

No. 832,582.

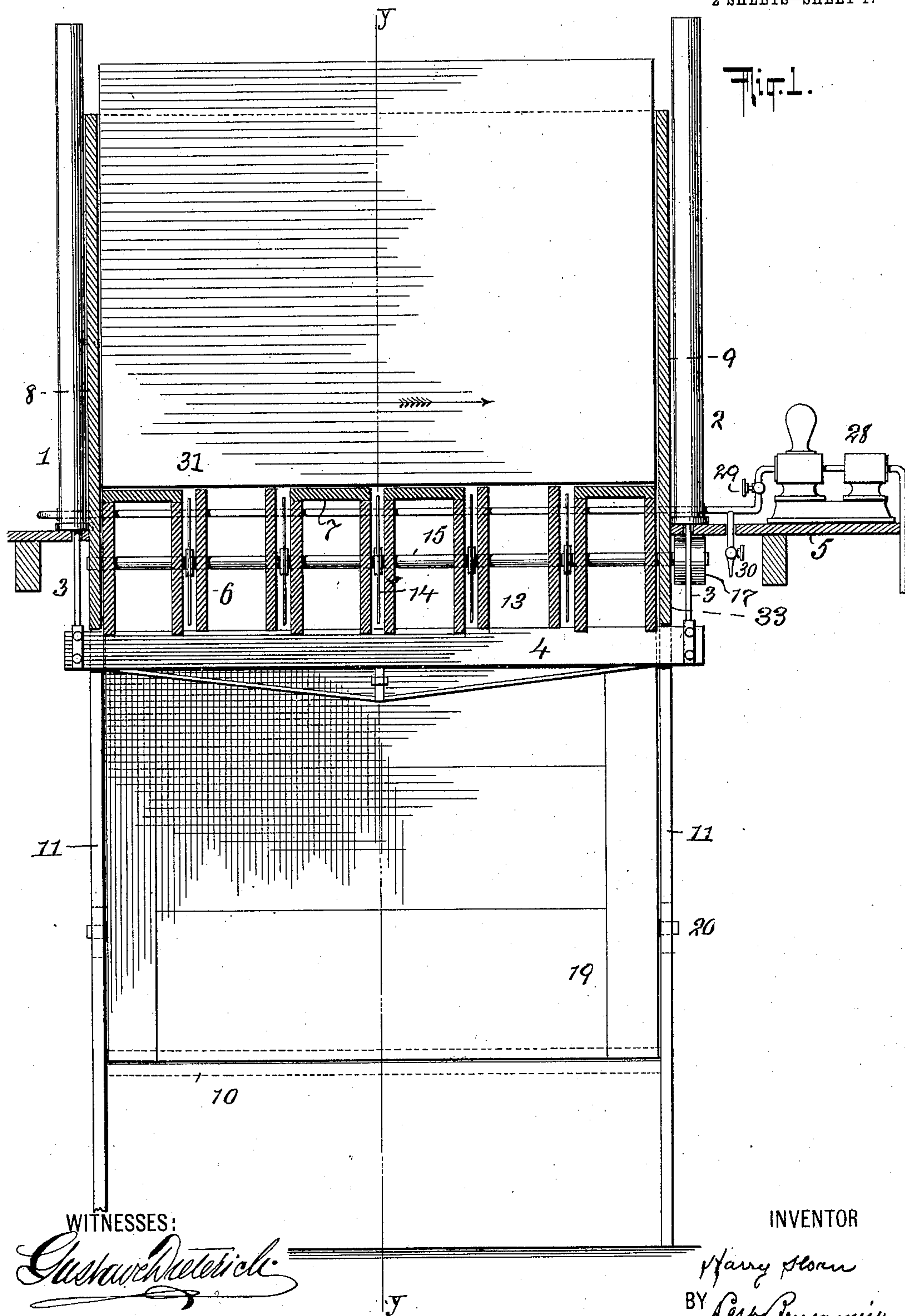
PATENTED OCT. 2, 1906.

H. SLOAN. .

MACHINE FOR SAWING PLATE ICE.

APPLICATION FILED SEPT. 23, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

Gustav Friedrich.
Edwin N. Britten.

