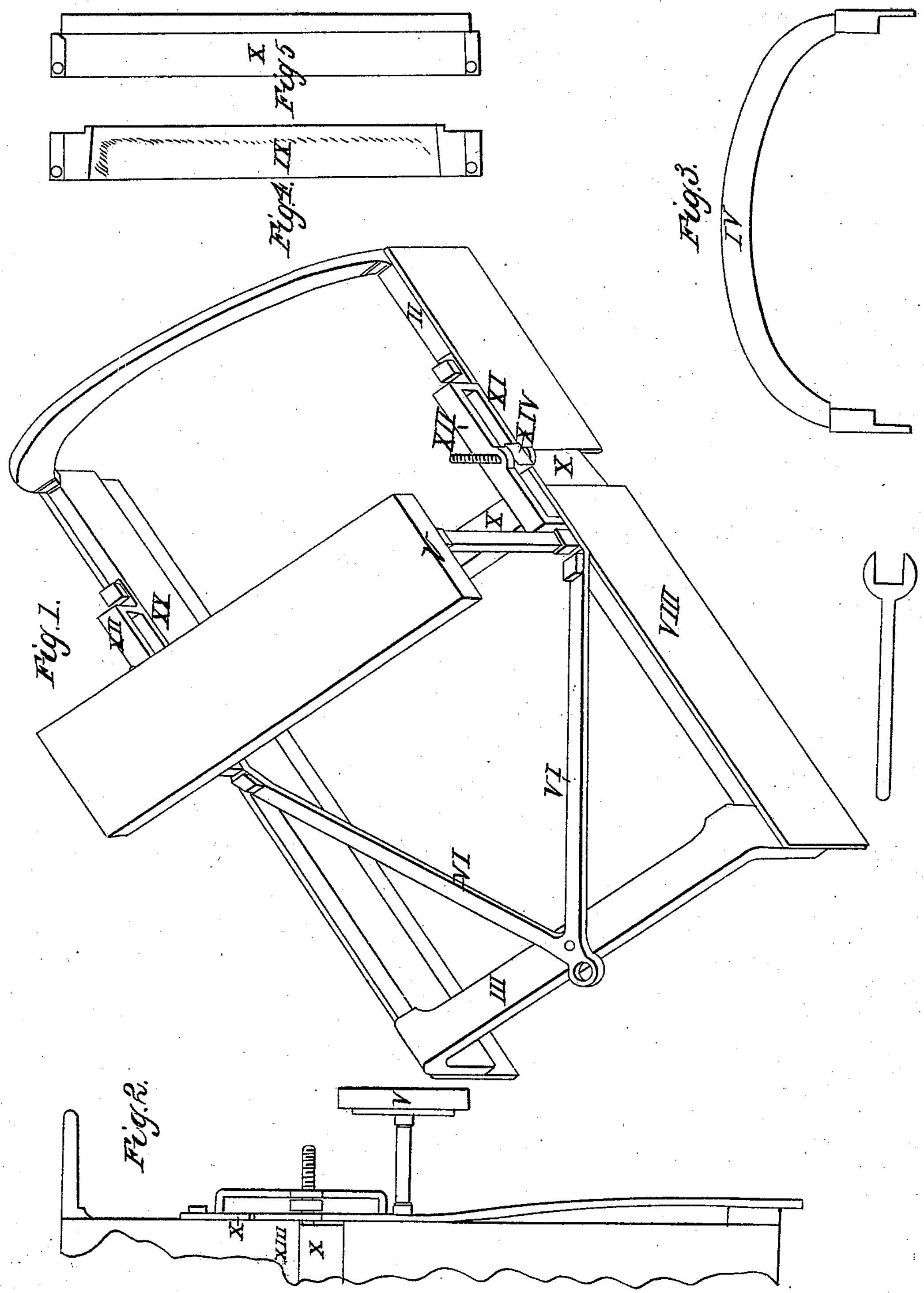
N. J. WYETH.

Ice Implement.

No. 497.

Patented Dec. 1, 1837.



UNITED STATES PATENT OFFICE.

NATHANIEL J. WYETH, OF CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN THE MACHINE FOR PREPARING ICE FOR SHIPPING AND STORING.

Specification forming part of Letters Patent No. 497, dated December 1, 1837.

To all whom it may concern:

Be it known that I, NATHANIEL J. WYETH, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Machine for the Purpose of Preparing Ice for Shipping or Storing previously to its being got out; and I do hereby declare that the following is a full and exact description.

Two side bars of iron or other metal are placed parallel to each other and twenty and three-fourths inches apart from outside to outside, two and one-half inches wide, three-fourths of an inch thick, and three feet long, placed with their edges perpendicular. The under sides of these bars serve as shoulders to prevent the guides, hereinafter described, from sinking too deep into the grooves previously made in the ice for the purpose of receiving them. These bars are numbered, Figure 1, I and II on the drawings accompanying this petition and specification.

Fig. 1, a bar (on the drawings numbered III) on the front end of the machine, connecting the tops of the two side bars above described, and keeping the same parallel to each other at the distance aforesaid. This bar is placed at right angles with the side bars aforesaid.

Figs. 1 and 3, a bar (on the drawings numbered IV) on the rear end of the machine, serving the same purposes as that on the front end—to wit, connecting the two side bars together—and is to be attached to them in the same manner. This bar, instead of passing in a straight line from one side to the other, is arched upward to give the chips made by the machine room to pass under it. It also serves as a handle to lift the machine in turning it round while working.

Figs. 1 and 2, a seat (on the drawings numbered V) to be about seven inches wide and reaching across the machine and placed nearly over the cutting-tool, hereinafter described, and about ten inches above it, supported by two perpendicular iron posts screwed into the upper edges of the side bars, which seat serves for the man who works the machine to ride upon, and by his weight to keep the machine down.

