

(No Model.)

2 Sheets—Sheet 1.

J. Q. MYERS.  
Elevator.

**No. 227,379.**

**Patented May 11, 1880.**

FIG. 1.

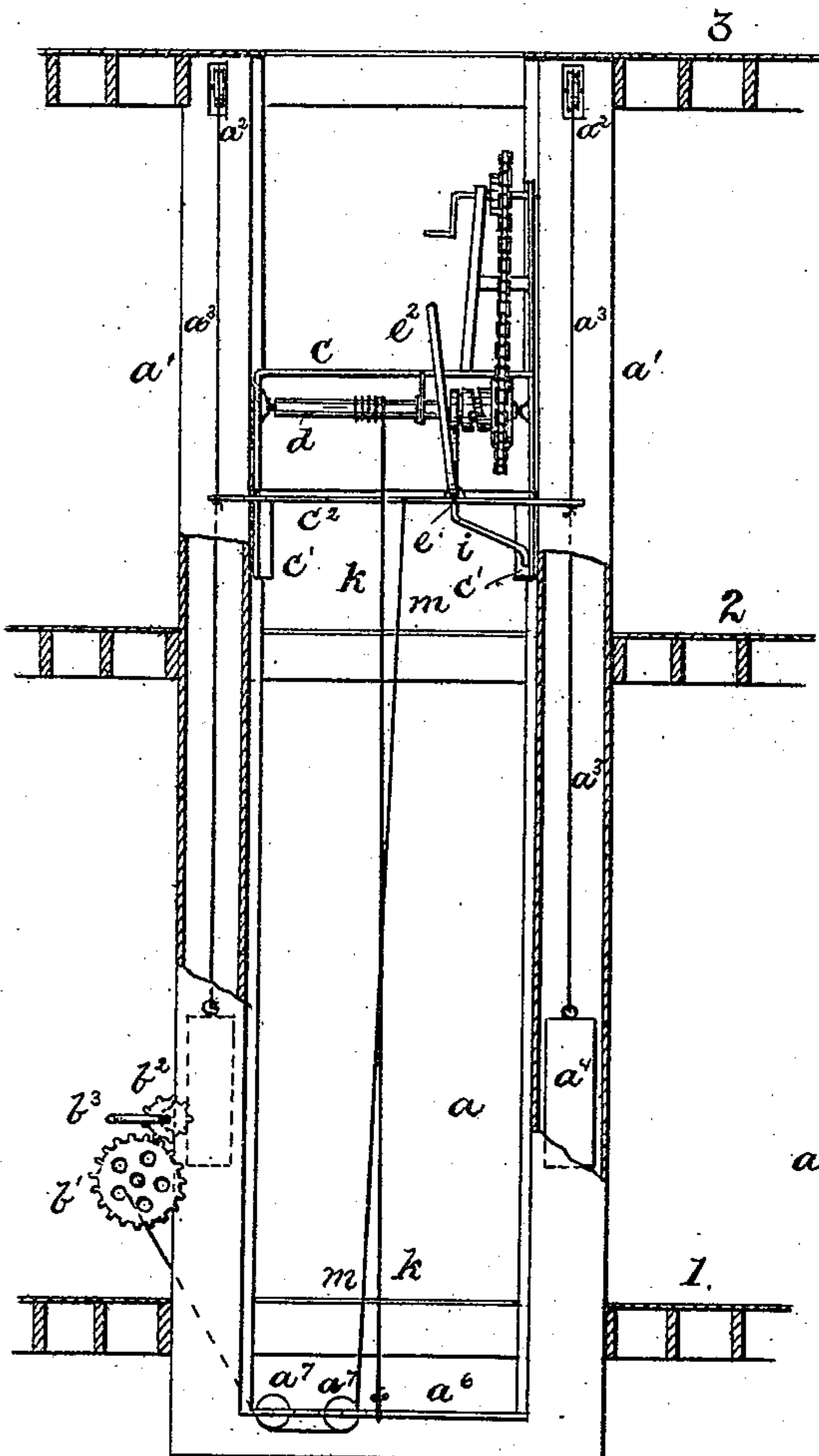


FIG. 2.

