaft 29 is mounted in suitable bearings, and the ends of said shaft are extended beyond the sides of the hull, and are made polygonal to receive the hubs of the supporting-wheels 15, heretofore referred to, and the shaft 29 is driven through the medium of a motor 30, preferably a compressed-air motor, the shaft of which is provided with a pinion 31, that meshes with a gear 32 on the drive-shaft. This gear 32 meshes with a pinion 33 upon a driven shaft 33ª, mounted in bearings 35, and the driven shaft 33ª is provided with a beveled gear 34, that meshes with the bevel pinion or gear 20 on the propeller-shaft, which latter gear is adjustably mounted on its shaft in any approved manner. Thus when the boat is to be used as a land conveyance the gear 20 is carried out of mesh with the gear 34, but the drive-shaft is at all times driven by the motor 30.

A strap-brake is provided for the drive-shaft. This strap-brake preferably consists of a peripherally-grooved disk 36, secured on the shaft, and a metal strap 37, which is passed into the grooved portion of the disk, having one end secured to a fixed support and the other end to a lever 38.

A series of air-storage tubes 39 and 40, made of rubber and each inclosed in an inextensible casing, such as cloth, is arranged at the stern and at the bow portion of the vessel within the hull thereof, and these storage-tubes for air are connected each by an independent pipe 42 with a supply-pipe 41, and this supply-pipe 41 is connected by a valved pipe 41ª with the motor 30. Each pipe connecting the storage-compartments 39 and 40 with the supply pipe or chamber 41 is provided with a valve 43, adapted to receive an air-pump and a cut-off valve 44, as shown in Fig. 2. Thus a large quantity of stored power may be carried in the vessel and supplied to the motor as occasion may demand.

The bow of the vessel is supported by a truck E. This truck consists of a bolster 45, axle 46, small wheels 47, mounted on the axle, a spring 48, mounted upon the bolster, and a clamp 49, pivoted upon the spring, as shown in Fig. 5. The clamp 49 is arranged to receive the keel of the vessel and is attached to the keel by a pin 50, or equivalent means. A segmental rack 51 is attached to the spring 48 on the bolster 45 by side arms 52, and the teeth of the rack 51, which are on the inside of the rack, are made to engage with a pinion 53, secured on a shaft 54, journaled in bearings 55 at the bow of the vessel, and a cable 56 is wound around the shaft 54 and is passed in engagement with guide-pulleys 57 and 57ª to a drum 58. Thus by turning the drum in one direction or the other the pinion 53 will cause the rack 51 to move to the right or to the left, and thus effect the steering of the device when it is used as a land conveyance.

When the wheels are to be removed from the vessel and the vessel is to be launched, the hull is jacked up by any suitable appliance and runners 59 are substituted for the wheels. Each runner 59 is provided with a forward hinged upright 60 and a rear hinged upright 61, the forward upright 60 having a reduced section 60ª at its top, and these sections 60ª of the runners are adapted to enter eyes 64, located at the outside of the vessel's hull, while the rear uprights 61 have straps 61ª attached, so that the ends of the drive-shaft 29 can be received between the upper ends of the uprights 61 and straps 61ª. The uprights are held in perpendicular position by braces 62, hinged to the runners, and arranged to enter loops 63 on the said uprights near the top.

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

1. The combination, with the hull of a vessel and a driving-shaft having its ends adapted to receive supporting-wheels, a truck detachably connected with the forward portion of the boat, and a steering device for the truck, of a propeller-shaft in adjustable gear connection with the drive-shaft, a motor geared to the drive-shaft, storage-chambers for power, a supply-chamber, independent connection between the supply-chamber and storage-chambers, and a connection between the supply-chamber and motor, for the purpose specified.

2. In a boat, a drive-shaft having its ends prepared to receive supporting-wheels, a wheeled truck, and means, substantially as described, for attaching the wheeled truck to the keel of the boat, as set forth.

3. In a boat, a drive-shaft having its ends prepared to receive supporting-wheels, auxiliary supports for the wheels when not in use, a wheeled truck, means for attaching the wheeled truck to the keel of the boat, and steering devices for the truck.

4. In a boat, a drive-shaft having its ends adapted to receive supporting-wheels, a propeller detachably connected with the drive-shaft, a wheeled truck, means for attaching the wheeled truck to the keel of a vessel, means for steering the truck and a rudder or equivalent steering device for the vessel, as specified.

5. In a boat, a drive-shaft, detachable sup-

porting-wheels for said shaft, a propeller, a gearing for the propeller, means for driving the said gearing from the said shaft, means for bringing the said gearing into and out of driving connection with the said shaft, a detachable wheeled truck for the bow of the boat, and a steering mechanism for the said truck.

6. A boat having projecting ears near one end and a projecting shaft or axle at the other, runners attachable to said boat and having hinged posts at each end, one set of posts being adapted when raised to enter the ears, and the other set of posts having a strap or bar thereon adapted to embrace the shaft or axle, and braces connecting posts and runner.

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