

(No Model.)

R. J. MORRISON.
SAFETY ATTACHMENT FOR ELEVATORS.

No. 494,933.

Patented Apr. 4, 1893.

Fig. I.

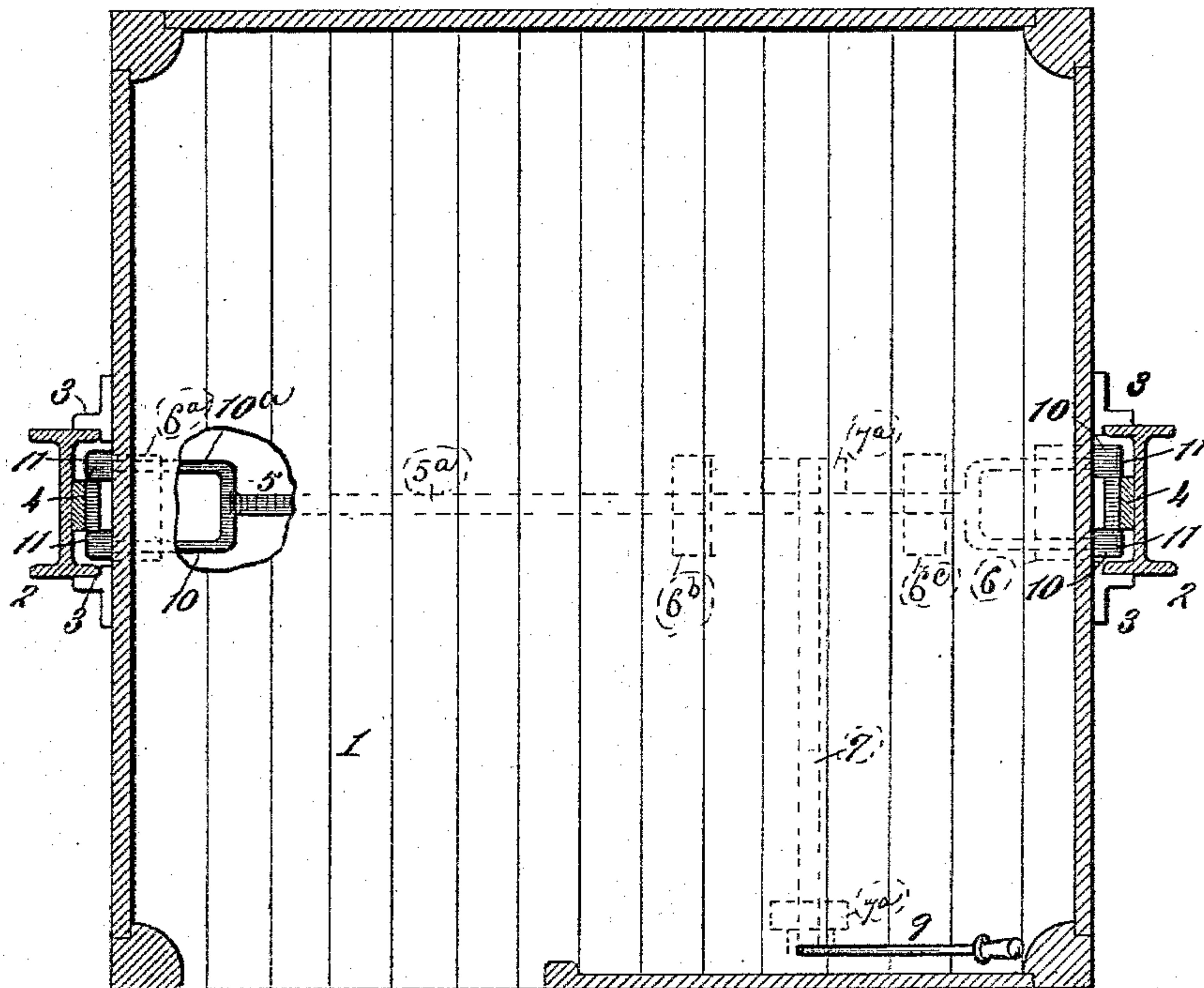
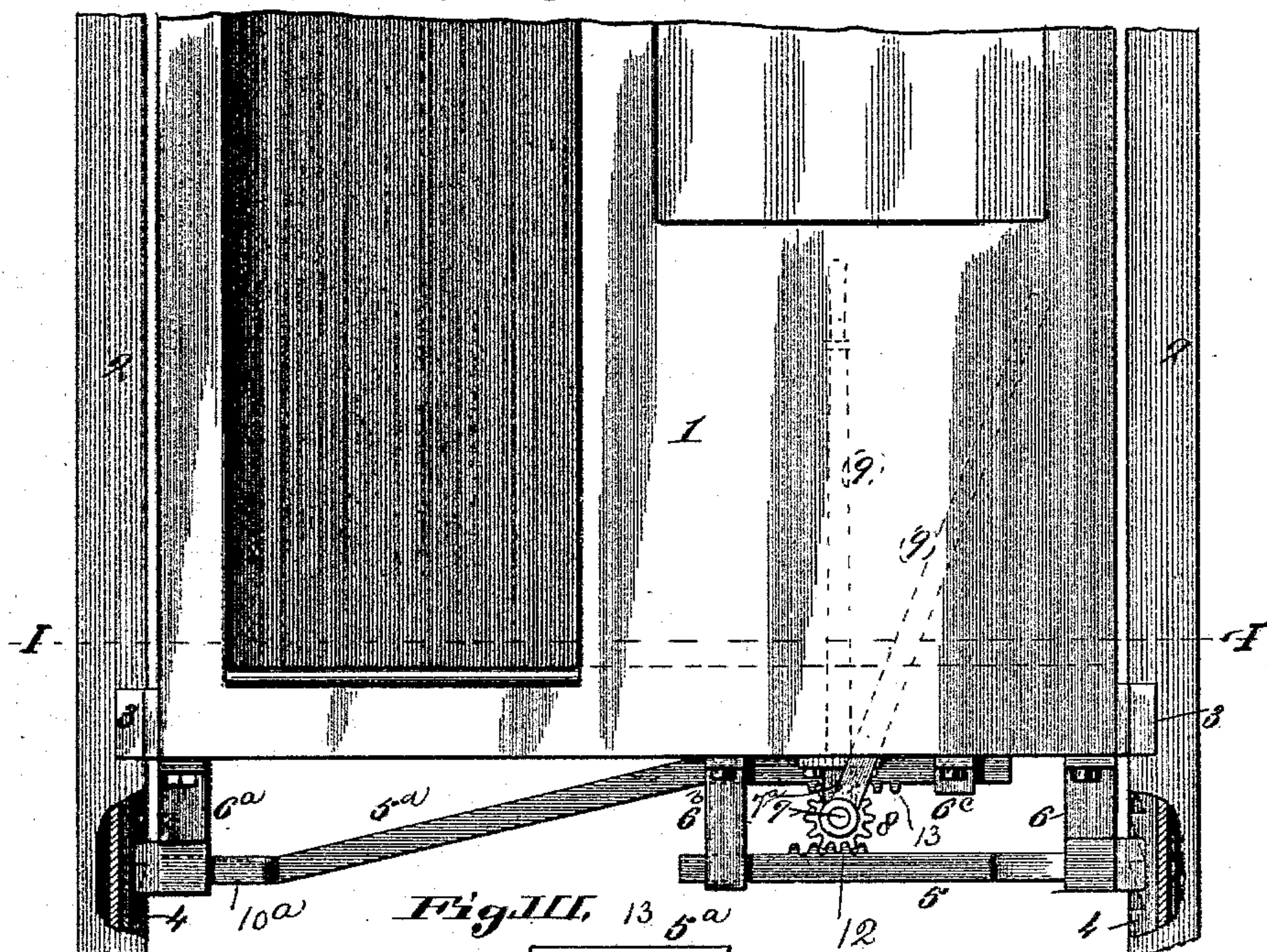


