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G. D. THOMPSON.

ELEVATOR GATE.

APPLICATION FILED AUG. 7, 1905.

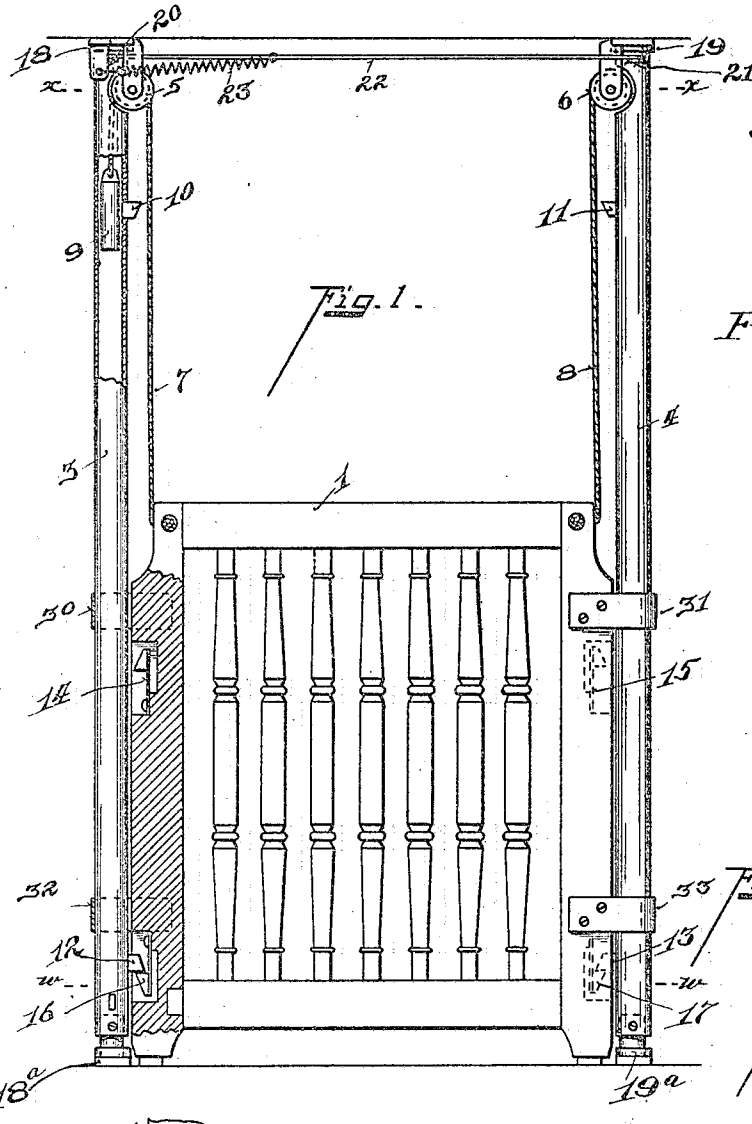

Fig. 1.

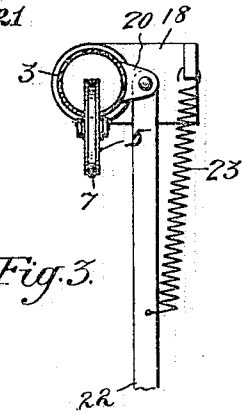

Fig. 3.

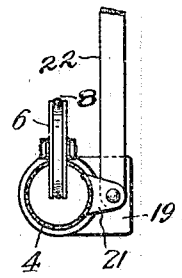

Fig. 4.

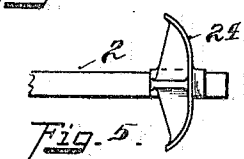

Fig. 5.

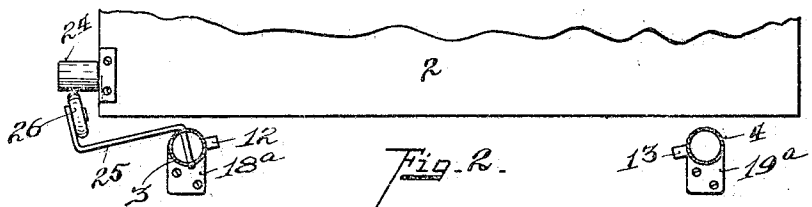

Fig. 2.

Inventor

Witnesses

Oliver B. Kaiser

Louise Beck.

George D. Thompson

By Wood & Wood

Attorneys

UNITED STATES PATENT OFFICE.

GEORGE D. THOMPSON, OF ARLINGTON HEIGHTS, OHIO.

ELEVATOR-GATE.

No. 809,644. Specification of Letters Patent. Patented Jan. 9, 1906.

Application filed August 7, 1905. Serial No. 273,152.

To all whom it may concern:

Be it known that I, GEORGE D. THOMPSON, a citizen of the United States, residing at Arlington Heights, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Elevator-Gates, of which the following is a specification.

