

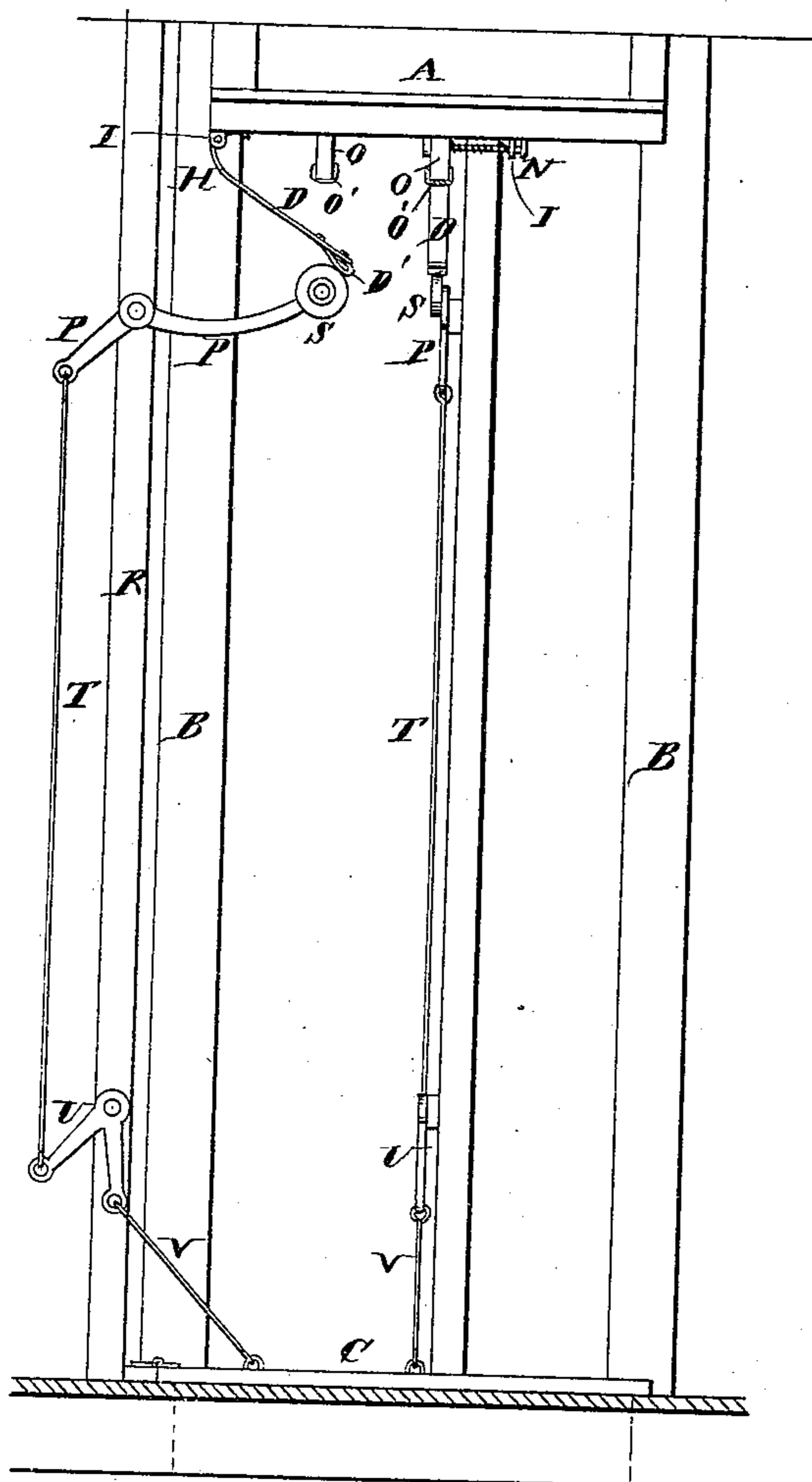
(No Model.)

