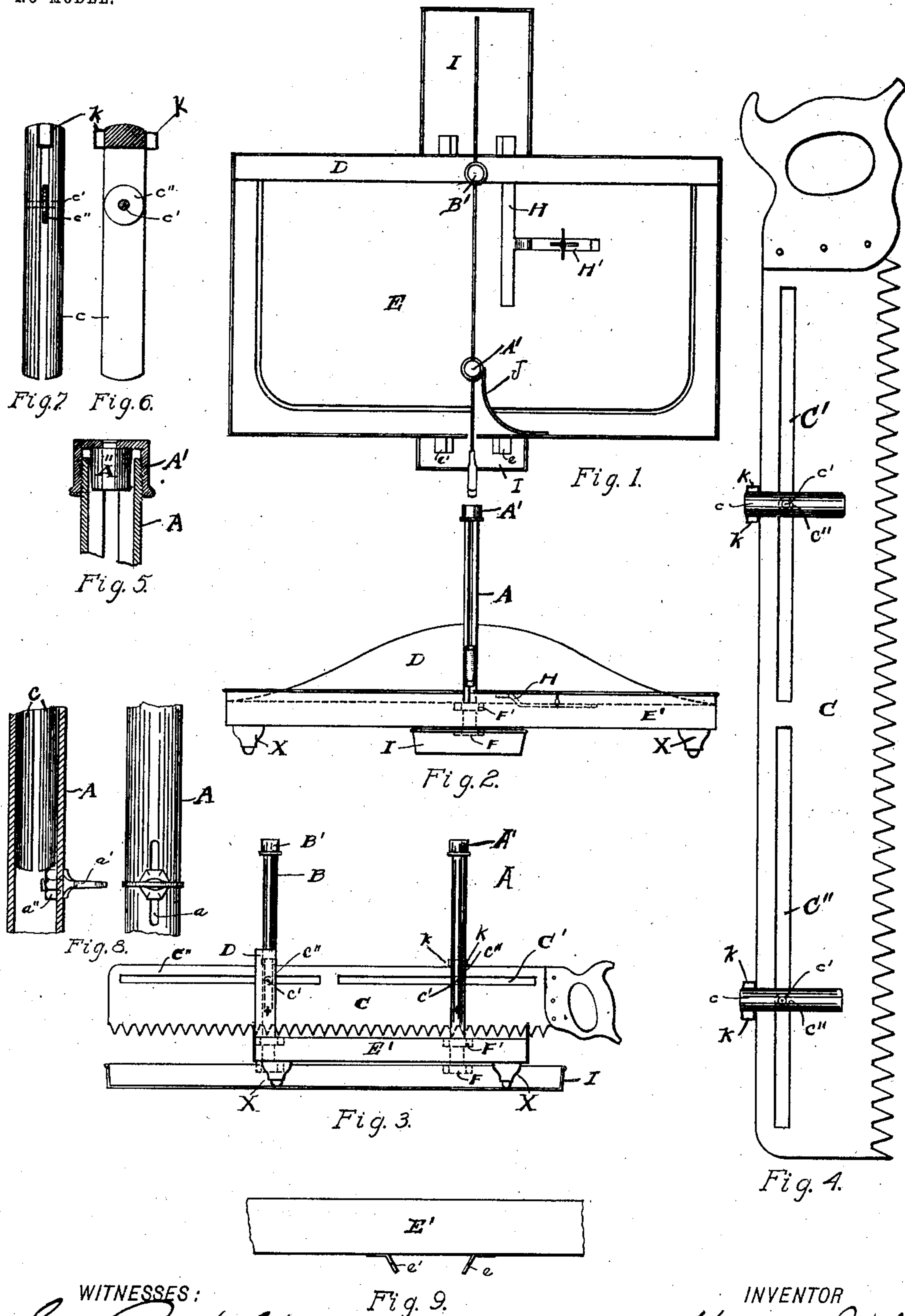


No. 753,519.

PATENTED MAR. 1, 1904.

H. REINHOLD.
ICE CUTTING MACHINE.
APPLICATION FILED OCT. 17, 1903.

NO MODEL.



WITNESSES:
Gus Reinhold
A. G. Bush

INVENTOR
Herman Reinhold
BY *A. G. Bush*
ATTORNEYS

UNITED STATES PATENT OFFICE.

HERMAN REINHOLD, OF DAVENPORT, IOWA.

ICE-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 753,519, dated March 1, 1904.

Application filed October 17, 1903. Serial No. 177,493. (No model.)

To all whom it may concern:

Be it known that I, HERMAN REINHOLD, a citizen of the United States, residing at Davenport, Scott county, Iowa, have invented a new and useful Ice-Cutting Machine, of which the following is a specification.

My invention relates to improvements in ice-cutting machines in which large cakes or blocks of ice are cut by saws into small cubes or blocks; and the general object of my invention is to provide means by which the saw is guided and supported without interference with the necessary set of the saw-teeth. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top or plan view of the machine. Fig. 2 is a side elevation. Fig. 3 is an end elevation showing the brace-block and one tube partly in section. Fig. 4 shows the saw, guide-bars, and roller-bearing in detail. Fig. 5 is a detail of the caps. Figs. 6 and 7 are details of the slotted guide-bars, Fig. 6 with one side removed. Fig. 8 is a detail of the stop-nut. Fig. 9 is a detail of flanges on bottom of bed-plate.

Similar letters refer to similar parts throughout the several views.