INVENTOR

BY Harry Sloan
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ATTORNEY

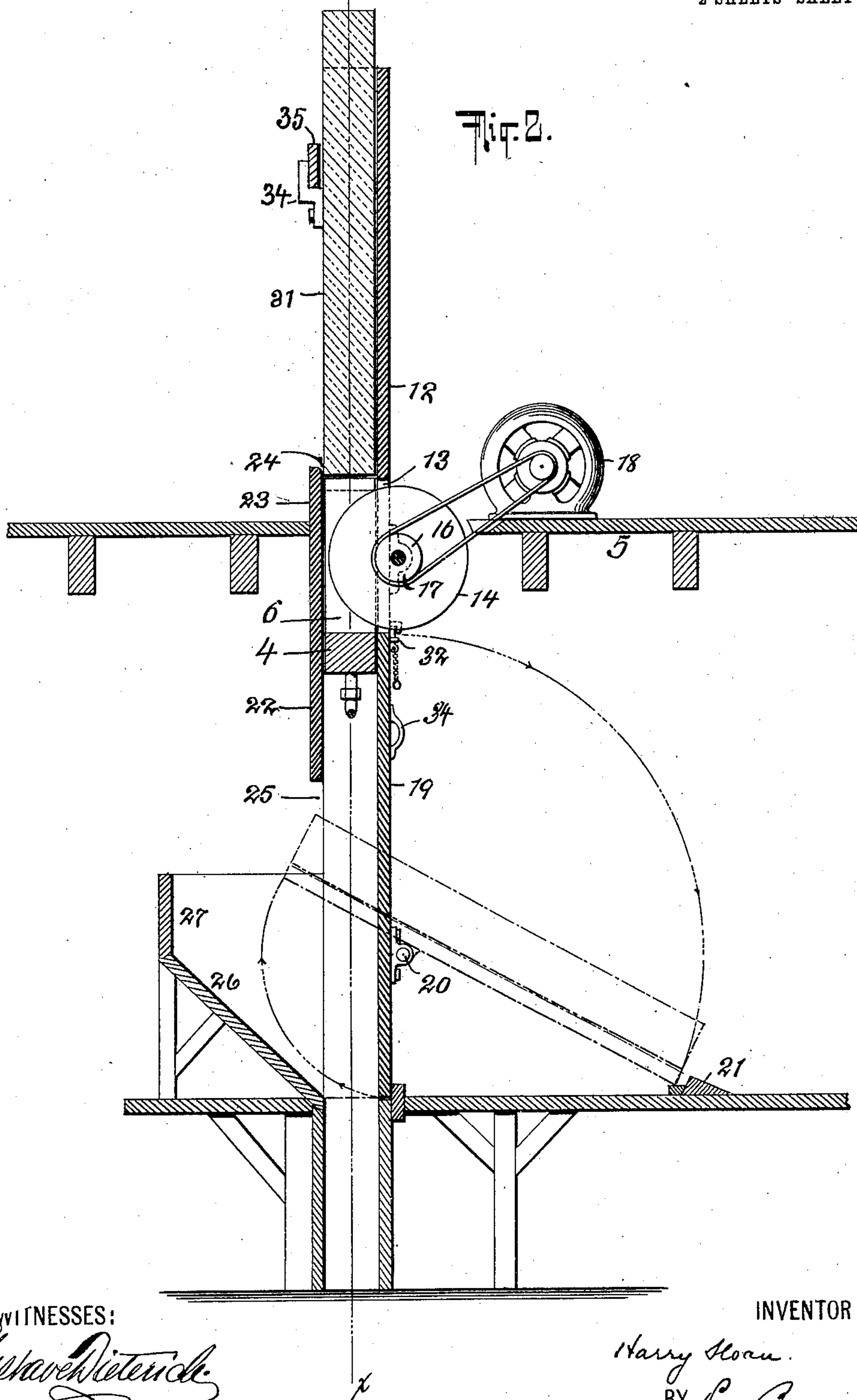
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Gustav Dietrich.
Edwin A. Dietrich.

INVENTOR

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UNITED STATES PATENT OFFICE.

HARRY SLOAN, OF NEW YORK, N. Y.

MACHINE FOR SAWING PLATE-ICE.

No. 832,582.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed September 23, 1905. Serial No. 279,799.

To all whom it may concern:

Be it known that I, HARRY SLOAN, of the city, county, and State of New York, have invented a new and useful Improvement in Machines for Sawing Plate-Ice, of which the following is a specification.

The invention relates to sawing plate-ice into strips or blocks and delivering the same.

The invention consists in an ice-sawing machine, having in combination a gang of rotary saws, a vertically-moving support for the ice-cake, and means for controlling the descent of said support to feed said cake to said saws; also, in combination with the vertically-gravitating carriage supporting the ice-cake, of means for tilting said ice-cake in said carriage after division by the saw and means for receiving and delivering said cake from said carriage; also, in the construction and arrangement of the ice-sawing machine, as more particularly hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical section on the line *x x*, Fig. 2; and Fig. 2 is a vertical section on the line *y y* of Fig. 1.

Similar numbers of reference indicate like parts.

1 and 2 are vertical hydraulic cylinders of the usual construction, having attached to their pistons the rods 3, which are connected to opposite ends of and so support the cross-beam 4. The cylinders, as here shown, may rest upon a floor 5 of the building in which the apparatus is installed, and the rods 3 may extend down through said floor. On the cross-beam 4 are any desired number of vertical supports 6, and these, or any number of them, may be connected in pairs by upper cross-pieces 7, as shown in Fig. 1. The upper surfaces of the supports and cross-pieces 7 are on a common level, and when the beam 4 is in its highest position they extend through an opening in floor 5, and preferably above said floor. The beam 4, with supports 6, is a carriage for the ice-cake to be divided, as will be hereinafter explained. Within the said opening is a frame 33, inclosing said carriage. The two side members 8-9 of said frame extend downwardly to the floor 10 below, and beneath this floor, if desired. They are slotted at 11 to allow the ends of the beam 4 to pass through them. The front member 12 extends between the side members and has an opening 13 to receive a gang of circular saws 14. These saws are sup-

