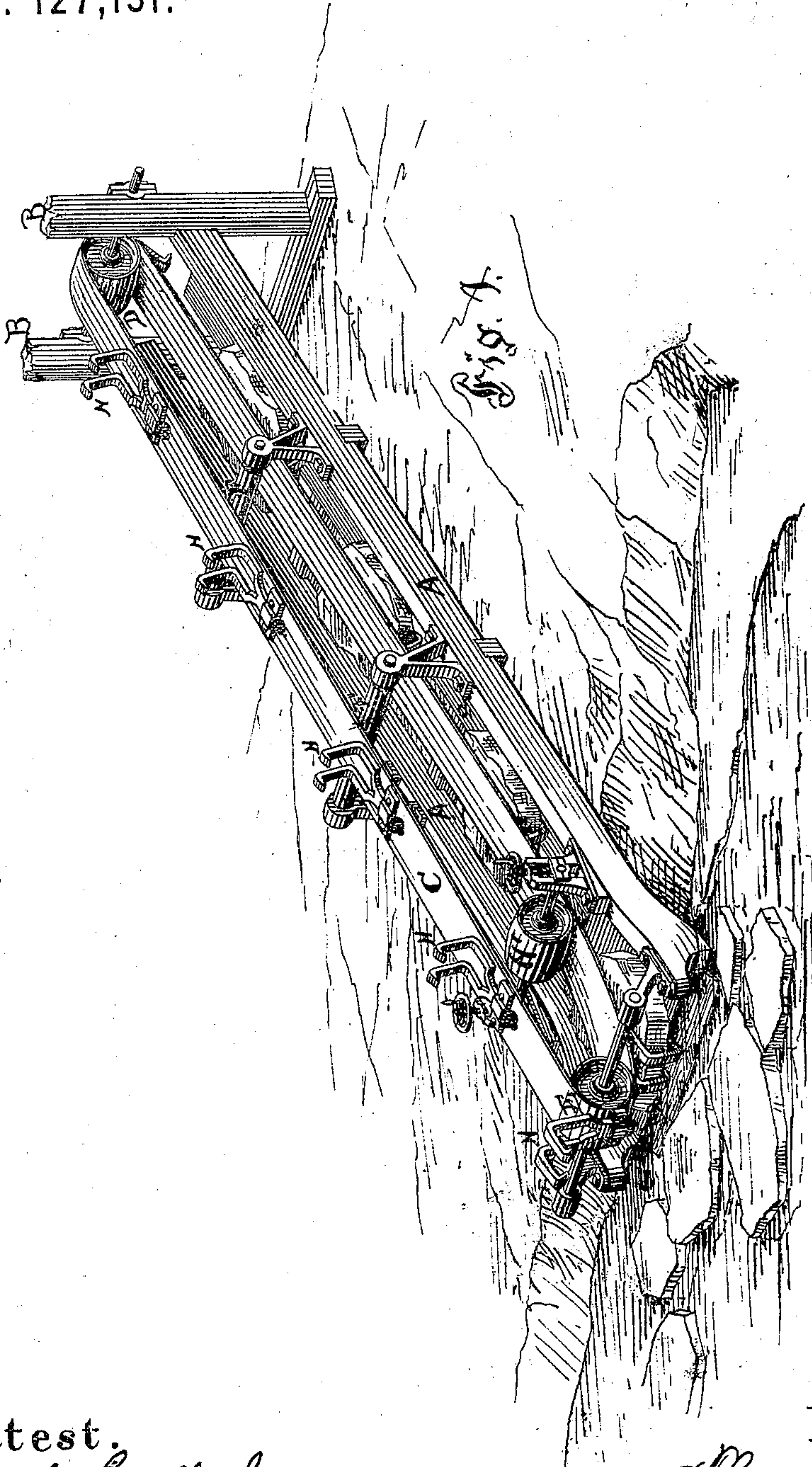


T. C. WOLKING.

Improvement in Ice-Elevators.

No. 127,131.

Patented May 21, 1872.



Attest.

E. M. Gallaher.
S. M. Pool

Inventor.

