

F. P. CANFIELD.
Brake for Elevators.

No. 134,640.

Patented Jan. 7, 1873.

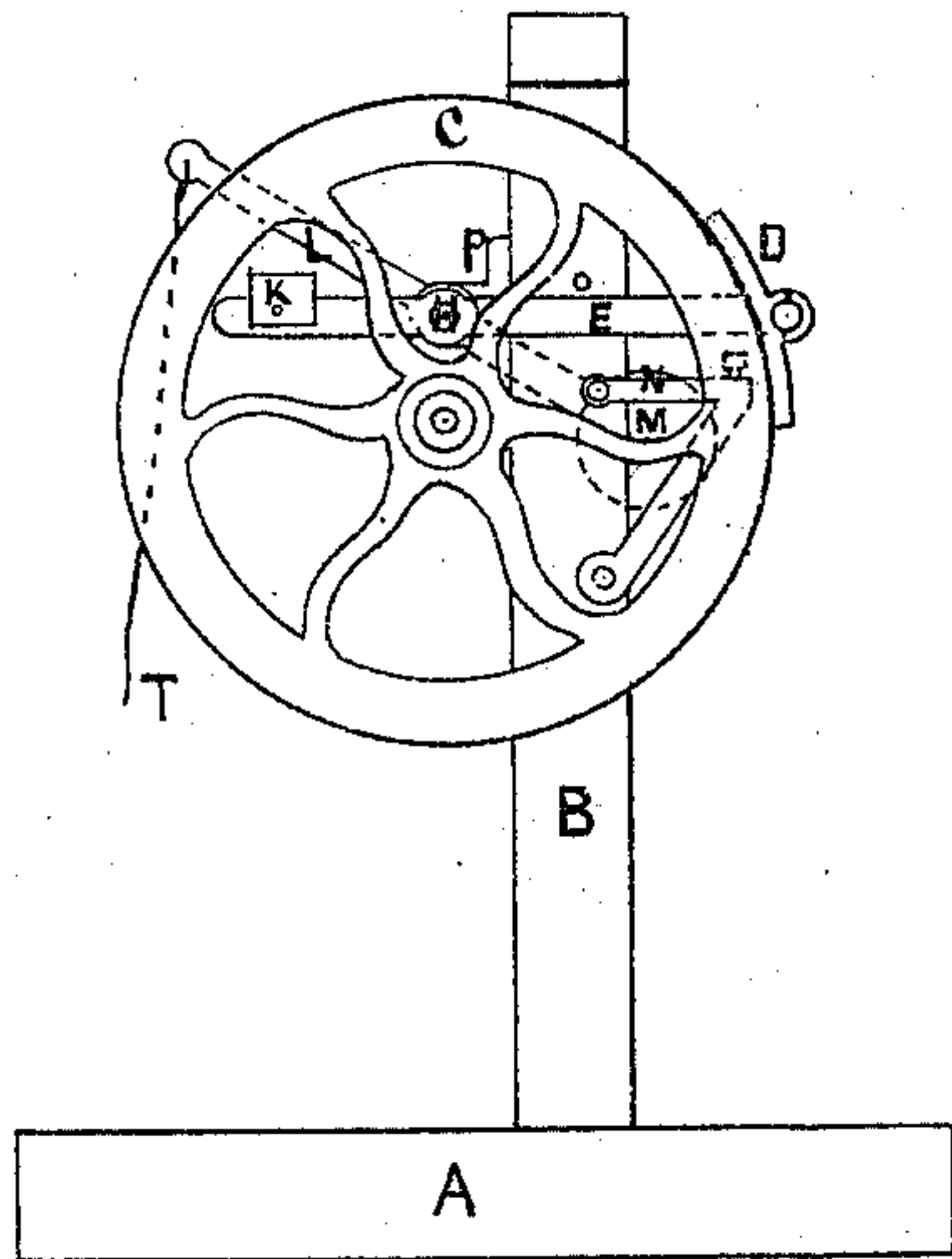


Fig. 1.