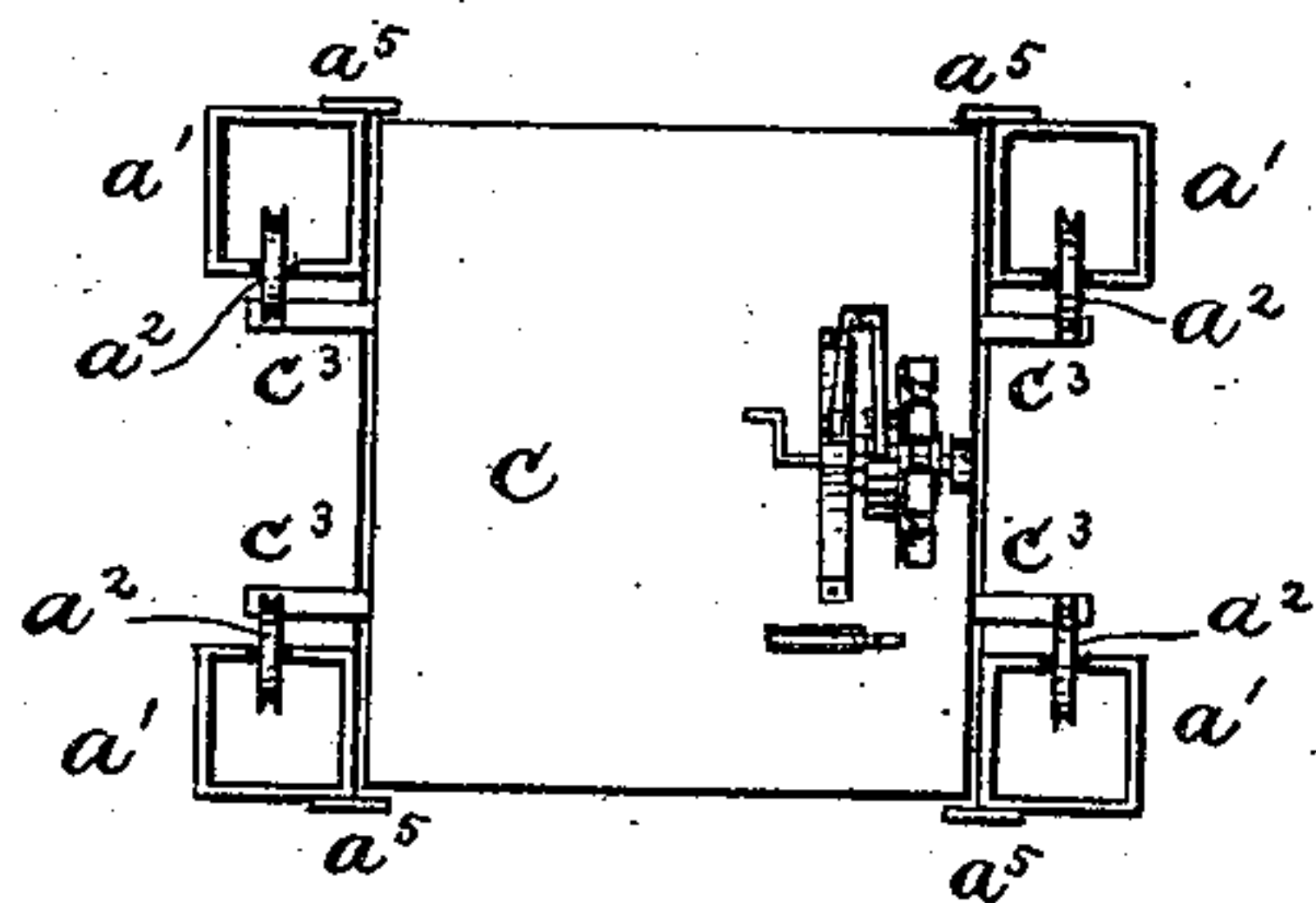
