

(No Model.)

R. D. THACKSTON.
SELF CLOSING HATCHWAY.

No. 311,090.

Patented Jan. 20, 1885.

Fig. 1.

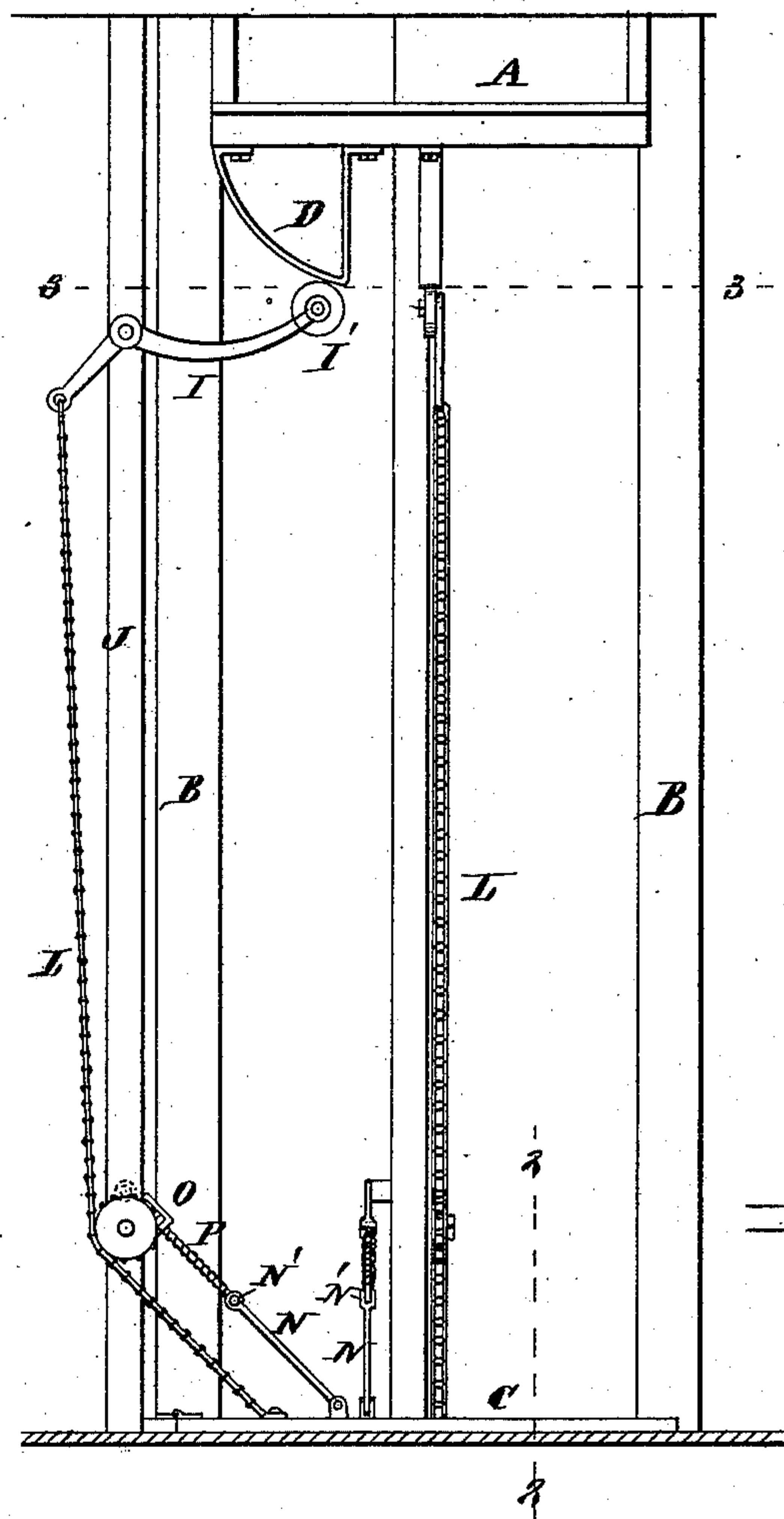


Fig. 2.

