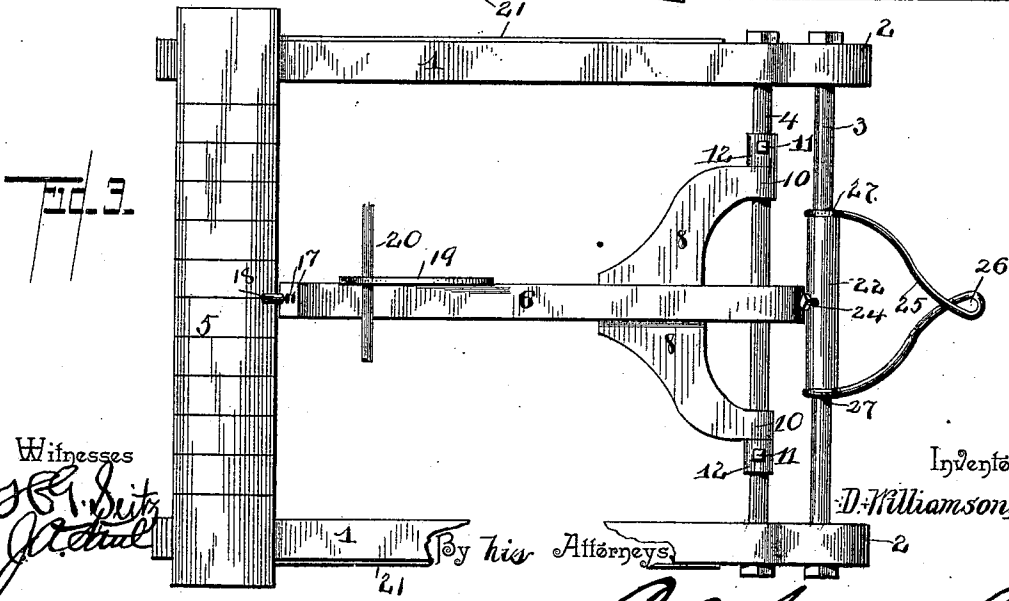
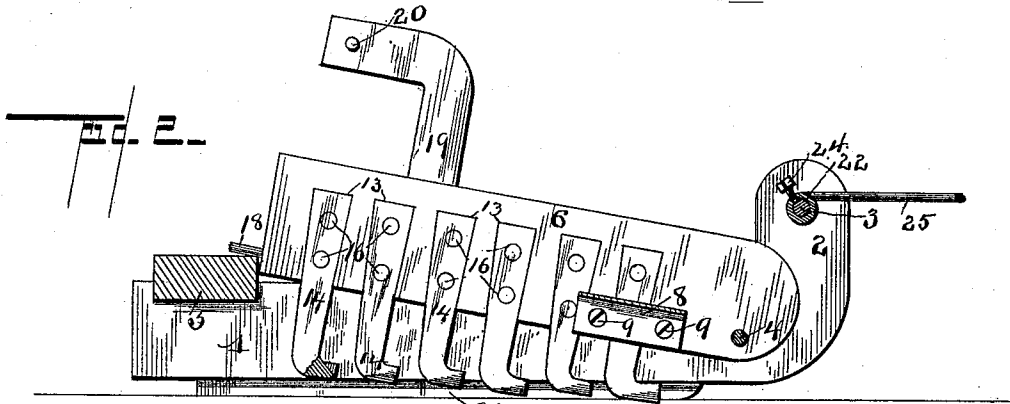
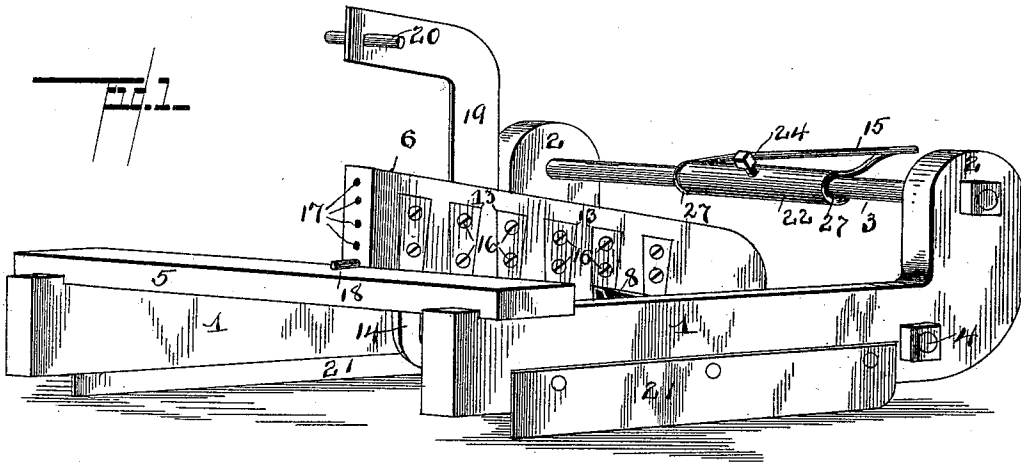


