(No Model.)

R. D. THACKSTON.

SELF CLOSING HATCHWAY.

No. 328,362. Patented Oct. 13, 1885.

Fig. 1.

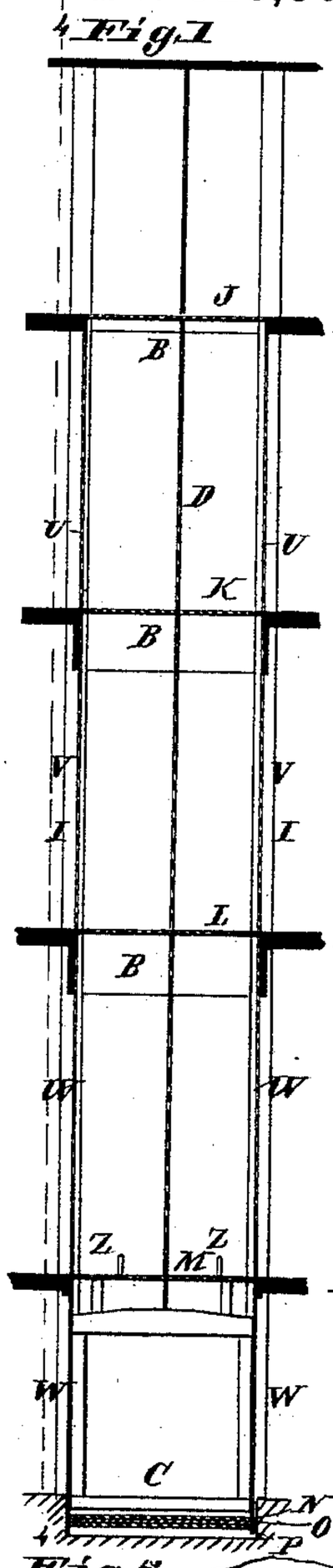


Fig. 2.

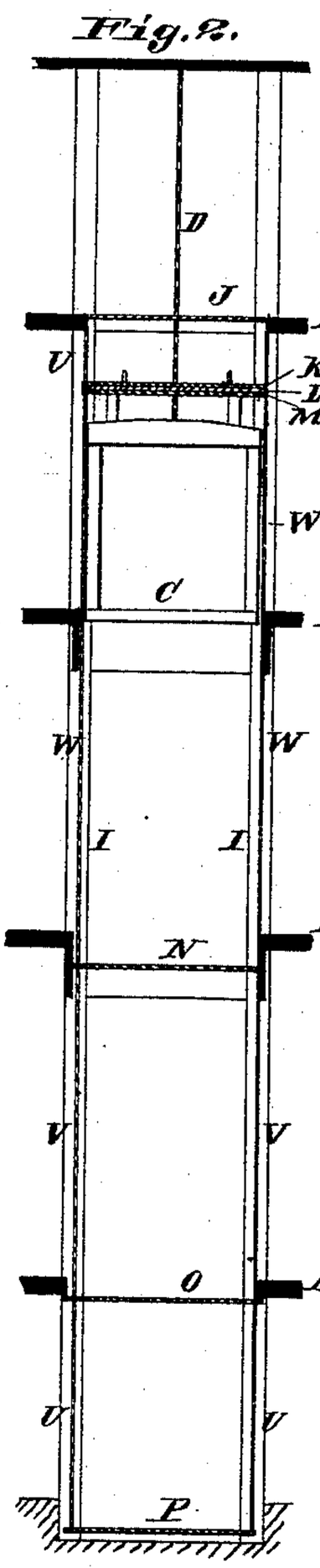


Fig. 3.