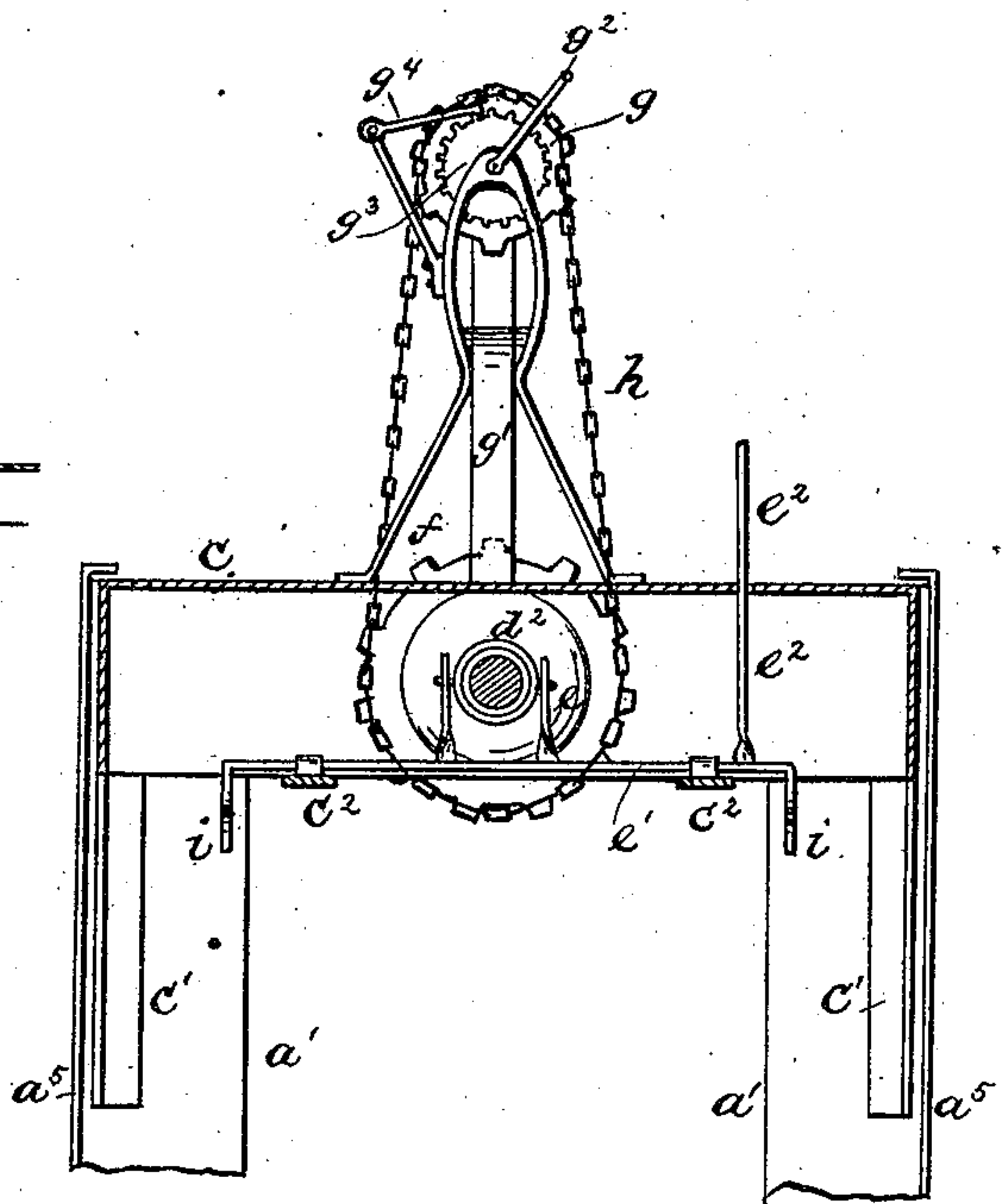