R. D. THACKSTON.  
SELF CLOSING HATCHWAY.

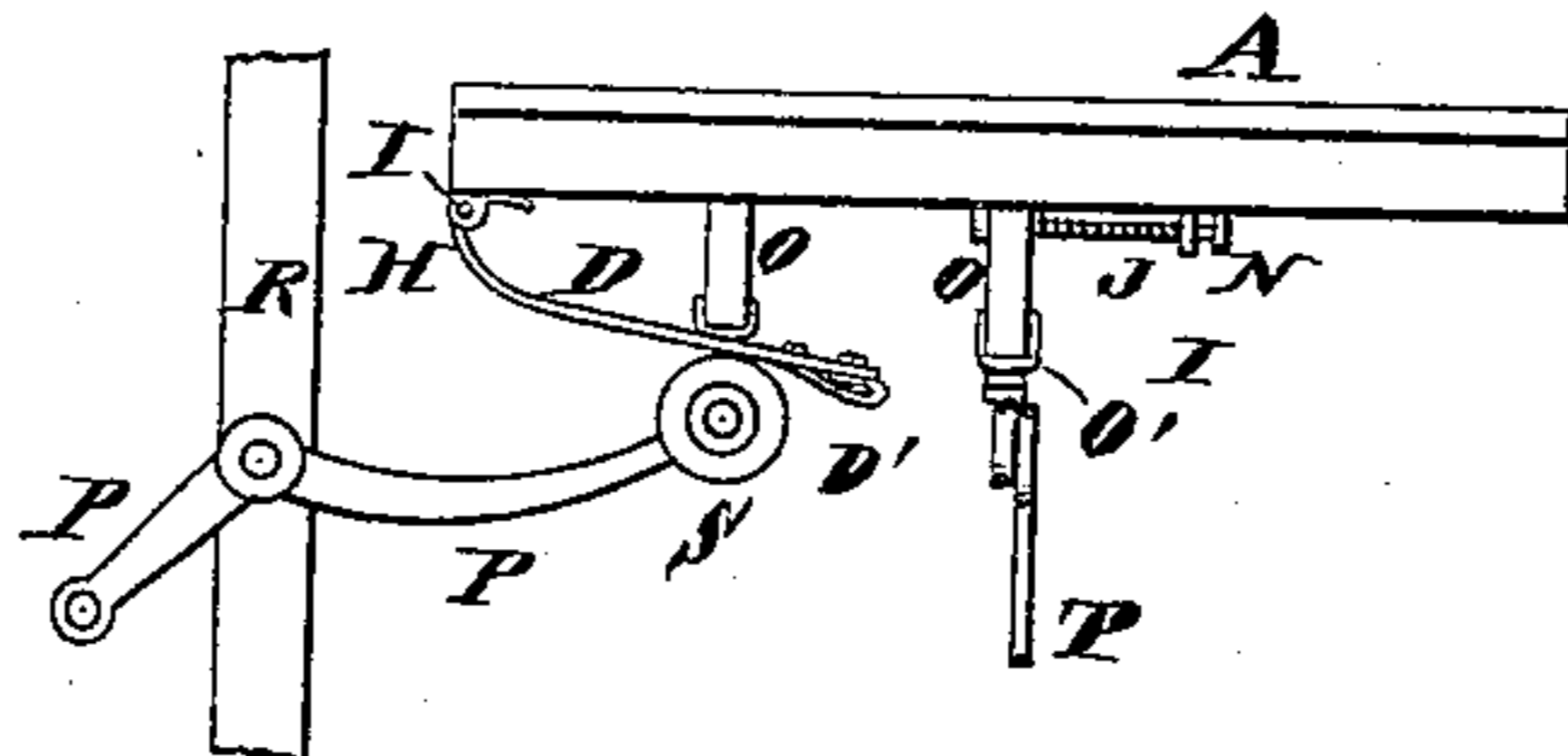
No. 309,993.

Patented Dec. 30, 1884.

