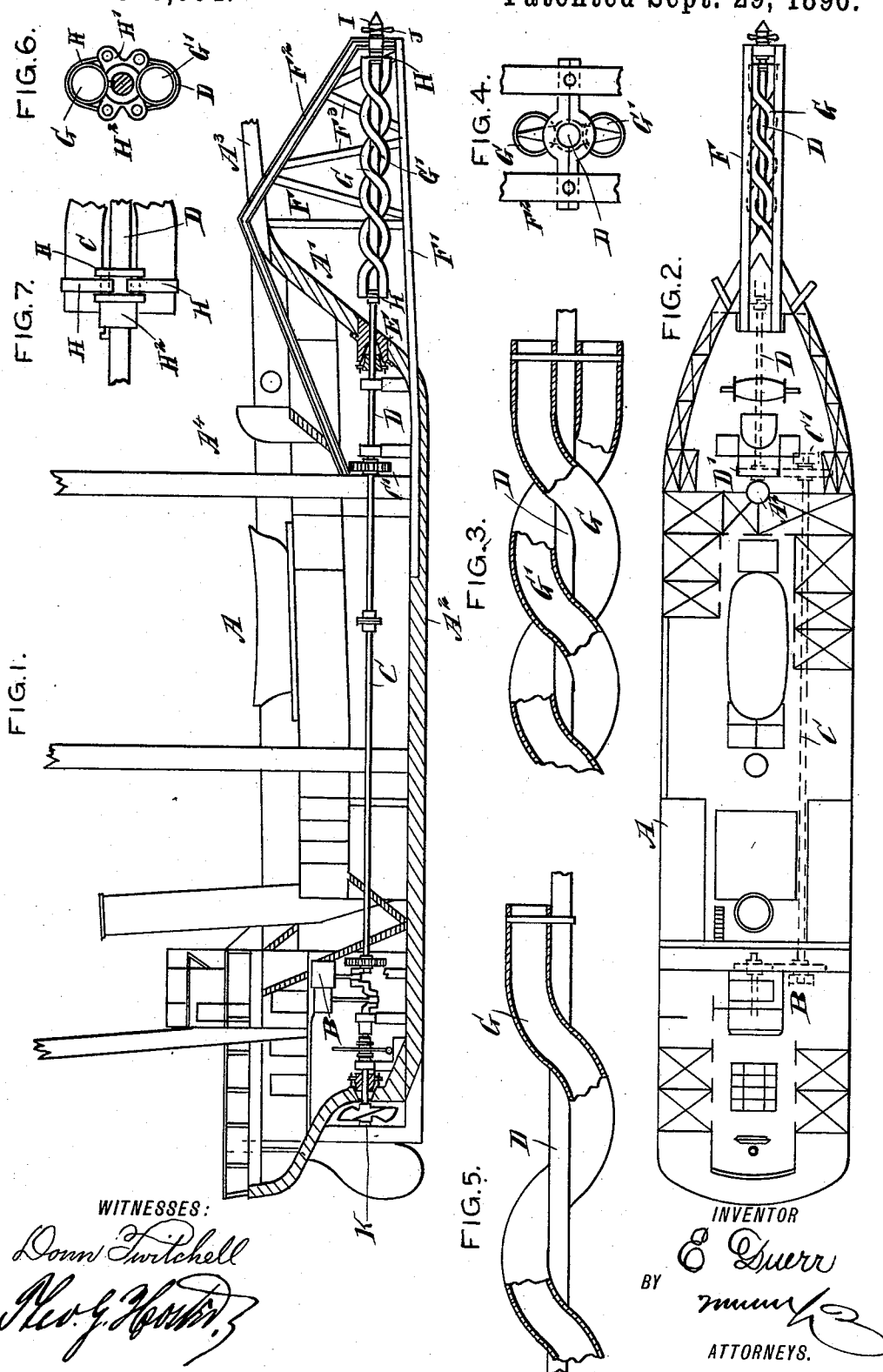


(No Model.)

E. DUERR.
PROPULSION OF MARINE VESSELS.

No. 568,604.

Patented Sept. 29, 1896.



WITNESSES:

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PROPULSION OF MARINE VESSELS.

