David B. Thompson's Improvement in Elevators for Buildings.

Sheet 1.

75220

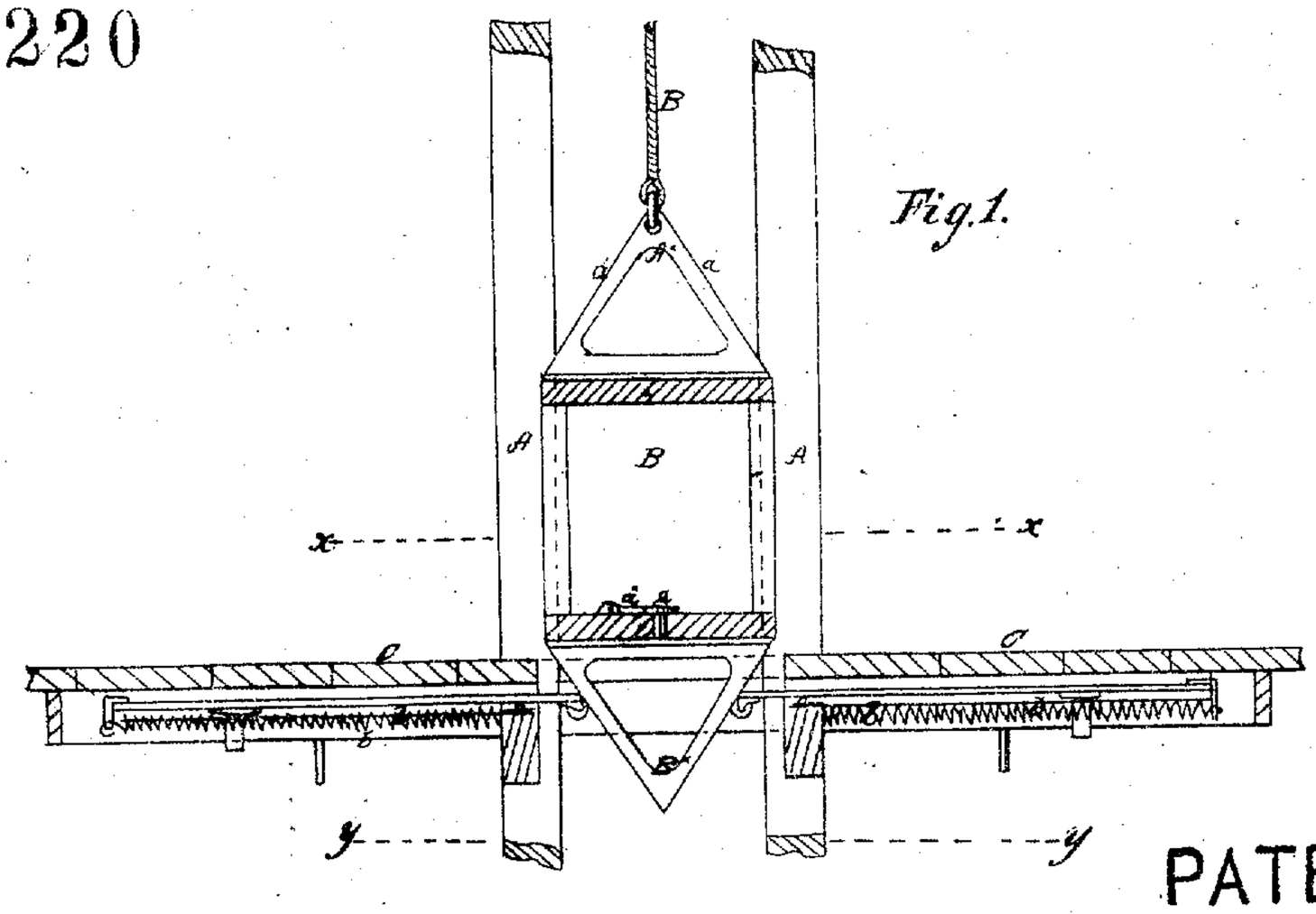


Fig. 1.

PATENTED
MAR 3 1868

Fig 2.