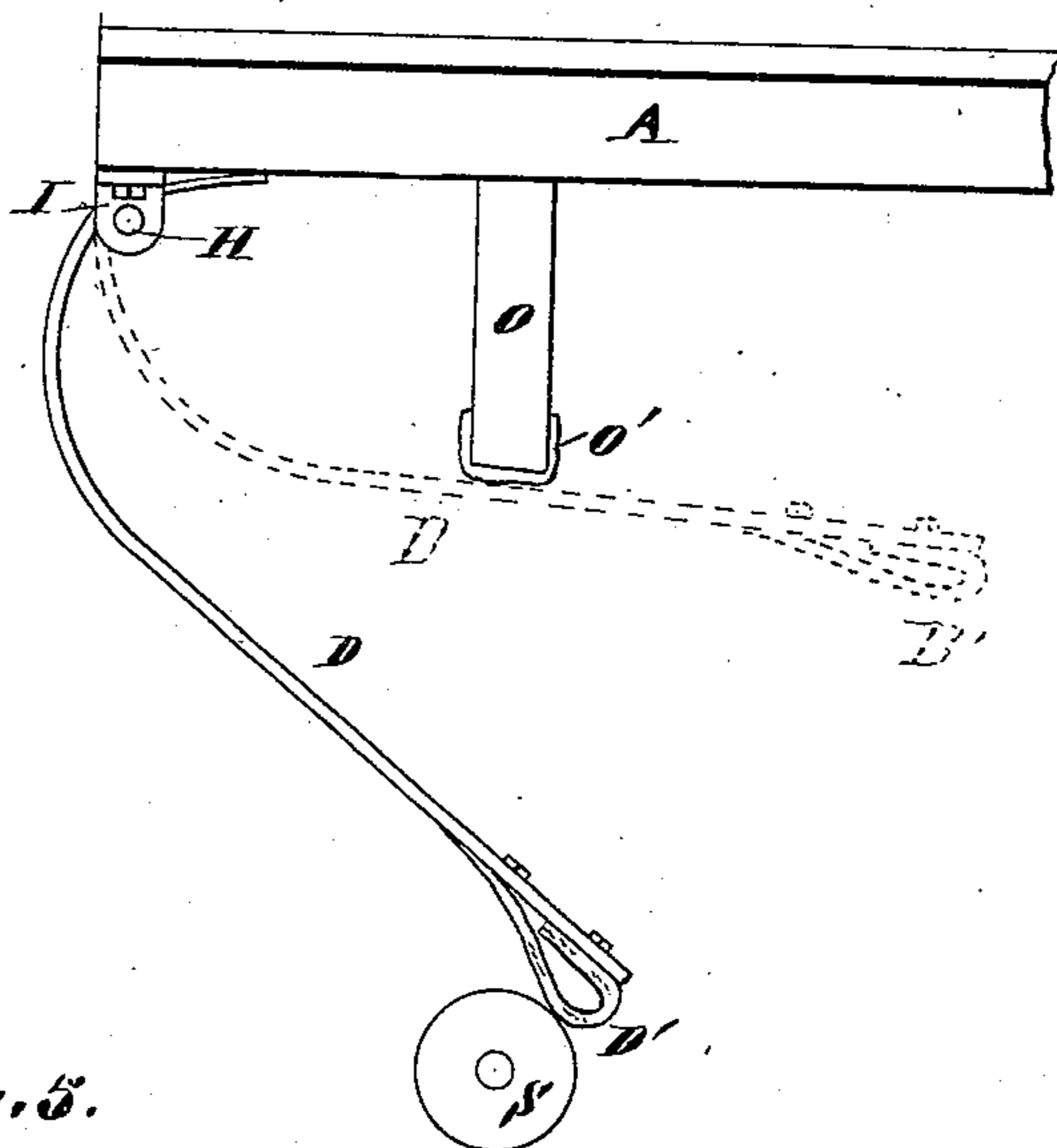
*Fig. 1.*



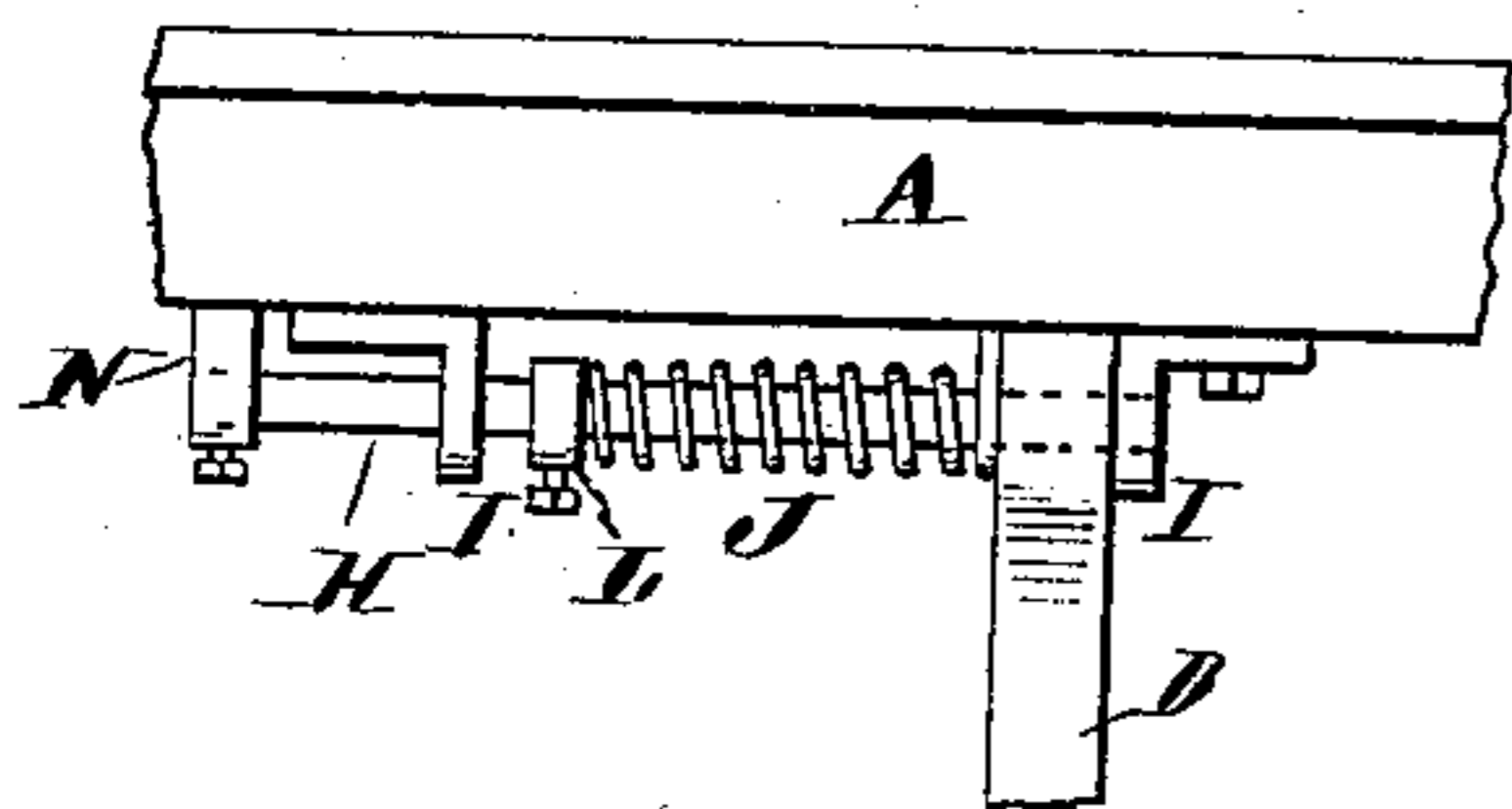
*Fig. 2.*



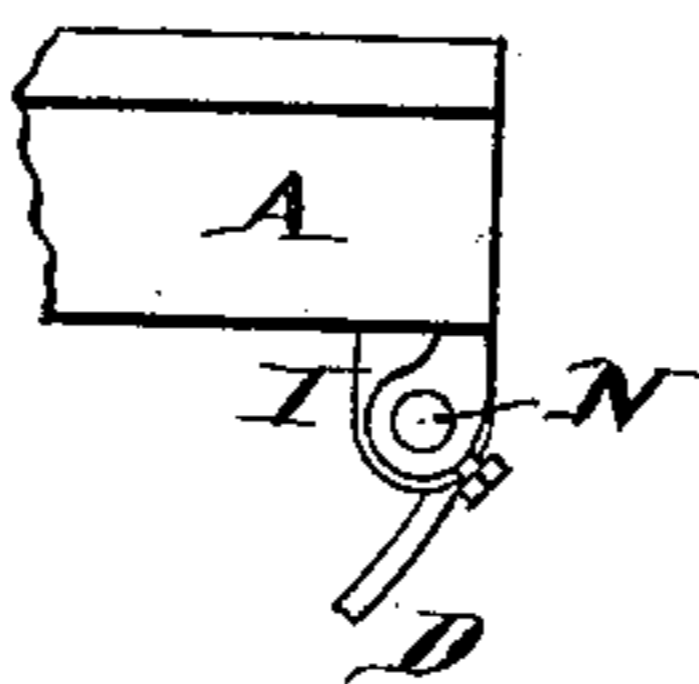
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# 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. 309,993, dated December 30, 1884.

Application filed May 31, 1884. (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  
5 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—

10 Figure 1 is a side elevation. Fig. 2 is a detail side view showing the cam compressed. Fig. 3 is an enlarged detail view, and Figs. 4 and 5 are enlarged detail views.

This invention relates to an improvement in  
15 self-closing hatchways intended more especially for fast-running elevators; and this invention consists in features of novelty herein-after fully described, and pointed out in the claims.

20 Referring to the drawings, A represents the cage, B the uprights, and C the door or doors, of an elevator. Secured beneath the cage is a cam, D, connected by its upper end to a shaft, H, journaled in brackets or boxes I,  
