C. H. MITCHELL.

Brake for Elevators.

No. 204,069. Patented May 21, 1878.

Fig. 1

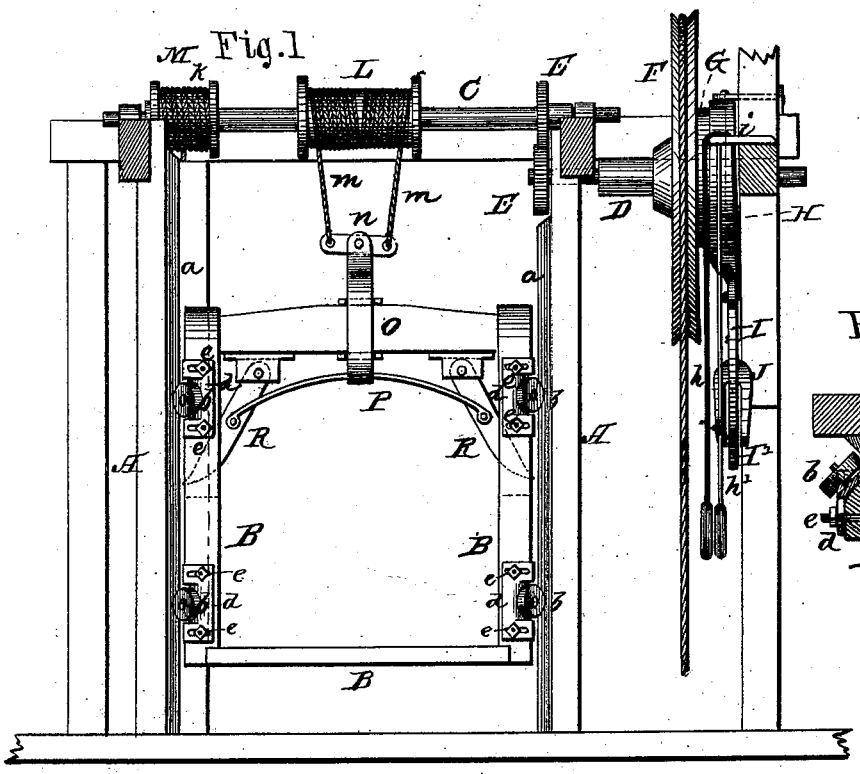


Fig. 5.

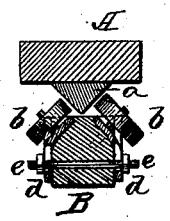


Fig. 4.

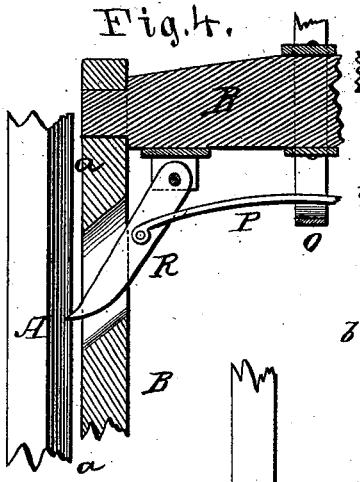


Fig. 2.

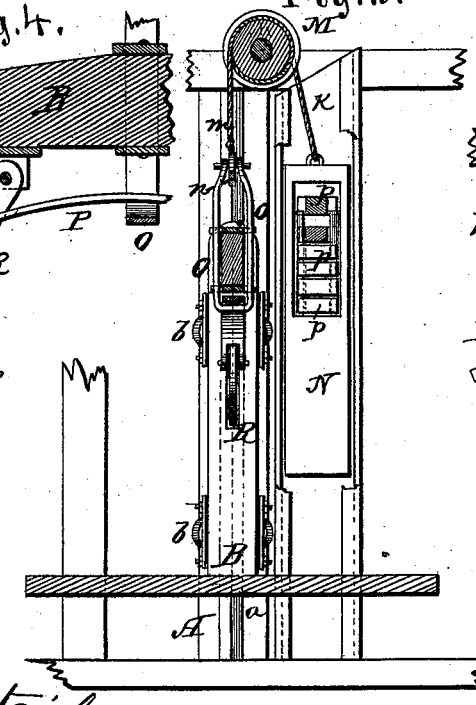
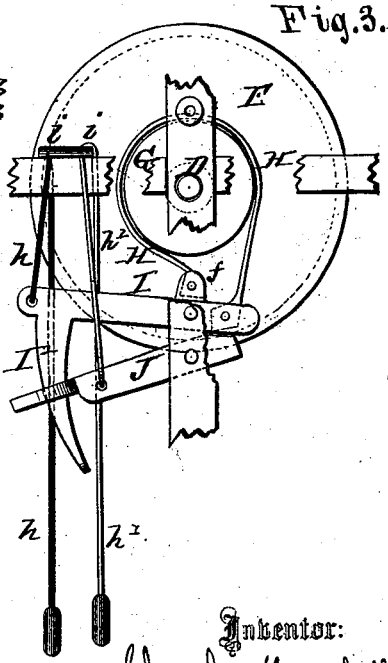


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES H. MITCHELL, OF CHICAGO, ILLINOIS.

