

E. R. JOHNSON.  
ELEVATOR.

No. 178,530.

Patented June 13, 1876.

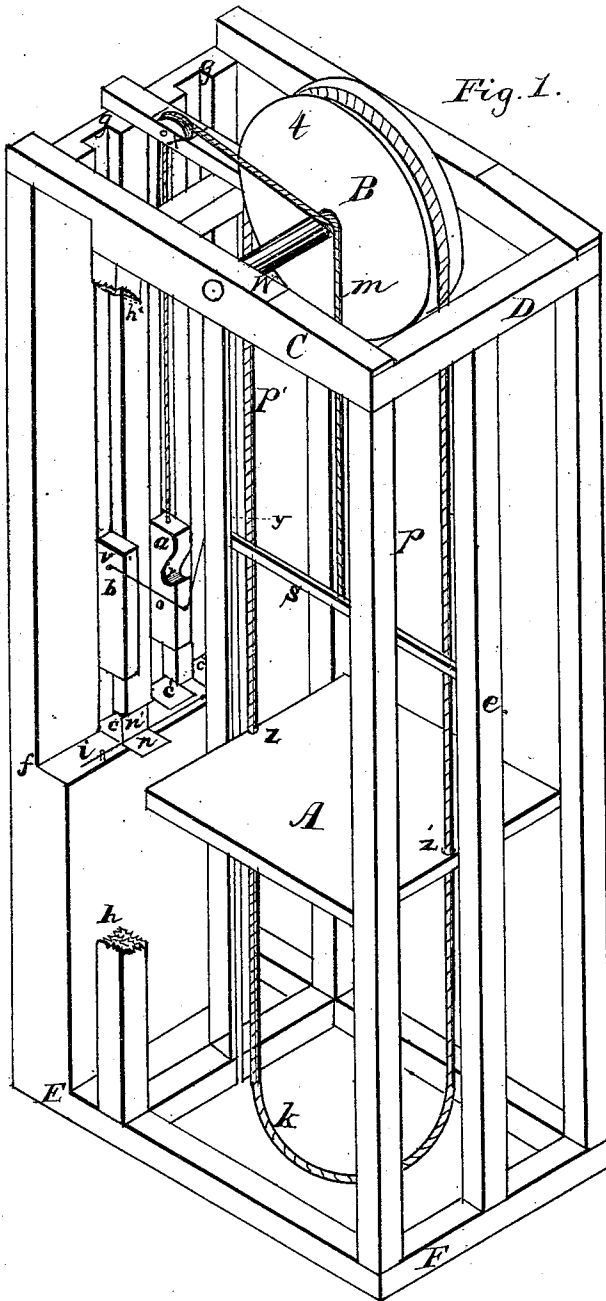


Fig. 1.

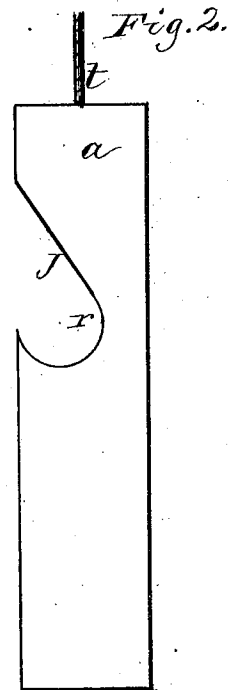


Fig. 2.

Witnesses  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. **178,530**, dated June 13, 1876; application filed February 17, 1876.

*To all whom it may concern:*

Be it known that I, EDWARD ROYCE JOHNSON, of the village of Cortland, Cortland county, and State of New York, have invented a new and useful Improvement in Operating Elevators and Hoisting-Machines, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The first object of my invention is to furnish a mode of operating an elevator or hoisting-machine easily and readily by attaching or applying the power which operates the elevator or hoisting-machine directly from the platform of said elevator or hoisting-machine, either by manual or mechanical power.

Figure 1 of the accompanying drawings represents an isometrical view of the elevator.

