

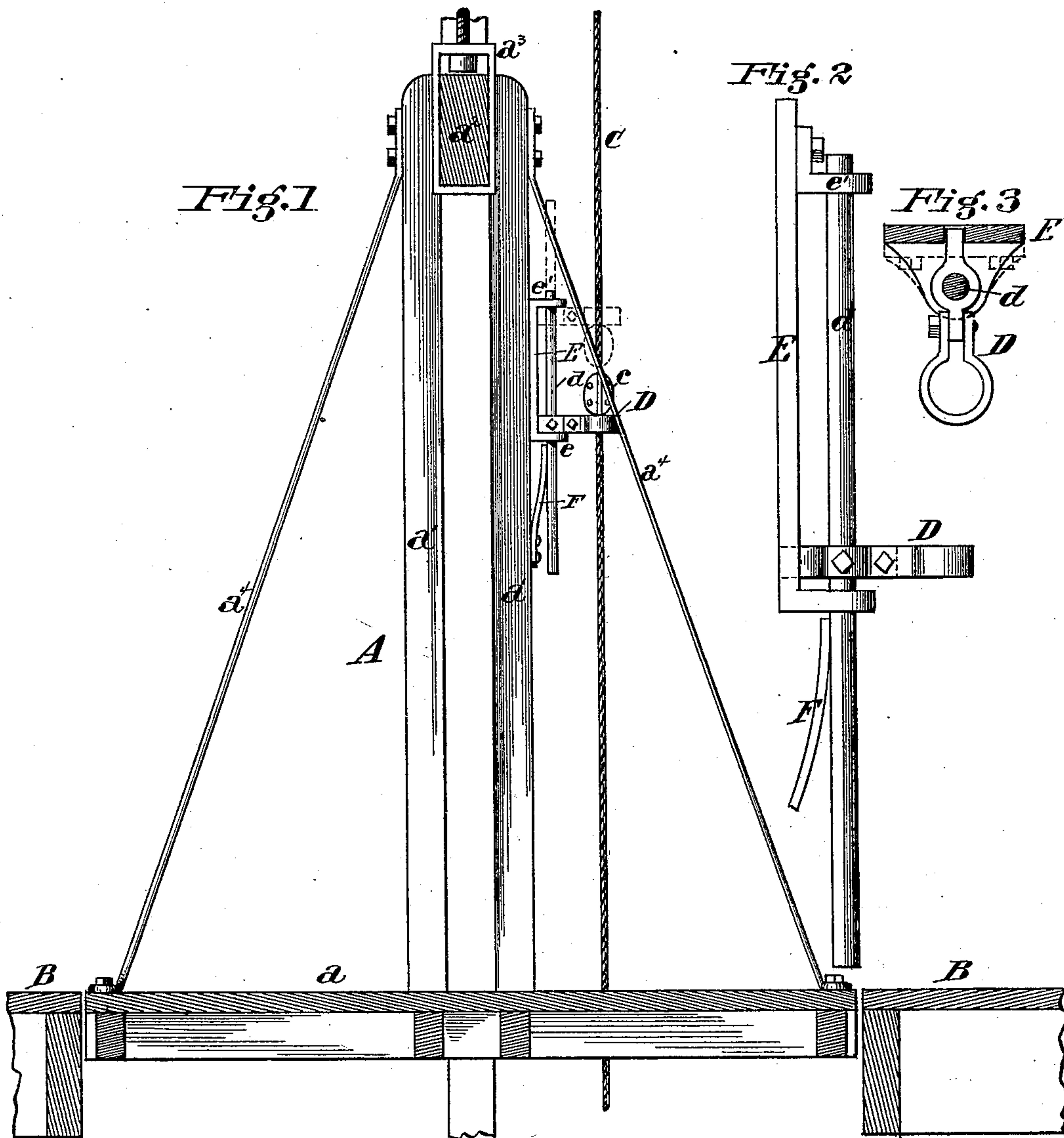
(No Model.)

G. F. HAMMER.

Automatic Stop for Elevators.

No. 243,552.

Patented June 28, 1881.



Attest

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AUTOMATIC STOP FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 243,552, dated June 28, 1881.

Application filed May 25, 1881. (No model.)

To all whom it may concern :

Be it known that I, GUSTAV F. HAMMER, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and
5 useful Improvements in Automatic Stops for Elevators, of which the following is a specification.

My invention is in the nature of an improvement upon automatic stops for that class of
10 elevators which are controlled in their rise and fall by means of fixed stops on the actuating rod or chain, which are caused to engage with corresponding fixed stops on the cage or platform and automatically stop the motion of the
15 machine, and has for its object the construction of that portion of the stop which is attached to the platform or cage in such a manner that the motion of the platform, whether from below upward or above downward, will
20 cease when the floor thereof coincides or is level with the floor of the building.

