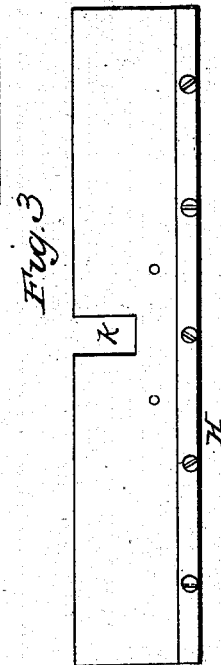
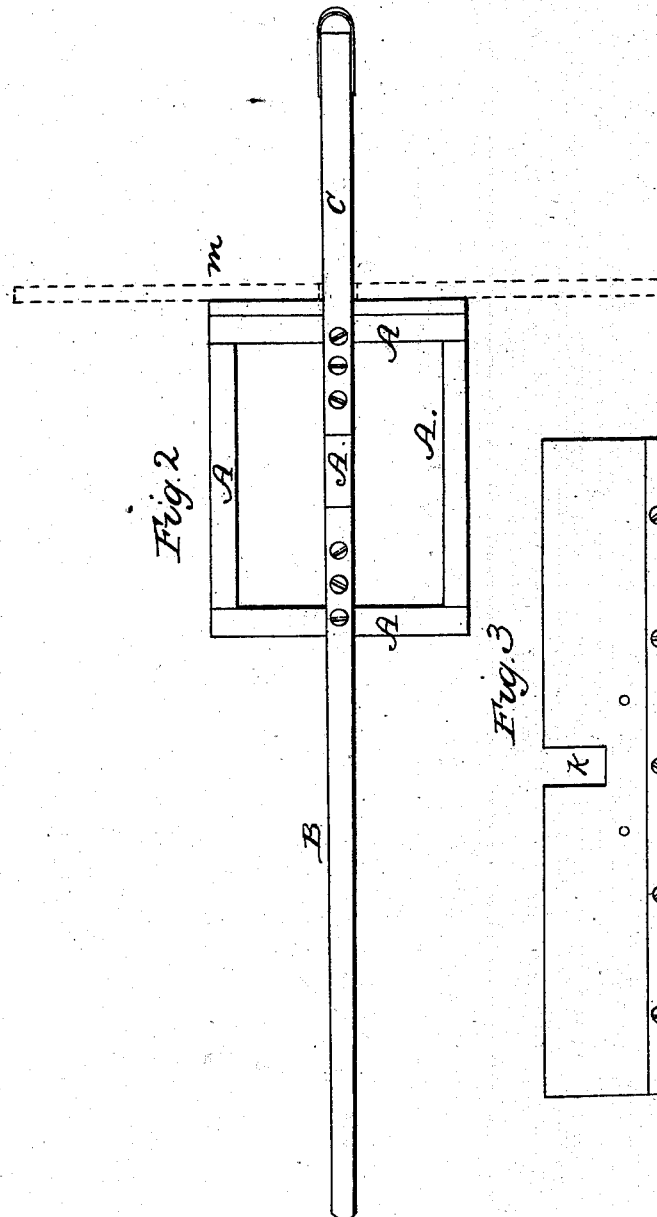
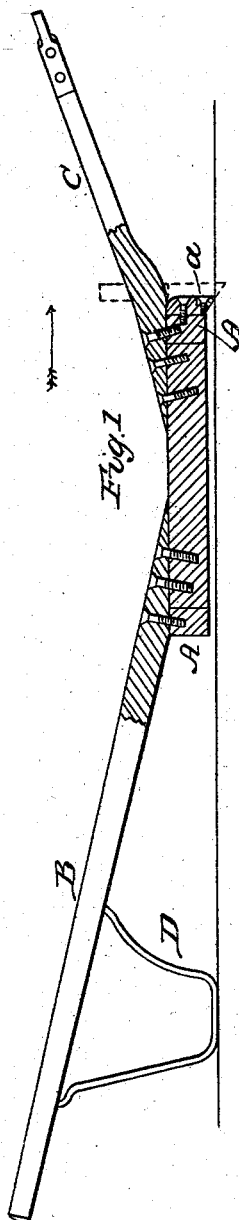


W. WHARTON, Jr.

Ice Implement.

No. 47,237.

Patented April 11, 1865.



WITNESSES
Wm. Albert Steel
Myrdelamy

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UNITED STATES PATENT OFFICE.

WILLIAM WHARTON, JR., OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR LEVELING AND SMOOTHING ICE.

Specification forming part of Letters Patent No. 47,237, dated April 11, 1865.

To all whom it may concern:

Be it known that I, WILLIAM WHARTON, JR., of Philadelphia, Pennsylvania, have invented an Improved Machine for Leveling and Smoothing Ice; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists in a machine constructed substantially as described hereinafter, whereby an irregular or roughened surface of a body of ice may be quickly leveled.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a sectional elevation of my improved machine for leveling and smoothing the surface of ice; Fig. 2, a plan view, and Fig. 3 a detached view.

Similar letters refer to similar parts throughout the several views.

A is a frame, to which are secured the guide-bar B and the draft-pole C, the latter being inclined, as shown in the drawings, for a purpose described hereinafter. To the front edge of the frame is secured, in any suitable manner, a metal blade or plate, *a*, the lower edge of which is somewhat below the frame A.

D is a support, attached to the guide-bar B in such a manner that the whole weight of the machine is borne by the metal blade *a* and the support D.

H is a wide plank, protected on its lower edge by a metallic plate, and it may be attached to the front part of the machine by pins or other suitable means in the position indicated by the dotted lines *m m*. The blade *a* is so attached to the frame A that it shall be perpendicular, or nearly so, to the surface of ice to be smoothed, and at right angles, or nearly so, with the line of motion, so that when the machine is drawn forward, by horsepower or otherwise, in the direction indicated by the arrow, a scraping and smoothing action is produced upon the ice. This action is rendered still more steady and efficient by attaching the motive power to the end of the draft-pole C, which is inclined upward in such a manner that the force of traction tends to press

the blade steadily and firmly upon the ice. By this means a sufficient downward pressure is exerted without the machine being so heavily constructed as to be unwieldy and awkward in use. The scraping and smoothing action thus produced is one of the peculiar features of my improvement, and it differs entirely from the operation of planing or cutting seen in other machines for leveling the surface of ice.

The blade *a* may be placed in any part of the frame A deemed most desirable, and although but one blade is shown it is evident that more may be used.

When it is desired to remove snow or other loose particles from the ice, the wide plank H is attached to the front of the machine by means of pins or other suitable devices, the draft-pole C projecting through the upper part of the plank by the opening *k*, cut through it for that purpose.

The plank H is readily attached to the machine without detaching the blade *a* or in any way altering its parts, thus forming an efficient appliance for removing snow when motive power is applied, as above described, in the direction of the arrow.

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

1. A machine for leveling and smoothing ice, consisting of a frame to which one or more blades or plates are secured, so that they may be carried across the ice perpendicular, or nearly perpendicular, to the surface of the latter, substantially as described.

2. The inclined draft-pole C, combined with the frame A and its blade *a*, substantially as and for the purpose described.

3. The frame A, its blade *a*, draft-pole C, and guide-rod B with its support D, the whole being constructed and arranged substantially as and for the purpose specified.

4. The detachable plank H, in combination with the frame A and draft-pole C, arranged substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. WHARTON, JR.

Witnesses:

CHARLES O. FOSTER,
JOHN WHITE.