ported on the shaft 15, journaled in bearings 16, which may be on the front edges of the frame members 8-9. Said shaft at one end carries a pulley 17, driven by a belt from the electric motor 18. The saws 14 are disposed in the opening in the floor 5 and protrude into the spaces between the pairs of supports 6. Below the opening 13 in member 12 there is a door 19, pivoted at its vertical edges in bearings 20 on the side members 8-9. The pivot-bearings 20 are located at such a distance above the lower edge of the door as that when the door is swung downwardly on them (dotted lines, Fig. 2) the said lower edge will extend rearwardly beyond the side members 8-9. The upper edge of the door then rests upon the floor 10 or upon a support 21, suitably beveled to form a continuation of the inclined rear, and now upper, surface of the door.

The rear member 22 of the frame extends upwardly above floor 5, as shown at 23, and also rises for a short distance above the upper edges or surfaces of the supports 6 when said supports are carried by the lifting of beam 4 to their highest position. The inner side of the top of this member is rounded, as shown at 24. There is also an opening 25 in member 22 to receive the lower part of door 19 when said door is swung downwardly, as represented in Fig. 2. On the lower floor 10 and in rear of opening 25 is a fixed incline 26, surmounted by a straight wall 27.

In order to arrange the apparatus for operation, the beam 4 is raised by the hydraulic cylinders to its highest position, as shown in Fig. 1. This is done by means of the pump 28, which delivers water into said cylinders beneath their pistons in the usual way, the inlet-valve 29 then being open and the escape-valve 30 being closed. The cake 31 of plate-ice is then transported to the apparatus and placed vertically, with its lower edge resting on the supports 6. It is then inclosed on three sides by the side members 8-9 and the front member 12 of the frame. The rounded edge 24 of the rear member 22 allows it to be readily adjusted in place, and the projection of said member 22 above the upper surface of supports 6 prevents any rearward slipping of the cake out of position. The saws 14 being now set in rotation, the cylinder inlet-valve 29 is closed and the outlet-valve 30 opened, the pump being stopped. Water from the cylinders gradually escapes past valve 30, and the beam 4 descends by

gravity, the whole weight of the cake now forcing it downwardly upon the saws, which divide it into a number of vertical strips. When the lower edge of the cake reaches the level of the floor 10, the entire piece has become cut up and is ready for delivery. To this end the door 19 is swung forward into the position shown in Fig. 2. The lower edge of the door beneath the pivot strikes the lower part of the now-divided ice-cake and forces it rearwardly. The inclined wall 26 prevents the cake from sliding outwardly and keeps it on the door, so that when the door takes the position of Fig. 2 the ice is wholly carried on the upper side of said door and slides therefrom to floor 10, whence the divided strips are removed, as described. A catch or bolt 32 is provided to hold the door 19 closed during the descent of the cake, and the handle 34 on the front side of said door allows the attendant conveniently to tilt it. As soon as the divided cake is removed the door is closed and the beam 4 brought back to its highest position, ready to receive another cake.

In order to prevent any possibility of the ice-cake falling rearward when put in its carriage, I provide two brackets, one of which is shown at 34, Fig. 2, preferably on the rear edges of the slide members 8 9, which receive a loose bar 35. This bar is put in place in the brackets after the ice-cake has been set in the carriage.

I claim—

1. In an ice-sawing machine, a rotary saw, a vertically-gravitating carriage for the ice-cake whereby said cake is supported and fed to said saw, means for tilting said ice-cake in said carriage after division thereof by said saw and means for receiving and delivering said cake from said carriage.

2. In an ice-sawing machine, in combination with an inclosing frame, a rotary saw

entering the same and means for feeding vertically the ice-cake by gravity in said frame and to said saw, an outwardly-opening door supported on horizontal pivots below said saw and on one side of said frame: the said door being constructed when opened to bear upon and tilt the divided ice-cake and to receive said cake upon its inclined surface.

3. In an ice-sawing machine, in combination with a vertically-gravitating carriage and supports thereon for the ice-cake having intervals between them, a gang of rotary saws respectively entering said intervals.

4. In an ice-sawing machine, in combination with a vertically-gravitating carriage, supports thereon for the ice-cake having intervals between them and means for guiding said carriage, a gang of rotary saws respectively entering said intervals.

5. In an ice-sawing machine, an inclosing frame, a vertically-movable carriage therein, supports on said carriage for the ice-cake having intervals between them, and a gang of rotary saws entering the space inclosed by said frame and the intervals between said supports.

6. In an ice-sawing machine, an inclosing frame, a vertically-movable carriage therein, supports on said carriage for the ice-cake having intervals between them, a gang of rotary saws entering the space inclosed by said frame and the intervals between said supports, and a swinging door pivoted in said frame below said saws and constructed to receive the ice-cake after division by said saws.

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

HARRY SLOAN.

Witnesses:

WM. H. SIEGMAN,
G. H. SHUMAN.