

(No Model.)

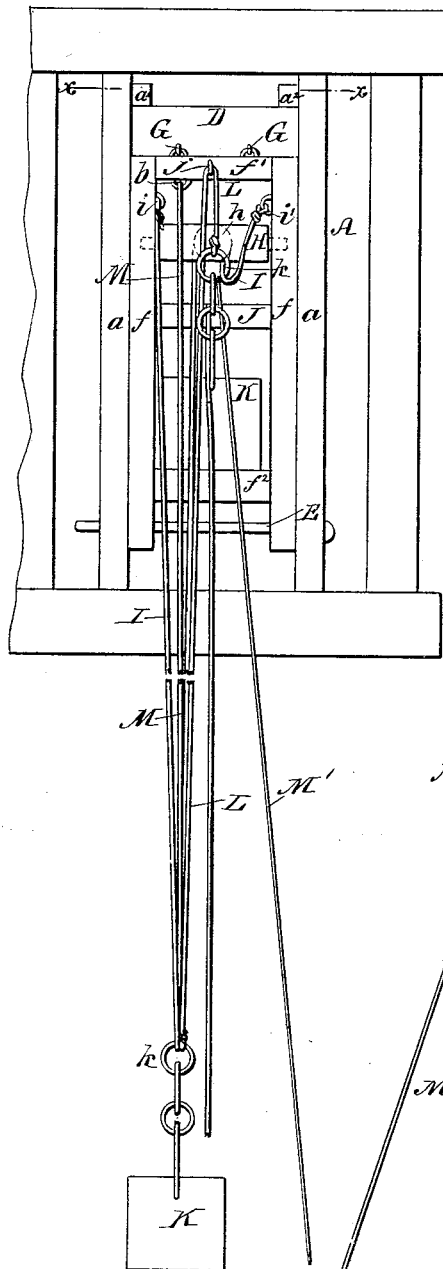
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HOISTING AND LOWERING APPARATUS.

No. 344,183.

Patented June 22, 1886.

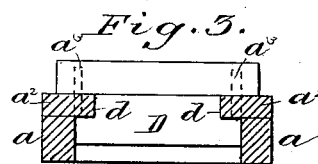
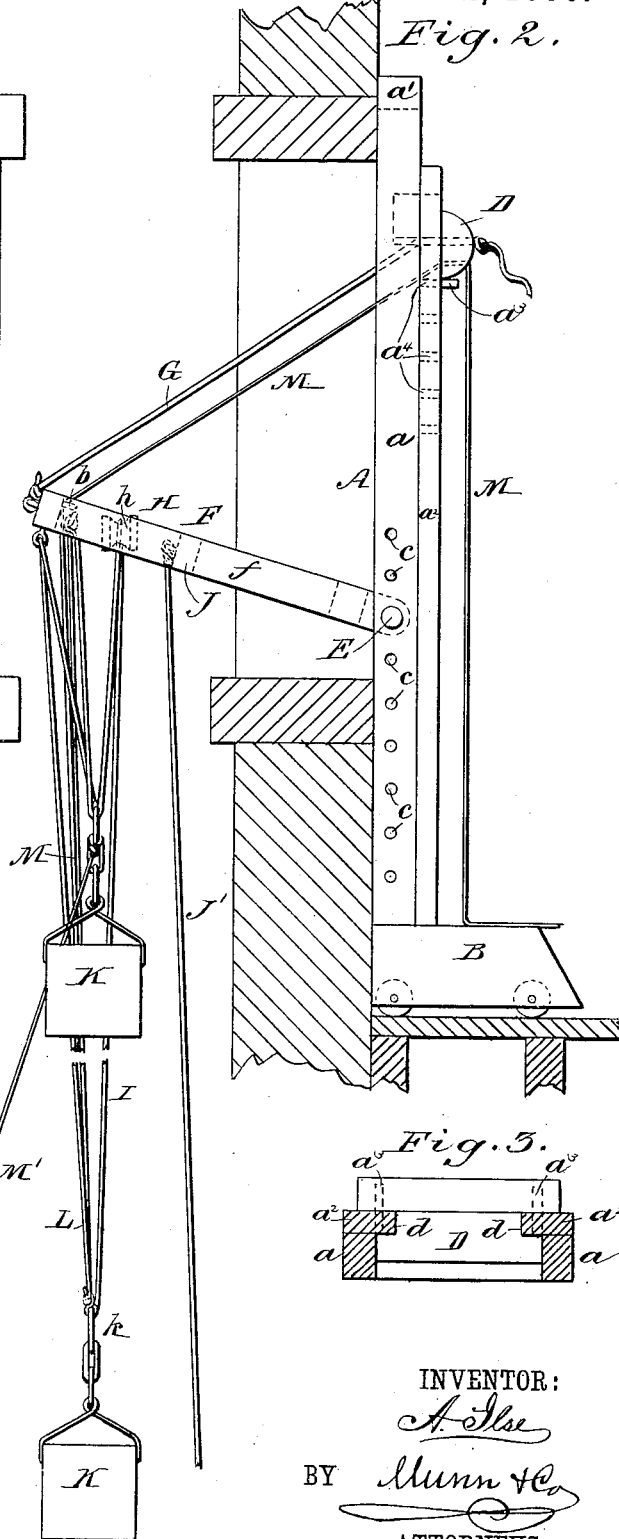
Fig. 1.



