No. 713,785. Patented Nov. 18, 1902.

O. E. MEYER.

MARINE PROPULSION.

(Application filed Nov. 18, 1901.)

(No Model.)

Fig. 1.

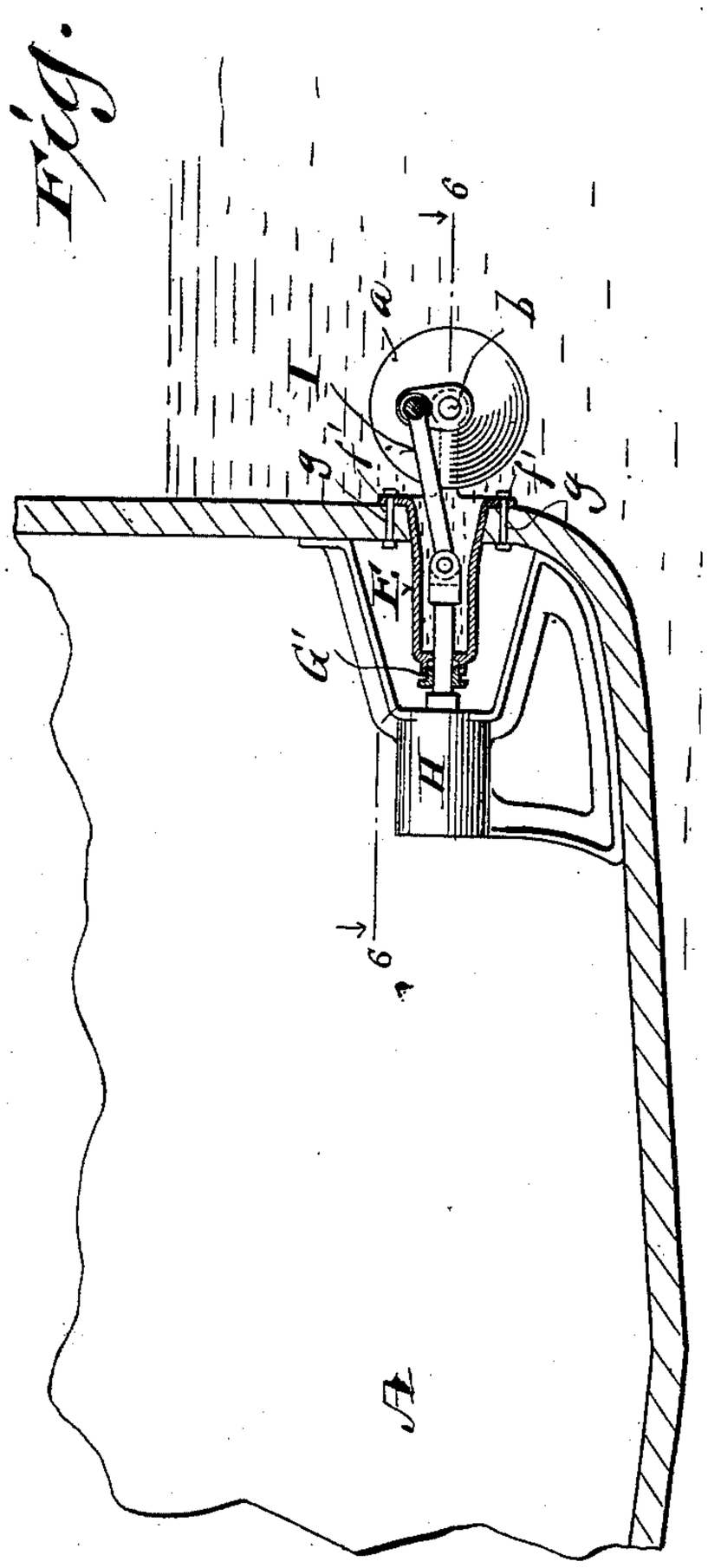
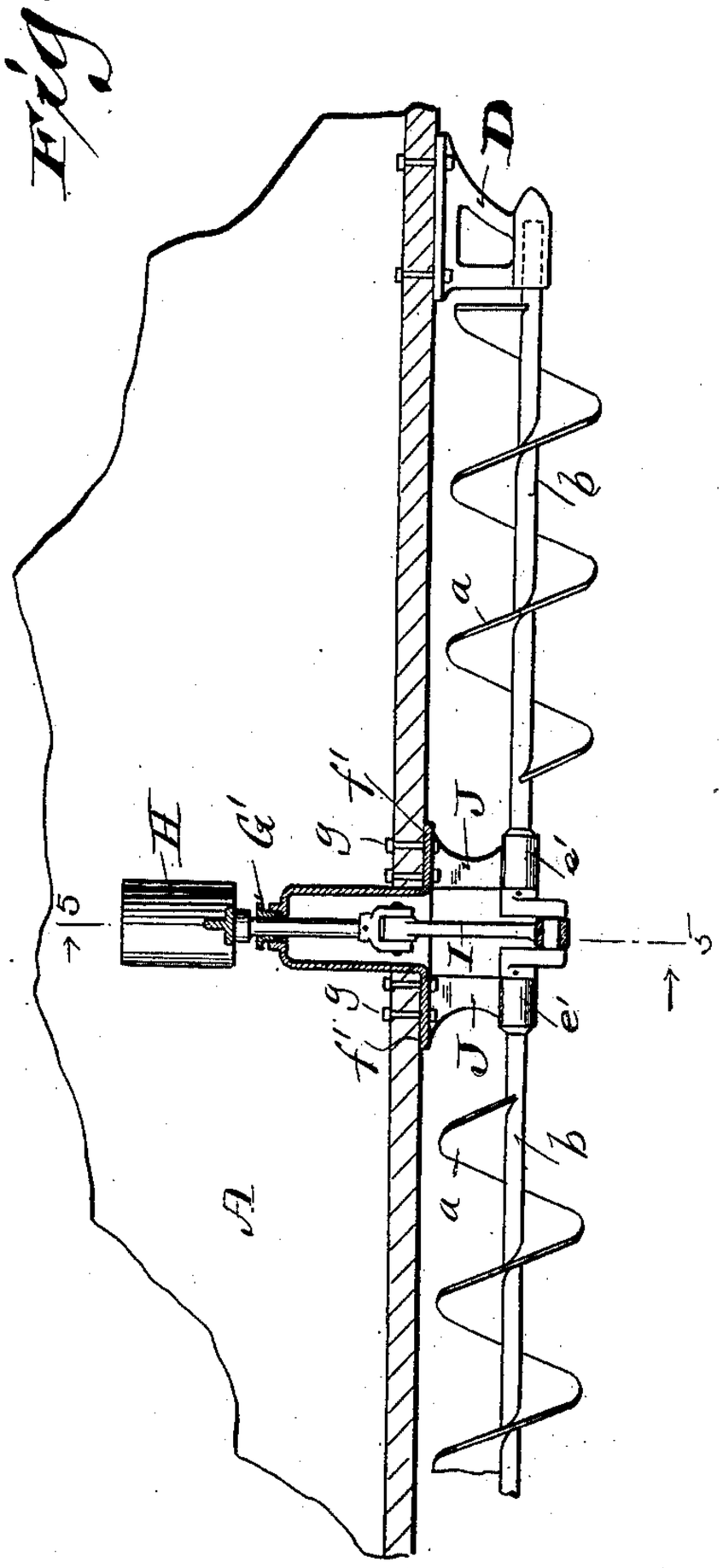