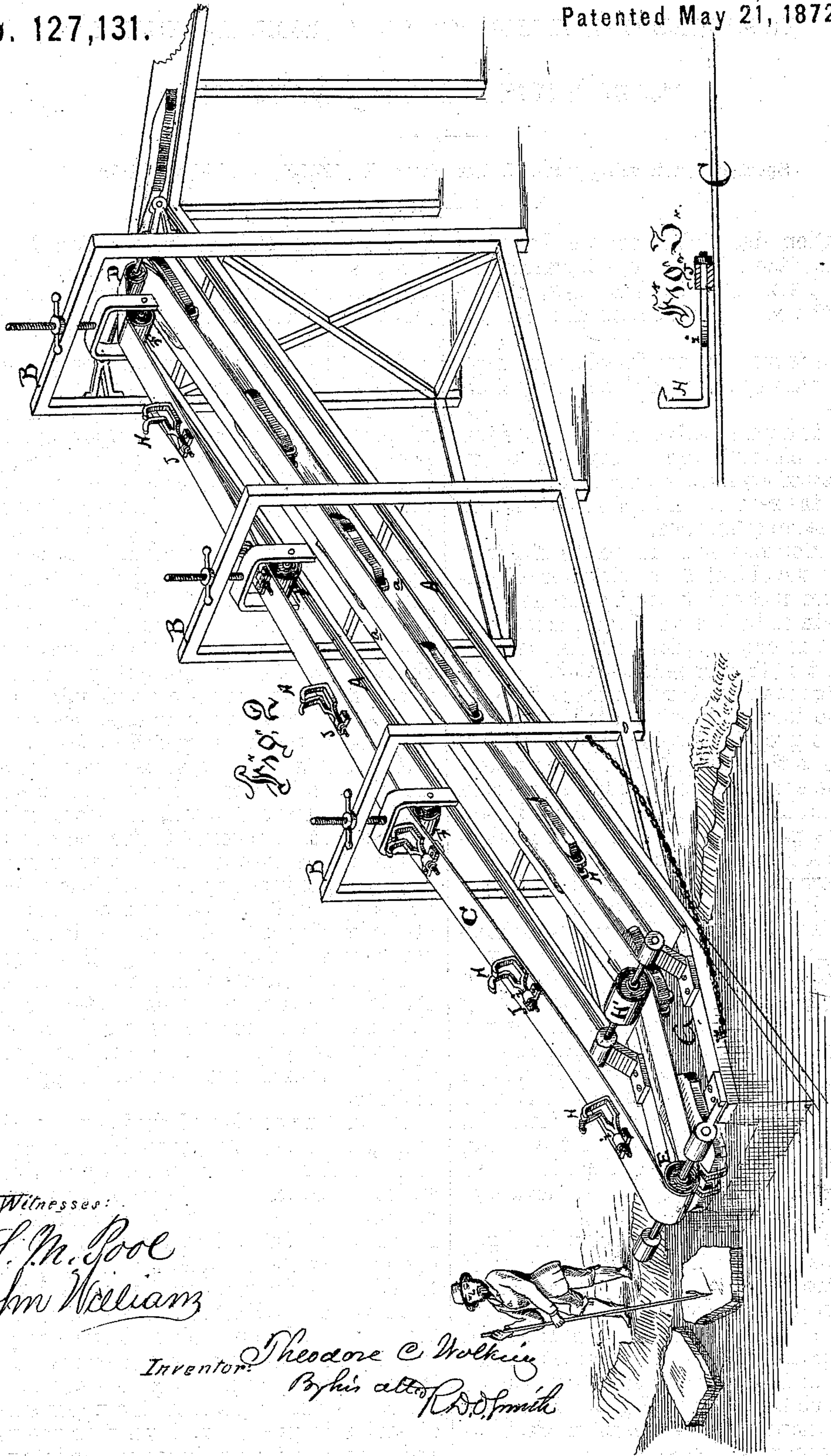
Theodore C. Wolking
By his attorney
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Witnesses:

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UNITED STATES PATENT OFFICE.

THEODORE C. WOLKING, OF COVINGTON, KENTUCKY.

IMPROVEMENT IN ICE-ELEVATORS.

Specification forming part of Letters Patent No. 127,131, dated May 21, 1872.

Specification describing certain Improvements in Inclined-Plane Ice-Elevators, invented by THEODORE C. WOLKING, of Covington, in the county of Kenton and State of Kentucky.

Reference is made to the drawing accompanying and making a part of this specification, in which—

Figure 1 is a perspective view of my apparatus in its simplest form. Fig. 2 is a perspective view of my apparatus constructed and adapted to the requirements of those who harvest ice in large quantities.

My invention relates to that class of elevators wherein the object to be elevated is propelled up an inclined track by means of an endless chain or belt moved by some suitable power; and it consists, first, in the peculiar arrangement of the propelling-belt above the object being moved; second, in the adjustable truck at the lower end of the inclined plane, whereby the propelling-belt may be properly adjusted as to the existing level of the water; third, in the engaging-hooks and the method of their attachment; fourth, in the adjustability of the propelling-belt as to the thickness of the ice to be moved.

