

(No Model.)

2 Sheets—Sheet 1.

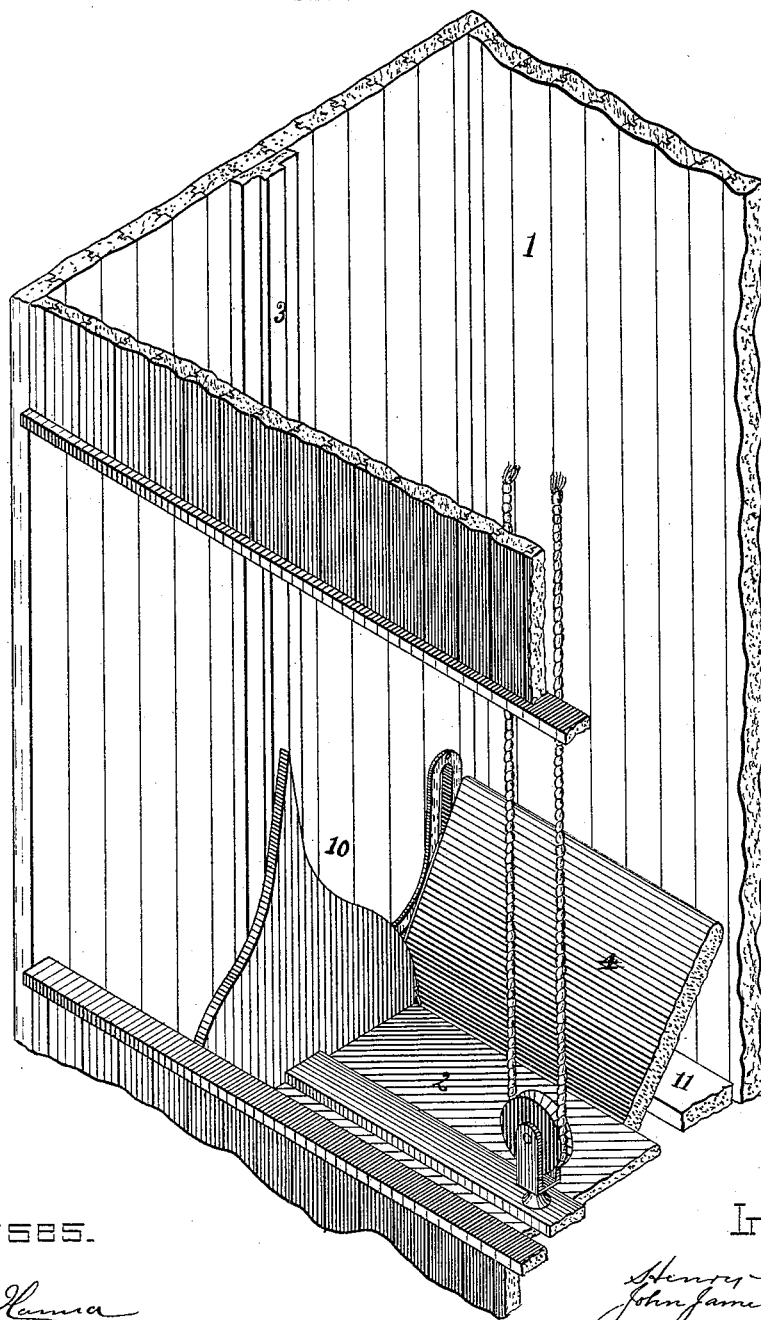
H. I. COE & J. J. McBRIDE.

DEVICE FOR OPERATING ELEVATOR HATCHWAY DOORS.

No. 419,317.

Patented Jan. 14, 1890.

Fig. 1.



Witnesses.

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(No Model.)