WITNESSES:

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Fig. 2.



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HOISTING AND LOWERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 344,183, dated June 22, 1886.

Application filed November 19, 1885. Serial No. 183,344. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS ILSE, of Evanston, in the county of Uinta and Territory of Wyoming, have invented a new and Improved Hoisting and Lowering Apparatus, of which the following is a full, clear, and exact description.

My invention relates to an apparatus designed more especially for use in window-openings of buildings for hoisting and lowering furniture, goods, &c., into and from the building.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my new hoisting and lowering apparatus arranged in the window-opening of a building ready for use. Fig. 2 is a side elevation of the apparatus, showing the window-frame and a part of the wall of the building in section and Fig. 3 is a sectional view on line *x x* of Fig. 1.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

A represents a rectangular frame composed of the main parallel side pieces, *a a*, and top cross-piece, *a'*. The frame A is attached to the heavy base B, which supports the apparatus on the floor of the building.

A strong cross-piece, D, is fitted between the side pieces, *a a*, of the main frame, and is provided with the vertical end grooves, *d d*, to receive the inner edges of the frame-cleats *a² a²*, as shown in Fig. 3, which cleats are provided with series of apertures *a⁴ a⁴*, so that said cross-piece D may be held at any desired elevation by resting on pins *a³*, inserted in the proper holes, *a⁴*, and on being shoved to the top of the frame A may be moved outward above the cleats *a² a²* and detached from said frame, so that the apparatus may be taken down and packed away.

Below the cross-piece D is hinged to the main frame A upon the heavy iron rod E, the swinging arm or boom F. A series of holes, *e e*, are formed in the side pieces, *a a*, of the main frame A to receive the rod E, so that the boom F may be raised or lowered bodily in the main frame, if desired, to suit the apparatus to special window-openings. The free

end of the boom F is attached to the cross-piece D by the ropes G G, or in place of these ropes iron chains or jointed metal arms or links may be used. The boom is composed of the main side pieces, *f f*, and the upper and lower cross-pieces, *f' f'*. The ropes or connections G G are attached to the upper cross-piece, *f'*, as shown clearly in Fig. 2. Below the upper cross-piece, *f'*, is placed, between the side pieces, *f*, the block H. This is provided with the pulley *h*, over which the main hoisting-rope I passes, and it is by preference swiveled in the side pieces, so that it will accommodate itself to any angle or pitch of the boom F for any angle of the rope I. Below the pulley-block H is secured, between the side pieces, *f*, of the boom, the cross-piece J, to which the rope J' is fastened, which is designed to be used as a kind of steadying rope in case the apparatus is used for raising or lowering persons in the buckets K. The person or persons in the bucket will hold onto the rope J' and prevent the bucket from swinging; but the cross-piece J and rope J' may be omitted, if desired.

