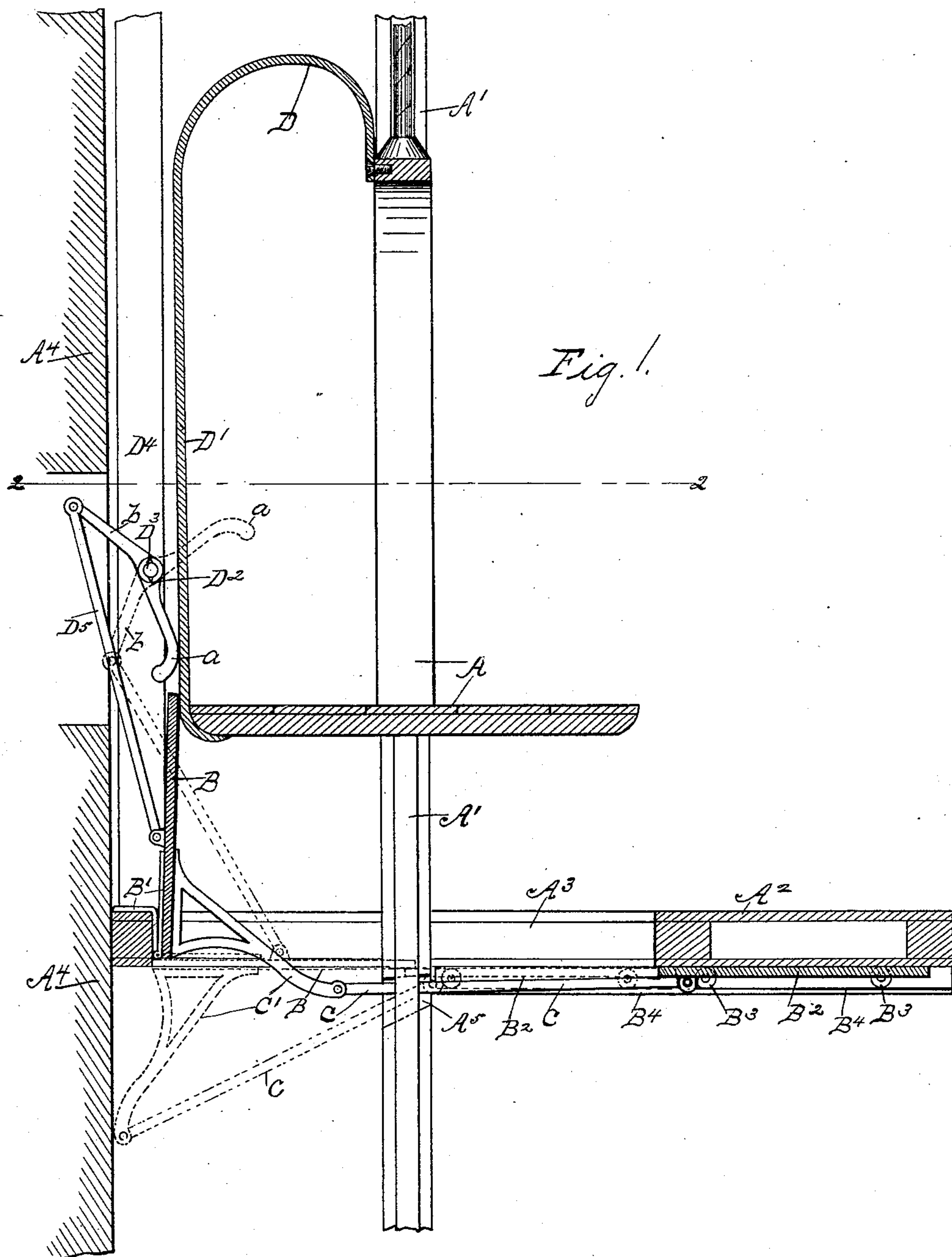


2 Sheets—Sheet 1.

No. 475,524.

Patented May 24, 1892.



Witnesses =  
Frank C. Curtis  
George A. Benham.

Inventor:  
Samuel T. Peachout,  
by Geo. A. Mosher  
Atty.

(No Model.)

