

(No Model.)

A. H. HALL.
Safety Appliance for Elevators.

No. 230,006.

Patented July 13, 1880.

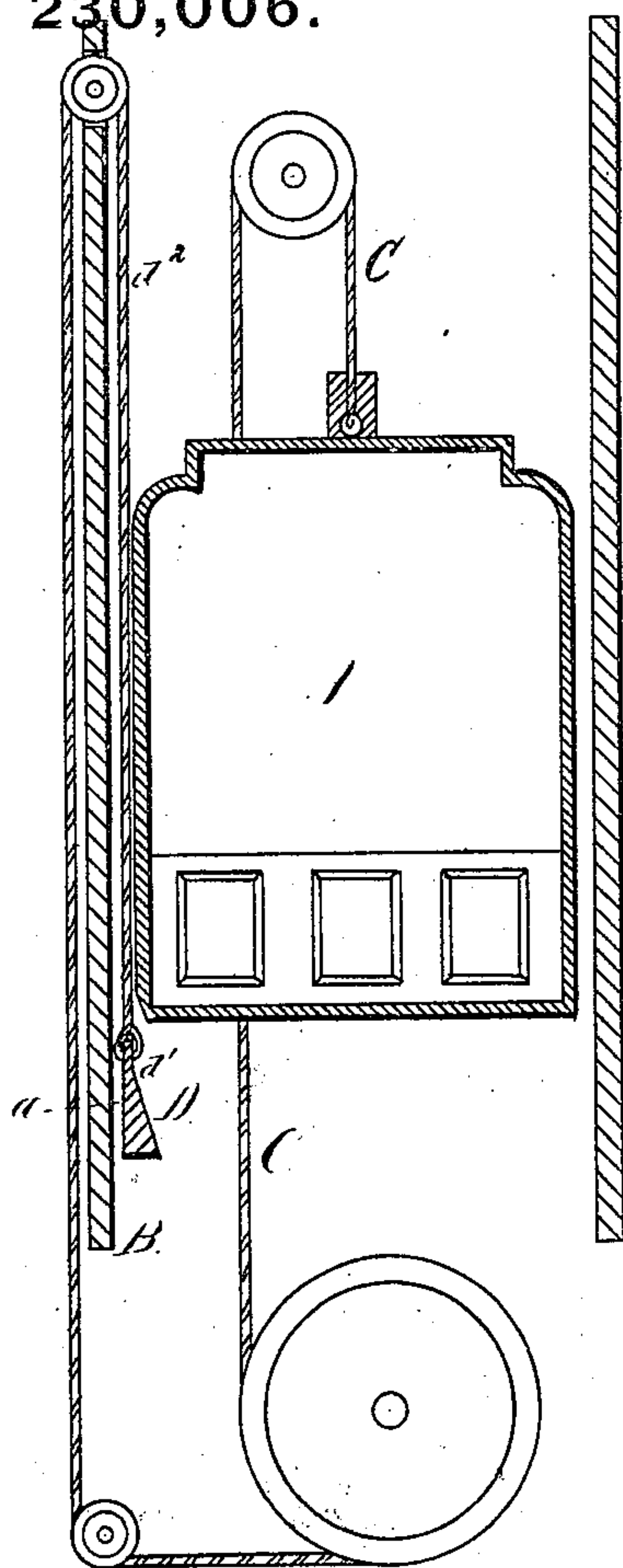


Fig. 1.

