(No Model.)

# V. HARBORT.

## LIFTING DEVICE.

No. 352,818. Patented Nov. 16, 1886.

Fig. 1.

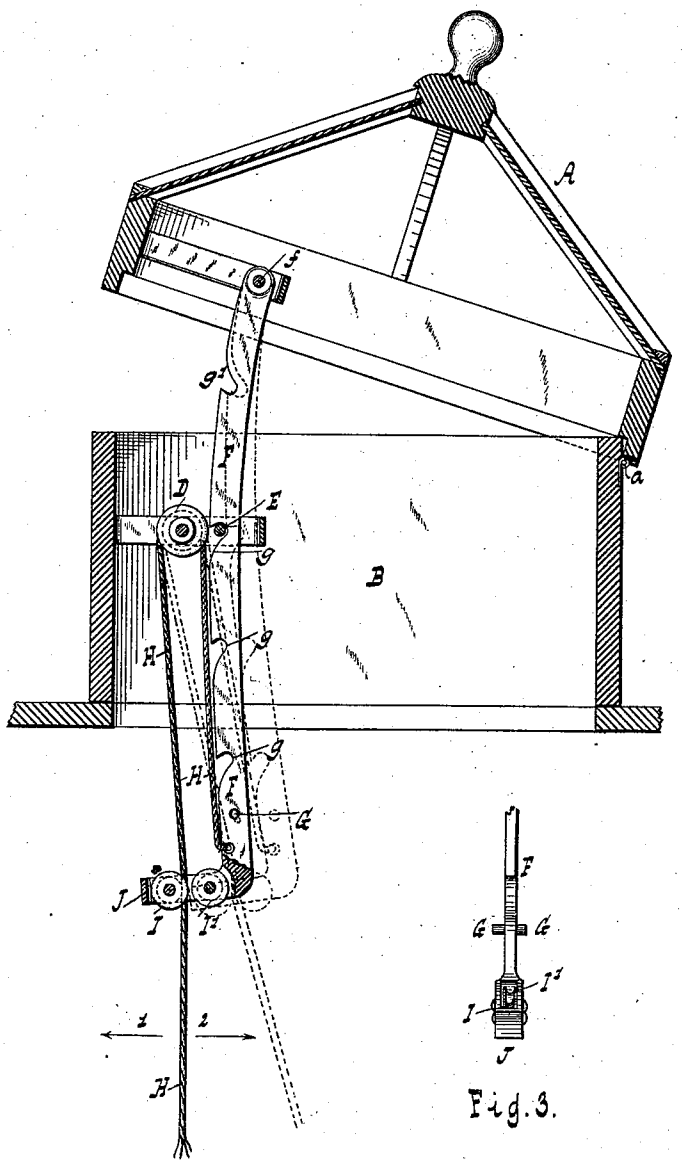
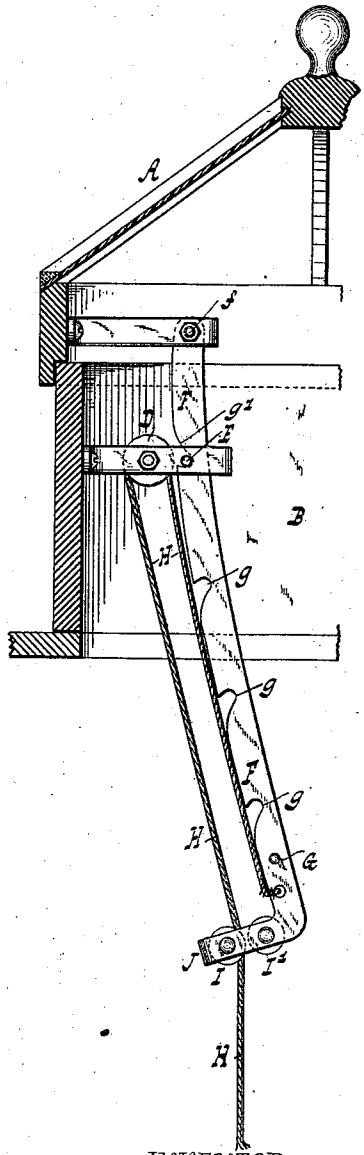



Fig. 3.




Fig. 2.




