

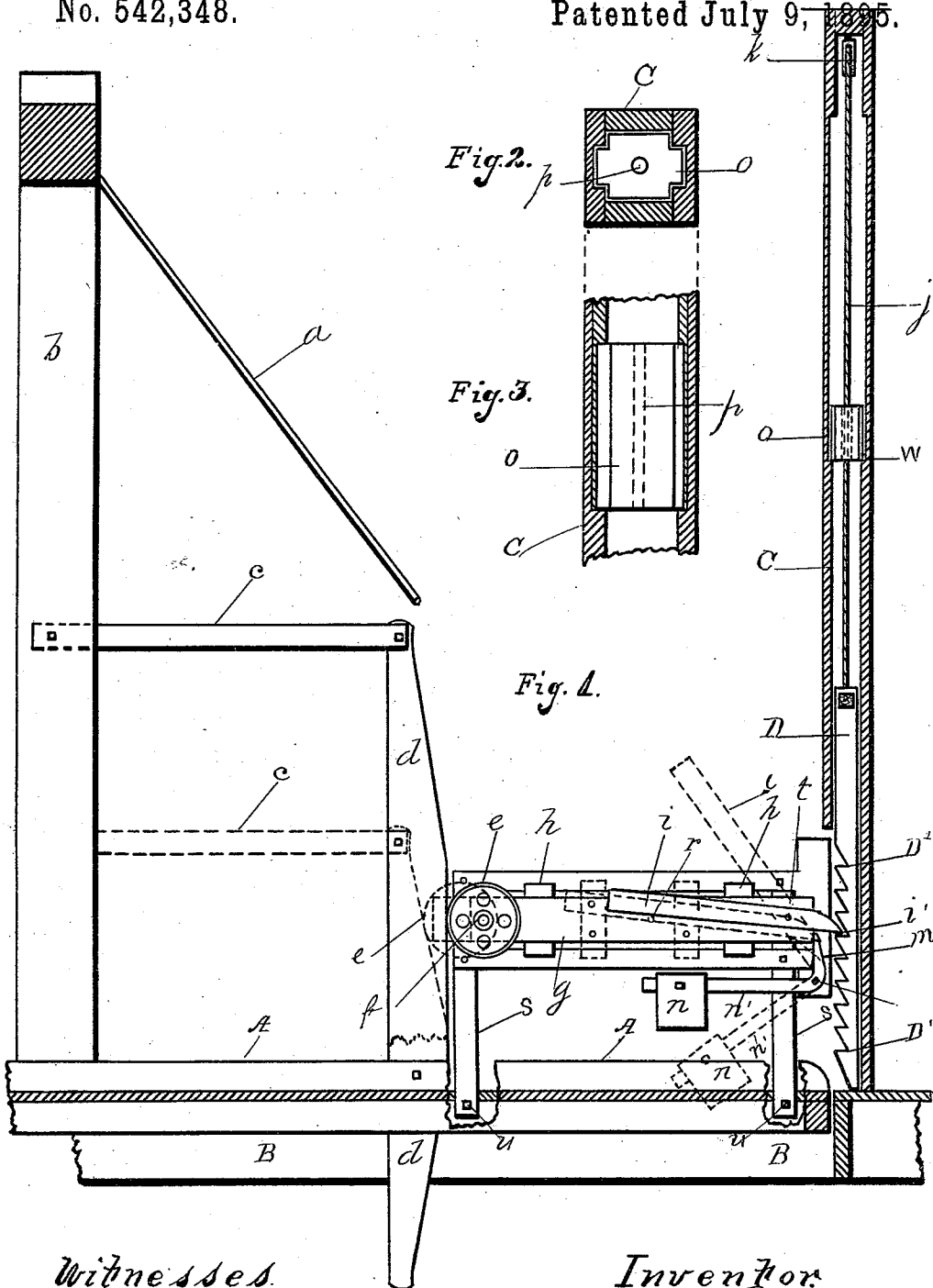
(No Model.)

2 Sheets—Sheet 1.

C. F. PEELE.
SAFETY GATE FOR ELEVATORS.

No. 542,348.

Patented July 9, 1895.