In all of the automatic stops hitherto in use the adjustment is had to cause the floor of the platform or cage to coincide with the floor of
25 the building when stopped upon its upward motion, but upon its downward motion will cause the floor of the platform to stop several inches above the floor of the building, whence the adjustment of the platform to the floor of
30 the building during the downward motion thereof is always made by hand, and the stop-motion is automatic only during the ascent of the platform.

My invention consists in providing upon the
35 cage or platform of the elevator a check piece or stop mounted in a suitable frame or bracket, in which it has an adjustable vertical movement equivalent to the difference of levels of platform and floor of building when stopped
40 automatically upon its downward motion by the old-fashioned fixed stop on the platform engaging with the controlling rod or rope. The normal position of my adjustable sliding stop is at the bottom of the bracket, in which
45 position, upon the rise of the platform, the action is similar to that of the fixed stop-piece now generally in use; but upon the descent of the platform the stop, upon engaging with the corresponding stop on the controlling rod or
50 rope, first travels upward to the opposite extremity of the bracket, and then exerts the pull

on the rod or rope to control the elevating machinery and promptly stop the platform upon its coincidence with the floor of the building.

In the accompanying drawings, Figure 1 is
55 a vertical section through the platform of an elevator and floor of a building. Fig. 2 is an enlarged elevation of my improved stop, and Fig. 3 is a plan thereof.

Similar letters of reference indicate similar
60 parts.

A is the ordinary platform of an elevator, consisting of the usual floor, *a*, posts *a'* *a'*, cross-beam *a*², stirrup *a*³, and diagonal tie-rods *a*⁴ *a*⁴.

B B is a floor of the building, which in Fig. 65
1 is shown to coincide with the floor of the platform A.

C is the controlling rope, chain, or rod, according to the peculiar form of elevator, furnished for each floor of the building through
70 which the elevator passes with stops or pieces *c*, which are securely clamped or screwed to the rope C.

D is the adjustable sliding stop, consisting in the present instance of a ring or eye considerably larger than the stop-piece *c*, and set so
75 as to permit the free passage of the piece *c* through it, excepting when the rope C is drawn slightly out of line, when the stop-piece *c* engages with the sliding stop D and checks the
80 motion of the platform. The piece D is provided with a rod, *d*, which is fitted to corresponding guide-holes in the cheeks *e* *e'* of the bracket or frame E.

In Fig. 2 the upper cheek, *e'*, of the bracket 85
E is constructed as an independent piece and clamped in position against the face of the bracket, by means of which it may be adjusted to produce a larger or smaller travel of the
90 sliding stop D before the pulling effect is exerted upon the rope C.

A weak spring, F, secured to the post *a'* of the platform, impinges against the lower portion of the rod *d* and causes the stop D to
95 move quietly up and down in the bracket. The bracket E is firmly attached to the post *a'* by bolts or screws.

The position of the sliding stop D when engaging with the piece *c* on the controlling-rope during the upward motion of the platform is
100 shown by full lines in Fig. 1, and by dotted lines, same figure, when engaging with the

piece *c* upon the downward motion of the platform. The stop-piece D rests upon the lower cheek, *e*, upon the upward motion of the platform A, and the stop *c* on the rope C is adjusted in position to stop the platform when the floor *a* coincides with the floor B. Upon the downward motion of the platform the stop D still rests upon the lower cheek, *e*, until the rope C is drawn out of line sufficiently to engage the stops *c* and D, when the stop D is drawn up against the upper cheek, *e'*, which arrests its motion and causes it to stop the motion of the platform, as already described. The stop-piece D slides downward by gravity.

The peculiar form of the piece D shown in Fig. 3 is only used with a rope-shifter, a simple arm attached to the sliding rod *d* being used instead in adapting the device to an elevator controlled by a stiff rod.

Having described my invention, what I claim is—

1. An automatic stop for elevators, consisting, essentially, of the adjustable sliding piece

D, in combination with the platform A and controlling rope or rod C, so arranged independently and with relation to each other that the floors of the platform and building will coincide, whether the platform be automatically stopped during the upward or downward motion thereof, substantially as described.

2. An automatic adjustable sliding stop for elevators, consisting of the piece D, bracket E, fixed cheek *e*, adjustable cheek *e'*, and sliding rod *d*, substantially as and for the purpose described.

3. The combination of the adjustable sliding stop D, bracket E, platform A, and stop *c*, substantially as and for the purpose described.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

GUSTAV F. HAMMER.

Witnesses:

WM. J. MOLLOY,
A. BEEKER.