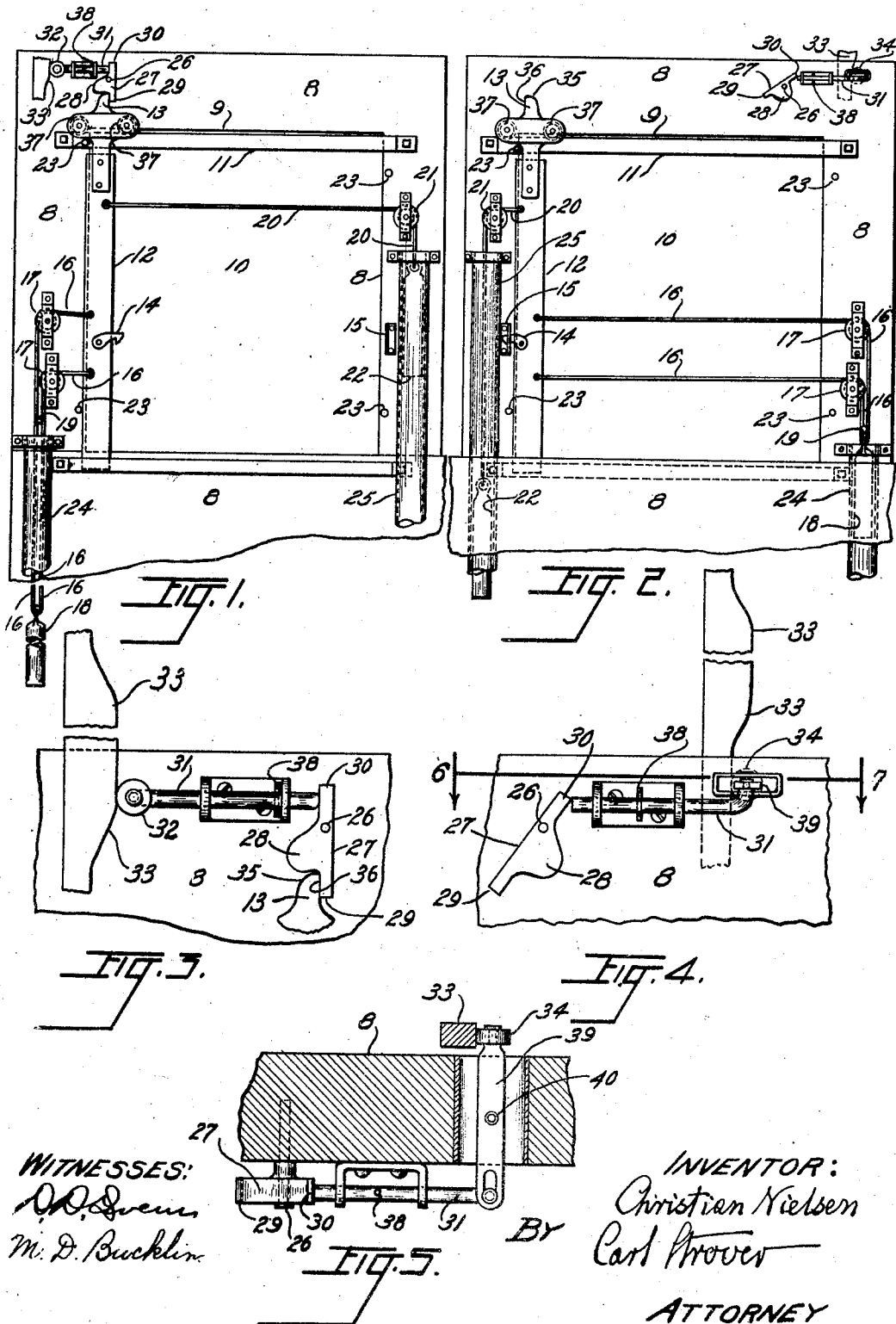


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ELEVATOR GATE.
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979,027.

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ELEVATOR-GATE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHRISTIAN NIELSEN, a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Improvement in Elevator-Gates, of which the following is a specification.

This invention relates to automatically closing elevator gates. Its principal objects are to produce at slight expense a durable, and reliable device, occupying but small space, and applicable chiefly to factory and freight elevators, by means of which quick and convenient ingress and egress to and from such elevators and easy access to the controlling cable is provided without the necessity of opening the gate to its full extent, and by means of which the gate when fully opened is in position for the landing in question, yet the gate is automatically closed as soon as the elevator leaves such position. I attain these objects by the means illustrated in the accompanying drawing in which—

Figure 1. is an elevation of my improved gate, as attached to the shaft-side of the wall or partition surrounding the elevator, said gate being shown from the side fronting the elevator in wide open position. Fig. 2. is an elevation of my improved gate, as attached to the floor-side of the wall or partition surrounding the elevator, said gate being shown from the side of the floor (looking toward the elevator) in closed position. Fig. 3. is a detail elevation of the automatic locking and releasing device used in connection with my improved gate as shown in Fig. 1. Fig. 4. is a detail elevation of the automatic locking and releasing device used in connection with my improved gate as shown in Fig. 2. Fig. 5. is a cross-section at plane 6—7, viewed from above, of the device shown in Fig. 4.