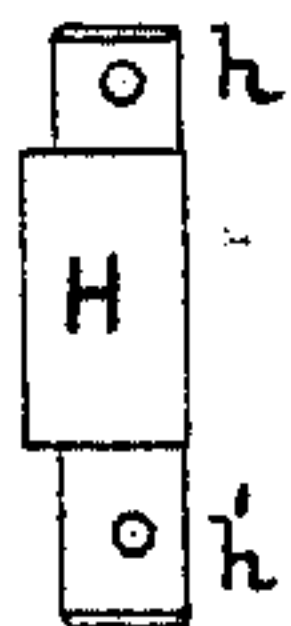


Fig. 3.

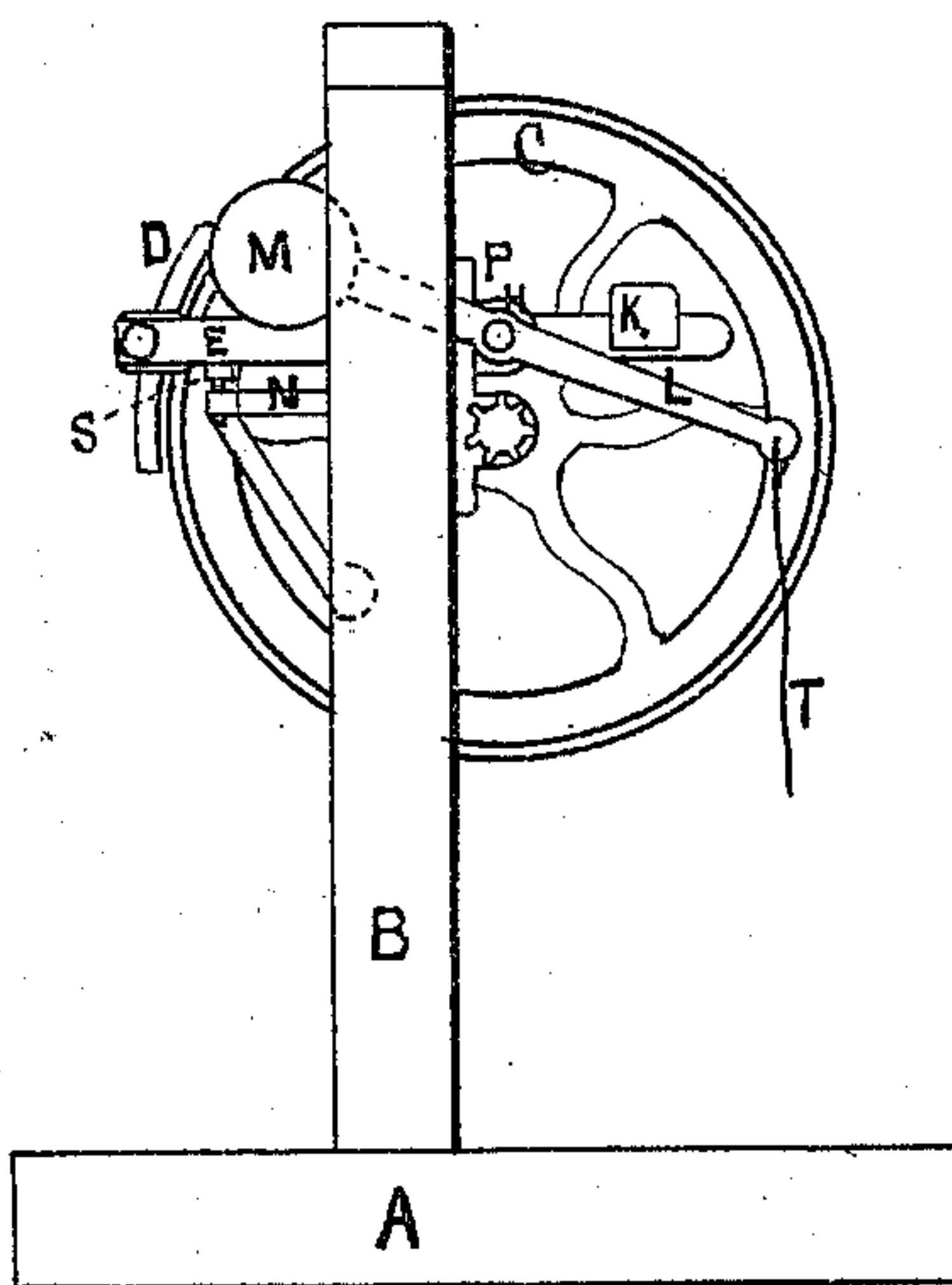


Fig. 2.

