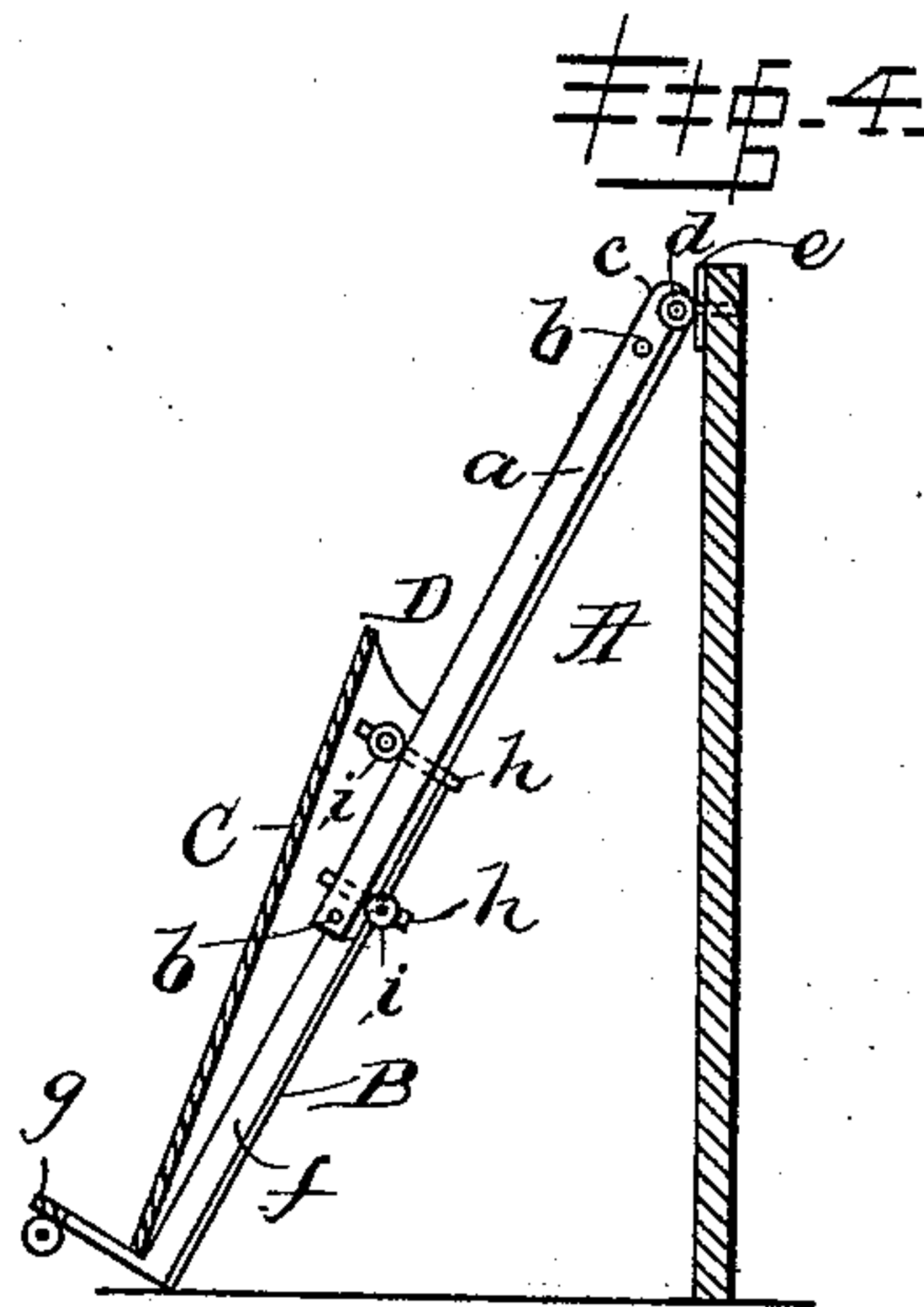
