

F. P. Smith.
Screw Propeller.

N^o 4,353.

Patented Nov. 12, 1841.

Fig. 1.

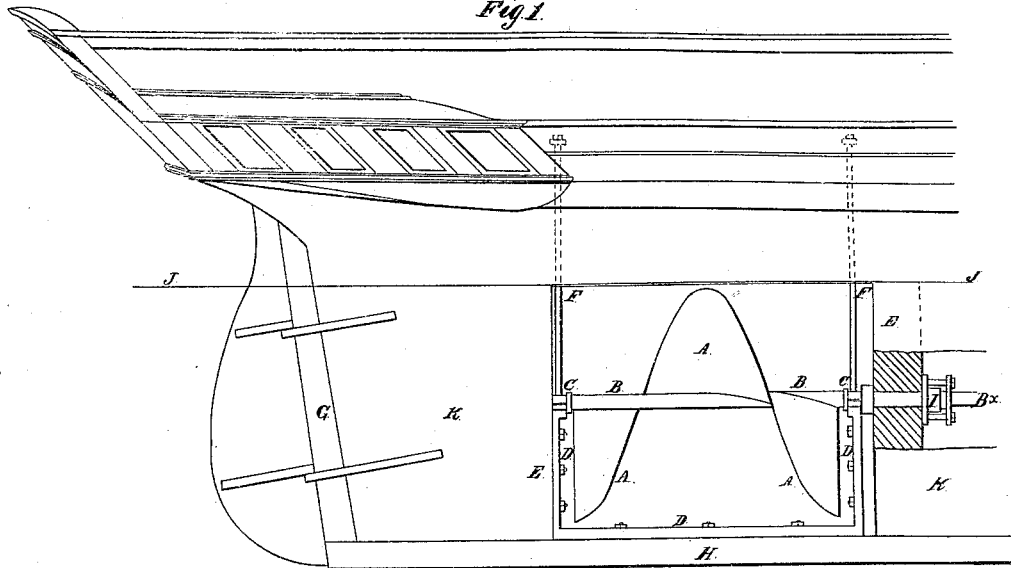


Fig. 2.

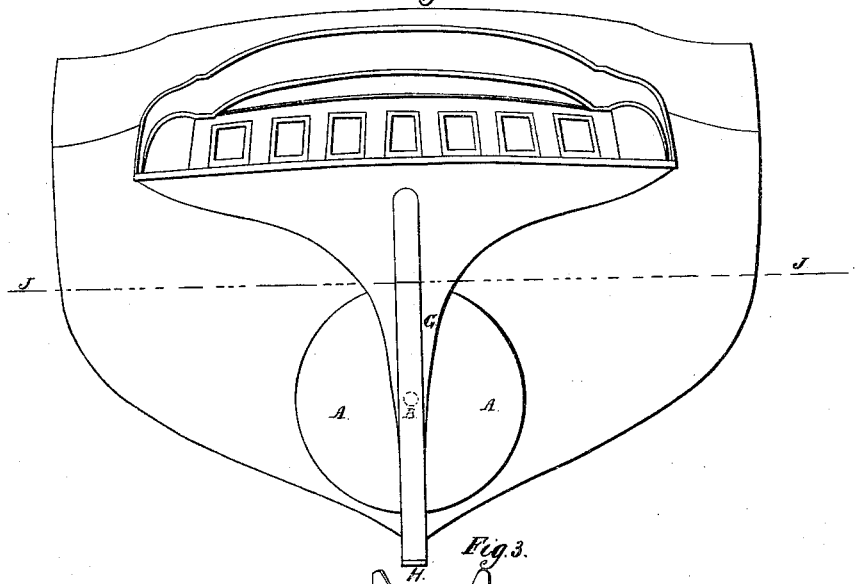
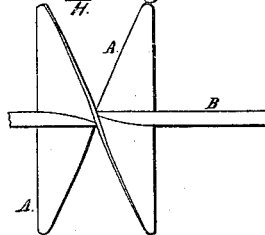


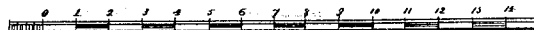
Fig. 3.



Witnesses.

James M. Curley
Joseph Hargrave

Scale of Feet



Inventor

F. P. Smith

UNITED STATES PATENT OFFICE.

FRANCIS PETTIT SMITH, OF LONDON, ENGLAND.