Witnesses.
Charles B. Swain
Mary E. Swain

Inventor
Charles F. Peelle
by H. J. Dennis
Attorney

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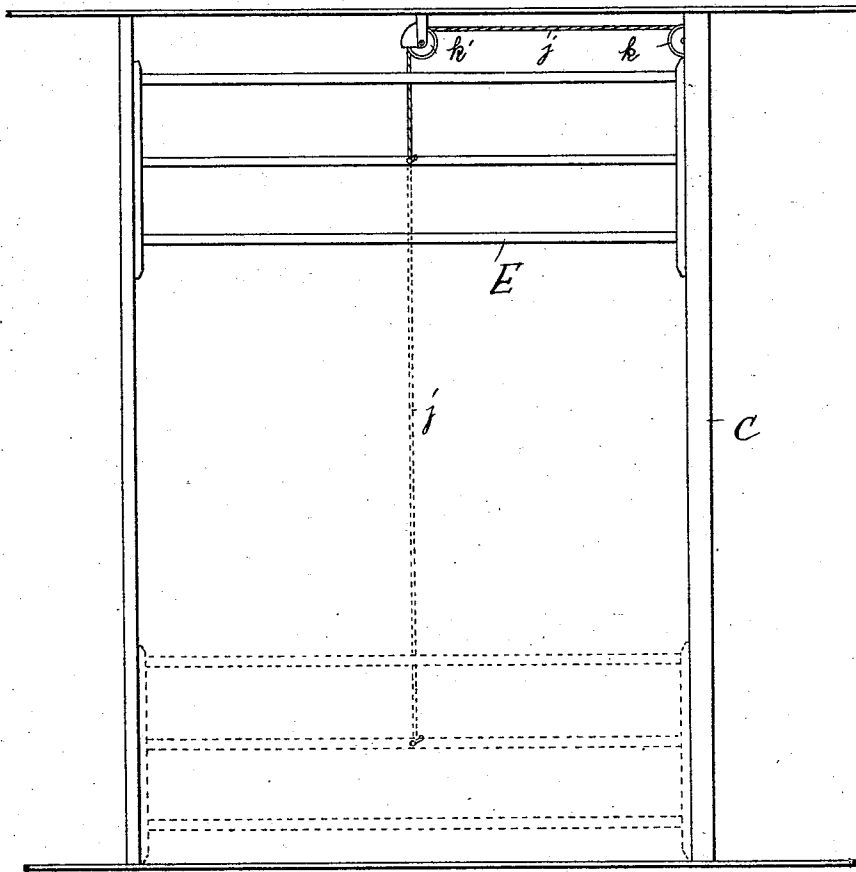
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Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES F. PEELE, OF RICHMOND, INDIANA.

SAFETY-GATE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 542,348, dated July 9, 1895.

Application filed October 17, 1894. Serial No. 526,175. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. PEELE, a citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Safety-Gates for Elevators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to that class of gates which close elevator-openings and are adapted to be raised and lowered.

The object of my invention is to provide means by which a safety-gate may be held rigidly in a raised position while the elevator is flush with the floor and is made to descend automatically by the elevator-platform ascending or descending from its position, the elevator-platform being permitted to ascend through the successive floors without disturbing the safety-gates in their positions closing the said openings in the floors.

My invention consists in the devices hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation, with some parts in section, of one-half of an elevator-platform and the means for lowering the gate and for detaining and holding the latter in elevated position. Fig. 2 is a top plan view of a trip-weight which traverses the interior of a vertical box, showing the box in cross-section. Fig. 3 is a sectional view of part of said vertical box and the trip-weight therein. Fig. 4 is a front elevation of the gate, the suspending-cord therefor, and the vertical box, said gate being shown elevated in full lines and lowered in dotted lines.

In Fig. 1, *b* represents the center post on the side of the elevator-platform; *a*, the brace; *AA*, the elevator-platform, and *BB* the frame of the opening in the floor. An upright or vertical bar *d* is carried by the elevator-platform and secured in position by a horizontal brace *c*, which connects it to the central post *b* at the upper end and is fixed to the elevator-platform *A* at its lower end. The outer edge of the bar *d* is narrower at the top and bottom than at its center, making it wedge shape, as it is shown in Fig. 1, where it is shown in contact with the face of a wheel *e*. This

wheel *e* revolves on a stud-pin axis *f*, projecting from a horizontal slidable bar *g*, which is permitted an endwise motion in guides *h h*. 55 The bar *g* carries an oscillating dog-arm *i*, pivoted to the arm *g* at *t* and supported in an inclined position by a stud-pin *r*.