The table or bed-plate E, with its legs X, the longitudinal brace D, and slotted tubes A and B constitute the framework of the machine.

The bed-plate E has secured around its edge a rim or flange E' to retain the water from the melting ice. It is also provided with a pair of flanges e e' on its under surface to guide the water into the pan I. Extending through the bed-plate, near each side, are slotted tubes A B, secured to the bed-plate by lower and upper nuts F F', the upper nuts, F', being countersunk in the table E, so as to be flush with the surface of the latter beneath the slotted tubes. The portion of each tube extending above the bed-plate is slotted longitudinally on opposite sides to permit the passage of the saw-blade. The saw-blade C is provided with slots C' and C'', each of which is fitted to receive a roller or bearing c', pivoted at c' in the slots of the guide-bars c.

The upper ends of the tubes A B are thread-

ed to receive caps A' B', and each cap is provided with a tapering plug A'', which enters the end of the tube and maintains the sides of the tube at a constant distance apart. The guide-bars fit closely and slide readily in the tubes and are provided with flanges k, which fit in the slots of the tube and prevent the guide-bars from turning or binding. The slots in the guide-bars are just large enough to permit the easy passage of the saw-blade back and forth through them, while the slots in the tubes are large enough to permit the unimpeded passage of the saw-teeth when given a wide set. The tube B is braced by a longitudinal brace-block D, through which it passes. The slot in the end of the saw-blade passing through the tube B is somewhat shorter than the slot in the other end of the saw-blade and so disposed that the impact at the end of each stroke of the saw comes upon the braced tube B. The tubes A and B are each provided with an oval longitudinal slot a, through which passes a thumb-screw a', which screws into a stop nut or lug a'' on the inner side of the tube. These stop-nuts are adjustable, and their position determines the downward travel of the saw.

On the bed-plate by a thumb-screw H' is secured an adjustable T-shaped gage H, with its face portion raised to permit the passage of small particles of ice under it. The bed-plate is also provided with a channel or groove near the edge and a transverse groove across the middle to drain the water off. A guide J is provided to prevent the small blocks of ice from wedging against the rim of the bed-plate.

While primarily designed for an ice-cutting machine, it is obvious the principle of this machine is applicable to many processes requiring a guided saw with wide-set teeth.

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

1. In an ice-cutting machine, the combination with a bed-plate, of upright longitudinally-slotted tubes, passing through and secured to the bed-plate near opposite edges thereof, having caps on their upper ends, each provided with a taper plug adapted to enter the end of the tube.

2. In an ice-cutting machine, the combination with a bed-plate, of upright longitudinally-slotted tubes, passing through and secured to the bed-plate near opposite edges thereof, having caps on their upper ends, each provided with a taper plug adapted to enter the end of the tube, and a saw passing through both slotted tubes.

3. In an ice-cutting machine, the combination with a bed-plate, of upright longitudinally-slotted tubes, passing through and secured to the bed-plate near opposite edges thereof, a slotted guide-bar sliding within each tube and having flanges extending through the slots of the tube and a saw passing through both guide-bars and both slotted tubes.

4. In an ice-cutting machine, the combination with a bed-plate; of upright longitudinally-slotted tubes passing through and secured to the bed-plate near the opposite edges thereof, slotted guide-bars sliding within the tubes, and having flanges extending through the slots of the tubes and their lower ends located at a point above the saw-teeth, and a saw passing through both guide-bars and both slotted tubes.

5. In an ice-cutting machine, the combination with a bed-plate, of upright longitudinally-slotted tubes, passing through and secured to the bed-plate near opposite edges thereof, a slotted guide-bar sliding within each tube and having flanges extending through the slots of the tube and a bearing located within the guard-bar and a saw passing through both guide-bars and both slotted tubes, and having longitudinal slots, each receiving a bearing.

6. In an ice-cutting machine, the combination with a bed-plate, of upright longitudinally-slotted tubes, passing through and secured to the bed-plate near opposite edges thereof, a slotted guide-bar sliding within each

tube and having flanges extending through the slots of the tube and a bearing located within the guide-bars, a saw passing through both guide-bars and both slotted tubes, having longitudinal slots, each receiving a bearing and a stop-nut adjustably secured on the inside of the tube.

7. In an ice-cutting machine the combination with a table or bed-plate of an upright longitudinally-slotted tube secured therein, a slotted guide-bar sliding within the tube having flanges fitting the slots of the tube, a roller pivoted in the slot of the guide-bar, a saw passing through the slots of the tube and guide-bar and receiving the roller in a longitudinal slot near its upper edge, a stop-nut secured on the inside of the tube, a cap fitting the upper end of the tube having a tapering plug adapted to enter the end of the tube, and an adjustable raised gage secured to the bed-plate.

8. In an ice-cutting machine, the combination with a table or bed, of a pair of longitudinally-slotted tubes secured in the bed-plate at right angles thereto, a pair of slotted guide-bars slidably mounted within the tubes, flanged to fit the tube-slots, each provided with a roller pivoted in its respective slot, a saw passing through both tubes and guide-bars having a pair of longitudinally-disposed slots each receiving one of the guide-bar rollers and working thereon, stop-nuts secured inside the tubes, caps with taper plugs adapted to enter the ends of the tubes at the top, an adjustable raised gage secured to the bed-plate.

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

HERMAN REINHOLD.

Witnesses:

GUS. REINHOLD,

A. G. BUSH.