PROPELLING STEAM AND OTHER VESSELS.

Specification of Letters Patent No. 2,353, dated November 12, 1841.

To all whom it may concern:

Be it known that I, FRANCIS PETTIT SMITH, a subject of the Queen of Great Britain, and now residing at No. 1 Wades Terrace, East India Road, in the county of Middlesex, in the said Kingdom of Great Britain, gentleman, have invented or discovered a new and useful Manner of Arranging and Combining the Propelling Apparatus for Steam and other Vessels; and I, the said FRANCIS PETTIT SMITH, do hereby declare the nature of my invention, and the manner in which the same is to be performed are fully described and ascertained in and by the following statement and description thereof, reference being had to the drawing hereunto annexed, and to the figures and letters marked thereon—that is to say, my invention consists of a sort of screw or worm made to revolve rapidly under water in a recess or open space formed in that part of the after part of the vessel commonly called the “dead rising” or “dead wood” of the run.

25 Description of the drawing, that is to say, Figure 1, is a side view of a boat, or vessel, to which my said invention is applied. A, A, is a broad-threaded, revolving screw or worm. B, is the shaft around which the thread, or worm, is fixed. B*, is a continuation of the shaft which connects the propeller with the steam engine, or other moving power, and gives motion to the screw, or worm; which screw, or worm placed and arranged as here shown is in fact the improved propeller. C, C, are two plummer blocks, or bearings, which carry or support the shaft B, and the propeller. D, D, D, is a strong wrought-iron knee on which the plummer blocks C, C, are firmly fixed and which ties the two perpendicular sternposts E, E, to the keel. E, E, are the two perpendicular sternposts which are rabbeted to the keel and to which are attached the fore and after bulk-heads forming two sides of the well through which the propeller may be got at when it is wished to unship, or repair, the same. F, is the opening, or space, in the dead wood, or run, of the vessel. G, is the stern post—H, the keel—I, is a stuffing box through which the shaft B, is continued to the engine, or other moving power, giving

ing motion to the screw, or worm—J, J, is the water line—K, K, is the dead wood of the vessel.

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Fig. 2, is the end, or stern, view of the vessel, taken at the section of the foremost bulk head, and A, A, is the end view of the propeller, or screw. G, is the sternpost. H, the keel of the vessel. It should be stated that it is not absolutely necessary that the thread of the screw should make a complete turn around its axis, it may be less than a complete turn around the axis, if desired.

Fig. 3, shows another arrangement of screw, for the purpose of propelling vessels, the same letters of reference being used to indicate similar parts as are employed in the former figures; but in the present instance in place of the screw A, having but one thread, or worm, the screw A, at Fig. 3, has two threads; and this, consequently, for the same power, will require only one-half the room, or space, which is required by the screw A, as shown in Fig. 1. Each of the two threads A, in Fig. 3, take a half turn, or nearly so, around their shaft, or axis of motion.

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Various modes of gearing the propeller may be adopted, such as a gearing of cog wheels, or the employment of metallic, or other, bands. The propeller may be worked by hand, or by other than steam power; and it may be made of wood, sheet-iron, or other suitable material, and with threads, or worms, set at various angles with the central line of the screw.

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The length and diameter of the thread of the screw must, of course, be proportioned to the size of the vessel to be propelled, and although other circumstances must be taken into the account besides the tonnage of the vessel to be propelled, it will serve as a general guide to state that in a vessel of two hundred and thirty-seven tons burden, and with a draft of water of nine feet four inches, a screw propeller having one single turn, eight feet in length, and five feet nine inches in diameter; or having a double thread, each making one-half turn, of the same diameter, and four feet in length, has been found to answer well.

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Having thus fully described the nature of my invention, and shown the manner in

which the same is to be carried into operation, what I claim therein as new, and desire to secure by Letters Patent, is—

The arranging, or placing, of a screw
5 propeller, in the dead wood, or dead rising,
of a vessel, the thread of which screw should
make one entire revolution, or nearly so,
upon its shaft; which thread may be in one
continuous piece, or it may be divided into

two parts, each making one half turn, or 10
revolution, around the shaft; or be otherwise
modified, while it is made to operate in the
dead wood, substantially in the manner here-
in fully made known and described.

FRANCIS PETTIT SMITH.

Witnesses:

WM. BUCK,

THOMAS BUCK.