A, Fig. 1, shows the platform of the elevator, and B and *w* represent a wheel and axle. Over the wheel B passes the endless rope *p p' k*, and over the axle *w* passes the rope *m*, which rope is connected to the cross or transverse bar or beam S, and then said rope passes over and around said axle *w* and over the pulley *x*, and thence down to the weight *a*, to which it is fastened, said weight *a* thus balancing the weight of the platform, and producing an equilibrium between said weight *a* and the platform A. The endless rope *p p' k* passes through the holes in the platform at *z* and *z'*, Fig. 1, and either the *p* or *p'* side of said endless rope can be grasped by a person upon the platform, and is within the control of the operator upon the platform A. The operator, by applying force to the part *p'* of said endless rope *p p' k*, will ascend, and thus elevate himself, he being the manual power, and being attached to the platform A. The platform A, Fig. 1, passes up the groove *y* of the beam shown in the drawing, and up a similar groove on the inside of the beam *e*, Fig. 1, the power being communicated to the platform by the rope *m* acting upon the cross-bar S. It is not necessary that the endless rope *p p' k* be operated by manual power; but it can be worked by any mechanical equivalent.

The counterbalancing the platform of an elevator by means of one weight is, I believe to be, an old device; but as a second object of my invention consists in the peculiar manner

or mode of attaching or taking off different additional weights to counterbalance the different weights or drafts that are put on the platform A, Fig. 1, in addition to the weight *a*, Figs. 1 and 2, (Fig. 2 being an enlarged sectional view of the weight *a*, Fig. 1,) I use two or more additional weights. B, Fig. 1, represents one additional weight, another weight being used in the groove *g'*, Fig. 1, which is hid in the drawing, and which is connected to the weight *b* by the bail *o*, which bail *o* is fastened to the weight *b* at *v*, and said bail *o* is free to move up and down and turn on the pivot *v*, and is similarly fixed and fastened at its other end to the other weight, which slides up and down in the groove *g'*. The front part of the grooves *g*, *g'*, and *c* are left open to *f*, where they become entirely inclosed. On the ledge or projection shown at *f* I make a damper or check, which consists of two pieces, *n* and *n'*, Fig. 1, of iron or some other suitable material, placed at right angles to each other, and fastened on a rod or axle, *i*, which axle turns and is fastened to said ledge or projection by a staple or other fastener, as shown near *i* in the drawings. The piece *n'* is made so as by being turned to the left to cover the hole or groove *c*. The piece *n* of said damper is used as a lever or handle to turn the damper with from the platform A. Another similar damper to *n'* *n* is made to act upon *c''*. By turning this damper to the left, the holes or grooves *c'* *c''* become closed, and the weights cannot go down said holes or grooves. This second damper is attached to the same rod as the damper *n'* *n*, and moves with it. The weight B and the other similar weight, as heretofore explained, are fastened to the weight *a* by turning up the bail *o*, so that said bail can go into the cavity in the weight *a* at *r*, Figs. 1 and 2, and thus additional power is given to raise or lower the platform A.

When I desire to take off these additional weights I turn the damper, above described, to the left, over the holes or grooves *c* and *c''*, and then when the weights descend they are stopped by the dampers, and the inclined surface of the weight *a* (shown at J, Fig. 2) raises the bail *o* out of the cavity *r*, and it falls down, as shown in Fig. 1, and thus be-

comes free from *a*; and when I desire to put on additional weights to counterbalance the weight on the platform, I raise the weight *a* by means of the rope *p p' k* to the desired height, and then raise the bail *o*, and it falls into the hollow or cavity *r*, and thus attaches the additional weights.

The letters C, D, E, and F, Fig. 1, represent the frame-work used in building the elevator.

I claim as my invention—

1. The mode of attaching and releasing different weights to and from the weight *a* by means of the bail *o*, used in combination with

the said weight *a*, dampers *n* and *n'*, and the grooves *g*, *g'*, and *c*, all substantially as shown, described, and set forth.

2. The combination and arrangement of the platform A, wheel B, axle *w*, pulley *x*, endless rope *p p' k*, rope *m*, weights *a*, *b*, &c., dampers *n* and *n'*, grooves *g*, *g'*, and *c*, all made and operated substantially in the manner and for the purpose herein described and shown.

EDWARD ROYCE JOHNSON.

Witnesses:

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