(No Model.)

C. G. SCHMIDT.

ICE HOIST.

No. 553,544. Patented Jan. 28, 1896.

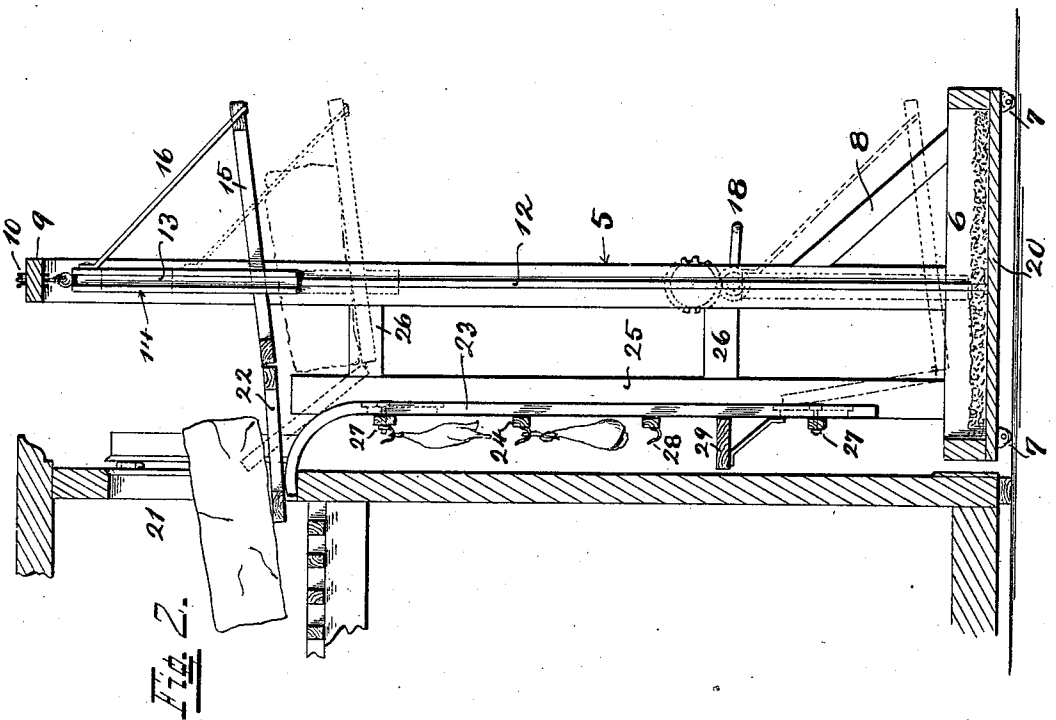

Fig. 2.