FIG. 3.



Witnesses:

M. M. Lacey  
J. B. Holderly

*Inventor:*

John Q. Myers  
By R. S. & A. Lacey Attys.

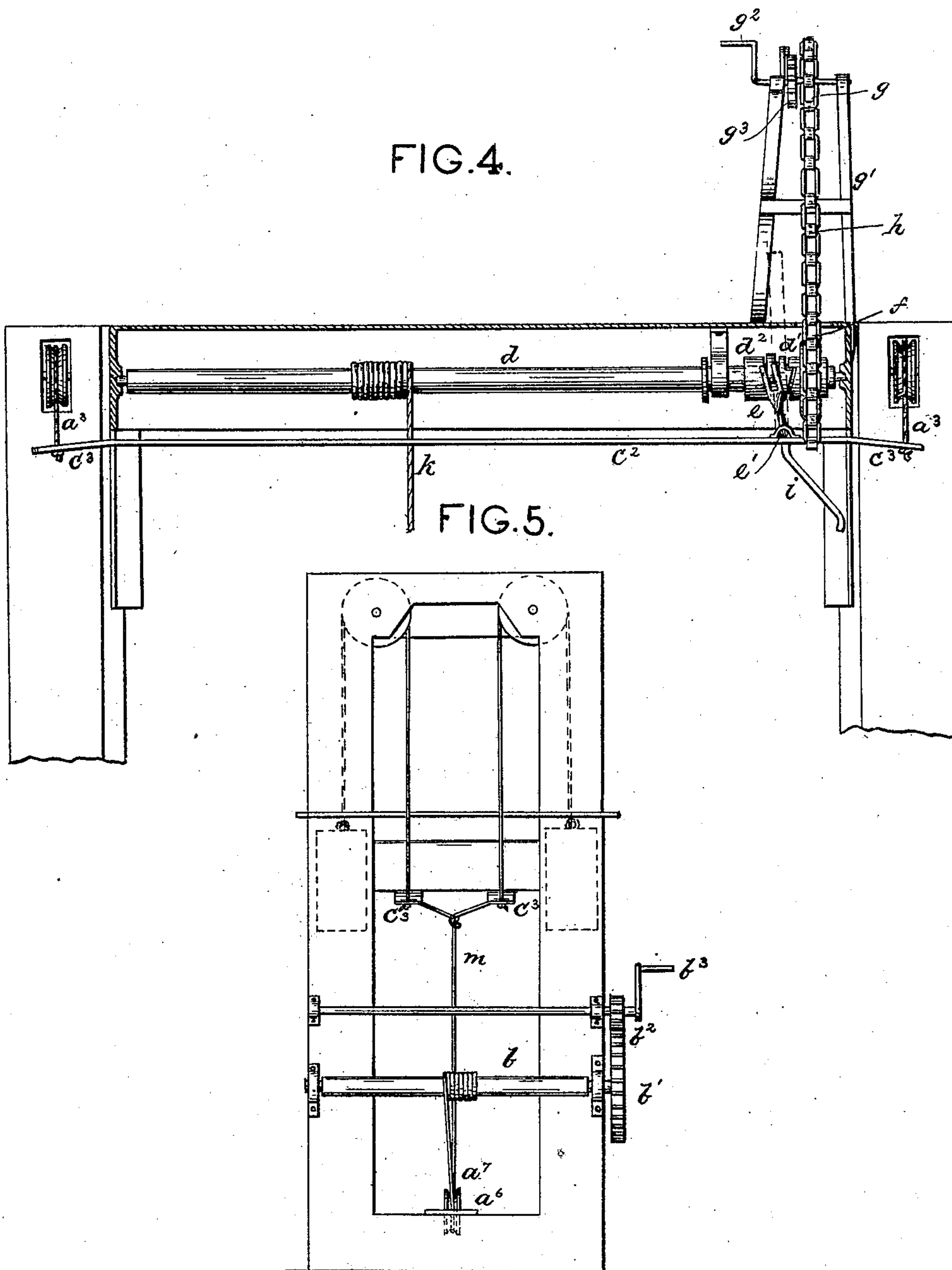
(No Model.)

2 Sheets—Sheet 2.

J. Q. MYERS.  
Elevator.

No. 227,379.

Patented May 11, 1880.



Witnesses:

M. M. Lacey  
J. B. Holderly

Inventor:

John Q. Myers  
By R. S. & A. F. Lacey Attys.



# UNITED STATES PATENT OFFICE.

JOHN Q. MYERS, OF WATERLOO, IOWA.

## ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 227,379, dated May 11, 1880.

Application filed March 29, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN Q. MYERS, a citizen of the United States, resident at Waterloo, in the county of Black Hawk and State of Iowa, have invented certain new and useful Improvements in Elevators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of elevators employed in hotels, warehouses, stores, and other buildings for carrying persons or freight from one floor to another.

It consists in a substantial frame composed of hollow posts or casings set in the building and having pulleys and weights placed thereon, and in a platform moving in the said frame, and in the peculiar construction and arrangement of a windlass with its operating wheels and ropes, all of which will be hereinafter fully explained.

In the drawings, Figure 1 represents a vertical section of a house, showing three floors with my elevator set therein. Fig. 2 is a horizontal section of the elevator-frame, showing the platform therein with the windlass mechanism removed. Figs. 3 and 4 are vertical sections of the platform, showing end and side views of the windlass mechanism; and Fig. 5 is a side view of the elevator-frame, showing the stationary windlass fixed thereto.

$a$  is the frame, which is set in the floors 1, 2, and 3, as shown. It is composed of the four hollow rectangular casings or posts  $a'$   $a'$   $a'$   $a'$ , which are arranged with reference to each other at the corners of a rectangle the size of the elevator-platform. At the top of each casing I place a pulley,  $a^2$ , over which is put the rope  $a^3$ , to which is suspended the weight  $a^4$  inside the casing. The corner casings are provided with suitable bearing or guide flanges  $a^5$ , running their entire length, and which serve to give steadiness to the vertical movement of the platform. Running centrally across the lower end of the frame  $a$  is a cross-bar,  $a^6$ , in which are journaled guide-pulleys  $a^7$   $a^7$ , as shown.