Referring to the drawings, partition 8, between an elevator shaft and adjoining floors or landings, is provided, near the upper edge 9, of opening 10, connecting one of said floors or landings with said shaft, with roller track 11 which may be attached either to the elevator side of said partition, (as in Fig. 1.) or to the floor side of said partition (as in Fig. 2.) From this roller track is suspended, by means of rollers 37, running on said track, bar 12, provided above said rollers with extension 13, and at appropriate height above the floor with lock 14, adapted to engage

catch 15 which is fastened to partition 8 on the same side as roller track 11. To bar 12 are fastened, likewise at appropriate height above the floor, guard-cables 16, (or in lieu thereof ropes or chains) running over rollers 17 and attached with their other ends to weight 18, which is limited by stop 19, or other appropriate means, from traveling higher than necessary to permit lock 14 to engage catch 15, the purpose of this limitation being to keep cables 16 from yielding to pressure when stretched across opening 10 by means of bar 12 being brought to the locked position shown in Fig. 2. To bar 12 is also fastened, preferably somewhat below roller track 11, cable 20, running over roller 21, and having fastened to its other end weight 22 which is sufficiently heavy to pull bar 12 into the locked position shown in Fig. 1 (against the pull of weight 18 and cables 16) whenever bar 12 is permitted to yield to the pull of weight 22.

Stops 23 are provided on either side of opening 10 to limit the movement of bar 12, and to bring it into strictly vertical position whenever the gate is fully opened or closed. Tubes 24 and 25 are preferably provided for weights 18 and 22, respectively, to travel in. To partition 8 is rotatably secured, by means of bolt or pivot 26, trigger catch 27, placed above roller track 11 in such a position that it may be barely passed by extension 13 when the gate consisting of bar 12 and cables 16, is fully opened. This trigger catch 27 is provided at its side facing away from roller 21 with eccentric weight 28, at its lower side with extension 29, and at its upper side with extension 30. On a level with extension 30 is fastened, by means of a slide or other appropriate means, attached to partition 8, horizontal sliding bolt 31, in such a manner that one of its ends abuts against extension 30 and that its movement toward extension 30 is limited (by a pin 38, or otherwise) so that it cannot be pushed farther than necessary to bring extension 30 into vertical position, pointing upward. Extension 29 is so arranged as to be likewise in vertical position, but pointing downward, whenever extension 30 is in vertical position, pointing upward. At its end opposite to that which contacts with extension 30, bolt 31, in the construction shown in Fig. 1., is provided with a roller or projection 32 adapted to be engaged by cam 33, fastened by appropriate means to the upper portion

of the elevator-car (not shown in the drawing) traveling past my device, in such a manner as to push bolt 31 against extension 30 to the limit of its travel, thus bringing both extension 30 and extension 29 into vertical position. In the construction shown in Fig. 2, the same end is accomplished by a roller or projection 34 fastened to one end of a lever 39, passing through partition 8, the other end of which is connected with bolt 31 and which is pivoted, at 40, in such a manner that contact of cam 33 with roller or projection 34 will cause bolt 31 to be pushed to the limit of its travel against extension 30. As long as bolt 31 is held in this position, extension 13 which for this purpose is provided with sloping shoulder 35, can be pushed, in fully opening my gate, past extension 29, in a direction opposite to the pull of weight 22, but on being released, after passing extension 29, cannot return, in obedience to the pull of weight 22, because by reason of eccentric weight 28, trigger catch 27 will at once fall back into a position in which extension 29 points vertically downward and abuts the square shoulder 36 of extension 13, preventing it from passing. As soon however as (by moving the elevator-car up or down) cam 33 is removed from engagement with roller or projection 32 or 34 (as the case may be) bolt 31 is released and will be pushed back by extension 30, under the pressure of shoulder 36 against extension 29, caused by the pull of weight 22, thus releasing extension 13, and with it the whole bar 12, and causing it to be auto-

matically locked by lock 14 to catch 15, incidentally pulling cables 16 taut across opening 10. By adjusting the length and position of cam 33 it can be readily determined just how far the elevator-car to which it is attached shall be allowed to travel above or below the level of the lower edge of opening 10, before bolt 31 is released.

I am aware that automatic closing gates for freight and factory elevators are not new; but all such gates of which I have knowledge have an up and down motion, and require to be fully or almost fully, opened to admit even a single person, or to give convenient access to the controlling cable.

What I claim and intend to protect by Letters Patent, is:—

1. An elevator-gate; consisting of a vertical bar and horizontal cables attached to said bar, in combination with mountings for said bar and cables; a weight attached to said cables, and means limiting the upward travel of said weight, for the purpose described.

2. An elevator gate, consisting of a vertical bar and horizontal cables attached to said bar, in combination with mountings for said bar and cables; a weight attached to said cables; and a stop-pin limiting the upward travel of said weight; substantially as and for the purpose described.

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Witnesses:

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