

R. DUNBAR.

Safety Platforms for Elevators.

No. 140,190.

Patented June 24, 1873.

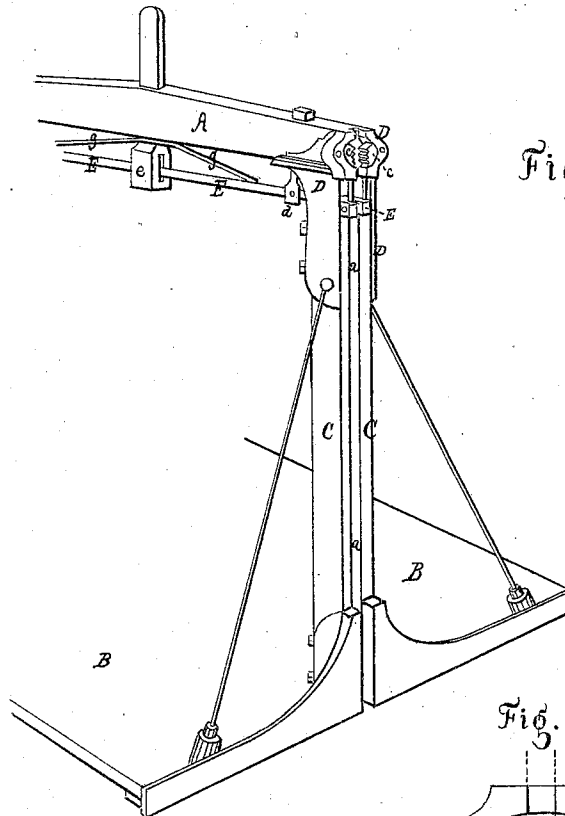


Fig. 1.

Fig. 3.



Fig. 4.

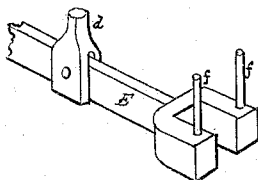
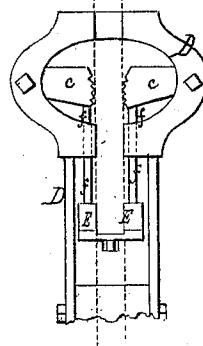


Fig. 2.



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UNITED STATES PATENT OFFICE.

ROBERT DUNBAR, OF BUFFALO, NEW YORK.

IMPROVEMENT IN SAFETY-PLATFORMS FOR ELEVATORS.

Specification forming part of Letters Patent No. 140,190, dated June 24, 1873; application filed May 16, 1873.

To all whom it may concern:

Be it known that I, ROBERT DUNBAR, of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Safety Lifts or Elevators, of which the following is a specification:

This invention relates to hoists or elevators used in dwellings, stores, hotels, &c., and the object of the invention is to insure that in case the hoisting rope or cable breaks the elevator will stop its movement on the instant and thus make it a perfect safety-lift.

The invention consists in the elevator-platform having the forked lever pivoted to the cross-beam, and their inner ends loosely arranged in the draw-head, said levers having near their outer ends vertical pins for operating the toothed eccentrics within the metal caps; and it further consists in the elevator platform, having upright posts and cross-beam provided at their ends with metal caps having pivoted within two toothed eccentric cams to bite on each side of the guide-ways.

In the drawings, Figure 1 is a perspective of one-half the elevator; Fig. 2, front view of the cap, showing the cams, &c.; Fig. 3, perspective view of the rail; Fig. 4, perspective view of the catch, lever, and pins.

A represents the beam and B the floor of the elevator. CC are the upright frame-posts connecting the cross-beam A and the floor of the carriage. These are constructed with a square groove, *a*, in the outside face of each in which runs a smooth T-shaped rail, as shown in Fig. 3. The upper corners of these uprights are provided with strong metal caps, D, see Figs. 1 and 2, in which are eccentric cams *c c*, which work on pins or pivots. The edges or faces of these eccentrics are serrated or toothed; the object to be hereinafter explained. E E are the two spring catch-levers, each arranged in a hanger, *d*, the inner ends sitting in the draw-head, *e*; the outer ends made fork-shaped to inclose the sides of the rail of the ways, and each prong of the fork provided with an upright pin, *f f*, whose ends or points come in contact with the bottom of the eccentric cams *c c*, the eccentrics resting on the ends of these pins, as shown

in Fig. 1. Fig. 2 shows the position of the cams when the rope is broken and the cams in contact with the sides of the railway. The springs *g g* are merely to aid in throwing these catch-levers up, and, consequently, engaging pins *f f*, which throw the cams up.

The eccentric faces of these cams are among the important features of this invention, as from their form they, when the draw-cable breaks, as it is apt to, will at once clutch the sides of the rail, and the greater the strain or weight on the carriage the more they press against the rail. To further aid in this object I serrate the face of each cam, or form it with teeth, as shown, which nip or bite the rail and prevent any possible sliding; the instant the rope breaks the springs *g g* throw the ends of the levers and the pins up, springing the cams against the sides of the rail, as hereinbefore stated. Most of the devices with which I am acquainted, for arresting the elevator in case of accident, operate directly on the single face or cogs of the railway, and which are liable to slip or break, as is well known. By my arrangement there is an immense pressure on the four sides of the railways instead of on the two faces, thus greatly insuring its immovability and giving perfect protection against accidents to the hoisting apparatus.

I claim—

1. The forked levers E E pivoted to the hangers *d*, and their ends loosely arranged in the draw-head *e*, said levers being provided with vertical pins *f* on each fork for operating the cams *c c*, substantially as herein described.

2. The caps D D having within two eccentric pivoted cams, *c c*, in combination with the forked levers E E and with the T-shaped rail located in the standards *c c*, the whole constructed and operated as herein described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ROBERT DUNBAR.

Witnesses:

J. R. DRAKE,
JO. M. SPIES.