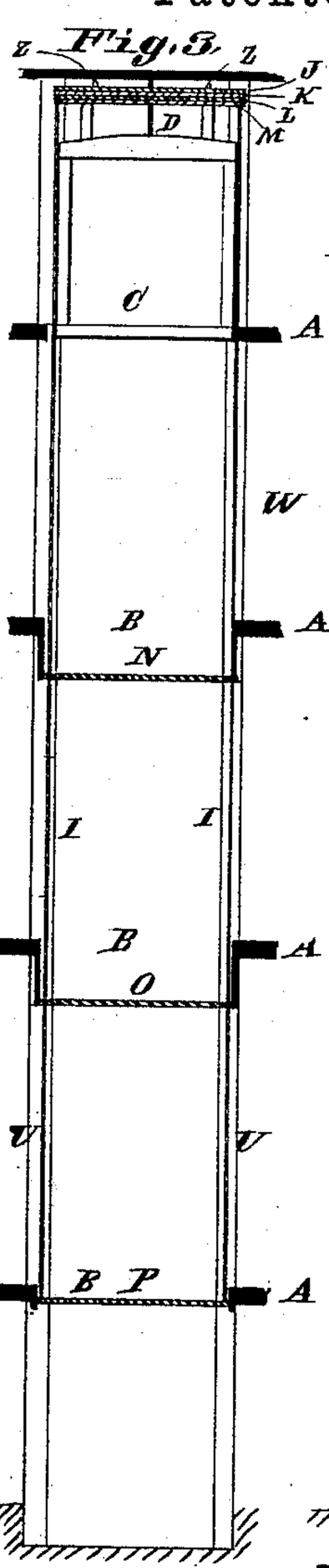


Fig. 4.

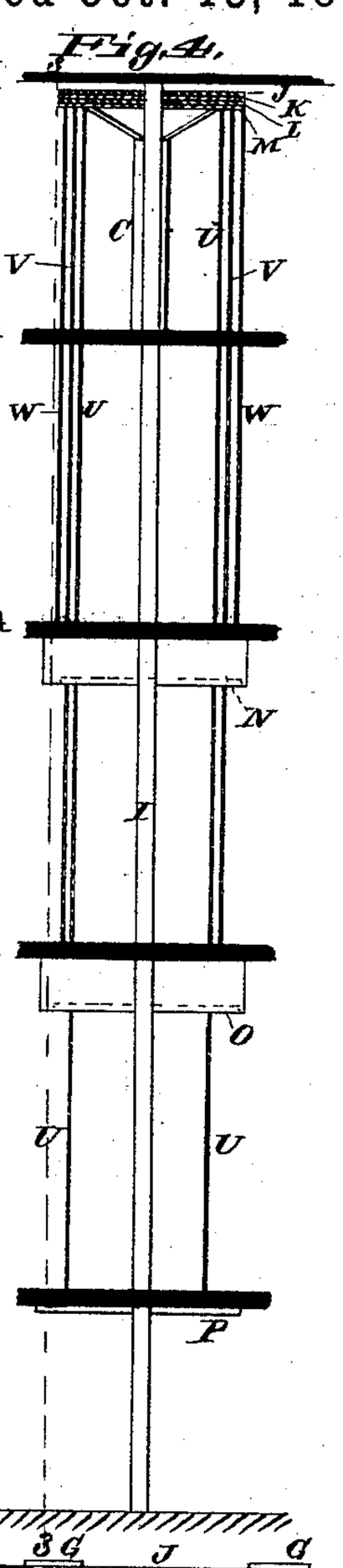


Fig. 5.

Fig. 6.

Fig. 7.

Fig. 10.

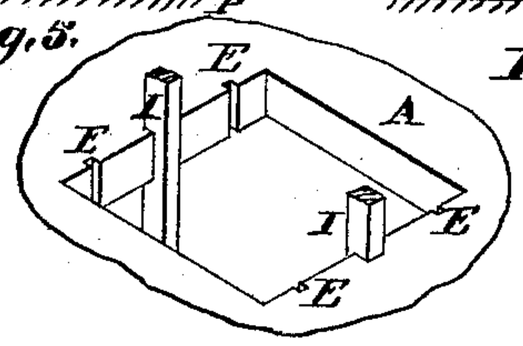


Fig. 8.

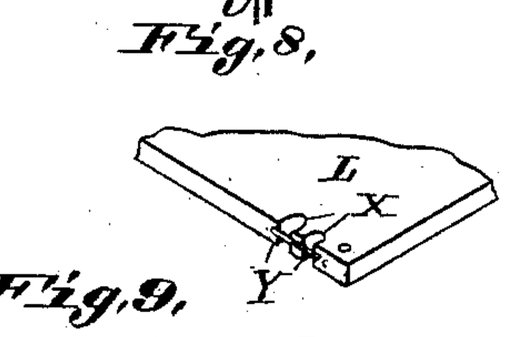


Fig. 11.

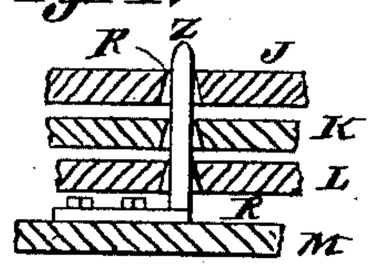
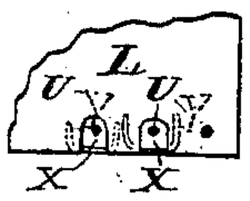


Fig. 9.



Attest;

L. G. Hopkins

Geo. L. Wheelock

Inventor;

Richard D. Thackston

By Knight Bros

Attys.

