

(No Model.)

2 Sheets—Sheet 1.

H. J. COE & J. J. McBRIDE.  
HATCHWAY DOOR.

No. 419,503.

Patented Jan. 14, 1890.

Fig. 1.

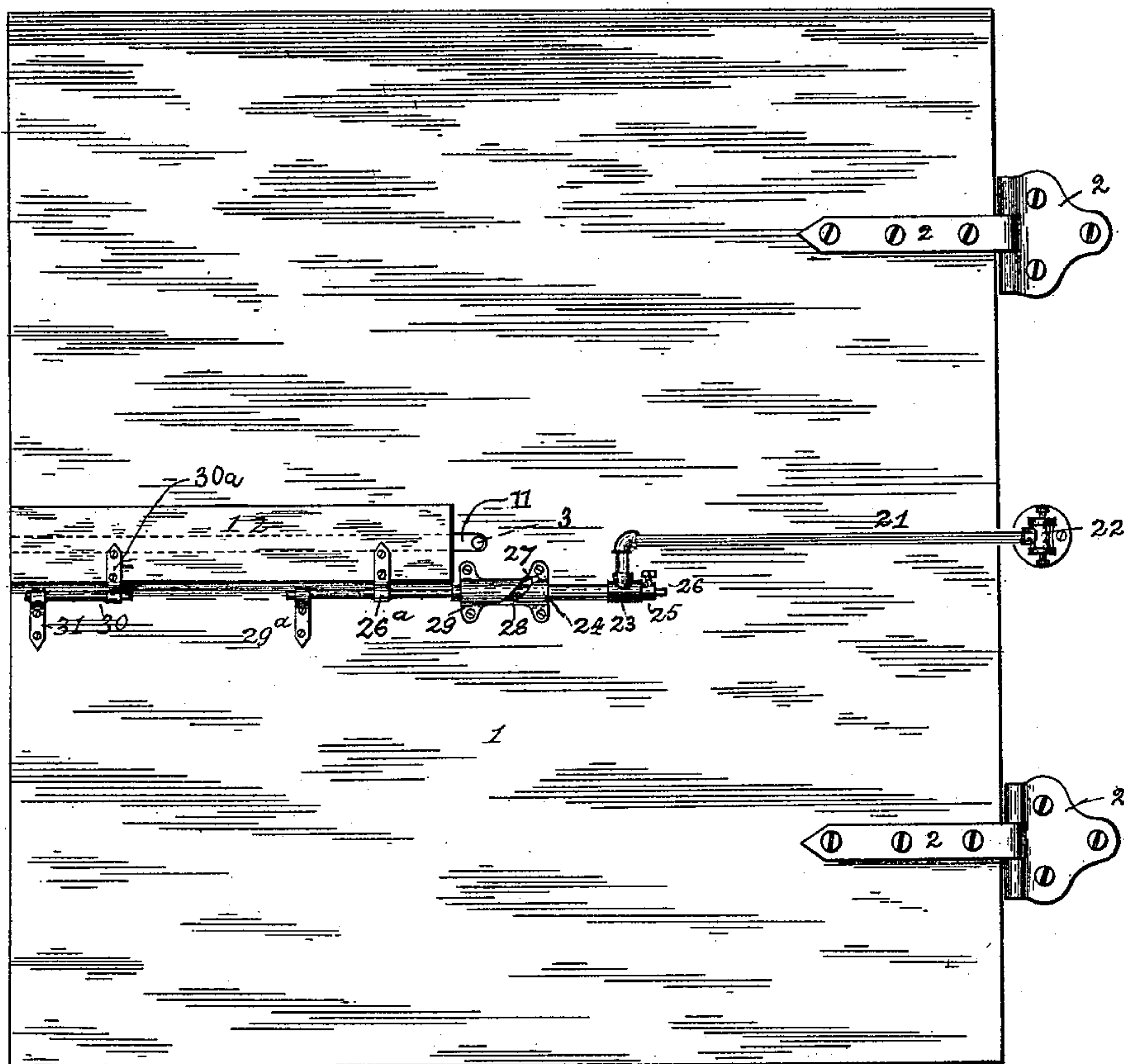
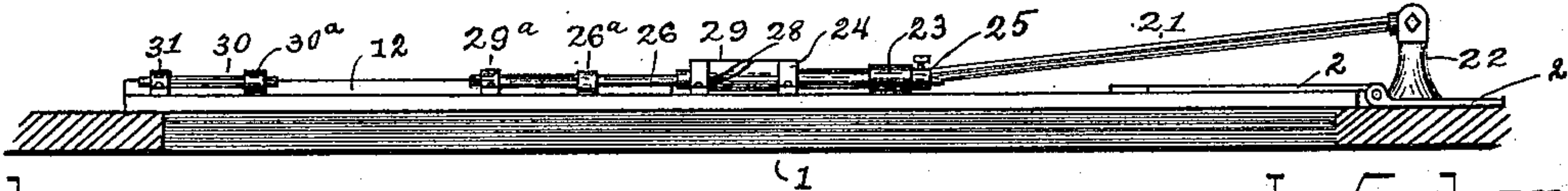


Fig. 2.