INPROVEMENT IN BRAKES FOR ELEVATORS.

Specification forming part of Letters Patent No. **204,069**, dated May 21, 1878; application filed April 8, 1878.

To all whom it may concern:

Be it known that I, CHARLES H. MITCHELL, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brakes for Elevators; and I do hereby declare that the following is a full, clear, and exact description thereof, which 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 the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of an elevator, as will be hereinafter more fully set forth.

In the annexed drawing, to which reference is made, and which fully illustrates my invention, Figure 1 is a front elevation of my elevator. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a detailed view of the brake and locking devices. Fig. 4 is a detailed view of the safety device; and Fig. 5 is a detailed section, showing guide-rollers of the car.

A A represent the vertical posts between which the car B moves up and down, said posts being on their inner sides provided with V-shaped guides *a a*, of soft wood or other suitable material. Each side bar of the car B is, near each end, provided with two rollers, *b b*, set angling, so as to bear against the two faces of the V-shaped guide *a*. Each roller *b* is mounted on a stud projecting from a casting or plate, *d*, attached to the stile or side bar of the car by bolts *e*, said bolts passing through slots in both corresponding castings or plates *d d* and fastening them to the stile. By loosening the nuts on the ends of the bolts *e* the plates *d* can be pushed out to make the rollers *b* bear closely on the guides *a*, thus tightening the car between the posts, and making it run smoothly and without the play which always attends a car with rigid guides after it has been used a little while, as both the posts and car are apt to shrink.

Above the car, at the top of the posts A A, is a shaft, C, from which the car is operated by means as hereinafter described. This shaft C connects by gears E E with a shaft, D, upon which is secured the operating-wheel F, this wheel having upon its outer face a pulley, G, as shown in Figs. 1 and 3. The brake consists of a flexible metal band, H, one end of which is permanently attached at *f*, then passes around the pulley G, and the other end of the band fastened to the short end of a pivoted brake-lever, I. The long arm of this brake-lever is provided with a downwardly-extending prong, I′, which passes through the forked end of a lock-lever, J, pivoted below the brake-lever I, as shown in Fig. 3. The two levers I and J are provided with operating-cords *h* and *h′*, respectively, said cords passing upward over pulleys *i i* and then downward. The brake and lock are applied without any weights, which are most generally employed, and the lock is applied by pulling one line only. Generally the brake-line is first pulled, held there, and then followed by pulling the lock-line. It has also been customary to provide the brake-lever with a weight to throw off quickly. My invention requires no such weights. By pulling the brake-line *h* the lever I pulls up and tightens the brake-band H on the brake-pulley G; then by pulling the lock-line *h′* the lock-lever J follows up on the prong I′ and wedges itself, and prevents the brake-lever falling; then, again, by pulling the brake-line quickly the weight of the lock-lever causes it to drop quickly. The fork or guides on the lock-lever J may be dispensed with, as by widening the end of the lock-lever the same result is obtained as though the fork or guides were used.

The two cords or lines *h h′* are of different colors. It is often the case that people, when in danger or otherwise, will catch and pull the wrong line, and thereby make a mistake that is followed by an accident. Now, if they are of different colors—say one is black and the other white—they can very readily tell which one to handle first.

At one end of the shaft C is a drum, M, around which is passed a cord or chain, *k*, connecting with the weight N for balancing the car. On the shaft C, above the center of the car, is secured another drum, L, around which are wrapped two cords or chains, *m m*, the ends of which connect with the ends of a bar, *n*, pivoted in the upper end of a stirrup, O. This stirrup passes over the center of the top bar of the car and acts upon a spring, P, in

the center. The ends of this spring connect with two dogs, R R, which operate upon the wooden guide-strips *a a* in case of the breakage of any of the cables used. It will be noticed that the car is lifted from the center, and when the car is in working order the steel-pointed dogs R R are, by the stirrup O and spring P, drawn away from the guides *a*; but in case of the breakage of any part, said dogs are, by the spring, thrown outward, so as to take hold of the guide-strips *a* and stop the car.

The main weight N is so arranged that auxiliary weights *p p* may be added as required for properly balancing the car.

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

1. In an elevator, the combination, with the pulley G and brake-band H, of the brake-lever I, provided with the prong I′, and the lock-lever J, constructed and operating substantially as and for the purposes set forth.

2. In combination with an elevator-car, a brake, and locking device, the cords or lines *h* and *h′*, said cords or lines being of different colors, whereby they may be easily distinguished from each other, for the purposes set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES H. MITCHELL.

Witnesses:

BERNHARD NEW,

CARL DEIER.