SPECIFICATION forming part of Letters Patent No. 568,604, dated September 29, 1896.

Application filed July 18, 1896. Serial No. 599,632. (No model.)

To all whom it may concern:

Be it known that I, EUGENE DUERR, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in the Propulsion of Marine Vessels, of which the following is a full, clear, and exact description.

The object of the invention is to provide certain new and useful improvements in the propulsion of all kinds of marine vessels, and whereby a vessel can be propelled at a very high rate of speed at a comparatively low cost for the fuel.

The invention consists principally of a revoluble shaft projecting at the bow of the vessel and carrying one or more tubes wound spirally on the shaft.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then 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 sectional side elevation of a marine vessel provided with my improvement. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged side elevation of the shaft provided with two spiral tubes, shown partly in section. Fig. 4 is an end elevation of the same. Fig. 5 is a side elevation of the shaft with a single spiral tube, shown partly in section. Fig. 6 is a cross-section of the fastening device for the tubes, and Fig. 7 is a plan view of the same.

The marine vessel A, of any approved construction, is provided with a suitable motor B, in the form of steam-engines or the like, connected with the main shaft C, arranged longitudinally in the vessel A and connected by gear-wheels C' and D' with a shaft D, extending through a suitable stuffing-box E at the bow A' of the vessel A. The outer end of this shaft D is journaled in a suitable framework F, supported on the vessel A, the said framework being provided with base-beams F', attached to and projecting forwardly from the keel A² of the vessel A. The V-shaped top beams F² of the frame F connect with the bowsprit A³ and the foremast A⁴, as plainly indicated in Fig. 1, and the top and bottom

beams F' and F² are connected with each other by suitable braces F³, so that a very substantial framework for the proper support of the shaft D is obtained. On this shaft D are secured one or more tubes G G', arranged spirally on the shaft, as plainly indicated in Figs. 1, 3, and 5, the said tubes being open at both ends so that the water can enter the front ends of the tubes and pass through the same to be finally discharged at the rear end a suitable distance from the bow A' of the vessel.

In order to secure the device in place on the shaft D, I may provide various means, preferably, however, bands H, secured at their ends to lugs H' of a hub H², keyed or otherwise fastened to the shaft. (See Figs. 6 and 7.)

On the extreme front end of the shaft D is formed a point I and a small propeller-wheel J to push floating objects in the path of the shaft to one side to prevent such objects from passing into the tubes G G' or entangling with the same.

Now it is evident that by the arrangement described the shaft D, when driven from the engines B, as described, causes the tubes G and G' to revolve with the shaft, so that the spiral tubes readily take up the water in front by the tubes screwing into the water, so as to cause a forward propulsion of the vessel at a very high rate of speed.

If desired, the motor B may be connected with a propeller K at the stern of the vessel A, but this is not absolutely necessary, as the tubes G and G' are principally relied upon to propel the vessel forward.

The tubes G and G' screw into the water on the revolving of the shaft D, and the water passing into the tubes is bound to follow the windings thereof, so as to produce a continuous stream not influenced by the outer water, as the latter is separated from the stream by the wall of the tubes. By having the tubes in front of the vessel it is evident that the tubes work into water not influenced by the displacement of the ship.

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

1. A marine vessel, provided with a revoluble shaft extending through the bow of the

vessel, and one or more longitudinal spiral tubes open at both ends and secured to the said shaft, substantially as shown and described.

- 5 2. A marine vessel, provided at its bow with a framework, a shaft journaled in the said framework and passing at its rear end to the inside of the vessel to connect with machinery for rotating the shaft, and one or
10 more open-ended tubes secured on the said shaft outside of the vessel and arranged in spiral form on said shaft, substantially as shown and described.

3. A marine vessel, provided at its bow

with a framework, a shaft journaled in the 15 said framework and passing at its rear end to the inside of the vessel to connect with machinery for rotating the shaft, one or more open-ended tubes secured on the said shaft outside of the vessel and arranged in spiral 20 form on said shaft, and a point and propeller on the extreme front end of the said shaft, substantially as shown and described.

EUGENE DUERR.

Witnesses:

CONRAD BAER,
UDO REGER.