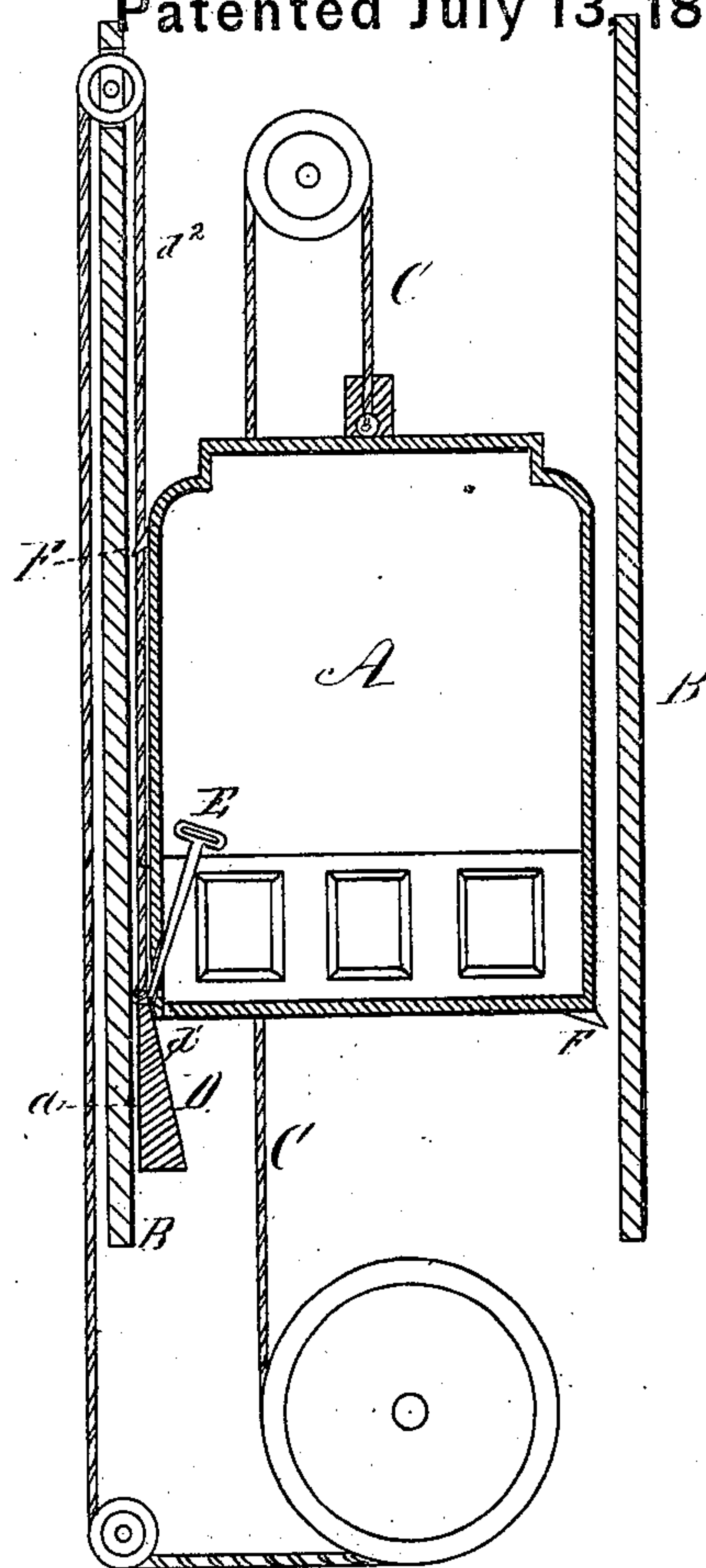


Fig. 2.

