

No. 683,102.

Patented Sept. 24, 1901.

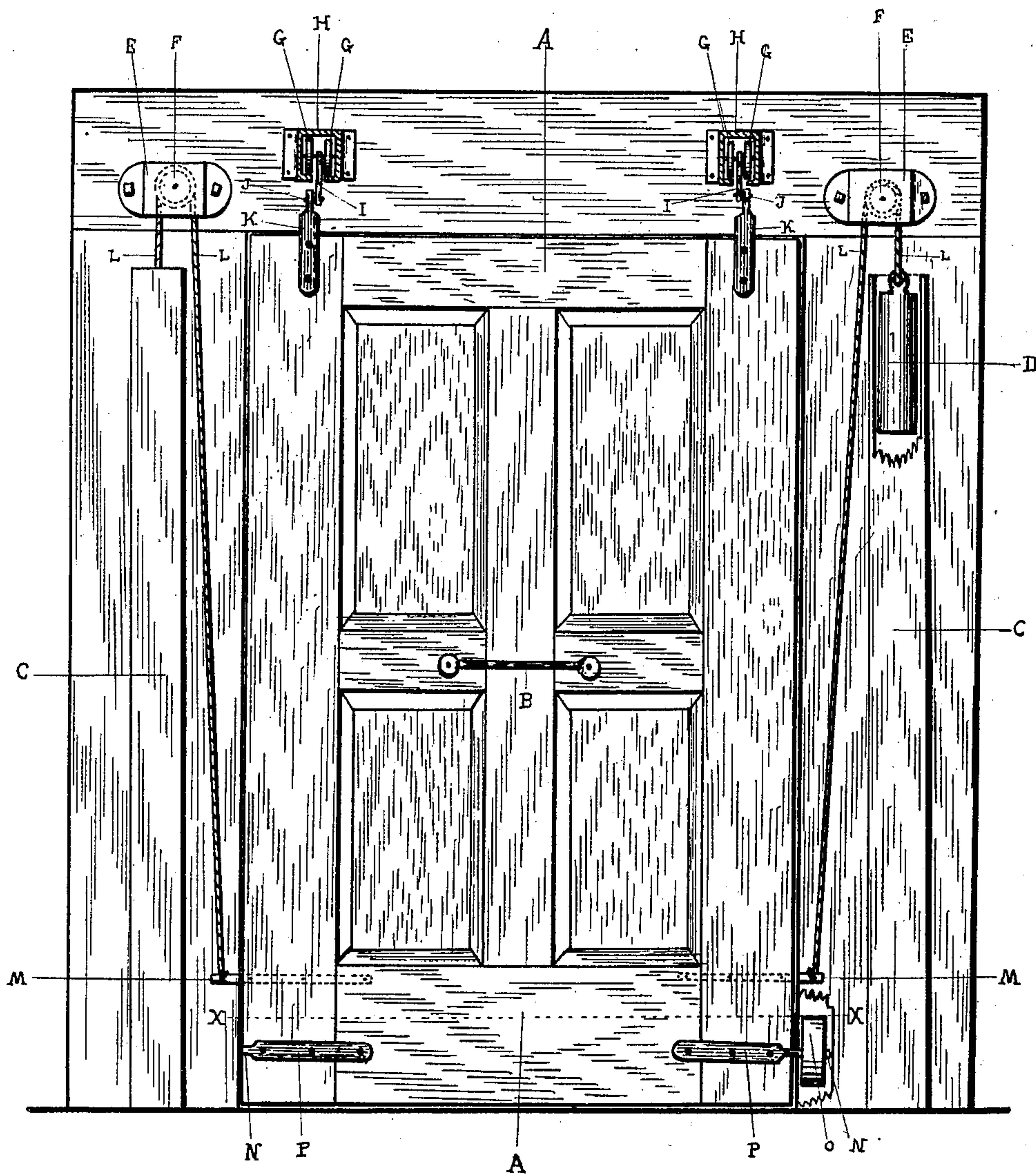
C. L. COLBY & C. F. PELLE.
DOOR OPERATING DEVICE.

(Application filed Dec. 8, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1



Witnesses:

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By their Attorney

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DOOR OPERATING DEVICE.

(Application filed Dec. 6, 1900.)

(No Model.)