My invention relates to an improvement in elevator-gates.

The features of the invention are more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation, partly in section. Fig. 2 is a section on line *w w*, with the gate removed, showing the elevator at tripping position. Fig. 3 is in the nature of a plan view, partly in section, illustrating means for yieldingly connecting the tube rotatively. Fig. 4 is an enlarged plan view of one of the tubes. Fig. 5 is an end elevation of the elevator-cam.

1 represents the elevator-gate.

2 represents a portion of the elevator-car.

3 4 represent outside tubes forming the opposite sides of the doorway. They are provided at the top with the sheaves 5 6, over which pass the ropes 7 8, each having a counterbalance 9 within the tube. The tubes 3 and 4 have the catches 10 11, respectively, at the top and 12 13 at the bottom. As shown in Fig. 4, it will be seen that each tube has the top catch and the bottom catch projected radially from the tube in different vertical lines, so that both are disclosed from a top plan view. The elevator-gate is provided with the top latches 14 15, adapted to coöperate with the top catches 10 11 and with the bottom latches 16 17, adapted to coöperate with the bottom catches 12 13, respectively. The tubes are journaled in the plates 18 19 at the top, respectively, and plates 18^a 19^a at the bottom, so that each is slightly rotatable on its axis. The tubes are provided with the ears 20 21, connected by a cross-bar 22. The sheave 5 is journaled in plate 18.

23 represents a coil-spring connecting the bar 22 with the plate 18 and holding the tube normally in a given position, in which catches 12 13 are in position to engage the latches 16 17 to hold the elevator-gate down. The car or platform is provided with a cam 24, (see Figs. 2 and 5,) and one of the tubes, say 3, has an arm 25 with an antifriction-roller 26 in position to be engaged by the cam 24, which will deflect the said arm 25 and turn said tubes in their bearings, moving the catches 12 and 13 out of engagement with the latches 16 and 17, so that the door may be raised and turn the top catches 10 and 11 into position to be engaged by the top catches 14 and 15 to automatically catch and lock the gate in raised position. The cam 24 and the arm 25 are so positioned relatively as to operate this trip when the car is at the level of the floor upon which the gate is to be manipulated.

It will be noted that this device is extremely simple, the parts are efficient in operation, and occupy but little space.

The gate is provided with the laterally-extending metal bands 30 31 32 33 at the top and bottom, respectively, which are looped around the tubes 3 4, and thus form vertical guides for the gate. The tubes are set inside of the walls forming the gateway, and they form a very simple but light and strong mounting for the gate.

Having described my invention, I claim—

1. In combination with an elevator-car, a vertically-sliding counterbalanced gate, having top and bottom latches, a rotatable member having top and bottom catches in different vertical lines, and means actuated by the car to rotate said member whereby one of the catches is moved out and the other into position for engagement with its coöperating latch on the gate, substantially as described.

2. In combination with an elevator-car, a vertically-sliding counterbalanced gate, having top and bottom latches, a rotatable member having corresponding top and bottom catches projected in different vertical lines, means for holding said rod yieldingly in normal position with the bottom catch and latch in engagement, and means actuated by the car for rotating said member to release the bottom catch and to throw the top catch into position for engaging the top catch when the gate is raised, substantially as described.

3. In combination with an elevator-car, a vertically-sliding gate, having top and bottom latches, a rotatable tube at the side of the gateway, a counterbalance for the gate sliding in said tube, a top and bottom catch radially projected from the tube in different vertical lines, means for holding said tube in the given position yieldingly, and means actuated by the car for turning said tube to release one catch and latch and engage another, substantially as described.

4. In combination with an elevator-car, a vertically-sliding gate having top and bottom latches on each side, a rotatable tube on each side of the gateway, counterbalances for said gate sliding in said tubes, top and bottom catches on each tube radially projected in different vertical lines, means connecting said tubes whereby they rotate in unison, means for holding said tubes yieldingly in a given position, and means actuated by the car for rotating said tubes whereby one set of catches and latches are released and the other set of catches thrown into position to engage their coöperating latches, substantially as described.

5. In combination with an elevator-car, a vertically-sliding gate having latches, a rotatable member having catches in different vertical lines, and means actuated by the car to rotate said member whereby the catches are moved into and out of position, substantially as described.

6. In combination with an elevator-car, a vertically-sliding gate having latches, rotatable members having catches in different vertical lines, vertical guide connections between said members and the gate, and means actuated by the car to operate said catches, substantially as described.

7. In combination with an elevator-car, vertical tubes rotatably mounted in the sides of the gateway, a sliding gate between said tubes having counterbalances sliding within said tubes, said tubes having catches extending radially in different vertical lines, coöperating latches on the gate, and vertical guide connections projected from the gate and engaging around the tubes, substantially as described.

In testimony whereof I have hereunto set my hand.

GEORGE D. THOMPSON.

Witnesses:
S. Ross,
Leo O'Donnell.