Near the lower end of the frame, and on the outer side, I fix a windlass,  $b$ , which is operated by suitable gearing  $b'$   $b^2$  and crank  $b^3$ . The windlass with its operating mechanism is placed so that it can be got at and operated by a person standing on the lower floor of the building.

$c$  is the elevator-platform, made to fit within the space inclosed by the corner casings,  $a'$ . It has the arms  $c'$ , which project downward from its corners, and which are formed and arranged to fit snugly into the angles formed by the flanges  $a^5$  and the casings  $a'$ . It has two cross-bars,  $c^2$   $c^2$ , placed below it, the ends of which project and provide arms  $c^3$ , to which the ends of the cords  $a^3$  are attached.

$d$  is a shaft journaled in the framing of and below the platform  $c$ . It has a ratchet,  $d'$ , on its end and a sliding ratchet sleeve or clutch,  $d^2$ , by which it may be thrown in or out of gear. The sleeve or clutch  $d^2$  is operated by short slotted arms  $e$ , projecting from a rotating bar,  $e'$ , journaled in bearings on the cross-beams  $c^2$ , and the hand-lever  $e^3$ , which projects above the platform, as shown. Mounted on the end of the shaft  $d$  is the sprocket-wheel  $f$ , by which the said shaft is turned.

$g$  is an upper sprocket-wheel, mounted in bearings in the upper end of a supporting-frame,  $g'$ , erected on the upper side of the platform  $c$ . The sprocket  $g$  is arranged in the same plane with the sprocket  $f$ , so that the endless chain  $h$  can be put around them, as shown. The sprocket  $g$  is turned by a crank,  $g^2$ , on the end of its axle, and it is provided with a ratchet,  $g^3$ , which is engaged by a pawl,  $g^4$ , as shown. The frame  $g'$  is made so that the crank  $g^2$  will be at a height to be easily taken hold of by a person standing on the platform  $c$ .

Attached to the ends of the cross-bar  $c'$  are the brakes, rods, or arms  $i$   $i$ , which are arranged to bear against the sides of the casings  $a'$ . The brakes are operated by the hand-lever  $e^2$ , as will be clearly understood by reference to the drawings.

$k$  is a rope, which has one end secured to the shaft  $d$ , while its other end is secured to the lower cross-bar,  $a^6$ . The rope  $k$  is made just long enough to permit the platform  $c$  to rise to the upper floor of, or to the highest point



to which it is intended the said platform shall be raised in the building in which the elevator is placed.

*m* is a rope having one end attached to the cross-bars *c*<sup>2</sup> on the under side of the platform *c*, while its other end is carried under the pulleys *a*<sup>7</sup> in bar *a*<sup>6</sup>, and to the windlass *b*, to which it is fastened.

This elevator may be operated by a person standing on the platform *c*, or by a person standing on the lower floor.

The platform *c* is overbalanced by the weights *a*<sup>4</sup> in the hollow casings *a*<sup>1</sup>, so that it will be automatically drawn up with its load. The weights *a*<sup>4</sup> are made heavy enough to overbalance any weight that will ever be lifted, so that it will always be necessary to use one or the other of the windlasses to draw the platform down. The weights *a*<sup>4</sup> will automatically lift the weight, and in light loads it is necessary to use the brakes *i*, or to regulate the movement by holding the rope with the windlasses.

This device is easily managed and can be erected at small cost, and is admirably adapted

for all localities, especially where it is impracticable to employ steam.

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

1. The combination, with the frame *a*, having pulleys *a*<sup>2</sup>, weights *a*<sup>4</sup>, ropes *a*<sup>3</sup>, and platform *c*, of the axle *d*, having sprocket-wheel *f*, sprocket-wheel *g*, mounted on the frame *g*<sup>1</sup>, endless chain *h*, and rope *k*, having one end fixed to the axle *d* and the other end fixed to the lower end of the frame *a*, for the purposes set forth. 30 35

2. The combination, with the frame *a*, the axle *d*, having the ratchet *d*<sup>1</sup>, and the clutch *d*<sup>2</sup>, of the arms *e* and brakes *i*, fixed to the single rotating bar *e*<sup>1</sup> and single lever *e*<sup>2</sup>, as and for the purposes set forth. 40

In testimony that I claim the foregoing I have hereunto set my hand and seal this 15th day of March, 1880. 45

JOHN Q. MYERS. [L. S.]

Witnesses:

GEORGE ORDWAY,  
EDGAR PICKETT.