2 Sheets—Sheet 2.

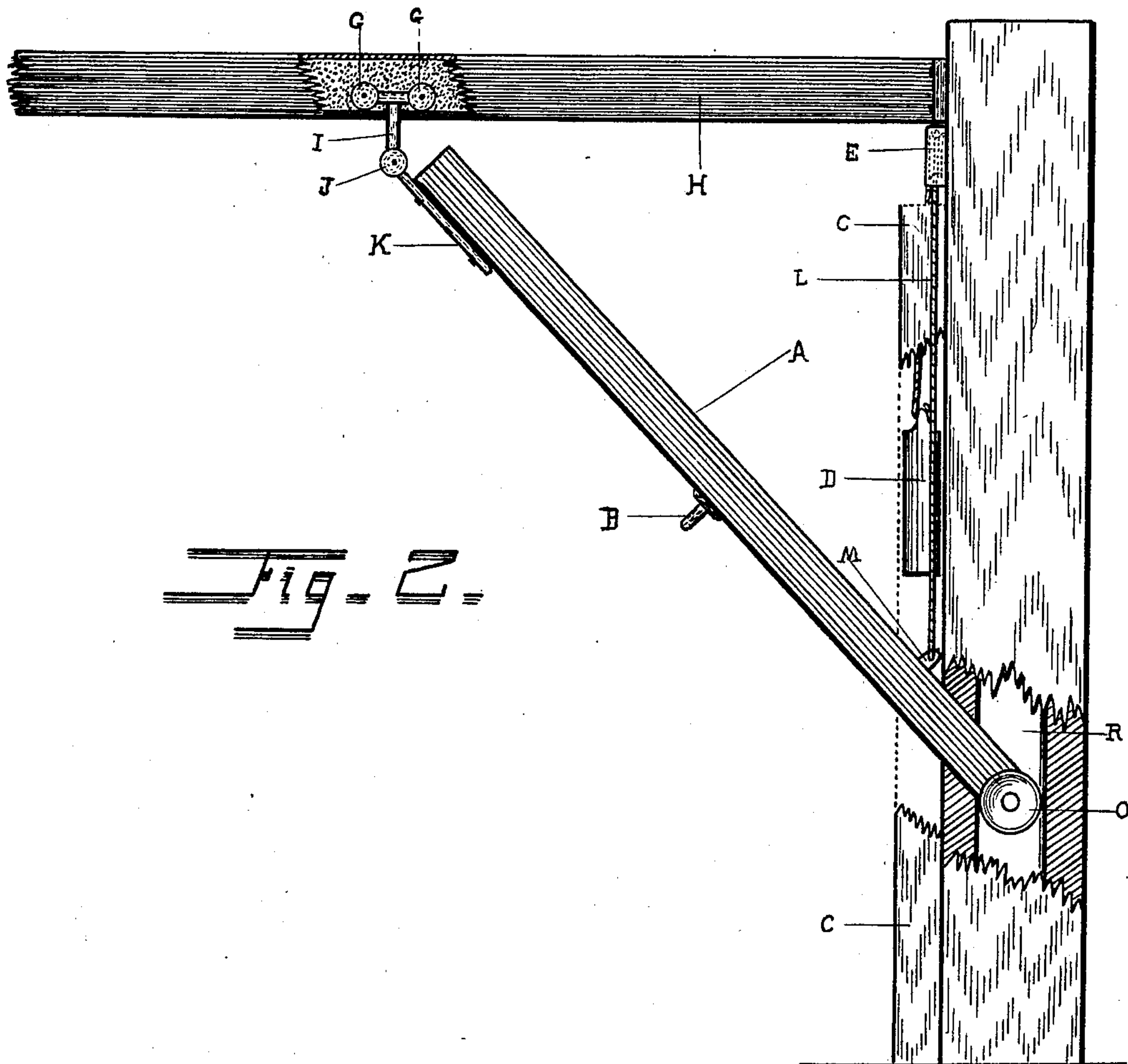


Fig. 2.

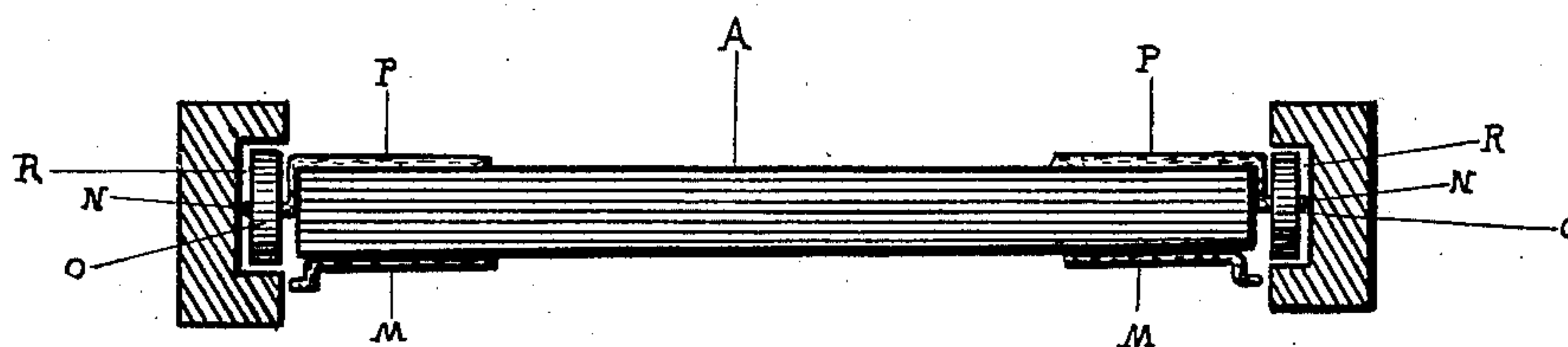


Fig. 3.

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UNITED STATES PATENT OFFICE.