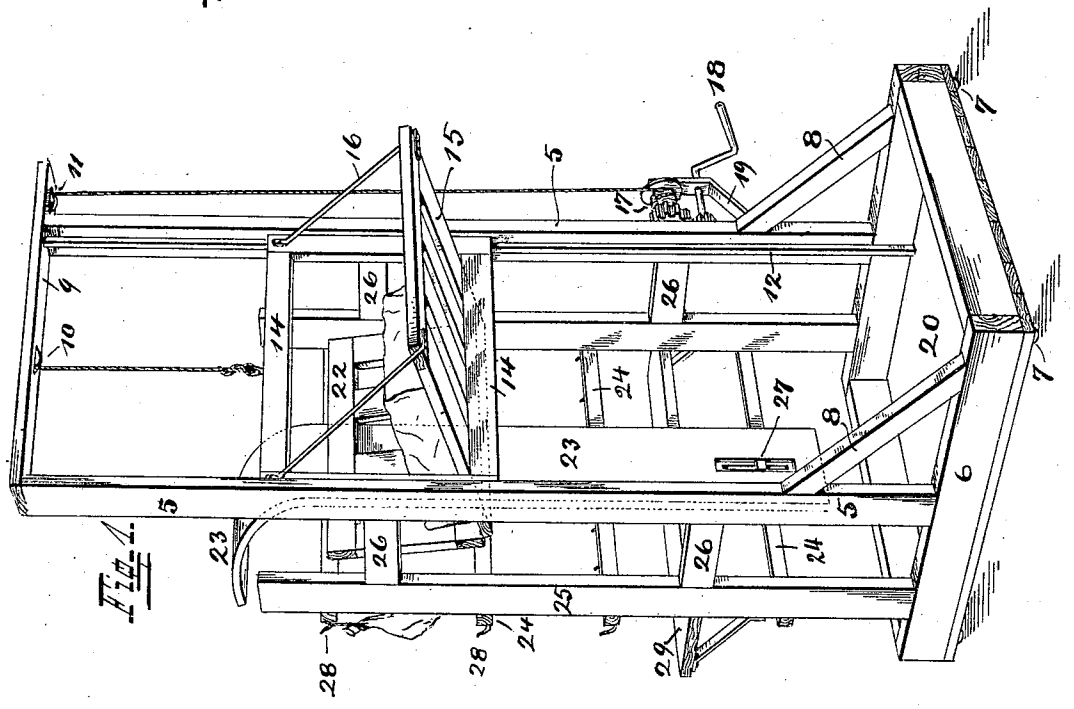

Fig. 1.

Attest
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UNITED STATES PATENT OFFICE.

CHARLES G. SCHMIDT, OF CINCINNATI, OHIO.

ICE-HOIST.

SPECIFICATION forming part of Letters Patent No. 553,544, dated January 28, 1896.

Application filed February 8, 1895. Serial No. 537,702. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. SCHMIDT, a citizen of the United States, and a resident of Cincinnati, Hamilton county, State of Ohio, have invented a new and useful Ice-Hoist; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, attention being called to the accompanying drawings, with the reference-numerals marked thereon, which form a part of this specification.

This invention relates to an implement for stores, particularly for such where ice-boxes are used—like meat-stores, for instance—the general object being to provide a device by which to lift the ice conveniently to its place within the ice-box or refrigerator when the same is to be charged or replenished with ice.

My invention consists of a device which is so constructed that the ice is caused to be automatically discharged into the previously-opened ice-chamber after being elevated to the proper height. The device is further constructed in such a manner that parts of its structure form and are used to support a ladder whereby access may be had to the elevated ice-chamber without requiring the use of an additional separate ladder. The platform is vertically moving, and its supporting and guiding parts are also vertical, whereby less floor-space is required than if the structure were inclined, and the whole is made portable, so that the device may be readily moved out of the way after use, both of which features are important items in a device to be used in the places mentioned. It may also serve as a support for racks on which to display and support merchandise, (meats,) whereby it becomes serviceable in a general way and useful at all times, while in its capacity as ice-elevator its service is only required at intervals.

In the following specification, and particularly pointed out in the claim at the end thereof, is found a full description of my invention, its operation, parts, and construction, the latter being also illustrated in the accompanying drawings, in which—

Figure 1 shows in a perspective view the ice-hoist with the loaded platform partly elevated, parts of its frame forming and supporting a ladder for access to the elevated ice-chamber, showing also the adaptation of the structure for supporting meat-racks. Fig. 2 shows the same in a sectional side elevation in position alongside of a refrigerator and in the act of discharging a block of ice thereinto.