(No Model.)

D. WILLIAMSON.
ICE CUTTER.

No. 464,542.

Patented Dec. 8, 1891.



Witnesses
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By his Attorneys

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UNITED STATES PATENT OFFICE.

DANIEL WILLIAMSON, OF SUNBURY, PENNSYLVANIA.

ICE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 464,542, dated December 8, 1891.

Application filed August 8, 1891. Serial No. 402,162. (No model.)

To all whom it may concern:

Be it known that I, DANIEL WILLIAMSON, a citizen of the United States, residing at Sunbury, in the county of Northumberland and State of Pennsylvania, have invented a new and useful Ice-Cutter, of which the following is a specification.

This invention relates to improvements in ice-cutting machines, the objects in view being to provide a machine of this class of great simplicity of construction, ease of operation, lightness of draft, and adapted to be adjusted for cutting deep or shallow and wide or narrow cakes or blocks.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of an ice-cutting machine constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is a plan of the machine.

Like numerals of reference indicate like parts in all the figures of the drawings.

In the drawings, 1 designates a pair of opposite runners or side bars, the front ends of which are upwardly turned, as indicated at 2. The said runners are connected at their upper extremities by a cross rod or bar 3, and below the same, opposite their bent portions, with a similar bar or rod 4. At their rear extremities the bars or runners 1 are connected by a transverse platform 5.

6 designates a cutter-beam, which is provided at its front end with a transverse perforation or bearing, which loosely receives the transverse rod or bar 4. From the cutter-beam at opposite sides of the same and near its front end extend diagonally disposed or divergent hounds 8, said hounds having their rear ends bolted to the beam, as indicated at 9. The front ends of the hounds are provided with eyes 10, which latter loosely receive the transverse rod or bar 4, so that, as will be evident, the beam is pivoted at its front end upon the bar 4 and is suitably braced. Upon the rod or bar 4, at opposite sides of the hounds, there is adjustably mounted by means of set-screws 11 a pair of collars 12. By adjusting the collars the beams and hounds may be moved along and secured at different points

of the rod or bar 4. The cutter-beam is provided upon one of its faces with a series of tooth-seats 13, the same being vertically disposed, and in said seats is mounted a series of L-shaped cutters 14, the shanks being bolted to the seats, as at 16, and said cutters at their lower ends having chiseled points. The cutters are graduated in length and are shorter at the front end than at the rear of the series, so that each will cut its proportionate amount of ice. The rear end of the beam is provided with a vertical series of openings 17, and in the same is located an adjusting pin or peg 18. The cutter-beam is of such length as to reach nearly to the front edge of the platform 5, so that when the pin or peg is in position in any one of the adjusting-holes its rear end rests upon said platform, and in this manner may the elevation of the beam be altered, and consequently the cutters adjusted to cut more or less deeply. A standard 19 extends upwardly from the beam and is provided with a cross-bar 20 at its upper end, which serves as a handle adapted to be grasped by an attendant standing on the platform, who in operation throws his weight upon the handle and consequently upon the cutters. The opposite runners or side bars are provided upon their outer faces with metal blades 21, designed to run in the kerfs or cuts made by the cutters, whereby they are guided in parallel lines to said cuts. The platform is provided with a scale of feet, and by adjusting the cutter-beam along the rod or bar 4 the distance between cuts will be regulated and hence the size of cakes or blocks of ice determined. Such adjustment upon the part of the beam is readily permissible and may be accomplished by loosening the set-screws of the collars, properly adjusting the collars, and resetting the same.