UNITED STATES PATENT OFFICE.

RICHARD D. THACKSTON, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO HENRY I. COE, OF SAME PLACE.

SELF-CLOSING HATCHWAY.

SPECIFICATION forming part of Letters Patent No. 328,362, dated October 13, 1885.

Application filed July 9, 1885. Serial No. 171,080. (No model.)

To all whom it may concern:

Be it known that I, RICHARD D. THACKSTON, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Self-Closing Hatchways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a vertical section of part of a building through a number of hatchways provided with my improved closer, the cage being shown in its lowest position. Fig. 2 is a similar view with the cage part way up. Fig. 3 is a similar view with the cage all the way up, this figure, as well as 1 and 2, being sections on line 3 3, Fig. 4. Fig. 4 is a vertical section taken on line *x x*, Fig. 1, the cage being in its upper position, as in Fig. 3. Figs. 5, 6, 7, 8, 9, 10, and 11 are detail views hereinafter more particularly referred to.

My invention consists in features of novelty pointed out in the claims.

Referring to the drawings, A represents the floors of a building; B, hatchways therein; C, a cage provided with a hoisting-cable, D, and I the uprights of the shaft of the elevator.

J, K, L, M, N, O, and P represent doors for closing the hatchways, provided with notches T to receive the uprights I. The top door, J, and bottom door, P, are connected by ropes, rods, or chains U. The next two doors from top and bottom are likewise connected by ropes, rods, or chains V. They are lettered K and O, respectively. The next two doors, L and N, are connected by ropes, rods, or chains W, and the other door, M, rests upon or is secured to the top of the cage. The ropes of the doors beneath or above pass through notches X of the central doors, in which they are held by staples Y. (See Figs. 6, 8, and 9.)

The operation is as follows: Suppose the cage to start from the bottom. (See Fig. 1.) Its top or upper end comes against the door L, (it carrying the door M with it,) which is lifted as the cage continues to ascend, raising the door N to close the hatch beneath the cage—that is to say, the first hatch downward from the cage—the bottom of the cage always closing one hatch—that is, the hatch left open by the lifting of the door M—as stated. As the cage continues to ascend its top or upper end comes against the next door K, lifting it and raising the door O to close the hatch left open by the door N that was carried on up by the cage to close the hatch beneath it, as described. The cage, continuing to ascend, comes against and lifts the door, J, raising the door P through means of the connection to close the hatch left open by the door O, which has been carried on up by the cage. The doors L, K, and J are thus "nested" on top of the cage, (see Figs. 3 and 4;) and to prevent horizontal movement as they are thus nested I secure pins Z to the top of the cage or to the door M, that enter holes R in the doors. (See Fig. 11.) To prevent noise as one door comes against another, I secure elastic cushions S thereto consisting, preferably, of short rubber tubes Q, made fast to the doors by bolts H. (See Fig. 10.) As the cage descends, the doors J, K, and L take their place again, being stopped at their floors by suitable means. I have shown them stopped by plates G thereon that come against the floors, the plates of door L not being quite as long as those of door K, so that they will pass through notches E in the floor of door K, (see Fig. 5,) and for like reason the plates of door K are not as long as those of door J. The same end could be accomplished by placing the plates and their notches out of vertical lines. When the cage has reached its lower position, the doors N, O, and P are stacked beneath it. (See Fig. 1.)

It is evident that any number of hatchways and doors may be used, and the upper doors may be allowed to stop a little below the line of the floors by placing stops for the plates G to come against. The doors may be provided with counterbalances, if desired, so that it will not require so much power to lift them.

I claim as my invention—

1. In a self-closing hatchway, two or more doors connected together in pairs, in combination with a cage located between the doors, substantially as set forth.

2. In a self-closing hatchway, two doors connected together, in combination with a cage located between the doors, substantially

as set forth, whereby the doors are raised and lowered simultaneously as the cage ascends and descends, as specified.

3. In a self-closing hatchway, in combination with a cage, a number of doors above and beneath the cage connected together in pairs, substantially as described and shown, those above the cage raising those beneath as the cage ascends and holding them in suspension, as specified.

4. In a self-closing hatchway, in combination with a cage, doors above and beneath the cage connected together in pairs, as described, those above the cage being perforated at R to receive pins carried by the cage, substantially as and for the purpose set forth.

5. In a self-closing hatchway, in combination with a cage and floors notched at E, doors above and below the cage connected together in pairs, as described, those above the cage being provided with plates G, substantially as and for the purpose set forth.

RICHARD D. THACKSTON.

In presence of—
GEO. H. KNIGHT,
BENJN. A. KNIGHT.