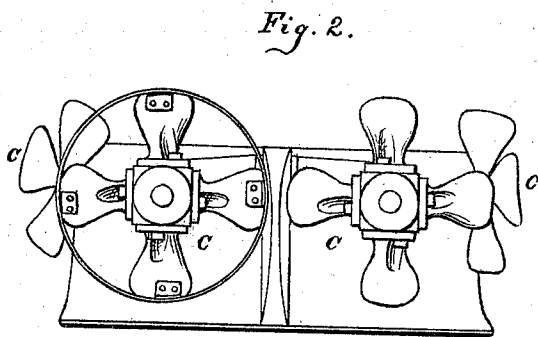
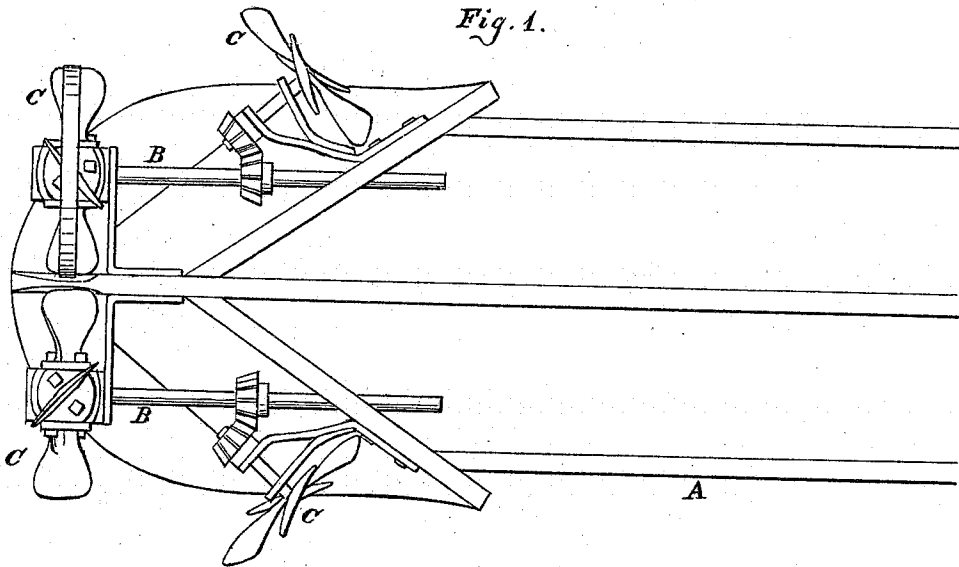


J. F. MORSE.
Dredgers.

No. 142,577.

Patented September 9, 1873.



Witnesses:

Goelwe Green
[Signature]

Inventor:

John F. Morse

UNITED STATES PATENT OFFICE.

JOHN F. MORSE, OF OSHKOSH, WISCONSIN.

IMPROVEMENT IN DREDGERS.

Specification forming part of Letters Patent No. **142,577**, dated September 9, 1873; application filed February 24, 1872.

To all whom it may concern:

Be it known that I, JOHN F. MORSE, of the city of Oshkosh, Wisconsin, have invented a new and useful apparatus for the removal of sand-bars or alluvial deposits on the bottom of rivers; and I hereby declare the following to be a full and exact description of the same, reference being had to the annexed drawings, forming a part of this specification, in which—

Figure 1 is a plan view, showing the forward part of the boat or vessel and the wheels used for the removal of sand-bars. Fig. 2 is an end view of the same parts.

The object of my invention is to provide a more efficient apparatus for the removal of sand-bars than those heretofore used; and to this end the invention consists in the construction of a boat and the arrangement of the wheels, as hereinafter set forth.

In the accompanying drawings, A is the vessel, to which the wheels for the removal of obstructions (of the nature heretofore mentioned) are attached, and in which is to be located the machinery for driving the same. The bow of the boat is the reverse of those known as molded boats, the contour of the cross-sections being concave, the lower portion or floor extending under and beyond the wheels in a horizontal plane. The floor or bottom of the vessel at the bow is lower than that of the midship section. The vessel has water-tight bulk-heads, forming apartments that may be filled with water to increase the draft of the vessel. The rear end or stern of the vessel is not represented, but may be in the usual form. The vessel may be propelled by either stern or side wheels in addition to the wheels at the bow. B B are shafts, which may be driven by engines (located crosswise of the vessel) connecting with cranks on the shafts or by gear in any of the methods of producing rotary motion. Two other shafts

are represented, but are not considered indispensable. Shafts B B, instead of being parallel, as represented, might diverge from the bow, and thus produce the same effect as the four will as now arranged. C C C C are wheels of the style known as propeller-wheels, and may (for the purposes of this vessel) be constructed by attaching flukes to a hub, as represented, or in one piece, as is common with wheels used for propulsion only.

I do not wish to confine myself to the use of four wheels, as shown in the drawings, for the reason that a vessel with the wheels located at the bow, as shown, is sufficient to make a channel wide enough for the passage of vessels of medium size, while in order to make a channel sufficient for the larger class of vessels navigating rivers the other additional wheels will be necessary.

The operation of effecting a channel through sand-bars will be as follows: As the vessel approaches a sand-bar the wheels will be put in rapid motion, revolving so as to produce a current toward the vessel, the effect of which will be to loosen the sand in front of the wheels and carry it back with the current of water outside of the vessel. As the sand is removed the vessel moves forward until a passage through the sand-bar is effected.

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

The dredging-vessel A, formed with upward-receding concave bows, in combination with two or more propeller-blade wheels adapted to be mechanically rotated, as described, for the purpose of removing sand-bars, substantially as specified.

JOHN F. MORSE.

Witnesses:

R. H. BOYNTON,
WM. H. JARVIS.