

E. BENJAMIN.

Brakes for Hoisting Machines.

No. 155,822.

Patented Oct. 13, 1874.

Fig. 1. Fig. 2.

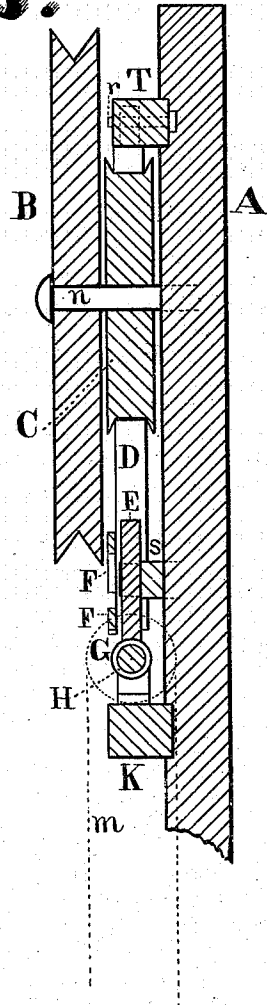
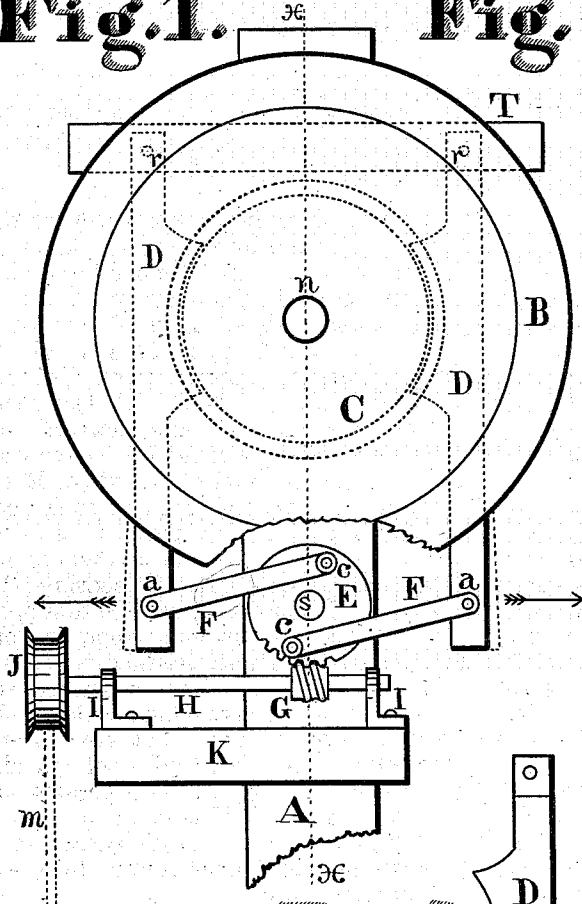


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

EDWIN BENJAMIN, OF CHICAGO, ILLINOIS, ASSIGNOR TO SAMUEL A. KENNEDY, OF SAME PLACE.

IMPROVEMENT IN BRAKES FOR HOISTING-MACHINES.

Specification forming part of Letters Patent No. **155,822**, dated October 13, 1874; application filed June 25, 1874.

To all whom it may concern:

Be it known that I, EDWIN BENJAMIN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Brakes for Hoisting-Machines, of which the following is a specification:

The object of the present invention is to provide a simple, cheap, and more effectual brake to be used in controlling the movement of the platforms of hoisting-machines, which are to elevate freight and other articles from one floor to another in warehouses and buildings.

The nature of the invention consists in the combination of two brake-levers with connecting-rods, a screw operated by a belt or cord, and a wrist-wheel, whereby, when the screw is operated, the wrist-wheel is turned so as to draw on the connecting-rods, and force the brake-levers against a friction-wheel, which, when retarded, checks the movement of the platform.

In the drawings, Figure 1 is an elevation of my improvement in brakes as attached to a hoisting-machine; Fig. 2, a vertical section thereof on line *x x*, Fig. 1; Fig. 3, an elevation of one of the brake-levers removed from the other part of the machine.

A represents one of the upright frame-pieces of a hoisting-machine, which may be of any size or shape desirable, according to the form or style of the machine to be built. B represents the sheave-wheel, which in the ordinary machine carries a rope for elevating the ordinary platform. This wheel is attached to the same journal or shaft *n* as the friction-wheel C, and, consequently, rotates with it, the journal *n* having a firm bearing in the upright A, as shown at Fig. 1. A cross-tree, T, Figs. 1 and 2, is rigidly secured to the uprights A, and to its ends are pivoted, at *r*, brake-levers D D, which are provided on their sides with curved surfaces corresponding to the periphery of those parts of the friction-wheel C with

which they come in contact, as shown at Figs. 1 and 3. To the lower ends of these brake-levers are pivoted, at *a*, connecting-rods F, the opposite ends of which are pivoted to wrists *c c* on a wheel, E. This wheel is pivoted to a stud, S, projecting out from the upright A, and its periphery, or a portion thereof, so much as is necessary, is provided with teeth suitable to engage a screw, G, on a shaft, H, so that, when the screw is turned by sheave-wheel J, or other similar device, the wheel E will be partially rotated, and draw or push upon the brake-levers D D, (by means of the rods F,) as the case may require, to set them to or from the wheel C. Any suitable bearings, I, having seats on a cross-tree, are used to support the shaft H, and any ordinary rope or cord, *m*, may be used to rotate the sheave J.

In the foregoing I have described several parts of a hoisting-machine which I do not claim to have invented; but have been thus particular to enable a builder of machines to understand how my device operates and effects the stoppage of the machine.

In practice it may be necessary to coil a rope two or more times round the sheave J, in order to turn it.

The operation is simple, requiring only that the rope *m* be drawn in one direction to bring the levers D onto the wheel C, and drawn in an opposite direction to release the levers or brake.

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

The combination of the wheel E, connecting-rods F F, brake-levers D D, friction-wheel C, and shaft H with its screw-thread G and sheave-wheel J, substantially as and for the purpose set forth.

EDWIN BENJAMIN.

Witnesses:

JOHN H. ELLIOTT,
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