5 are two upright guiding-standards rising opposite each other from a base-frame 6, preferably on rollers 7, and held to their positions thereon by braces 8. On top these standards are connected by a cross-beam 9, which serves also as a means on which to support pulleys 10 and 11. The inner—that is, opposite—sides of the standards are provided with feathers 12 to occupy grooves 13 in the upright rails of a frame 14, the lower cross-rail of which partly supports the inclined hoisting-platform 15, the necessary additional support for it being furnished by two rods 16 passing from the outer end of the platform to the upper part of frame 14. The manner of guiding this frame 14 on standards 5 may be reversed—that is to say, the grooves may be in the latter and the feathers on the former. For the purpose of hoisting the platform a rope is connected to the top rail of frame 14, from which it passes over pulleys 10 and 11 to the drum 17 of a customary winding mechanism operated by a crank 18 and supported in a bracket 19, which is secured to the side of one of the standards. The lower part of frame 6 is closed by a floor 20, forming thereby a box, which may be filled with sawdust to catch drip-water from the ice and prevent the same from running over the floor. The ice-block, after being hoisted to the proper height, is enabled to enter the ice-chamber of the refrigerator through the door-opening 21 of the former by means of a drop-bridge 22 hinged to the inner lower end of platform 15, and against which, when raised, the ice rests and bears by reason of the declivity of the platform. This drop-bridge is held up, to prevent the ice from sliding off of the platform 15, by a track 23, against which it lies by reason of its rearwardly-inclined position, as well as by the weight of the ice resting against it. For these reasons it also follows said track as the elevator ascends until the upper outwardly-curved end of the track is reached, which end it also follows until it is

about in line with platform 15, when it remains no longer a means to retain the ice on the latter, which then starts to slide and shoots through the previously-opened door-opening 21 of the ice-chamber into the same, the upper end of track 23 being so adjusted as to reach up to the lower edge of said door-opening and partly into the same. The now unburdened platform descends by its own weight, under proper operation of the winding mechanism, the drop-bridge assuming its normal position again, as a matter of course, by following the track. This latter is held in position by cross-rails 24, secured to uprights 25, also resting on base-frame 6, and forming with standards 5, to which they connect by braces 26, the rigid side frames of the structure. It is not necessary that track 23 be actually connected to all of these cross-rails, connection at two points being sufficient, and it is preferable to have such connection adjustable to enable the upper end of the track to meet properly the lower edge of the door-opening in the ice-box. The connection, where it is made, is by bolts 27, passing through rails 24, their countersunk heads occupying recessed slots in track 23. This latter, as well as most parts of the structure, wherever suitable, are made preferably of wood.

Rails 24, which hold track 23 in its upright position, serve also as ladder-steps to permit convenient access to the ice-chamber of the refrigerator for the purpose of arranging the ice therein after some blocks have been delivered into it and to make room for the succeeding ones. Between times, when not used for the purpose of hoisting ice, the structure is rolled aside and to a position to make rails 24 accessible, when they may be used to suspend merchandise thereon, or meats when used in a meat-store, for which purpose they are then provided with convenient hooks 28.

29 is a stop projecting from the rear side of the structure, and by its contact with the ice-box determines the proper position of the hoist. By providing such stop at proper height a shelf for any convenient use is obtained.

As an inferior substitute a modified construction may be used, in which the drop-bridge 22 is entirely omitted, the load or ice-block resting direct against the upright track 23, which in this case is put up closer to the lower edge of the inclined platform. When the latter has ascended to the upper end of the track, the latter becomes incapable of retaining the load any longer on the platform, which by reason of the obliquity of the latter slides off therefrom.

It is obvious that this elevator or hoist is not necessarily limited for lifting ice, but may be used wherever available.

Having described my invention, I claim as new—

In an ice-hoist, the combination of an inclined, vertically moving platform accessible from the front and adapted to support ice in blocks, vertical guides and lifting mechanism therefor, a drop-bridge hinged to the lower rear-end of the platform to bridge over the space between it and the place where the load is to be deposited, an upright track to hold said drop-bridge in a raised position with reference to the platform, to prevent the load thereon from sliding off before arrived at the proper height where said track terminates to permit the drop-bridge to lower to a position which is substantially in line with and forms then a continuation of the platform, bridging over the space between the latter and the ice-box.

In testimony whereof I hereunto set my hand in presence of two witnesses.

CHARLES G. SCHMIDT.

Witnesses:
C. SPENGEL,
C. FIN.