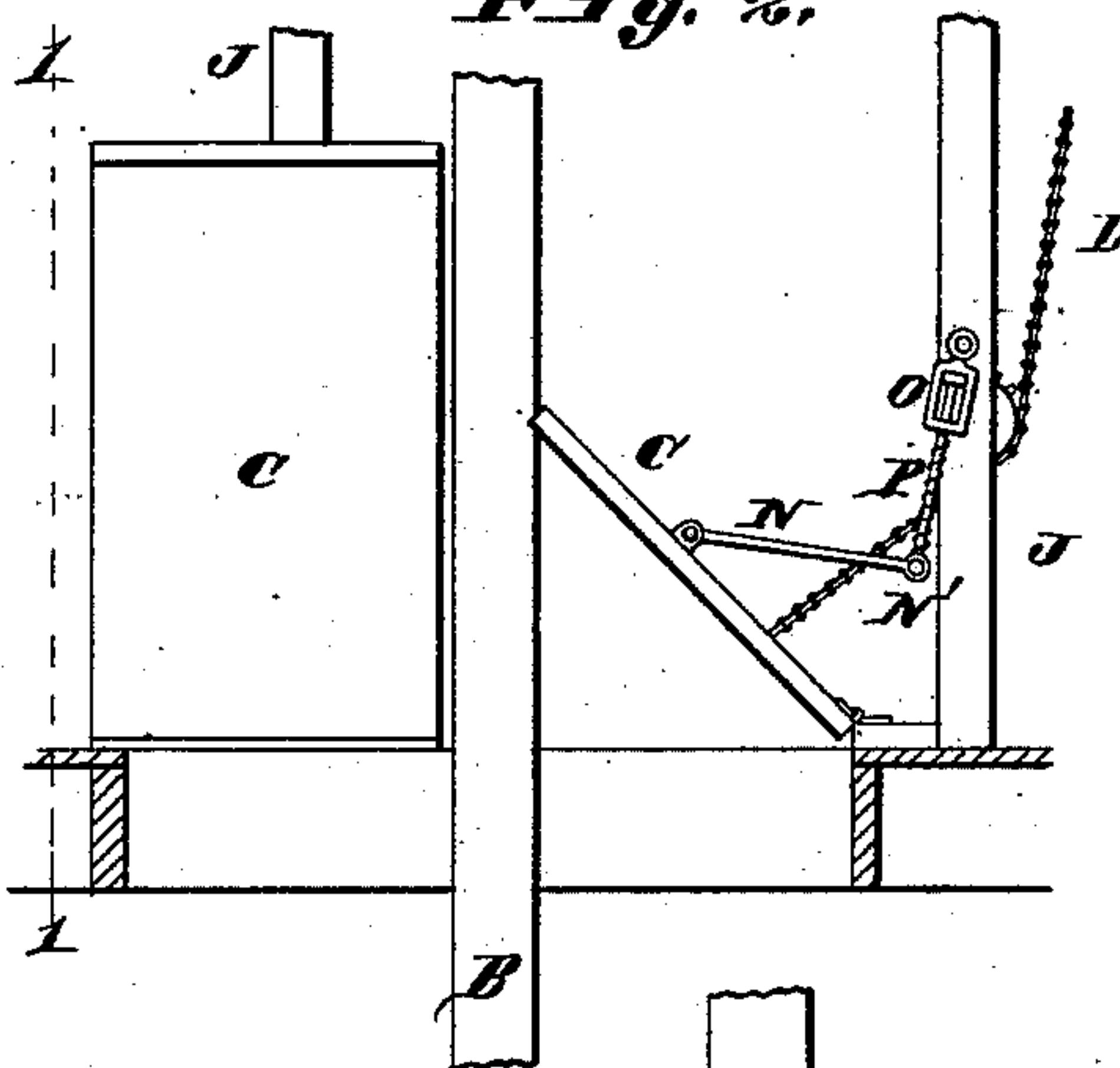


Fig. 4.