WITNESSES:

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# UNITED STATES PATENT OFFICE.

VALENTIN HARBORT, OF JERSEY CITY, NEW JERSEY.

## LIFTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 352,818, dated November 16, 1886.

Application filed September 10, 1886. Serial No. 213,247. (No model.)

*To all whom it may concern:*

Be it known that I, VALENTIN HARBORT, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Lifting Devices, of which the following is a specification.

The object of my invention is to provide means for readily opening or closing such devices, for example, as skylights, transoms, doors, and the like. I accomplish this object by means of the device set forth in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal central section of a skylight to which my invention is applied, the skylight being open. Fig. 2 is a similar section to Fig. 1, the skylight being closed. Fig. 3 is an end view of the operating-rod.

Similar letters indicate corresponding parts.

In the drawings my invention is shown as applied to a skylight.

A is a skylight hinged at *a* to a frame or dome, B. An operating rod or arm, F, is hinged at *f* to the skylight. To the rod or arm F is fixed or attached a cord or chain, H, said cord passing over a pulley, D. The axis of the pulley D is fixed in a suitable place, as, for example, to the side of the shaft B. The pulley D is preferably provided with a guide-channel, in which the cord or chain H travels. By pulling on the cord H the skylight A is opened.

To lock the skylight in its open position, I provide a stop or detent, E, which, as shown, can be formed of a pin or rod fixed in any suitable position, as, for example, to a side of the shaft B. Notches or recesses *g* in the operating-rod F are adapted to engage with the detent E and to hold the skylight in an open position.

The operating-rod F is brought into or out of engagement with the detent E by means of the cord or chain H. Said cord, as seen, is at one portion movably connected to or in engagement with the operating-rod by means of an eye or slotted or perforated arm J, connected to said operating-rod. The cord H passes through said eye or perforated arm J. Rollers I I′ may be mounted in the arm J to secure an easy passage of the cord H. By bringing the rod F into proper position and then drawing the cord H in the direction of arrow 1 any desired notch or recess *g* is brought into engagement with the detent E and the skylight is held open. To disengage the operating-rod from the detent E the cord H is pulled or moved in the direction of arrow 2. When the operating-rod F is disengaged, the skylight A is free to shut.

In the example shown in the drawings the weight of the skylight tends to shut said skylight. If the device does not close automatically, the operating-rod F may be provided with a handle or cord by which the device can be forced or drawn shut.

As seen in the drawings, one of the recesses in the operating-rod F—for example, the recess *g′*—is formed in such a way as to lock the skylight in its closed position when said recess *g′* is in engagement with the detent E, so that the skylight can not be opened from without. The recesses *g* are so formed as to lock or hold the skylight in its open position when any one of said recesses *g* is in engagement with the detent F. A stop, G, on the rod F limits the motion of said rod and prevents the skylight from being opened too far. Said stop G can be adapted to engage with the arm or recess in which the bearings of the pulley D are formed, thus stopping or limiting the motion of the rod F in one direction. The bearings of the pulley D can be formed in a forked or slotted arm or bracket secured to the dome B, and the rod F may be arranged to travel through this bracket or slotted arm. The detent E can also be secured in this arm.

My device can be cheaply manufactured and is reliable and durable. As in my device I do not employ any spring bolts or triggers, which are liable to be deranged, my device is not apt to get out of order.

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

1. The combination, with an operating-rod, F, of an operating-cord, H, secured at one end to the said rod, the pulley D on the frame or dome, arm or eye J, connected to the operating-rod and engaging the cord H, a fixed detent, E, and recesses or notches in the operating-rod, substantially as set forth.

2. The combination, with an operating-rod,

F, of a pulley, D, fixed detent E, recesses or notches in the operating-rod, and an operating-cord, one part of said cord being fixedly connected to the operating-rod, and another part of said cord being movably connected to the operating-rod, substantially as set forth.

3. The combination, with a frame or dome, B, and a skylight, A, of the operating-rod F, pivoted to the skylight, and provided with the laterally-projecting stop G, and a series of edge recesses, *g*, the arm or eye J on said rod, the pulley D on the frame or dome, and the operating cord or chain H, secured to the operating-rod, passing over the pulley and engaging the said arm or eye, substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

VALENTIN HARBORT. [L. S.]

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.