Witnesses.

*John F. Nelson*  
*George S. Bell*

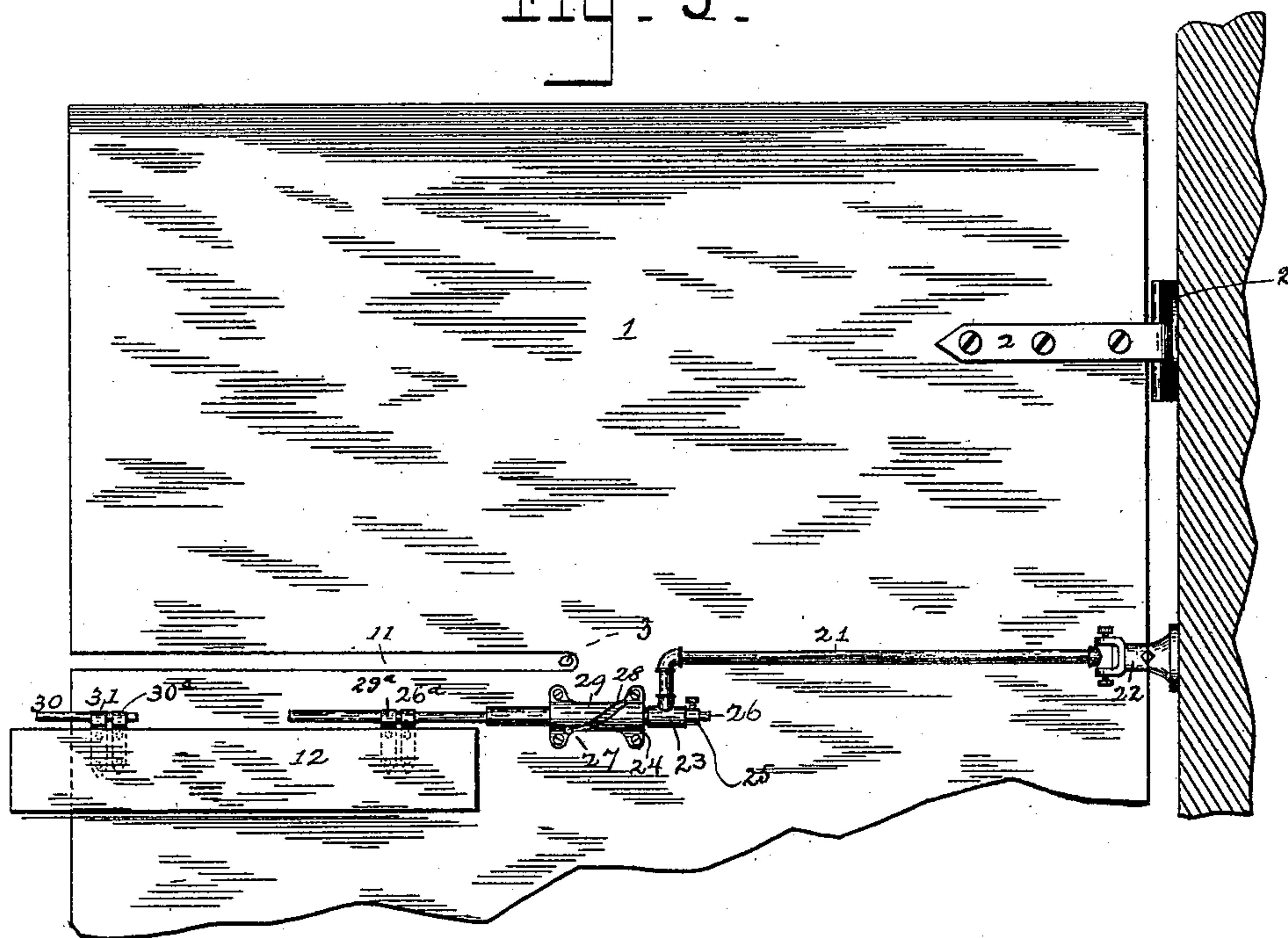
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2 Sheets—Sheet 2.