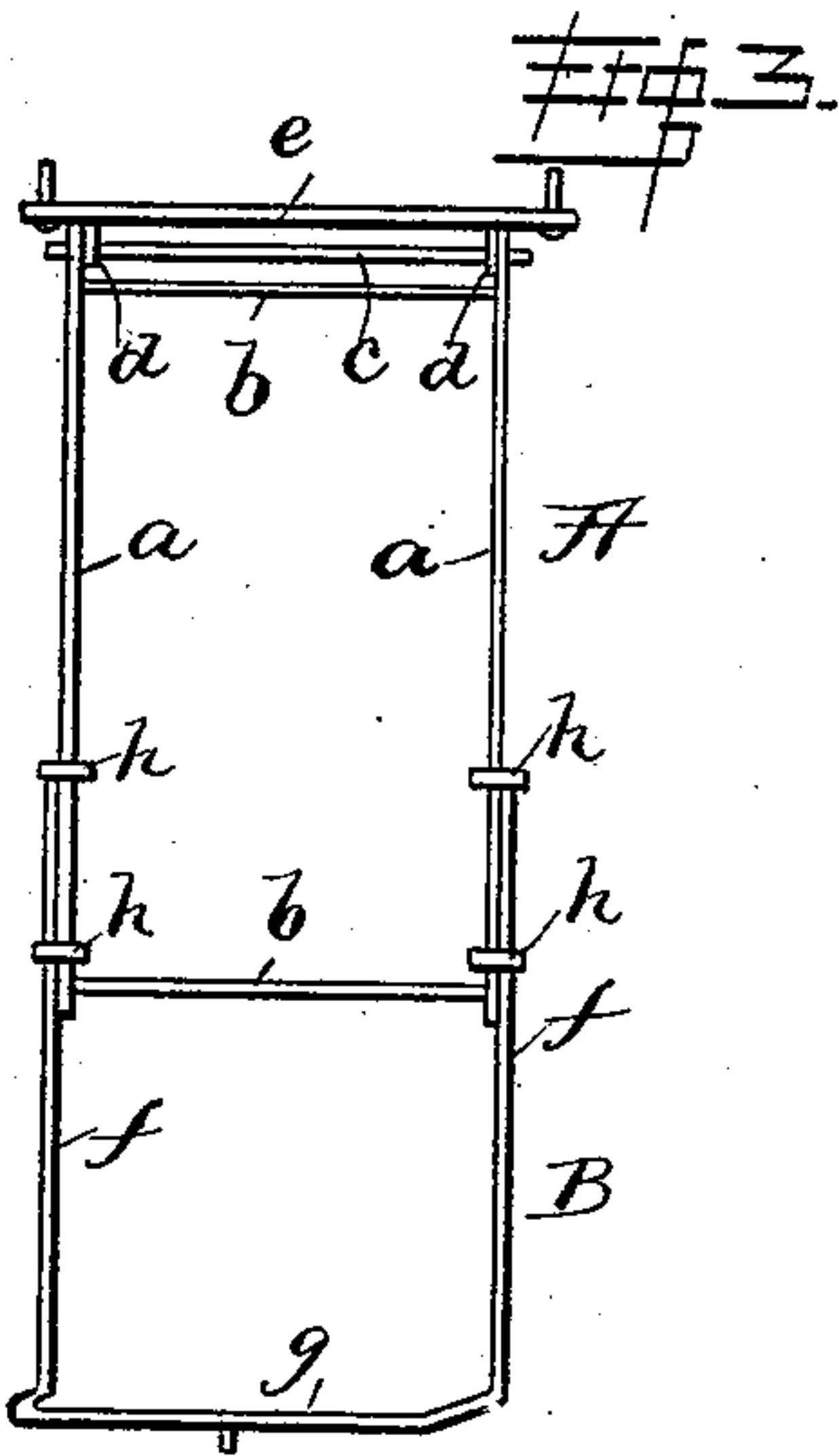
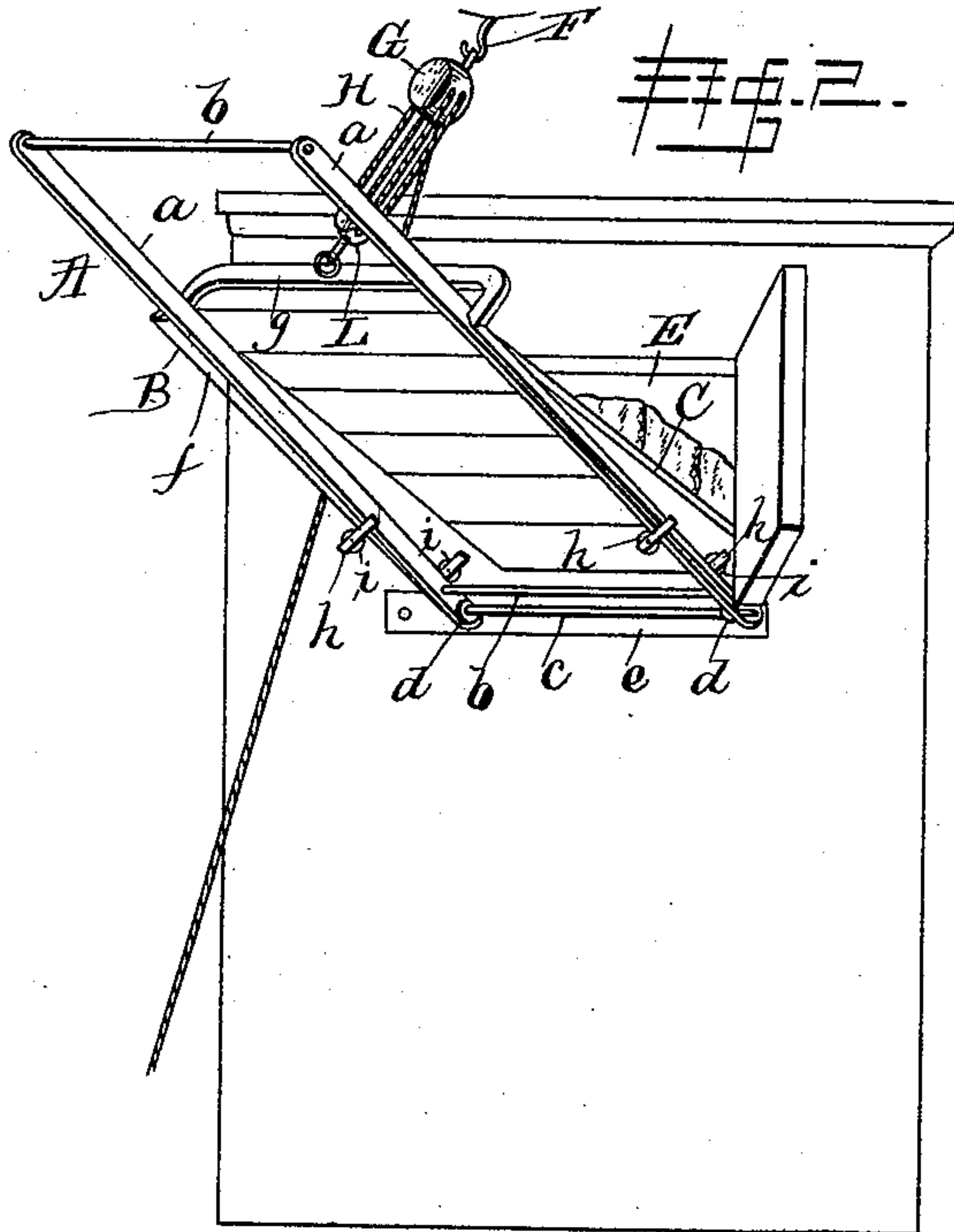