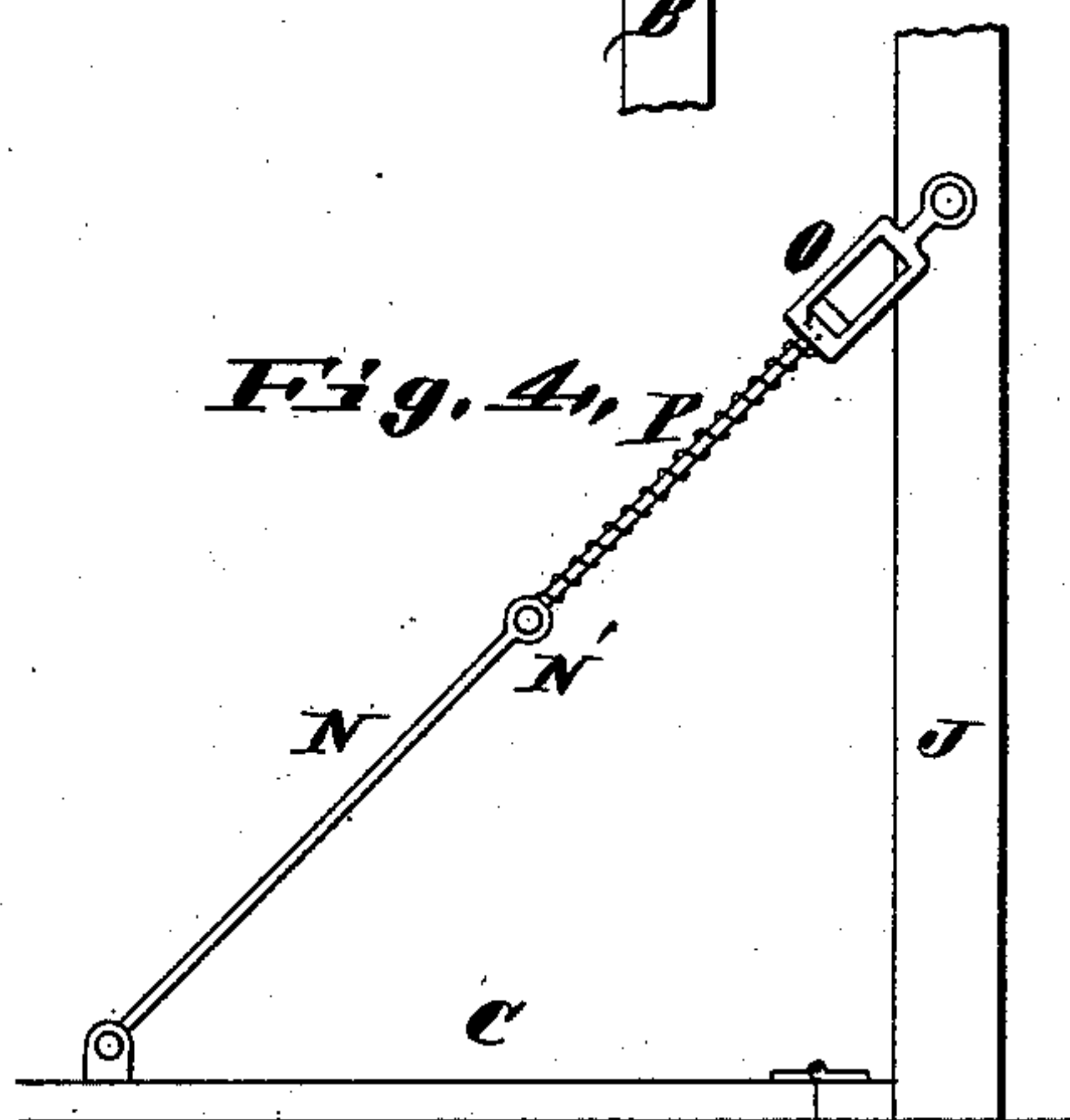


Fig. 5.