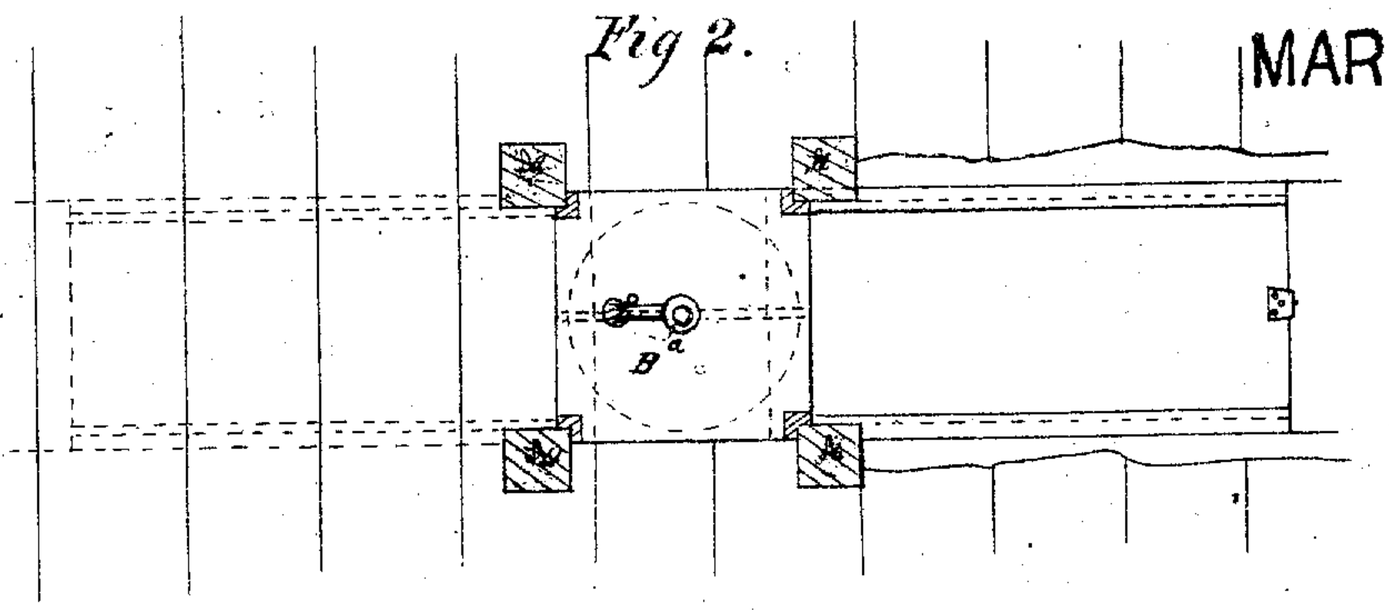
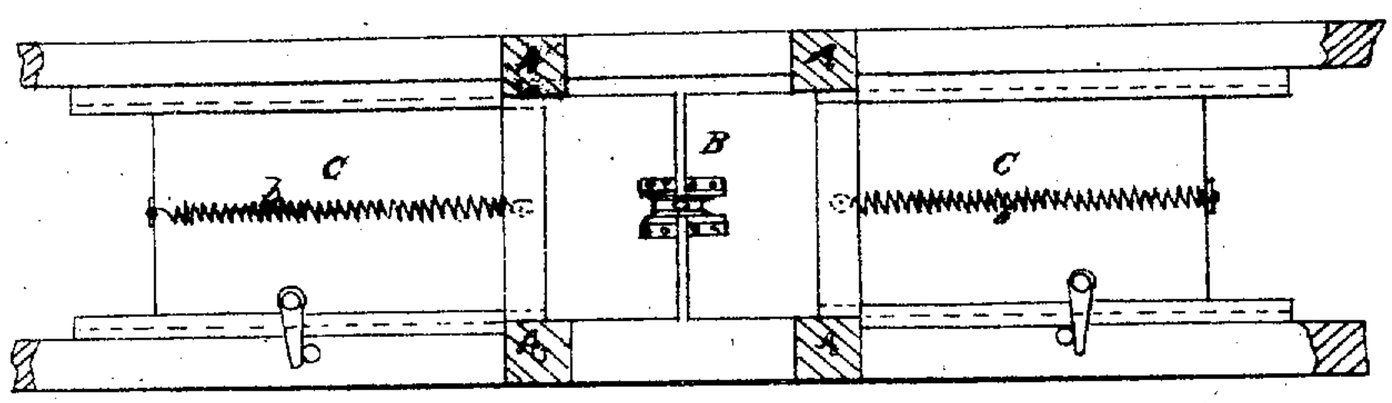


Fig 3



Witnesses.
J. M. Coomb
A. Lecleve

D. B. Thompson.

Sheet 2.