That others may fully understand my invention, I will describe it particularly.

It consists in the main of a frame-work extending from the water's edge to the brow of the bank or place of deposit. This frame-work forms or supports a trough or guide-way of dimensions suitable to receive and permit the passage of objects of the required size. This frame-work may, as shown in Fig. 1, be at least so far portable that it may be shifted in position, as may be necessary or desirable, to adjust it to the existing level of the water, so that the blocks of ice may float into position to be properly seized by the elevating-hooks.

The form of my elevator shown in Fig. 1 would not be adapted to the transportation of large quantities of ice, but will be exceedingly useful to those who have occasion to gather only a limited quantity. For the purposes of those who gather ice for the market a more substantial and permanent structure will be required, such as shown in Fig. 2. The principles of construction and operation are, however, the same in both cases.

The frame-work before mentioned may be composed of the inclined beams A supported upon bents or trestles B B, and said frame-work and trestles may be extended to any required distance or height. The two beams A form the sides of a trough or guide-way, along which the blocks of ice are to be propelled. The bottom of said trough is formed of parallel strips *a a* laid upon transverse floor-pieces; and I find it highly advantageous to lay, along the centers of two or more of said strips, tracks composed of rods of half-round iron, because the ice slides upon said rods with much less friction and with much less wear than upon wood. The propelling chain or belt C is mounted upon pulleys D E, the one at the upper end of frame-work A and the other at the lower end of the same. The motive power should be applied to the pulley D at the upper end of the frame-work, though the belt may be driven (with a greater resistance) if the motive power is applied to the pulley E. The belt C is mounted so as to run above the trough or guide-way and above the ice which is being transported, and therefore said belt is preserved from contact with the water, and can never become obstructed by accumulations of ice or be injured by wet. This is a very important provision, because it renders it possible to employ a leather belt, which on many accounts is preferable to any other material. The upper or descending portion of the belt C should be supported upon friction-rollers F placed at such intervals as may be necessary to prevent any contact between those portions of the belt which are moving in opposite directions.

In the construction of my invention shown in Fig. 1 the adjustment to the existing level of the water is accomplished by moving the entire structure. This is manifestly impossible when the structure is very large or permanent, and I therefore mount the pulley E upon a movable truck, G, which is constructed to slide up or down along the frame A, as may be required to adjust it to the level of the water. The truck G is made with two side pieces and a floor between them corresponding with the timbers A and the guide-way between them. When in position the upper surfaces of said side pieces are level with the water, and they thus form a throat or bay into which

the cakes of ice may float; and the belt C extends over this throat, as shown in Fig. 2, so that the propelling-hooks H will be sure to engage with the cakes of ice. I think it advantageous to load the truck G so that it will not only sink to the required depth into the water, but will also give the required tension to the belt. When the water rises the truck may be drawn up by any convenient arrangement of windlass or other power. The pulleys F, or a portion of them, may be made adjustable up or down so as to adjust the tension of the belt when the truck G is shifted in position. One method of adjustment is shown in Fig. 2. It is necessary that the belt C should move over the surface of the truck G nearly parallel with the surface of the water, and therefore the guide-roller H' is placed a little in advance of the angle at the junction of the truck G and guideway in A. It is advantageous to make this roller adjustable up and down, as shown in Fig. 1, so that the varying thickness of the ice one season or part of the season from another may be provided for. The propelling-hooks H are formed with two or more prongs, bent and pointed as shown, and attached to a shank, *i*. I prefer to attach these hooks not directly to the belt C, but to clips J, by means of screw-nuts, so that the hooks may be easily

detached if for any purpose that may be desirable. The clips J may be secured to the belt by rivets or other means, as may be preferred. (See Fig. 3.) When that portion of the belt C to which the hook H is attached passes around the pulley E said hook moves around said pulley with its shank tangential to the periphery of said pulley, and thereby the pointed ends of the hook are caused to move in a much larger circle than the clips J, and insure their engagement with any block of ice which may be within or only partially within the throat of the truck G. (See Fig. 1.)

Having described my invention, what I claim as new is—

1. In combination with the inclined plane A and endless belt C, provided with hooks H, the adjustable truck G and adjustable roller H', for the purpose set forth.

2. The removable hook H, constructed with the shank *i*, as described, and attached to the belt C by means of the clips J and screw-nuts.

3. The adjustable roller H', combined with the belt C and inclined plane A, for the purpose set forth.

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Witnesses:

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