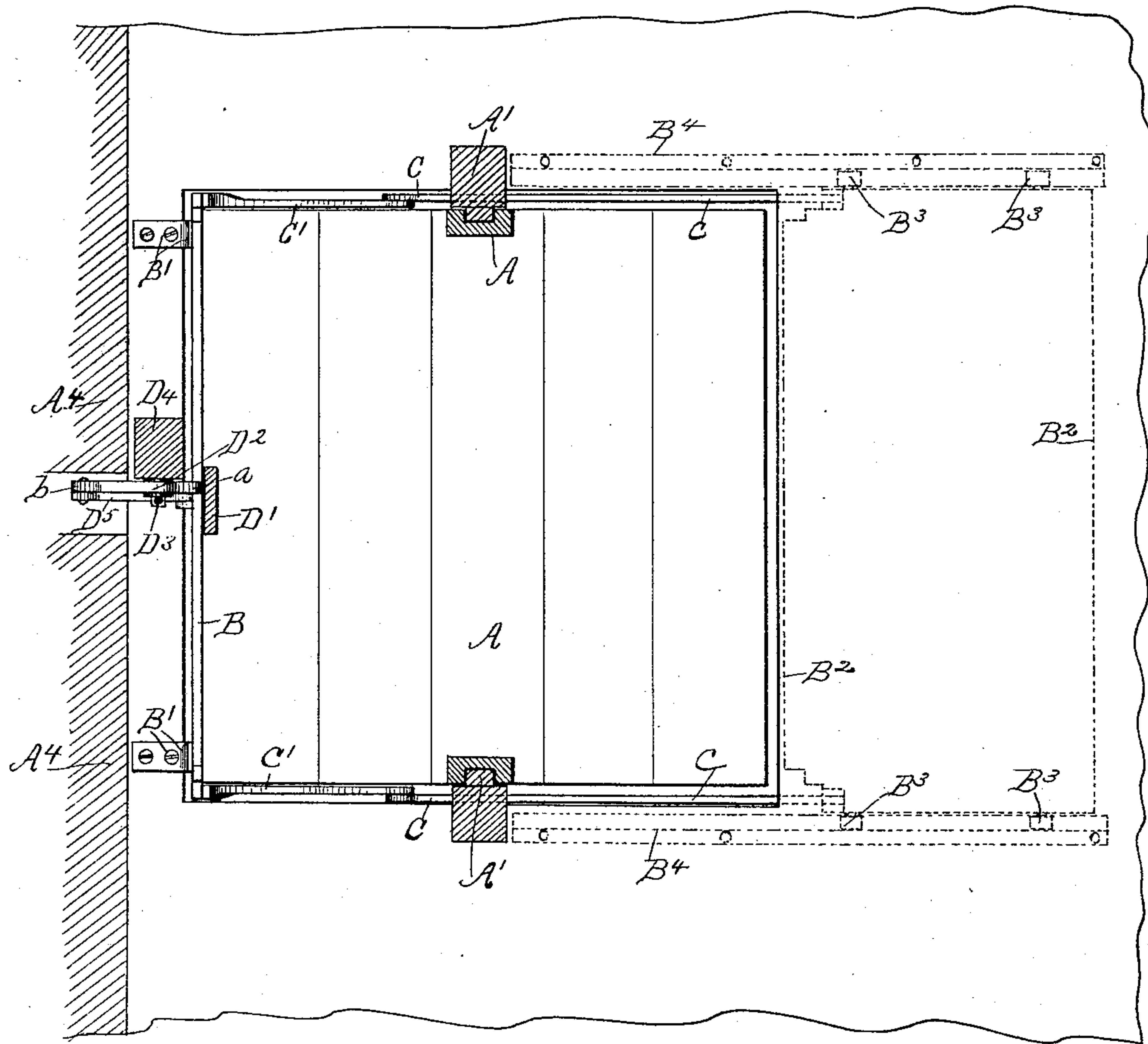
2 Sheets—Sheet 2.

S. T. TEACHOUT.  
ELEVATOR.

No. 475,524.

Patented May 24, 1892.

*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

SAMUEL T. TEACHOUT, OF COHOES, NEW YORK.

## ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 475,524, dated May 24, 1892.

Application filed August 11, 1891. Serial No. 402,358. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL T. TEACHOUT, a citizen of the United States, residing at Cohoes, county of Albany, and State of New York, have invented certain new and useful Improvements in Automatic Hatches for Elevators, of which the following is a specification.

My invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a vertical section of a portion of a building, showing an elevator and its shaft provided with my improved hatches. Fig. 2 is a horizontal section of same, taken on the broken line 2 2 in Fig. 1.

Elevators for use in lifting persons and freight from one floor to another of a building having several stories have heretofore been operated in shafts or wells provided at each floor of the building with hatches or doors arranged to be automatically opened at the approach of the elevator to allow the same to pass through the hatchway and be closed immediately after the elevator has passed to close the hatchway or aperture in the floor. Such doors or hatches are ordinarily of two kinds—swing-doors vertically hinged at each side of the hatchway and adapted to be lifted by the elevator, and sliding hatches arranged to be slid horizontally beneath the floor upon a supporting track or way by the elevator.

When the elevator-shaft is provided with two side guide-posts—one on each side—sliding hatches are usually employed, as they operate beneath the floor and do not interfere with the guide-posts or obstruct the entrance to or exit from the elevator. My improved hatch is especially adapted for use in the latter form of construction when there is not sufficient room at the rear of the shaft to allow a hatch to be slid back beneath the floor

on that side; and it consists of a hatchway provided with a vertically-swinging hatch and a horizontally-sliding hatch, each adapted to close half of the hatchway, the hatches being linked together.