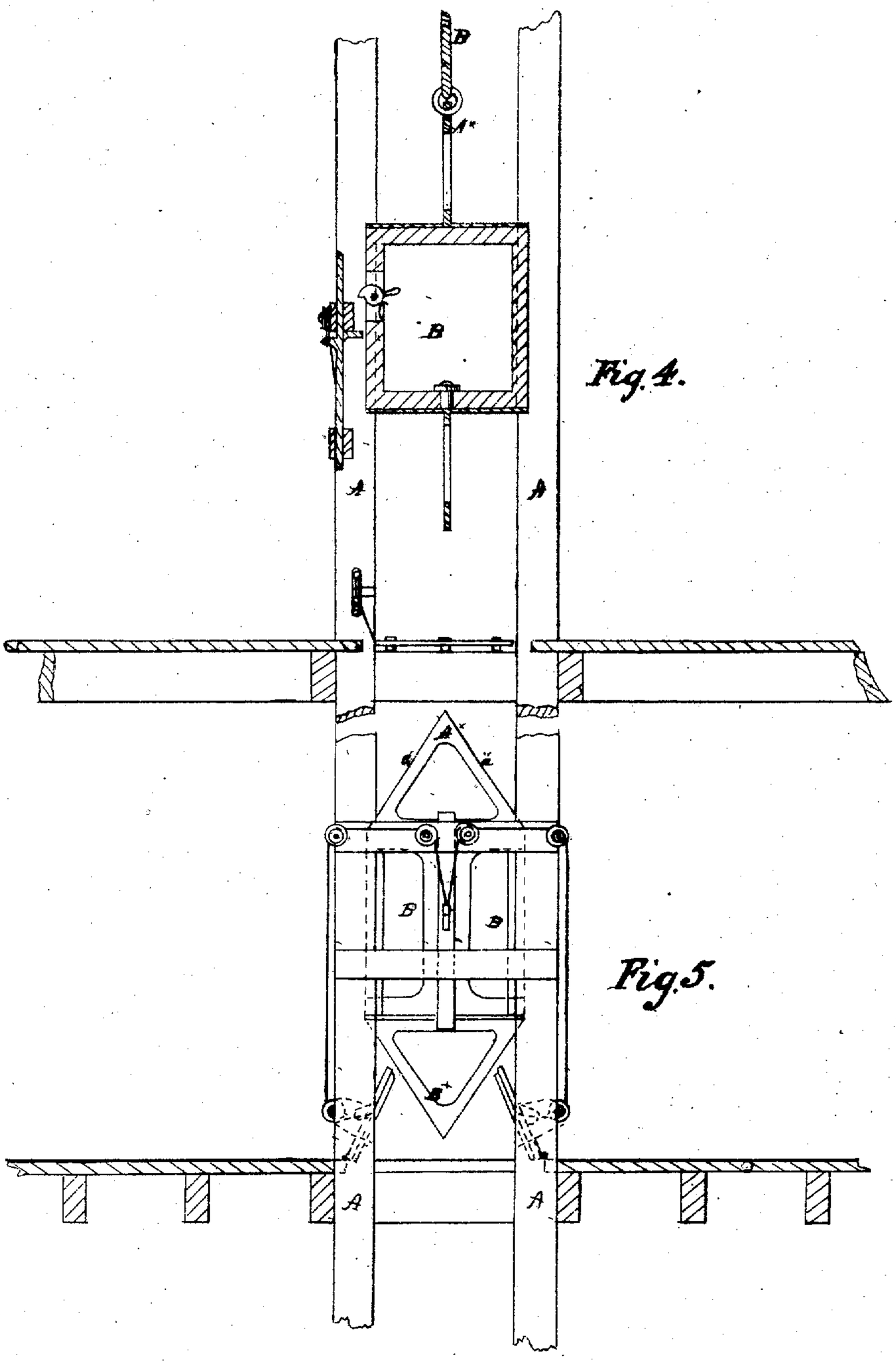


Fig. 4.

Fig. 5.

Witnesses.
M. Coombs
A. Leckey

D. B. Thompson.

United States Patent Office.

DAVID B. THOMPSON, OF BROOKLYN, NEW YORK.

Letters Patent No. 75,220, *dated March* 3, 1868.

IMPROVEMENT IN ELEVATORS FOR BUILDINGS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, DAVID B. THOMPSON, of Brooklyn, in the county of Kings, and State of New York, have invented certain new and useful Improvements in Elevators for Buildings; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a portion of this specification, in which—

Figure 1 is a vertical transverse section of an elevator made according to my invention, together with the hatchway of the same.

Figure 2 is a horizontal section of the same, taken in the line *x x* of fig. 1.

Figure 3 is an inverted transverse section, taken in the line *y y* of fig. 1.

Figure 4 is a vertical transverse section, showing the mode of employing a portion of my invention in hatchways having hinged or upwardly-moving safety-doors or hatches.