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Fig. 3.



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ALCOYNEVS



# UNITED STATES PATENT OFFICE.

HENRY I. COE, OF NEW YORK, N. Y., AND JOHN JAMES McBRIDE, OF RIDGEFIELD PARK, NEW JERSEY; SAID McBRIDE ASSIGNOR TO SAID COE.

## HATCHWAY-DOOR.

SPECIFICATION forming part of Letters Patent No. 419,503, dated January 14, 1890.

Application filed December 14, 1888. Serial No. 293,555. (No model.)

*To all whom it may concern:*

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

Our invention has for its object the provision of means whereby openings in hatch-doors may be covered and uncovered automatically, it being desirable that the doors fill and completely shut the hatch when down, and yet that portions of the doors be shifted for one purpose or another as they are moved to allow the passage of the elevator-cage.

We will first describe our invention with reference to the accompanying drawings, and will point out in the claims the novel features.

Figure 1 is a plan view of a hatch-door, showing our mechanism for operating the rope-slot cover. Fig. 2 is a sectional elevation of the same. Fig. 3 is a view of the same, showing the rope-slot cover open.

1 is a hatch-door having means—such as hinges 2 2—for fixing it to the floor.

An opening or slot 11 is made in the door to receive the lifting rope or cable 3. This slot must extend to the outer edge of the door, so that the latter may clear the cable when raised. 12 is a cover for this slot. The invention relates to means for operating this cover from a stationary part of the frame, and to means for mounting the cover so that it may be capable of such operation. Its movement must be rapid, so that the cover may be completely out of the way of the lifting rope or cable almost as soon as the door begins to move.

We have shown two forms of the invention, which, while differing in the special mechanism employed for transmitting motion to the cover, are alike in their provision for a combined rotary and longitudinal movement of the cover.

The preferred form of mechanism for operating the cover 12 is shown in Figs. 1, 2, and 3. A rod 21 is pivoted at one end on a standard 22, or at any suitable point above the door. At its other end it carries a sleeve 23,

loosely retained between shoulder 24 and washer 25 of pintle 26. The pintle 26 has a stud 27, riding in a spiral slot 28 of a housing 29, fixed to the door. One end of pintle 26 has a leaf 26<sup>a</sup>, fixed to cover 12 so that it forms one member of one hinge of such cover, the housing 29, with leaf 29<sup>a</sup>, fixed to the door, forming the other member. The other hinge is shown at the other end of the cover, and consists of a long pintle 30, fixed by a leaf 30<sup>a</sup> to the cover, and a leaf 31, fixed to the door and receiving said pintle. As the door rises the rod 21 pushes the pintle 26 in its housing, the stud 27 and walls of the slot 28 forcing the pintle to turn as it advances, and so raise the cover till it frees the slot 11, as shown in Fig. 3. The inclination of said slot 28 is made less at the end which acts at the beginning of the movement, so that the lifting of the cover may be rapid at this period, and it may be considerably steeper at the other end, so as to allow for plenty of movement of the rod. This movement may also be applied to close the opening at the sides of doors, especially in side-post elevators, as well as cable-slot covers.

By making the pintles of the hinges of greater length than their leaves and the described construction whereby the cover is caused to have a simultaneously swinging and sliding motion on its hinge-pintles the cover is got quickly out of the way of the hoisting-rope, so as to render impossible the serious danger of entanglement of the hoisting-rope with the hatch-door.

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

1. The combination of a cover for closing an opening in a hatch-door, a housing formed with a spiral slot, a long pintle sliding and turning in the housing, having a stud working in the slot, and means for operating the pintle, substantially as described.

2. The combination of a cover for closing an opening in a hatch-door, a slotted housing, a pintle having a stud for riding in the slot of said housing, and means for operating said pintle, substantially as set forth.

3. The combination of a door hinged by long pintles, one pintle having stud 27, slotted

housing 28 29, and rod 21, supported at one end on a stationary part of the frame or floor, substantially as set forth.

4. The combination of door 1, having cable-  
5 slot 11, cover 12 for said slot, long pintle 26, connected to said cover and having stud 27, slotted housing 28 29, wherein said pintle and stud have movement both longitudinal and rotary, rod 21, pivoted on said pintle at one

end, and postorequivalent support 22, where- 10  
to the other end of said rod is hinged, substantially as set forth.

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Witnesses:

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