The main hoisting-rope I is attached at one end at *i* to one of the side pieces, *f*, of the boom F, and passes thence through the pulley or ring *k* of one of the buckets K, thence up over the pulley *h* in the swiveled cross piece or block H, thence through the pulley or ring *k* of the other bucket K, and is then carried up to the other side piece *f* of the boom, where it is made fast at *i'*, so that the rope forms a double festoon having the pulley *h* at the upper fold and the bucket rings *k* at the two lower folds. A safety-rope, L, is passed through the pulley or ring *j* (attached to the upper cross-piece, *f'*, of the boom F) and attached at its extremities to the bucket rings or pulleys *k*, to serve in holding the buckets in case the main rope I should break; but this extra rope, L, is not essential to the practical operation of the apparatus, and may be omitted, if desired.

With the apparatus arranged as shown in Fig. 2, the lower bucket being loaded with merchandise or material to be raised into the building, the rope M, which is attached to the pulley or ring *k* of the lower bucket and passes up through the eye *b* of the cross-piece *f'* of the boom F, thence through or over the cross-piece D into the building, will be drawn in

either by hand or by a windlass situated in the building. This will raise the loaded bucket and lower the empty one. The lifting of the loaded bucket will continue until the ring or pulley *k* thereof reaches the pulley *h*, whereupon, by continuing to draw in upon the rope *M*, the boom *F* will be swung upward and inward to and within the main frame *A*, which will swing the loaded bucket into the window-opening, where it may be rested upon the window-sill and detached from the main hoisting-rope, and then carried, with its contents, into the building and its contents discharged. The upper bucket may now be returned to the hoisting-rope and attached thereto. In the meantime the lower bucket will have been loaded. To raise this, the rope *M* will be slowly let out, which will first permit the boom *F* to swing out to a horizontal or nearly horizontal position, as far as the ropes or connections *G* will permit, and then the rope *M*, also attached to the ring or pulley *k* of the upper bucket, will be drawn downward, which will lower the upper bucket and raise the now loaded bucket. This being raised to the boom *F*, the boom will be swung upward and inward by drawing in upon rope *M*, and the loaded bucket detached and discharged as before.

In lowering goods or merchandise from the building the reverse of the above operation will be followed. In case the apparatus is to be single-acting, one or the other of the buckets *K* may be replaced with a suitable counter-weight.

My invention may be used also in hatchway openings or in various other situations in a building; and when the apparatus is not to be used I remove the rod *E*, thus detaching the boom *F*, and also remove the cross-piece *D*, so the whole may be packed away in small space.

Having thus described my invention, what I

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

1. The frame *A*, adapted to be secured on the floor against the window-opening and inside of the wall of the building, and provided with the cross-piece *D*, in combination with the boom *F*, hinged to the frame *A*, and connected to the cross-piece *D*, and provided at its outer end with a sliding weight-rope, to which the buckets *K* are attached, substantially as described.

2. The main frame *A*, provided with the swinging boom *F*, and a series of holes, *c*, to raise and lower the boom, in combination with the adjustable block *D*, to which the outer end of the boom is attached by connections *G*, substantially as described.

3. The frame *A*, in combination with the adjustable swinging boom *F*, substantially as and for the purposes set forth.

4. The swinging boom *F*, attached to the main frame *A*, in combination with the swiveled pulley-block *H*, substantially as and for the purposes set forth.

5. The main frame *A*, and swinging boom *F* attached thereto, and provided with pulley-block *H*, in combination with the buckets *K* and main hoisting-rope *I*, attached at its ends to the boom and passed over pulley *h*, and through the bucket rings or pulleys *k*, substantially as described.

6. The main frame *A*, provided with cleats *a*² *a*², having a series of holes, *a*¹, in combination with the sliding cross-piece *D*, adapted to be held at any desired position by a pin placed in one or the other of the holes, substantially as described.

AUGUSTUS ILSE.

Witnesses:

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