2 Sheets—Sheet 2.

H. I. COE & J. J. McBRIDE.  
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Fig. 2.

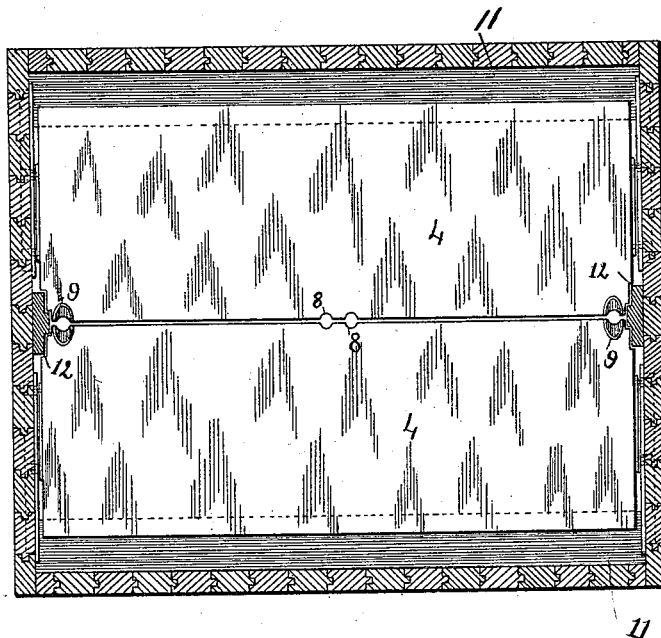


Fig. 3.

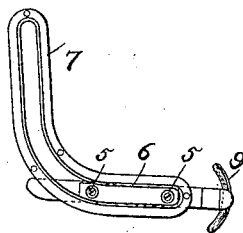
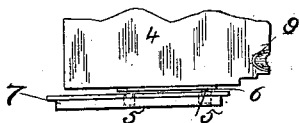


Fig. 4.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## DEVICE FOR OPERATING ELEVATOR-HATCHWAY DOORS.

SPECIFICATION forming part of Letters Patent No. 419,317, dated January 14, 1890.

Application filed March 28, 1889. Serial No. 305,097. (No model.)

*To all whom it may concern:*

Be it known that we, HENRY I. COE and JOHN JAMES McBRIDE, citizens of the United States, residing, respectively, at New York, county and State of New York, and Ridgefield Park, Bergen county, State of New Jersey, have invented certain new and useful Improvements in Safety-Doors for Dumb-Waiters, of which the following is a specification.

Although various devices have been heretofore employed for closing the hatchways of power and other elevators, it is believed that little or no attention has been paid to the almost equally important subject of closing the shafts of dumb-waiters, which expose buildings to the same danger of destruction by fire as do the hatchways of elevators. On this and other accounts it is desirable that some means for maintaining the shafts of dumb-waiters closed between separate floors should be provided, and this is the object of our invention, the details of which are more fully described with reference to the accompanying drawings, reference being had to the claim for the novel features.

In said drawings, Figure 1 is a perspective view of a portion of a dumb-waiter shaft containing our invention. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation of the door-guiding mechanism. Fig. 4 is a sectional plan of the same.

1 represents a portion of the shaft or well of a dumb-waiter car or platform 2, which has the usual guides 3.

4 4 are half-doors, which have at each end guide-pins 5 5, preferably surrounded by anti-friction rollers 6. These pins retain and travel in the represented curved and upturned slotted guides 7, fixed to the sides of the shaft 1. Each of these slotted guides slopes at first gently then abruptly upward toward the well-wall.

The meeting edges of the doors 4 have at 8 holes for the dumb-waiter rope, and at 9 guides for the cams 10. At each end of the dumb-waiter and at both top and bottom of

the same it will be seen that as the waiter either rises or falls in the shaft the cams 10 passing between the guides 9 will press the doors apart, and as the pins 5 travel in the slotted guides 7 the doors will be pushed from their nearly-horizontal position to a position substantially parallel with the back and front of the shaft, so as to allow the dumb-waiter to pass freely.

To enable the ready turning of the doors from horizontal to vertical position, the guide-pins 5 are preferably placed, as shown, at some distance apart. When the doors are in their lower position, they are at a slight angle to the horizontal, and will thus be kept by gravity pressing on one another, and to avoid a sudden turn in the slot its upper part is preferably at a slight angle to the vertical, as shown in Fig. 3.

The guides 9 on the meeting edges of the doors are preferably employed, as they insure the cams 10 entering the aperture between the two doors, but obviously they are not essential.

In order that there may be little or no passage for air around the doors, ledges 11 may be arranged in the shaft immediately under the outer edges of the doors when in their lower or closed position, as shown at 12, so as to fit around the guides 3.

Having thus described our invention, the following is what we claim as new therein and desire to secure by Letters Patent:

The combination, with the four slotted guides 7, fixed to the well or shaft wall, each guide sloped gently and then steeply upward toward the said wall, of the two inflexible half-doors 4, of which doors each has at its opposite ends two distant guide-pins 5, adapted to travel in said slotted guides, in the manner explained.

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Witnesses:

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