WITNESSES

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FELIX P. CANFIELD, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN BRAKES FOR ELEVATORS.

Specification forming part of Letters Patent No. 134,640, dated January 7, 1873.

To all whom it may concern:

Be it known that I, FELIX P. CANFIELD, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Brake for Elevators, &c., of which the following is a specification:

The Nature of the Invention.

The nature of my invention consists in a peculiar manner of hanging a brake-shoe upon a swinging arm, the arm being hung on an eccentric pivot which is operated by a lever so arranged that if the lever is turned in one direction the brake-shoe will be pushed away from the brake-surface of the wheel, the arm holding the shoe being supported by a bracket, so that when the eccentric pin upon which the brake-arm swings is turned to extend the arm the brake-shoe is suspended just out of contact with the wheel; but if the arm is drawn in, the brake-shoe comes in contact with the wheel, and, resting upon the bracket, stops the same.

The precise arrangement of this device will be best understood by reference to the drawing and specification.

Description of the Drawing.

Figures 1 and 2 are elevations taken from opposite sides of the machine. Fig. 3 is a section and plan of the eccentric pin or pivot upon which the brake-arm swings.

General Description.

A B is the frame upon which the wheel is hung. The wheel in the drawing is intended for an elevator or hoisting device; but the invention may be applied to any device upon which a brake is to be used. C is the wheel, and D the brake-shoe. E is a swinging lever, one end of which is pivoted to the brake-shoe D. This lever is hung upon an eccentric pin, shown at H, Figs. 1 and 2, and at H h', Fig. 3, which turns in a housing, P, Figs. 1 and 2, the brake-arm E being made fast to the pin H at h', while the operating-lever L is made fast to the opposite end h. As the part of the pin H that is in the housing P is eccentric to the parts h h' to which the brake-arm E and lever L are attached, it is evident that any movement of the pin about its center will cause a longitudinal movement of the arm E—that is, if the pin is turned in one direction the arm E will be extended so as to push the brake-shoe D away from the wheel; if turned in the other direction, the arm E

will draw the brake-shoe against the wheel C. The lever L is attached to the pin H at h, and has at one end a weight, M, and at the other end the rope or chain T. The lever E and weight M are so arranged in connection with the eccentric pin H that when the lever is left free—that is, not held by the rope T—the lever takes the position represented in Fig. 1, and the arm E is drawn in so as to bring the brake-shoe against the wheel; but if the lever L is drawn down by the rope T, as shown in Fig. 2, then the eccentric pin H throws out the arm E and brake-shoe D, so that the latter will not contact with the wheel C. N is a bracket attached to the frame B. In the upper part of this bracket I affix a screw, S, the head of which serves as a stop for the arm E to rest upon. This stop is necessary to prevent the brake-shoe D from following the wheel when the lever L is drawn down—that is, when the shoe is thrown away from the wheel; and also to allow the brake to come on gradually by the operation of the eccentric.

As arranged with the stop S, the amount of pressure of the brake-shoe D is perfectly regulated by the weight of the counterpoise M and the strain on the rope T. Thus, if the full weight of the counterpoise is allowed to act upon the lever L, it will, in turning the eccentric pin H, draw in the arm E sufficiently to bring the shoe in contact with the wheel, while the arm E is still above the stop S, thus allowing the action of the wheel to draw down the brake automatically so as to arrest all motion in that direction. The arm E being nearly counterpoised by the weight K, any tendency to motion of the wheel C in the opposite direction, as in hoisting, will instantly free the brake, allowing the wheel to revolve freely.

If the counterpoise is lifted, then but slight strain is brought to bear on the arm E, and the wheel may be stopped as gradually as desired, or allowed to revolve slowly, its motion being under absolute control by a slight strain on the rope T.

I claim as my invention—

The combination of the brake-arm E with the stop S, eccentric H, and lever L, operating substantially as described, and for the purpose set forth.

FELIX P. CANFIELD.

Witnesses:

FRANK G. PARKER,
H. FLOYD FAULKNER.