Fig. II.



Attest:
Walter E. Allen.
Gov. Comm.

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UNITED STATES PATENT OFFICE.

ROBERT J. MORRISON, OF ST. LOUIS, MISSOURI.

SAFETY ATTACHMENT FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 494,933, dated April 4, 1893.

Application filed August 12, 1892. Serial No. 442,891. (No model.)

To all whom it may concern:

Be it known that I, ROBERT J. MORRISON, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Safety Attachments for Elevators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a simple, cheap, durable and effective attachment for elevators, by which the descent of the cage can be gradually stopped and held in case of breakage of the hoisting rope, or in case of the hoisting machinery getting out of order.

My invention consists in features of novelty hereinafter fully described and pointed out in the claim.

Figure I is a transverse section through the cage and uprights or guide posts of an elevator; my attachment being shown in top or plan view. The section is taken on line I—I, Fig. II. Fig. II is a detail, side elevation, showing parts of the uprights or posts removed. Fig. III is a detail view.

Referring to the drawings, 1 represents the cage of a passenger or other elevator.

2 represents the uprights or posts which guide the elevator in its upward and downward movement. These uprights or posts I prefer to make of I beams or bars, as shown in Fig. I, so that they will present a strong, unyielding surface against lateral strain.

3 are the brackets which guide the cage on the uprights or posts.

4 represents the usual notched vertical bars secured to the uprights or posts, and which may be utilized, if desired, to work in connection with the usual automatic check, if it is desired to apply such a check.

6, 6^a are side pendent boxes, 6^b is an intermediate pendent box located between the side boxes, and 6^c is a short pendent box located between the intermediate box and one of the side boxes and all secured to the bottom of the cage. Adapted to slide in the boxes 6 and 6^b is a short lower bar 5 formed with a forked or bifurcated head 10, and a rack 12 on its upper side.

5^a is a long upper bar bent and formed with a forked or bifurcated head 10^a, in line with

the head of the lower bar, and a rack 13 on its under side, located over the rack on the lower bar, and adapted to slide in the boxes 6^a, 6^b, and 6^c.

7 represents a rock-shaft journaled in boxes 7^a secured to the cage, and which is provided with a pinion 8 located between and engaging the cogs or teeth of the racks or bars 5 5^a, one rack being beneath the pinion and the other above the pinion, so that when the shaft 7 is turned, the racks will be moved in opposite directions, each away from the center of the cage; and when the shaft is turned back, the racks will be both moved inwardly, or retracted.

9 represents a lever secured to the shaft 7 for rocking it, and moving the racks. The outer end of each bar which is forked or bifurcated, straddles the notched bars 4. The outer ends or surfaces 11 of each head 10 10^a are adapted to bear against the uprights or guide posts 2, when the bars are moved outwardly as described, thus producing a frictional contact between the heads of the bars and the uprights to check the cage and stop its descent in case of accident.

The operation is simply that of taking hold of the lever 9, and, by rocking the shaft 7, moving the bars 5 outwardly to press the bearing surfaces 11 of their heads 10 10^a against the flat surface of the uprights, and, by making the uprights of I beams or bars, as stated, and as shown in the drawings, a very rigid resistance is provided for the heads of the bars to press against. It will be seen that, by the use of a frictional device of this kind, the descent of the cage will be checked and stopped gradually, and with practically no danger of breakage of the parts as would be the case were a positive stop used, such, for instance, as having the bars engage positively with the notches of the bars 4.

I claim as my invention—

The combination, with a cage, and the uprights by which the cage is guided; of the pendent side boxes 6, 6^a, the pendent intermediate box 6^b and the pendent short box 6^c secured to the bottom of the cage, the short lower bar 5 sliding in the intermediate box and in one of the side boxes and having a forked head 10 adapted to bear on the upright

adjacent thereto, and a rack 12 on its upper side, the bent long upper bar 5^a sliding in the other side box and in the short box, and having a forked head 10^a, adapted to bear on the
5 upright adjacent thereto, and a rack 13 on its under side located over the rack on the lower bar, the bearings 7^a secured to the bottom of the cage, the rock-shaft 7 mounted in said bearings, the pinion 8, located between the racks and secured to the rock-shaft, and the lever 9 secured to the rock-shaft, by which the device is operated; substantially as described.

ROBERT J. MORRISON.

In presence of—

ALBERT M. EBERSOLE,
ED. S. KNIGHT.