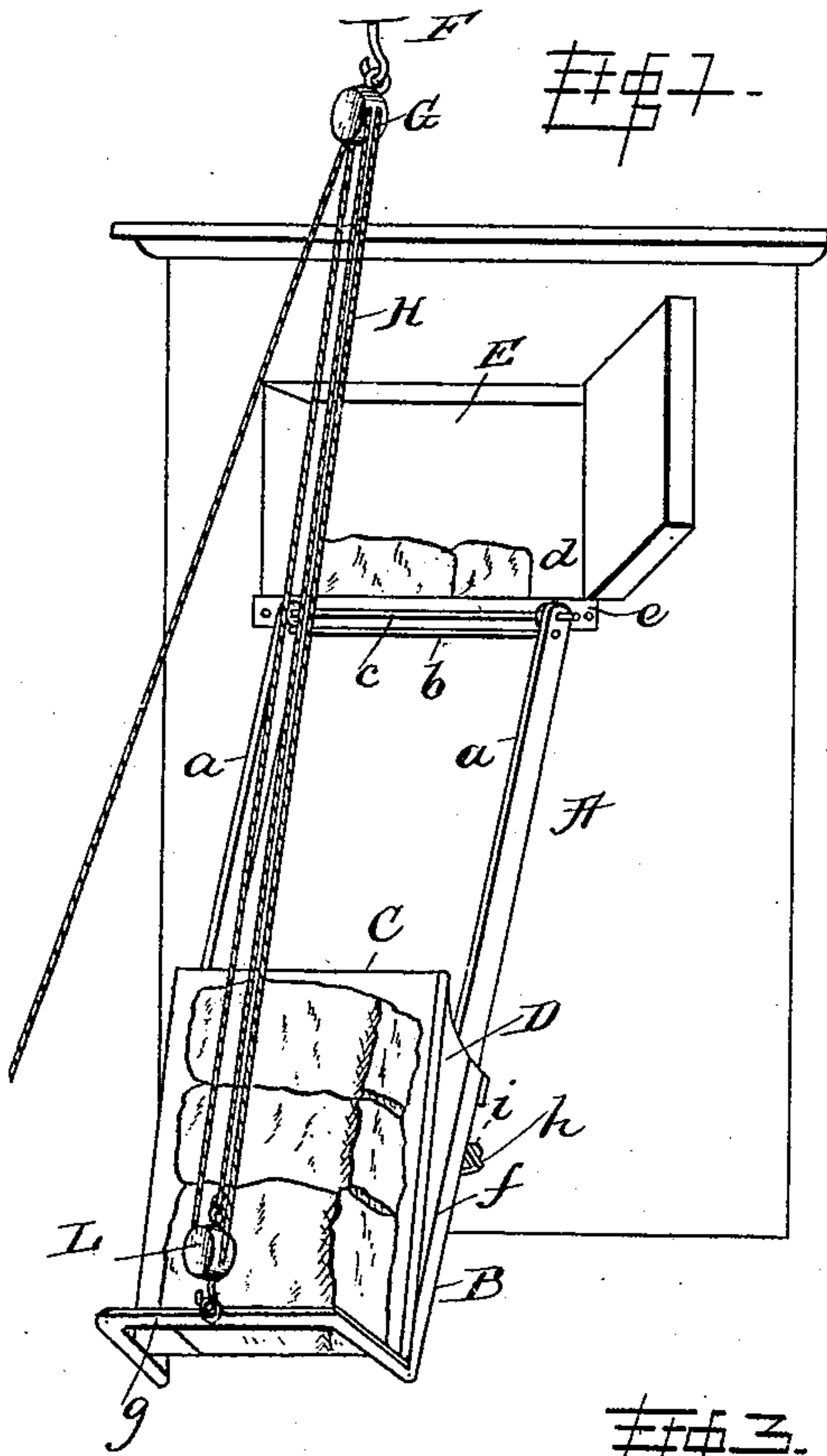