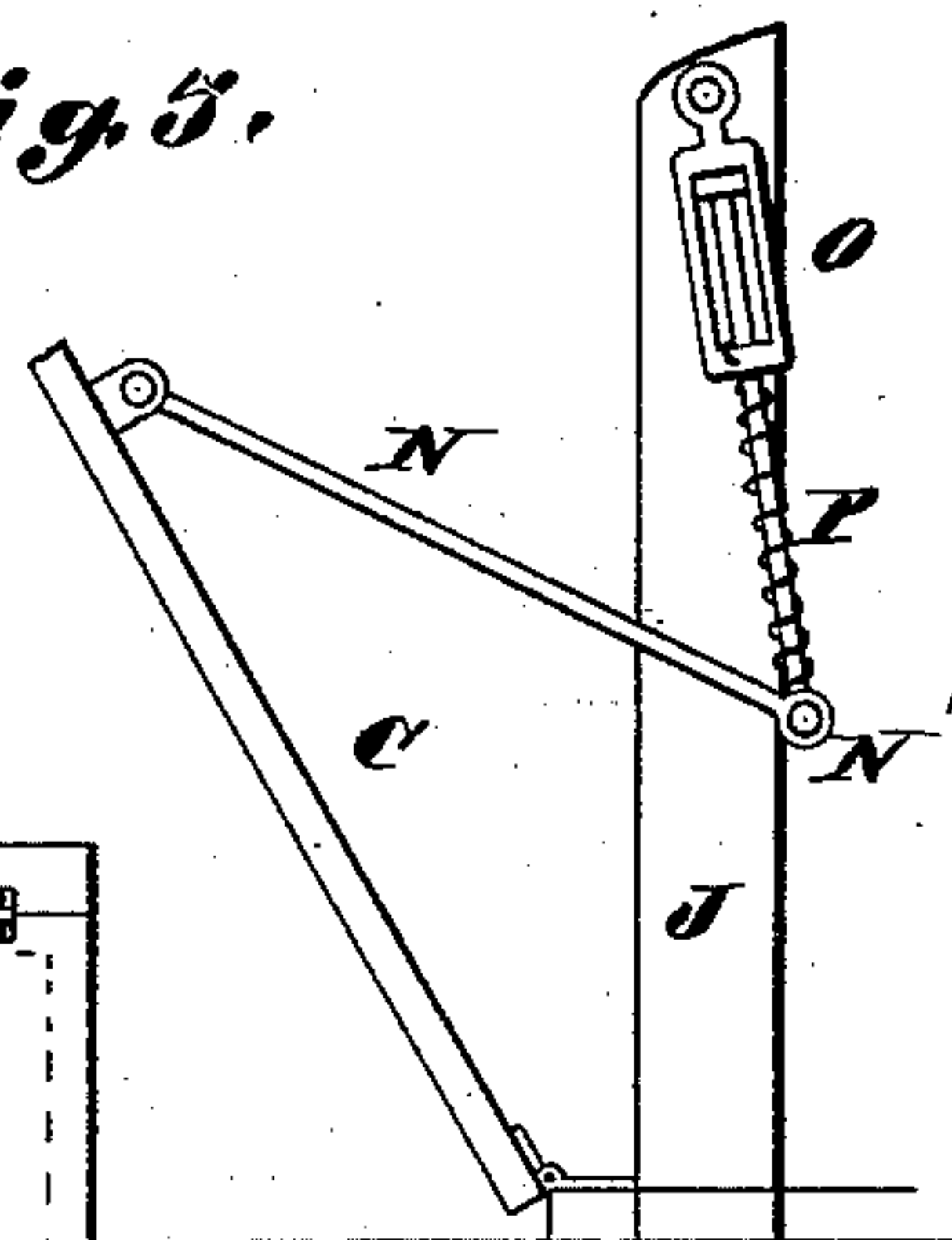
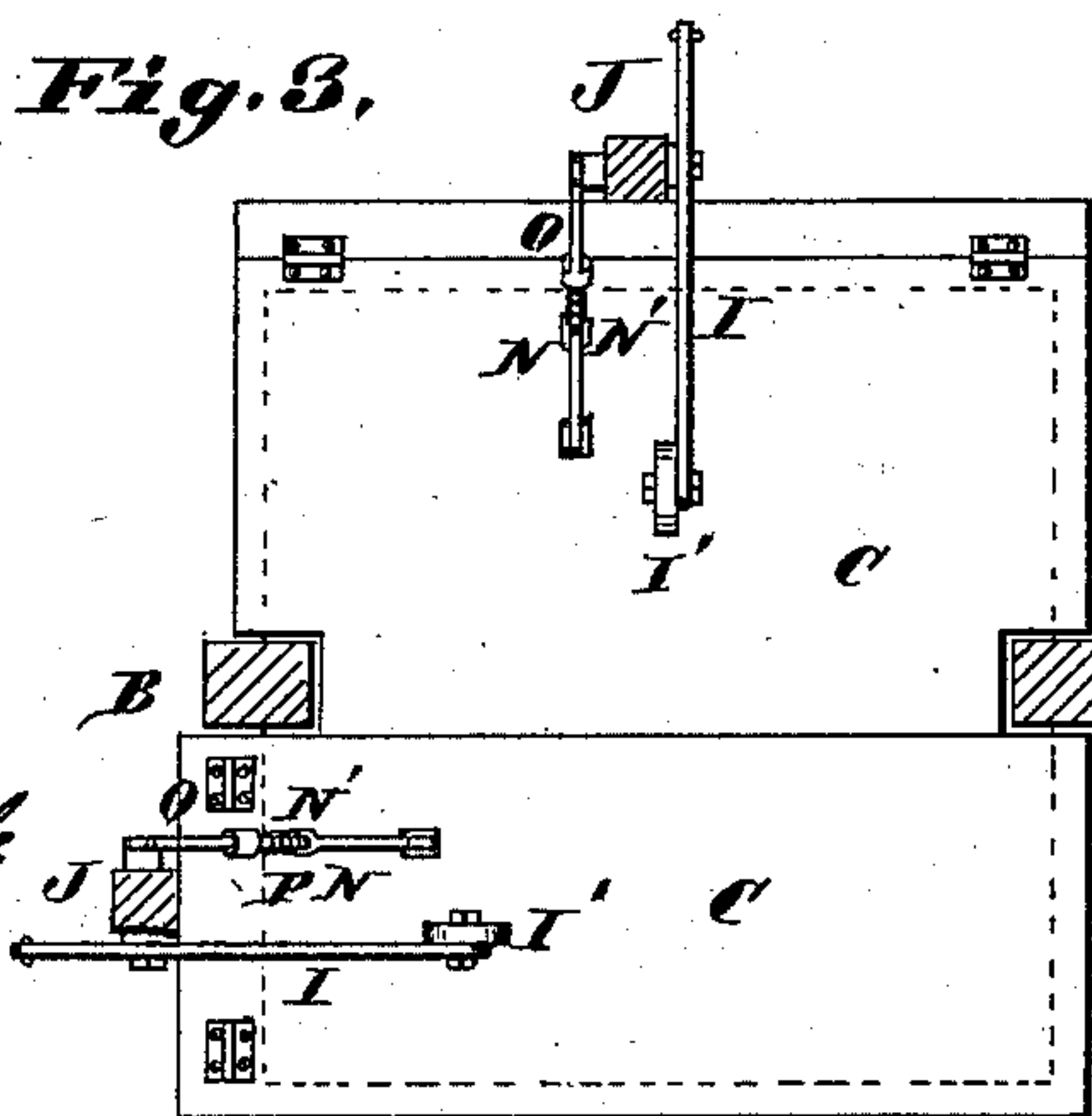