D designates a lock-bar having recesses *D'* and *O* designates a trip-weight, both of which are located within the box *C* and are connected with the gate *E* by means of the cord *j* passing over suitably-arranged pulleys *k k'*. The point *i'* of the bar *i* is forced into a recess *D'* in the bar *D* by the movement toward the box *C* of the slidable arm *g*, and when so engaged with bar *D* the latter will be locked in its lowermost position and the gate held elevated. Obviously the bar *d* holds the arm *g* into the position which engages the bar *i* with the bar *D* until disengaged from the pulley *e* by the upward or downward travel of the elevator car or platform. In order to release the lock-bar *D* at the proper time, so as to permit the gate to descend and close the opening 65 when the car or platform has passed, a normally-inclined pivoted lever *n'* is provided, said lever having a bent end *m* in contact with the end of said slidable arm *g* and being provided with a weight *n* upon its other end. 80 While the slidable arm *g* is being forced toward the box *C* in the manner above described its end presses upon the bent end *m* of said lever and raises the weighted end of the latter into horizontal position, as shown 85 in full lines in Fig. 1, and when the bar *d* has passed out of engagement with the pulley *e* upon said slidable arm *g* the weight *n* upon lever *n'* causes the latter to drop into its inclined position, and during its said movement 90 it exerts a force upon the arm *g* which moves the latter and its attached parts into their normal position away from said box *C*, thus releasing the lock-bar *D* and permitting the gate *E* to descend by its own weight. 95

The vertical box *C* is placed at its lower end at the corner of the opening in the floor and extends from floor to ceiling, and is traversed longitudinally by the lock-weight *D* and trip-weight *O*. The rope or cord *j* is secured to the top end of the lock-weight *D*, passing through the opening *p* of the trip-weight *O*, which is held from descending by projections *w* on the inner surface of the box *C* and is 100

caught up by the lock-bar D in its ascent, forming an auxiliary counterbalance-weight against the weight of the safety-gate E, which is suspended at the opposite end of the rope *j*.

5 In practical operation the safety-gate is in all cases raised by the hands of the operator, its elevation being assisted by the weight of the lock-bar D and trip-weight O until the latter reaches its rest at *w* and the former reaches a point opposite the end of the slid-
10 able bar *g*. The lock-bar D is constructed with a series of triangular teeth on its face, forming the recesses D' above described, and as the point *i'* of the oscillating bar *i* comes in
15 contact with a tooth the point *i'* is carried downward and the rear end of the bar *i* is elevated, as shown in dotted lines, until the lock-bar D is stopped and the point *i'* rests upon the horizontal part of the tooth, which
20 holds the lock-bar rigidly in position, and as a consequence prevents the descent of the safety-gate until the elevator-platform carrying the bar *d* is moved up or down, when, by the withdrawal of the slidable arm *g*, the
25 point *i'* is released and the safety-gate allowed to descend automatically, the result being that the safety-gate can only be raised by the hands of the operator, and never by accident, and when so raised it is imperatively closed
30 by the elevator in passing the floor, either up or down, and as a consequence is always closed, avoiding danger from accidents.

The operating mechanism of my device is attached to a framing *s s s*, which is secured
35 to the framing B, as shown at *u*, the sides of the elevator-platform A being cut away to show the manner of attachment. The wheel *e* turns on its axis as it comes in contact with the angle of the surface of the vertical bar *d*,
40 thus avoiding friction and insuring perfect action of the slidable arm *g*.

Having thus fully described my said im-

provement, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the slidable arm, 45 of a pivoted lever having one end engaged with said slidable arm and its other end provided with a weight, substantially as described.

2. The combination with an elevator gate 50 and a toothed bar connected thereto, of a slidable arm, a pivoted bar thereon designed to engage said toothed bar, and a pivoted lever, having one end engaged with said slidable arm and its other end provided with a 55 weight, substantially as described.

3. The combination with an elevator gate, and a toothed bar connected thereto, and with the elevator platform carrying a bar *d*, of a 60 slidable arm, a wheel thereon designed to be engaged by said bar *d*, and a pivoted bar on said arm designed to be forced into engagement with said toothed bar, substantially as described.

4. The combination with the elevator plat- 65 form, a bar *d* carried thereby, the gate, and a toothed bar connected with said gate, of a slidable arm engaged by said bar *d* and forced in one direction thereby, and a pivoted arm on said bar designed to engage said toothed 70 bar, substantially as described.

5. The combination with the gate, the rope from one end of which said gate is suspended, a movable toothed lock bar secured to the 75 other end of said rope; a slidable arm, and a pivoted bar carried by said arm and designed to engage said toothed bar and thereby hold the gate elevated, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES F. PEELLE.

Witnesses:

W. T. DENNIS,

CHARLES A. FRANCISCO.