(No Model.)

J. J. STEIN.
ICE ELEVATOR.

No. 464,259.

Patented Dec. 1, 1891.



WITNESSES

W. E. Bomen
Alex. Scott

INVENTOR

John J. Stein,
by W. A. Redmond
Attorney.

UNITED STATES PATENT OFFICE.

JOHN J. STEIN, OF LEWISBURG, PENNSYLVANIA.

ICE-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 464,259, dated December 1, 1891.

Application filed April 13, 1891. Serial No. 388,808. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. STEIN, a citizen of the United States, residing at Lewisburg, in the county of Union and State of Pennsylvania, have invented certain new and useful Improvements in Ice-Elevators, of which the following is a specification.

This invention relates, generally, to devices for elevating bulky and heavy articles, and particularly to devices for raising ice to the elevated doors of ice-houses, refrigerators, and the like from the ground or from vehicles; and it has for its object to provide a simple and durable device of the kind named of few parts, easily operated, and comparatively inexpensive; and it consists in the construction and arrangement of the parts and the combinations thereof, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of the device laden with ice and in operative position at the elevated door of a refrigerator or ice-house; Fig. 2, a like view showing the device elevated and in the act of delivering the ice; Fig. 3, a plan view of the frame of the device, and Fig. 4 a vertical section of the same.

Similar letters refer to similar parts throughout the several views.

A represents the upper and B the lower sections of the frame, the latter being adapted to slide along the sides of the former, said upper frame A consisting of two parallel bars *a*, connected together at their ends by the cross-bars *b*, and said bars *a* having their upper ends formed with an opening for the insertion therethrough of a rod *c*, which is also passed through the perforated ears or lugs *d*, secured to the sill of the ice-house or refrigerator doorway or to a plate *e*, which is bolted to the sill, thus pivoting the bars *a* and adapting the frame to be swung on the rod *c* to raise or lower its outer end.