Fig. 3.



Attest:

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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. 311,090, dated January 20, 1885.

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 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 section taken on line 1 1, Fig. 2. Fig. 2 is a section taken on line 2 2, Fig. 1. Fig. 3 is a transverse section taken on line 3 3, Fig. 1. Figs. 4 and 5 are diagrams, Fig. 4 showing the door closed, and Fig. 5 partly open.

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

Referring to the drawings, A represents a cage, B uprights, C doors, and D cams on the bottom of the cage.

I represents levers hinged or pivoted to posts J, having friction-rollers I' on their inner ends, against which the cams bear in opening the doors. The outer ends of the levers are connected to the doors by chains or other suitable flexible connections, L, which pass around chain-wheels L', secured to the posts J, and thus it will be seen that as the inner ends of the levers are lowered or pressed downward by the cage the doors will be opened; and to prevent the doors closing too violently (when the cage has passed) I connect them (the doors) to the posts J or other suitable objects by rods N, jointed at N'. The upper parts of the rods pass through the lower ends of yokes O, that connect them to the supports, and into these yokes or swivels they are forced when the doors are raised, as shown in Figs. 2 and 5.

Between the joints N' and the yokes is a spiral spring, P, that surrounds the rod, and is connected at its lower end to the rod and at its upper end to the yoke. The action of the spring is to let the door down easy, so that it will not close with a slam. As the door is raised the upper end of the rod, as before stated, is pushed into the yoke, the spring being compressed, and the rod bends at the joint, thus assuming the position shown in Figs. 3 and 5, and as the door closes the rod becomes straight and pulled out of the yoke, as shown in Figs. 1 and 4.

I claim as my invention—

1. In a self-closing hatchway, the combination, with a door and a support, of a spring-rod secured at one end to the door and at the other end to the support, the door being suspended by the spring-rod from the support, as set forth.

2. In a self-closing hatchway, the combination, with a door and a support, of a jointed rod and spring; the lower member of the rod being secured to the door, and the upper member secured by means of the spring to the support, as set forth.

3. In a self-closing hatchway, the combination of the door, support, jointed rod connected by its lower end to the door and by its upper end to a yoke secured to the support, and the spiral spring surrounding the rod and connecting it to the yoke, substantially as and for the purpose set forth.

4. In a self-closing hatchway, the combination of the cage, levers I, posts to which the levers are pivoted, doors, chains connecting the levers and doors, and wheels over which the chains pass, substantially as set forth.

RICHARD D. THACKSTON.

In presence of—

GEO. H. KNIGHT,
BENJN. A. KNIGHT.