CLARENCE L. COLBY, OF NEW PARIS, OHIO, AND CHARLES F. PEELLE, OF
RICHMOND, INDIANA.

DOOR-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 683,102, dated September 24, 1901.

Application filed December 6, 1900. Serial No. 38,877. (No model.)

To all whom it may concern:

Be it known that we, CLARENCE L. COLBY, residing at New Paris, in the county of Preble and State of Ohio, and CHARLES F. PEELLE, residing at Richmond, in the county of Wayne and State of Indiana, citizens of the United States, have invented new and useful Improvements in Door-Operating Devices, of which the following is a specification.

Our invention relates to that class of doors adapted to be raised and lowered by counterbalancing-weights and to be entirely out of the way when not in use; and the objects of our improvements are, first, to provide a door which can easily and quickly be removed from its position in the door-casing and as easily and quickly placed in position again to close the opening of the door; second, to provide a door which will occupy no floor-space when opened or closed, or on which to operate it, and, third, to provide a new article of manufacture; the herein-described mechanism adapted to operate doors as hereinafter set forth, which can be manufactured and sold at a comparatively low price.

This invention has special reference to a novel construction and arrangement by means of which doors may be operated to open and close easily and quickly; and the invention consists in novel features of construction and operation hereinafter fully described and claimed.

We attain the objects above enumerated and other minor objects which will hereinafter appear by the mechanism illustrated in the accompanying drawings, forming a part of this specification, in which--

Figure 1 is a front elevation of a door provided with our improvements for operating the same. Fig. 2 is a side view of same, showing the inner parts of our mechanism in section. Fig. 3 shows a horizontal cross-sectional view taken on the line X X of Fig. 1 with the door and connected parts in full lines. Similar letters refer to similar parts throughout the several views.

Referring now to the drawings, A designates a door of any well-known form or construction and of a size to fit the opening in the door-frame.

B designates a bar secured to the door to serve as a handhold for operating the door.

C designates boxings secured at the sides of the door for the purpose of inclosing the weights D.

D designates the weights placed on either side of the door to counterbalance the door A.

L designates a cord, rope, chain, or cable connecting the bottom of the door to the weights D.

E designates pulley blocks or casings, and F designates a pulley-wheel, pivoted in E, over which passes the rope, chain, cord, or cable L.

H designates tracks of any well-known construction, extending out at approximately right angles to the door-casings and carrying the wheels G, said wheels being mounted upon trucks operating longitudinally in or on said track and carrying a downwardly-projecting arm I. Secured near the upper corners of the door A are upwardly-projecting arms K. The arms K and the arms I are hinged together at J, as shown, so as to suspend the door A to the track H. Near the lower corners of the door A are secured straps P, which extend beyond the edges of the door to form axles N. Secured on the axles N and adapted to revolve thereon are wheels O, loosely journaled on said axles. The inner faces of the door-frame are provided with channels R, slightly wider than the diameter of the wheels O, so as to allow said wheels to revolve in said channels.

M designates straps secured to the opposite side of the door from P and parallel therewith, the outer ends being bent in substantially the form shown, and the extreme outer ends being provided with holes into which the rope, cord, chain, or cable L is secured. It can now be seen that the top of the door will be carried horizontally to and fro by the trucks running in the track H, and the bottom of the door will be carried perpendicularly by the wheels O, running in the channels R. Thus supposing the door A to be closed, as in Fig. 1, if the door be pulled outwardly by the handle B the top of the door will be carried outwardly by the track H and the bottom of the door will be carried up-

ward by the wheels O, guided in the channels R, as shown in Fig. 2. This process can be continued until the bottom of the door is raised to the point formerly occupied by the top of the door and the door will have assumed a position parallel with the track H. When in this position, it is apparent that the door will be entirely removed out of the way and that no floor-space will be taken up by it or will be required for its operation. It is also apparent that the weights D should be of a weight sufficient to properly balance the weight of the door, in which case the door will be easily operated and will remain in the position desired.

We have shown and described the construction and arrangement which seems to us to be the most practical; but it is evident that changes may be made in the details and that analogous parts may be used to accomplish the same results. We therefore reserve the right to make such changes in and modifications of the details herein shown and described as will fall within the limits of our invention.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a device of the class described, the combination with a door-opening, of vertical guides at the sides thereof, an upwardly-

movable door having members on its lower end which travel in the guides, a track extending out horizontally at the top of the door-opening, a depending arm having a roller at its upper end which is adapted to travel on the upper face of the track said arm being pivoted to the top of the door, whereby the latter is sustained by the arm and roller, and counterbalancing-weights for the door.

2. In a device of the class described, the combination with a door-frame, of a box-like casing or track having a longitudinal slot in its bottom and extending out horizontally from the top of the frame, vertical guides, a door having its lower end guided by said guides, a truck provided with rollers which travel in the casing, with the rollers bearing thereon, and an arm depending from said truck and pivotally connected to the top of said door, whereby the door can be made to assume a horizontal position parallel with the casing or track, when raised.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CLARENCE L. COLBY.
CHARLES F. PEELLE.

Witnesses:

JOHN A. SHUTZ,
R. W. RANDLE.