A sleeve 22 is mounted upon the upper rod or bar 3, is adjustable thereon, and is adapted to be secured at any point upon the rod or bar by a set-screw 24.

25 designates a Y-shaped draft bail or clevis, having the loop 26 at its front end, by which the horses are attached, and having its rear ends or terminals bent to form eyes 27, which loosely embrace the rod 3 adjacent to the opposite ends of the sleeve, said sleeve being of a length whereby it agrees with the distance

between the terminals of the bail and fits thereinbetween. It will be seen that by loosening the set-screws 24 and moving the sleeve the bail will be also moved, and in this manner the line of draft regulated to agree with the position of the cutting-beam.

In operation the attendant or operator, after first setting the beam and bail at proper points upon the bars or rods 3 and 4 and adjusting the beam so that the cutters will penetrate to a proper depth, grasps the handles 20 of the standard and throws the weight upon the beam, thus holding the same down to its work, in which position the adjusting-pin of the beam will rest upon the platform. The machine is driven across the field of ice and when at the end of the cut is reversed, the runner being guided by the cut just made, whereby the cuts are all made parallel and uniformly apart. In turning the machine the attendant elevates the cutters from the ice, which latter operation is readily accomplished by lifting upon the handle 20. By the adjustment of the draft-bail the line of draft always coincides with the cutters, and hence the draft is lightened.

Having described my invention, what I claim is—

1. In an ice-cutting machine, the combination, with the opposite runners and the transverse rod connecting the same at their front ends, of the cutter-beam having an opening at its front end for loosely receiving the rod and a series of cutters depending from the beam, opposite hounds diverging from the sides of the beam and terminating at their front ends in eyes for receiving the rod, collars mounted on the rod outside of the hounds, and set-screws mounted in the collars, substantially as specified.

2. In an ice-cutting machine, the combination, with the opposite side bars or runners, of a front rod connecting the ends of the runners, a beam loosely connected at its front ends with the rod, cutters depending from the beam, and means for adjusting the beam upon the rod in a lateral direction with relation to the beam, substantially as specified.

3. In an ice-cutting machine, the combination, with the opposite runners, the front rod connecting the same, and the rear platform connecting the rear ends of the runners, of the ice-cutting beam pivoted at its front end

to the rod and adapted to lateral adjustment thereon, and a pin extending rearwardly from the beam, overlapping the platform, and adapted for movement over a scale upon said platform, substantially as specified.

4. In an ice-cutting machine, the combination, with the opposite runners, the rod connecting the front ends of the same, and the platform connecting the rear ends thereof, of an ice-cutting beam pivoted at its front end upon the rod and provided at its rear end with a vertical series of adjusting-holes, and a pin mounted removably in one of the holes of the series, substantially as specified.

5. In an ice-cutting machine, the combination, with the opposite runners, upper and lower front cross-bars, and the cutting-beam extending rearwardly from one of said bars and laterally adjustable thereon, of the draft-bail laterally adjustable upon the remaining bar, substantially as specified.

6. The combination, with the opposite runners upturned at their front ends, the rear platform carrying a scale and connecting the rear ends of the runners, and the upper and lower cross bars or rods connecting the front ends of the runners, of the sleeve having a set-nut and mounted for adjustment upon the upper rod, the Y-shaped bail having its terminals bent to form eyes and embracing the upper rod at opposite ends of the sleeve, the main cutter-beam having recesses in one face, the series of teeth bolted therein, said beam being provided at its rear end with a series of adjusting-holes, a pin removably mounted in one of said holes and overlapping the platform, the opposite diverging hounds bolted to the beam, terminating at their front ends in eyes for loosely receiving the lower rod, the collars having set-screws mounted upon the lower rod at opposite sides of the hounds, and the standard 19, extending from the beam and provided at its upper end with a cross-handle 20, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

DANIEL WILLIAMSON.

Witnesses:

EML. WILVERT,
JOSEPH E. ARTER.