Figure 5 is a side view of the same, taken at right angles to fig. 4.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to that class of elevators employed in buildings for carrying goods, persons, &c., from one story to another, and its object is to provide an efficient means of automatically opening and closing the safety-hatches of the hatchway in which the elevator may be situated, by the movement of the elevator, and, furthermore, to insure the stoppage of the elevator by the hatches in the event of the breaking of the suspending-rope of the elevator.

The invention consists in constructing the elevator with one or more inclined planes at its upper end, in such manner that, in its upward movement, the planes will operate to open or separate the safety-hatches, whether hinged or sliding, to permit the passage of the elevator.

The invention further consists in providing the elevator with one or more inclined planes at its lower end, in such a way that the elevator, in its descent, may separate or open the hatches, when the same are designed to slide horizontally, to allow the downward movement of the elevator.

The invention further consists in making the inclined plane or planes last mentioned adjustable upon a vertical axis, so that, when desired, the same may be rendered inoperative with reference to the sliding hatches, to the end that in case the suspension-rope should, from any cause, be severed, the farther descent of the elevator may be prevented by the hatches.

To enable others to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

A represents the guides at the corners of the hatchway, between which the car or elevator B has its vertical movement. The elevator B may be of any ordinary or suitable construction, and has attached to its upper end a strong angular plate, A*, which, having its two edges, *a'*, inclined to each other, as shown in figs. 1 and 5, constitutes a double inclined plane, to the apex of which is attached the draught or suspension-rope B, the latter being operated to raise and lower the elevator by any ordinary or suitable means. The position of the plate or double inclined plane A* is transverse to the innermost edges of the doors or hatches C, so that the edges or inclined planes *a'* shall act on such edges of the hatches, when the elevator is moved upward, as presently herein set forth. Another plate or double inclined plane, B*, of similar construction, is attached to the bottom of the elevator, by means of a strong vertical pivot, *a*, in such manner that it may be either placed in a position corresponding to that of the one, A*, at the top of the elevator, or be turned by means of a crank-handle, *a**, at its upper end, at right angles to such position, the purpose of which will presently herein appear. The two doors or hatches, designed to close the hatchway at each floor, except when the elevator is passing through the same, are shown at C, and are preferably made to slide horizontally, in suitable guides, and are forced toward each other, to close the hatchway, by spiral springs *b*, or by suitable weights, their inner edges coming nearly together at the centre of the hatchway, at which passes the suspension-rope of the elevator, such inner edges of the hatches being furnished preferably with friction-rollers *c*, against which the double inclined planes act in operating the hatches. The elevator being situated below the hatches, with the suspension-rope passing between the latter, is drawn up thereby, whereupon the double inclined plane A*, passing up between the two hatches, forces them apart during such passage. After the elevator has passed up, the hatches are forced

inward again, to close the hatchway by the springs *b*. The operation of the double inclined plane A* is substantially the same, when the doors, instead of sliding horizontally, are hinged at their outer edges, as shown in fig. 5, the doors in this latter case being swung upward, to open by the action of the double or single inclined plane upon their inner edges.

In the descent of the elevator, when, as is preferably the case, the sliding hatches are employed, the double inclined plane B*, on the bottom of the elevator, being placed in a position corresponding to that of the upper one, A*, passes, descending with the movement of the elevator down between the hatches, and forces the same apart, to permit the downward movement of the elevator between them, in the same manner that the one, A*, operates to force them apart in the upward movement of the elevator, while, by simply turning the double inclined plane B* upon its pivot, *a*, into a position at right angles to that just mentioned, as represented in fig. 4, the said double inclined plane, when the elevator descends, will pass flatwise through the slight space between the two hatches C without separating the latter, so that, in case the suspension-rope should break, the elevator will be caught or stopped by the hatches, and the fatal or injurious results of the rapid and continued descent of the elevator, which would otherwise occur under such circumstances, may be thus effectually provided against.

In those cases where a single hatch is employed to close the hatchway, only a single inclined plane will be required at the top and bottom respectively of the elevator, such inclined plane operating in the same manner to move the single hatch that the double inclined planes work to operate the two hatches, as hereinbefore set forth.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The arrangement of a single or double inclined plane on the upper or lower, or both ends of the elevator, substantially as and for the purpose specified.

2. The single or double inclined plane, arranged upon a vertical axis, at the bottom of the elevator, for operation substantially as and for the purpose set forth.

D. B. THOMPSON.

Witnesses:

J. W. COOMBS,

A. LE CLERC.