25 made fast to the cage, as shown. Surrounding the shaft is a spiral spring, J, one end of which is made fast to a collar, L, rigidly secured to the shaft, and the other end of the spring bears against the bottom of the cage.  
30 The spring tends to throw and hold the cam in the positions shown in Figs. 1 and 3. To prevent the spring throwing the free end of the cam too low, I secure a block, N, to the shaft that comes against the bottom of the  
35 cage, as shown in Figs. 4 and 5, and limits the turning of the shaft.

O represents a stop secured to the bottom of the cage, against which the cam strikes in opening the doors, as shown in Fig. 2, and by  
40 dotted lines, Fig. 3, to limit its upward move-

ment after the door is partly opened. The lower end of the stop may have a rubber cushion, O', and the lower or free end of the cam a similar cushion, D', as shown. I prefer to open each door (I have shown two of them) 45 by mechanism constructed as follows: P represents a lever hinged to a post, R, one end of which has a friction-roller, S, against which the cam D strikes in opening the door. The other end of the lever is connected by a rod, 50 T, to one arm of a bell-crank lever, U, hinged or pivoted to the post R, (see Fig. 1,) the other arm of the bell-crank lever being connected to the door by a rod, V, and thus it will be seen that the door will be opened by the cage. 55

I claim as my invention—

1. In a self-closing hatchway, in combination with the cage and cam, the stop O, for the purpose set forth.

2. In a self-closing hatchway, the combination of the cage, cam, and stop, the cam and stop having cushions secured to their lower ends. 60

3. In a self-closing hatchway, the combination of the cage, shaft secured to the bottom 65 of the cage, spring J, block N, cam secured to the shaft, and the stop depending from the bottom of the cage, arranged and operating substantially as and for the purpose set forth.

4. In a self-closing hatchway, the combination of the cage, lever P, post to which the lever is pivoted, bell-crank lever U, pivoted 70 to the post, rod T, connecting the levers, door, and rod V, connecting the door to the lever U, substantially as set forth.

RICHARD D. THACKSTON.

In presence of—

GEO. H. KNIGHT,

BENJN. A. KNIGHT.