Fig. 1, an iron brace, (on the drawing numbered VI,) the forward end of which is bolted or otherwise joined to the center of the front bar. Then it spreads into two parts, one of which passes to each of the side bars and is secured to them just forward of the posts that support the seat. The front end of this brace projects about two inches beyond the front bar to which it is attached, and is there perforated in such a manner as to give an opportunity to hook a chain by which the machine is to be drawn. This brace serves to divide the strain in drawing the machine, and makes it come upon the sides as well as the front bar.

Figs. 1 and 2, two plates of iron, (on the drawings numbered VII and VIII,) which I call "guides," and which are to be bolted or otherwise attached to the side bars on their exterior surfaces, to be as long as the side bars, and their upper edges flush with the upper edges of the side bars, to project downward two and one-fourth inches below them, and to be of such thickness as shall correspond to the groove in the ice in which they are to run, the under edges of the side bars thus forming a shoulder to prevent the machine from sinking too deep in the ice. These plates, when the machine is in operation, travel in grooves previously made in the ice, and thus guide the machine. In these plates or guides a perpendicular cut or incision is made at a distance of about two feet from the forward end to admit of the insertion of the cutting-tools, hereinafter described.

A knife or cutting-tool, which is intended to remove or plane off the surface of the ice, is to be constructed as follows—namely, a plate of iron or steel about three-eighths of an inch thick and three inches wide, twenty-one and a quarter inches long from outside to outside. At this length it is turned perpendicularly upward at both ends and passes in the spaces aforesaid cut out of the guides, and fitting in the said spaces in such a manner as to receive support thereby. The part thus turned up should be about two and three-fourths inches long and about two and one-fourth inches wide, and its outside surfaces should be flush with the outside surfaces of the guides. From each of the upper ends of these parts thus turned up there should be a screw about four inches long and about five-eighths of an inch in diameter. These screws are passed upward through two boxes, hereinafter described, and on the screws should be two nuts, (on the drawings numbered, Figs. 1 and 2, XIII and

XIV.) These nuts by turning in the said boxes (which boxes confine the nuts in their places) raise or lower the cutting-tool to any depth required. One edge of this cutting-tool is reduced to a cutting-edge, which should be placed toward the front edge of the machine and at an angle of about fifteen degrees from the horizon. This cutting-tool on the drawings is numbered X.

The two boxes aforesaid, (which are numbered, Figs. 1, 2, XI and XII on the drawings,) and each of which boxes consists of two plates of iron (placed parallel to each other at a sufficient distance to admit the insertion of the nut aforesaid between them) joined at the end of the upper and near the end of the lower plate, with the lower plate projecting beyond the points of junction on each side sufficiently far to fasten the box, by screws or otherwise, to the upper edge of the side bars just behind the seat. The nut is inserted in the box. Through this box and nut the screws on the upper ends of the cutting-tools are passed, and by turning this nut with a wrench the cutting-tool is raised or lowered at pleasure. The box is to be so made as to confine the nut from rising or lowering and only to admit of its being turned round so as to raise or depress the cutting-tool. There is also another knife or cutting-tool, (on the drawings numbered, Fig. 4, IX,) part and parcel of the machine, which is to be attached in the same manner as the one above described and is in all respects formed in the same manner, excepting that the plate or knife, instead of being straight and running the whole length at right angles with the side bars, like the one above described, is arching downward and inward, said arch in said plate commencing at a point one inch and a half from each end of said plate and extending downward and inward one inch and then running straight from point to point. The cutting-edge of this tool commences at the point where the arch commences. The effect to be produced by this tool is to take off all the surface of the ice, except one inch and a half nearest the grooves in which the guides work, and to the depth of one inch. This tool is not intended to be raised or lowered, but to be kept permanently so as to cut one inch deep.

The dimensions of this machine and the materials of which it is constructed are given as being the most convenient and useful; but the dimensions and materials can be changed and the machine made larger or smaller as may best suit the convenience or inclination of the person constructing the same.

The machine above described is intended to facilitate the business in getting out ice for shipping, storing in ice-houses, or other purposes, and is designed to effect two distinct objects, first, to cut off so much of the surface of the ice as is desirable either to reduce its thickness or to get rid of snow ice which frequently forms on the surface of the ponds and is of little value; second, to cut out to the depth of about one inch all but a small portion of the surface of the ice intended to be got out and packed, and thereby enabling the greater part of the surfaces of the blocks to be kept separate and thus preventing their entire surfaces from freezing together which they are otherwise apt to do.

The mode of using this machine is as follows: The ice intended to be planed is first grooved out in such a manner as to correspond with the width and dimensions of the machine. The guides of this machine are put into the grooves made in the ice as aforesaid, and the cutting-tool, numbered, Figs. 1 and 5, X, screwed down to the desired depth, not exceeding the depth that the guides project below the side bars. Having gone through the grooves into which the machine is first put, change it to the next groove, and so on until the requisite quantity is completed. If the depth of one cutting is not sufficient, the ice may be grooved again and the operation gone over a second time, and so on until the object first above stated is accomplished.

The mode of using this machine in order to effect the object secondly above stated is precisely the same as that just above described, excepting that the cutting-tool aforesaid, numbered, Fig. 4, IX, is substituted for the cutting-tool numbered, Fig. 5, X, on the drawings.

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

The peculiar combination of the various parts and portions described in this specification in such a manner as to form the machine aforesaid.

NATHL. J. WYETH.

Witnesses:

RICH. C. CABOT,

JAMES W. FENNO.