Referring to the drawings, A is the elevator, adapted to be raised and lowered longitudinally of the side guide-posts A'. The elevator-shaft passes through the floor A<sup>2</sup>, forming the hatchway A<sup>3</sup> therein. The rear edge of the hatchway extends almost to the vertical wall A<sup>4</sup>, its distance from such wall being insufficient to allow a slide-hatch adapted to close one-half of the hatchway to be slid beneath the floor at the rear of the hatchway. I provide a vertically-oscillatory door or hatch B, secured to the floor at the rear of the hatchway, as by the strap-hinges B', and adapted to close the rear half of the hatchway. At the opposite or front side I provide a slide-hatch B<sup>2</sup>, movably supported by wheels or rollers B<sup>3</sup> upon the tracks or ways B<sup>4</sup>, secured to and pendent from the underside of the floor or the ceiling beneath and adapted to close the front half of the hatchway. A link C is pivotally secured at one end to the outer portion of the slide-hatch and at its other end to the outer end of the bracket-arm C', fixed upon the under side of the oscillatory hatch and projecting therefrom at approximately right angles. When so linked together, movement imparted to either hatch to open or close the same will be transmitted, also, to the other hatch to similarly operate the latter. I therefore provide means for automatically operating one of such hatches at the approach of the elevator. I prefer to have the oscillatory hatch primarily acted upon, and provide the upper portion of the elevator with a bow D, secured to the same at its rear side and adapted to engage the oscillatory hatch on its under side as the elevator rises and swing it from the position indicated by dotted lines in Fig. 1 to the position shown by solid lines in such figure, which movement is imparted through the connecting bracket-arm and link to the slide-hatch, causing the same to slide back beneath the floor from the position indicated by dotted lines to that shown by solid lines in Fig 1. One arm of the bow D extends downward forming a vertical portion D' at the rear



of the elevator and secured to the bottom of the same. Such vertical portion forms a slide-way or bearing-surface for one end  $a$  of a lever  $D^2$ , pivoted at  $D^3$  upon the upright  $D^4$ .  
 5 The other end  $b$  of such lever is pivotally connected to one end of the link  $D^5$ , the other end of which is pivotally secured to the oscillatory hatch on its upper side. As the elevator passes upward after having opened the  
 10 hatches, as before explained, the latter are held in their open position, as shown, by the end  $a$  of the lever engaging and bearing against the vertical portion  $D'$  of the bow until the elevator has passed upward sufficiently to al-  
 15 low such end of the lever to follow the bottom of the elevator as it rises and permit the hatches to gradually close. When the hatches reach their closed position, (indicated by dotted lines in Fig. 1,) the lever  $D^2$ , being relieved of the  
 20 weight, ceases to follow the elevator-bottom and remains in the position indicated by dotted lines in such figure, in which position it is adapted to be engaged by the bottom of the descending elevator and forced in the position  
 25 shown by solid lines, thereby opening the hatches to allow the elevator to pass downward through the hatchway. As the elevator descends through the hatchway the oscillatory hatch falls by gravity upon the bow  $D$ ,  
 30 and follows the same, being supported thereby, which permits the hatches to close gradually.

When desired, any known means for primarily operating either of the hatches may  
 35 be substituted for the lever  $D^2$ , link  $D^5$ , and the lifting-bow upon the elevator. The bracket-arm  $C'$  is located at the extreme side edge of the hatch  $B$ , and the link  $C$  passes through a slot  $A^5$  in the side guide-post  $A'$  to  
 40 leave the path of the elevator entirely unobstructed, and when desired a similar link connection may be provided on the opposite side between the two hatches, as shown in Fig. 2.

45 My improved hatchway-doors are especially adapted for use in elevator-shafts, in which case they may be automatically operated by the elevator, as above described; but they are

also adapted to close the opening formed by any sort of a well or shaft leading from one 50 story of a building to another and may be opened and closed by hand or in any known manner, it only being necessary to directly open or close one of the doors, the other door opening or closing automatically. 55

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

1. The combination of a hinged hatchway-door adapted to close a part of a hatchway, a slidable door adapted to close the other part 60 of the hatchway, a slideway for said slidable door, and a link connecting the hinged and slidable doors, whereby the opening or closing of one of said doors operates to open or close the other door, substantially as de- 65 scribed.

2. The combination of a hinged hatchway-door adapted to close a part of an elevator-hatchway, a slidable door adapted to close the 70 other part of the hatchway, a slideway for said slidable door, a link connecting the hinged and slidable doors, whereby the opening or closing of one of said doors operates to open or close the other door, and means for automatically operating the doors upon the 75 approach of the elevator-car, substantially as described.

3. The combination of a hinged hatchway-door adapted to close a part of an elevator-hatchway, a slidable door adapted to close the 80 other part of the hatchway, a slideway for said slidable door, a bracket-arm projecting at right angles from the under side of the hinged door, a link connecting such bracket-arm with the slidable door, a lever pivotally 85 secured in the path of the elevator-car and linked to the upper side of the hinged door, and a lifting-bow secured to the elevator-car in a position to engage and open the hinged door, substantially as described. 90

In testimony whereof I have hereunto set my hand this 6th day of August, 1891.

SAMUEL T. TEACHOUT.

Witnesses:

FRANK C. CURTIS,  
JOHN T. BOOTH.