Fig. 2.



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UNITED STATES PATENT OFFICE.

OLUF E. MEYER, OF MILWAUKEE, WISCONSIN.

MARINE PROPULSION.

SPECIFICATION forming part of Letters Patent No. 713,785, dated November 18, 1902.

Application filed November 18, 1901. Serial No. 82,804. (No model.)

To all whom it may concern:

Be it known that I, OLUF E. MEYER, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Marine Propulsion; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide a simple propeller for boats which will materially increase the speed of the same without increasing the ratio of power, and a further object is to so distribute the propelling mechanism as to have a more perfect control of the vessel in turning; and it consists in certain peculiarities of construction and combination of parts, to be fully set forth hereinafter with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 is a cross-section on line 5 5 of Fig. 2 of the portion of the vessel showing my form of applying the power of the propellers, and Fig. 2 is a plain section on line 6 6 of Fig. 1.

Referring by letters to the drawings, A is the hull of a vessel, which has secured at either side and above the keel a pair of propellers in axial line with each other, their combined length being approximately two-thirds the entire length of the vessel. The propellers are made up of continuous spiral blades *a a* of any desired pitch and are preferably made in sections of one turn each and secured to the shaft *b* by means of bolts.

The propeller-shafts *b b* at their outer ends have bearings in brackets D, the latter being firmly secured to the boat, while their inner ends terminate in the bearings *e'*. The housing E is shown as projecting into the opening in the side of the boat and is provided with a stuffing-box G', through which the piston of the engine passes, said housing forming a wall for the former to work in, together with the pitman, which is in crank connection with the propelling-shaft *b*. A pair of independent engines H are placed adjacent to the housing E on either side of the vessel. The pitmen I are in wrist-pin connection with the ends of the propeller-shaft *b*, said engines being designed to drive the several propellers at the same speed; but should it become necessary to make a quick turn by the above construction I may cut off the right-hand rear and left-hand forward engine and then reverse the left-hand rear engine, allowing the right forward engine to continue, thereby causing the boat to turn in her own length, or should the steering-gear or any one of the propellers become disabled I may by proper manipulation of the several engines keep her in true course, or in case of grounding the action of the side propellers would clear the sand from the side of the boat and at the same time tend to force the boat off from the sand-bar.

By the above construction it will be seen that by placing the housing within the hull of the boat a great amount of friction is overcome, as the resistance of the pitman alone is presented to the water, and I may without departing from the spirit of my invention connect the engine to the end of the propeller-shaft in place of connecting it in the center, as illustrated in Fig. 2. In all cases, however, I consider it an essential feature of my invention to construct the propeller with a plurality of spiral turns, as shown, as by this construction I reduce the diameter of the latter and increase the area over propellers of the ordinary construction, and by distributing the propelling-surface lengthwise of the vessel when at high speed it will not only force the vessel through the water, but exert a lifting force at the same time, and consequently increase the speed by decreasing the displacement of the vessel to a minimum.

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

1. In a marine propeller, cranked shafts secured in bearings at either side of a vessel and parallel with the keel thereof, spiral blades having a plurality of turns throughout the length of said shafts and secured to the latter, openings in the sides of the vessel below the water-line thereof and opposite the cranks in the aforesaid shafts, water-tight housings fitted in said openings, flush with the side of the vessel and projecting into the hull thereof at right angles to the propeller-shafts and provided with stuffing-boxes at their inner ends, piston-rods adapted to be reciprocated in the

latter and pitmen connecting piston-rods and cranks of the aforesaid propeller-shafts substantially as set forth.

2. In a marine propeller, a cranked shaft having a spiral blade secured to the hull of the vessel, an opening in the latter and a housing for said opening, flush with the contour of the vessel and projecting into the latter, a stuffing-box at the inner end of the opening, a piston-rod fitted in the stuffing-box and a pitman connection between the piston-rod and the aforesaid cranked shaft substantially as set forth.

3. In a marine propeller, a shaft having a spiral blade secured thereto, a housing secured to the vessel below its water-line and open to the sea, said housing being flush with the contour of the aforesaid vessel and projecting into the latter and having at its inner end a stuffing-box, a piston-rod adapted to be reciprocated in the latter and connected to the propeller-shaft substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

OLUF E. MEYER.

Witnesses:
GEO. W. YOUNG,
HELEN JOHNSTONE.