The lower or slidable section B of the movable frame consists of two parallel bars *f*, bent up at right angles at one end and connected by a cross-piece *g*, and said section is preferably formed of a single piece of metal bent to the shape shown and described, although it may be formed of two or more pieces if found desirable or convenient. At the ends

of the bars *f* I secure in any suitable manner the clips or hangers *h* at suitable distances apart, which project or stand away from the inner sides of the bars *a* a sufficient distance to receive the bars *a* therein and permit of the longitudinal movement of the bars *f* on said bars *a* in the operation of the device, while the lower cross piece or bar *b* will prevent said section B from being entirely withdrawn from the bars *a* of section A. From this description it is evident that the lower or sliding section will be held firmly to the upper section and may be moved thereon in the direction of its length, while the outer end of the upper section is free to be moved up or down as on a hinge.

While the construction and arrangement described works fairly well, it is objectionable in that the friction created between the bars *a* and the clips or hangers has a tendency to retard the free longitudinal movement of the lower frame, and it also causes the contacting parts to wear away quite rapidly, and when so worn permits the bars *a* and *f* to get out of proper alignment. In order to obviate this objection, I extend or lengthen the hangers, so that one of them will project above and the other below the bars *f* and journal in the ends of said hangers the anti-friction rollers *i*, so that when the bars *a* are inserted in the hangers said rollers will bear on said bars *a*, one on the upper or top edge of each bar and the other on the lower or bottom edge, and thus insure the free movement of the lower section on the upper section.

To the slidable section B, I secure in any desired manner an inclined platform C, on which the ice to be elevated is placed. As clearly shown in Figs. 1 and 4, the platform extends at its raised end beyond the upper end of the slidable section, and the ends of the supports D therefor are cut away or formed on an incline at the raised end of the platform, the object of this construction being to permit of the end of the platform passing over the sills of the doorways of the ice-houses or refrigerators to which the device may be attached and partly enter or project into the same, and thus enable the delivery of the ice within the house or refrigerator without extra handling of the same after it has been elevated.

E designates the doorway of an ice-house or refrigerator, and F a hook secured in the wall of the same above the doorway. To this hook a pulley-block G, having double sheaves, is hung and a rope H passed therethrough. One end of said rope, after having been passed through a single sheave-block L, which is hung to an eye on the cross-piece *g* of the slidable section B, is made fast to said block L, and by drawing on the free end of said rope the entire frame and the load on its platform may be raised, the bars *a* turning on the rod *c*, and the weight of the load tending to keep the section extended until the sections are raised to a level with the pivotal point of the bars *a*, and from this point, as the sections are raised, the slidable section will be moved through the strain of the rope thereon and the weight of its load inward on the bars *a* until finally the raised end of the platform will enter the doorway and the ice be projected therefrom within the house or refrigerator.

I have described the simplest means for raising the sections, and I do not desire to be restricted thereto, as it is evident that other means might be used for this purpose without departing from the spirit of my invention or sacrificing the advantages thereof.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in an elevating-machine, of the pivoted upper section, the lower section slidably attached to said upper section, a platform mounted on said lower section, and means for raising and lowering both sections, substantially as described.

2. The combination, in an elevating-machine, of the pivoted section, the sliding section mounted thereon, an inclined platform secured to said sliding section, and means attached to said sliding section for raising and lowering the same, substantially as described.

3. The combination, in an elevating or hoisting machine, of the upper pivoted section, the lower section slidably attached to said upper section, an inclined platform having its raised end projected beyond its supports, and a rope and pulleys for raising and lowering the outer ends of said sections, substantially as described.

4. The combination, in an elevating or hoisting machine, of the pivoted or swinging upper section composed of parallel bars rigidly connected together, the lower section composed of parallel bars having their ends bent up and rigidly connected together, the inclined platform, the hangers secured to the end of said lower section and adapted to receive the bars of the upper section, and means for raising and lowering the outer ends of said sections, substantially as described.

5. The combination, in a hoisting-machine, of the pivoted upper section, the slidable lower section, hangers carrying anti-friction rollers secured to said lower section, an inclined platform mounted on said lower section, and means connected with said lower section, whereby the same may be raised and slid along said upper section, substantially as described.

JOHN J. STEIN.

Witnesses:

D. C. STEIN,
C. E. STEIN.