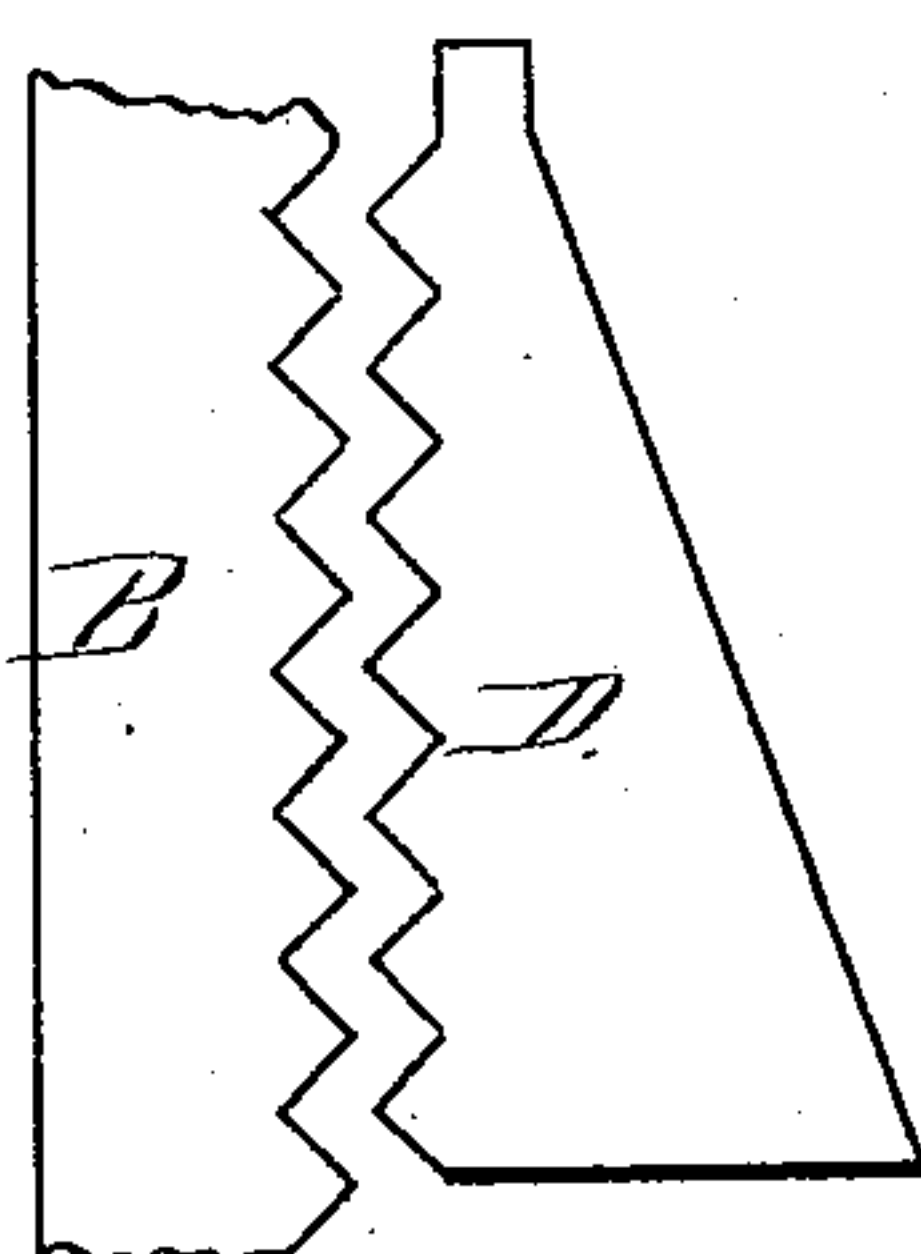


Fig. 3.

WITNESSES

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SAFETY APPLIANCE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 230,006, dated July 13, 1880.

Application filed May 27, 1880. (No model.)

To all whom it may concern:

Be it known that I, ALFRED H. HALL, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved
5 Safety Appliance for Elevators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

10 Figure 1 represents an elevator-car and its well with my improvements applied thereto. Fig. 2 is a similar view, showing a method of operating the wedge from within the car; Fig. 3, detail.

15 It is very essential that elevators be provided with means whereby the car may be stopped upon the breaking of the hoisting-rope, and various devices have been invented for this purpose. Most of them relate to levers
20 or cams which are attached to the car and are arranged to engage with racks upon the walls of the elevator-well upon the breaking of the hoisting-rope, and in actual practice many of these methods have proved to be impracticable.

My invention consists in certain details of construction, as hereinafter set forth and specifically claimed.

In the said drawings, A represents an elevator-car; B, two walls of the elevator-well; C, the hoisting-rope by which the elevator is raised and lowered; D, a wedge-shaped block having the straight surface *a*, which is adapted to bear against the wall of the elevator and
35 the inclined surface *d'*.

The block is suspended by means of the rope *d*², and is raised and lowered with the elevator-car thereby, the point of the wedge being as close to the bottom of the elevator-car as practicable. In some instances it may extend somewhat above the lower line of the bottom of the elevator-car, and, if desirable, the lower corner of the elevator-car may be slightly cut away, as represented in Figs. 1 and 2, to more
40 readily receive the point of the wedge.

The wedge-block may be raised and lowered by the same drum that is used in winding and unwinding the car-hoisting rope, or it may be operated in any other desirable way, the essential feature of this part of the invention being
50 the wedge-shaped block, not connected with

the car or its hoisting-rope, arranged to travel with the car, immediately below it, in such a position that upon the breaking of the hoisting-rope the car shall descend thereon with as
55 little momentum as possible, and become wedged between the walls of the elevator-well.

The wedge-block is connected with the car by means of a lever, or some other suitable device in the car may be used for regulating
60 the position of the wedge-block in relation to the bottom of the car, and even for drawing the wedge-block in that position for the purpose of stopping the car if the independent suspending-rope be not employed; but I prefer that the independent suspending-rope be
65 used.

In Fig. 3 I represent a modification in the shape of the wedge-block, in which there is arranged on one wall of the elevator-well a
70 series of projections extending from the bottom of the well to the top, and upon or close to which the wedge-block, having upon the face which travels on the side of the well a similar series of elevations and depressions,
75 whereby, upon the breaking of the hoisting-rope and the descent of the car upon the wedge, the wedge is more securely held in position than if no means for locking the wedge were employed.

The elevator-car, if desired, may be provided with teeth F upon its lower end, opposite the wedge-block, which shall project outward therefrom and are securely fastened thereto, and which, when the elevator-car is
80 canted by coming in contact with the wedge, will be forced into the side of the elevator-well; and like teeth, for the same purpose, to act in the same way, may be attached to the upper edge or corner of the elevator-car above
85 the wedge. The rope for supporting the wedge-block preferably should run in a groove or recess in the elevator-well.

The advantages of this invention over the other safety appliances consist principally in
95 its efficiency in operation and its cheapness of construction, and in its being less liable to get out of repair.

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

1. The combination of the wedge-block D,

having a movement with the elevator-car, and means whereby the location of the wedge-block in relation to the car may be varied from within the car, substantially as and for the purposes described.

5 2. The combination of a wedge-shaped block having a movement in an elevator-well coincident with that of the elevator-car by an independent supporting-rope, and the car pro-

vided with teeth F upon its lower and upper corners or lower corner or edges or edge, substantially as and for the purpose described.

Witness my hand this 22d day of May, A. D. 1880.

ALFRED H. HALL.

In presence of—

F. ERNEST CABOT,
SAMUEL W. TUCKER.