J. Busser.

Vibrating Propeller.

No. 45,697. Patented Jan. 3, 1865.

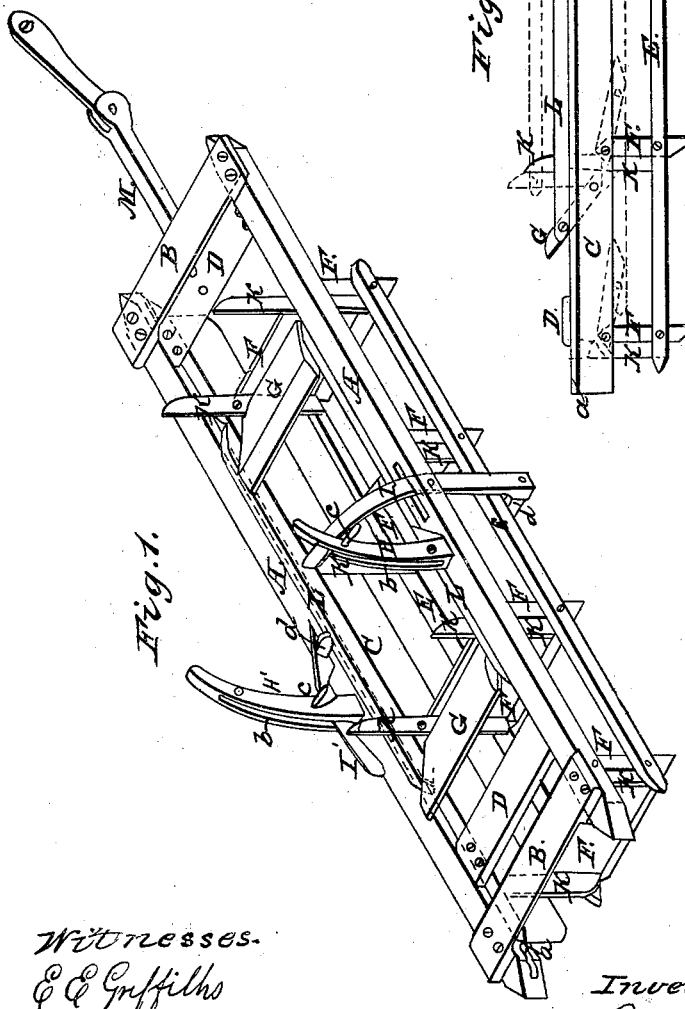

Fig. 1.

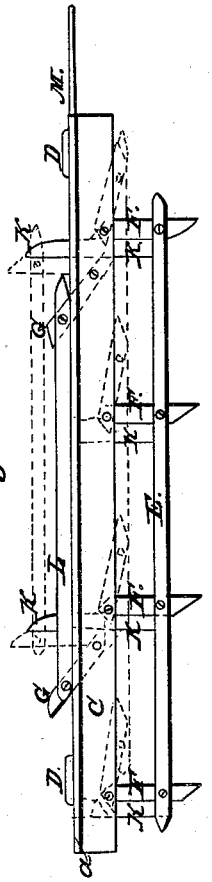

Fig. 2.

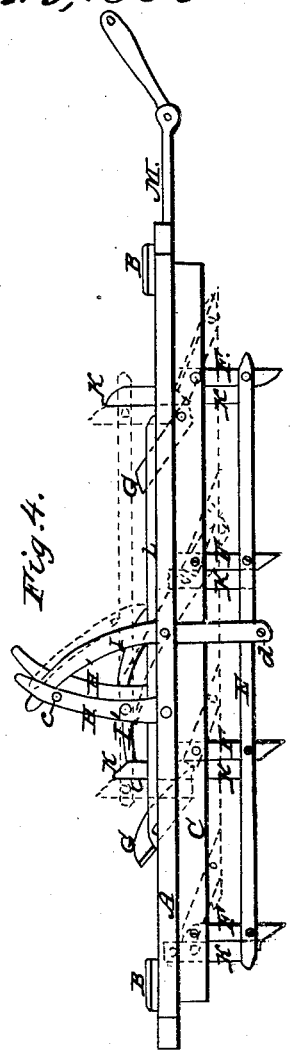

Fig. 4.

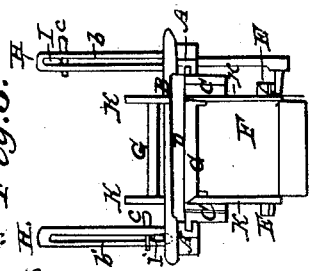

Fig. 3.

Witnesses.
E. G. Griffiths
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Inventor.
Jacob Busser

UNITED STATES PATENT OFFICE.

JACOB BUSSER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED PROPELLER.

Specification forming part of Letters Patent No. 47,397, dated January 3, 1865.

To all whom it may concern:

Be it known that I, JACOB BUSSER, of Philadelphia, in the county of Philadelphia, in the State of Pennsylvania, have invented a new Method of Propelling Boats; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a longitudinal elevation; Fig. 3, an end elevation, and Fig. 4 a longitudinal elevation of the movable parts detached.

Like letters refer to like parts.

A A are guides; B B, cross-ties holding the guides A A in place; C C, movable frame working in the guides A A; D D, cross-ties securing C C; C C has a shoulder or projection, either square or V-shaped, which works in the guides A A; E E, connecting-rods attached to the paddles F F and causing the same to work together; F F, paddles used in propelling, and G G, paddles brought into use when backing; L L, connecting-rods attached to the same; H H′, stationary upright pieces with a slot, *b b′*, in which the levers I I′ move. The lever I is used for throwing the paddles F F in or out of gear. The lever I′ is used for like purpose in connection with the paddles G. The levers I I′ are held securely in position by the pins *c c;* K K are fixed stays or braces strengthening the paddles when in use; M M, connecting-rod attached to the engine; *d d*, pins holding the connecting-rods E and L in place. The red lines show the position of the parts when the engine is reversed. In the drawings their position is shown when propelling forward.

The nature of my invention consists in providing a strong frame-work of iron or any other suitable material, the same so made as easily to be let into a bed made to receive them, said bed being attached to and projecting from the sides of the vessel, all the working or propelling parts when in place being under water. This whole arrangement being intended to take the place of the wheel, having advantages which the wheel does not possess, a greater propelling power and an entire freedom, when in action, from back water, the paddles being alternately elevated and depressed as the frame moves backward and forward in the guides A A. The paddles are self-acting, being raised and lowered when the engine is in motion, by the action of the water upon them.

I wish it to be distinctly understood that I do not confine myself to the exact number of paddles and their arrangement, as shown in the accompanying drawings, as the same may be varied to circumstances—for instance, there may be two sets of paddles on each side, with alternating motion, in which case there will be little, if any, loss of power; also, the paddles for backing might be placed on a line with those used for propelling forward, instead of above them, as shown in the drawings, all these being merely alterations not in the least affecting the principles of construction.

What I claim as my invention, and desire to secure by Letters Patent, is—

The arrangement of the guides, frame, paddles, stays, and levers, the whole being arranged to operate as herein set forth, and for purposes herein specified.

JACOB BUSSER.

Witnesses:

J. PLANKINHU,

E. E. GRIFFITHS.