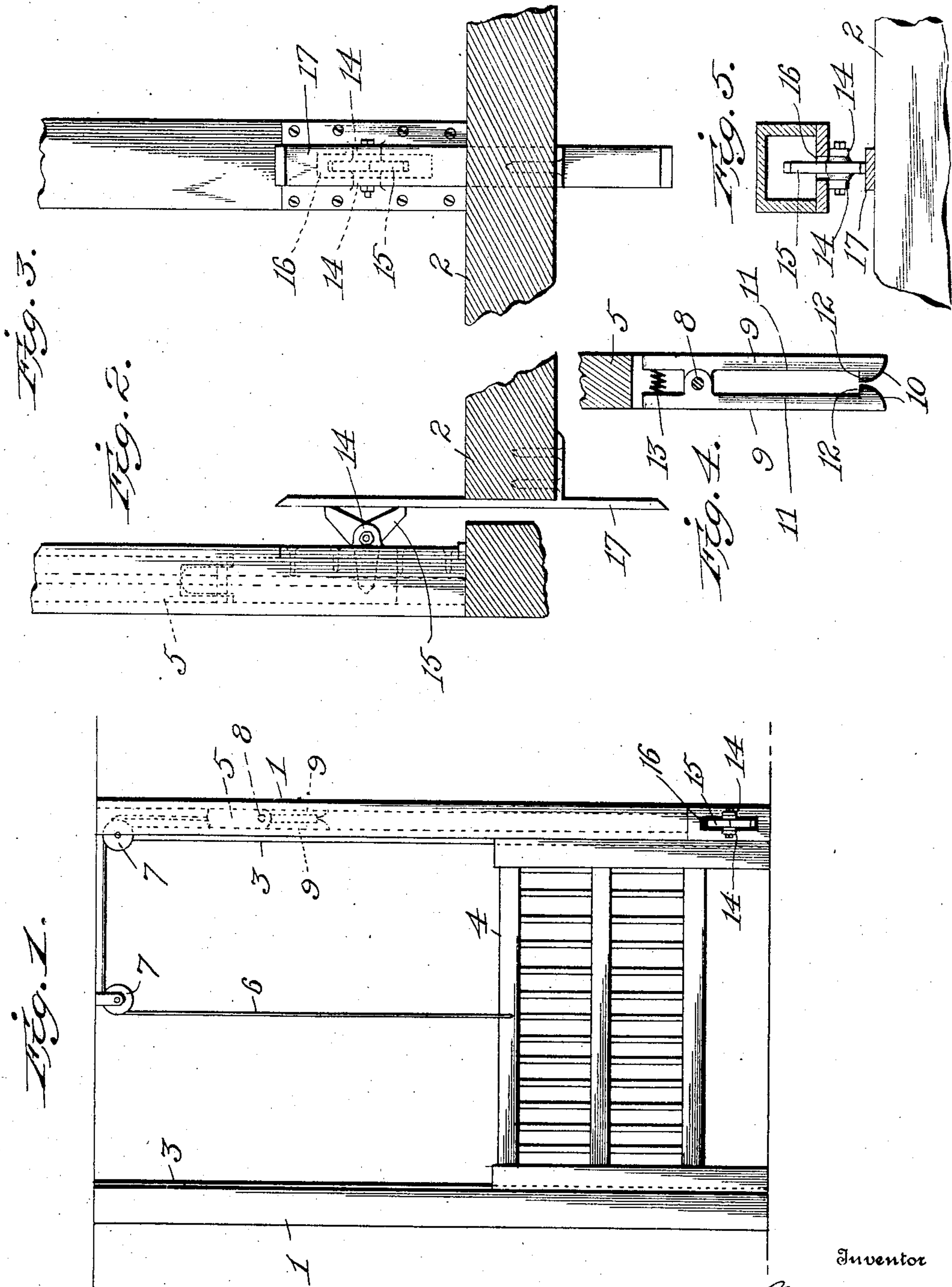


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W. N. PHILLIMORE.
ELEVATOR GATE.

APPLICATION FILED AUG. 5, 1904.



Witnesses

Edwin L. Yewce
J. B. Burgess

Inventor

Walter N. Phillimore

by Percy B. Hills
Attorney

UNITED STATES PATENT OFFICE.

WALTER N. PHILLIMORE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
OF ONE-HALF TO WALTER W. WOOD, OF HONESDALE, PENNSYLVANIA.

ELEVATOR-GATE.

SPECIFICATION forming part of Letters Patent No. 786,311, dated April 4, 1905.

Application filed August 5, 1904. Serial No. 219,650.

To all whom it may concern:

Be it known that I, WALTER N. PHILLIMORE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Elevator-Gates, of which the following is a specification.

My invention relates to elevator-gates, and more particularly to the vertically-moving gates commonly employed with freight-elevators, and has for its object to provide an improved means for retaining each of said gates in its raised or open position while the elevator is at its floor and for automatically releasing said gate when the elevator leaves its floor. This object I accomplish in the manner and by the means hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of a gate and its framework and attachments embodying my improved construction. Fig. 2 is a detail sectional elevation of a portion of the framework and the elevator-car. Fig. 3 is a similar view taken at a right angle to Fig. 2. Fig. 4 is a detail vertical sectional view of the lower end of the counterweight and its attached locking mechanism. Fig. 5 is a horizontal sectional view of the framework containing the counterweight and also a portion of the elevator-car.

Similar numerals of reference denote corresponding parts in the several views.

In the said drawings the reference-numeral 1 denotes the framework of the elevator-well, and 2 the elevator-car. Vertically movable on slides 3 is the gate 4, the same being connected with the usual counterweight 5 by means of cord 6 passing over pulleys 7, as shown. Pivoted near their upper ends at 8 in the lower end of the counterweight 5 are the twin jaws 9, having their lower ends rounded inwardly at 10 and terminating in the horizontal shoulders 12 and also having their sides rounded or chamfered at 11. The upper ends of said twin jaws 9 are normally acted on by the spring 13 to force them apart, and thus retain said jaws in the position shown in Fig. 4.

Mounted on lugs 14 on the elevator-car side of that portion of the framework 1 containing the counterweight 5 is a star-wheel 15, the same being adapted to rotate freely on its pivot and being so positioned that one of its arms will always extend through the slot 16 in the framework 1 and into the path of travel of the counterweight 5.

Fixed to the side of the elevator-car 2 is a vertical plate 17, so positioned that as the car passes the star-wheel 15 said plate will lie in the path of rotation of the arms of said star-wheel, and thus prevent its rotation.

From the above description the operation of my improved construction will be understood to be as follows: When the car 2 is away from the floor of door 4, the latter may be raised until when in its open position the twin jaws 9 on the lower end of counterweight 5 pass star-wheel; but as the latter is freely rotatable on its pivot 14 it will offer no obstruction to the movement of the counterweight 5, so that the door 4, which is slightly heavier than its counterweight, will when released automatically descend to the closed position, thus insuring its closure except when positively held lifted; but as the car 2 approaches the floor of door 4 the vertical plate 17 thereon will pass into the path of rotation of star-wheel 15, as shown in Fig. 2, and thus prevent further rotation of the same, retaining one of the arms of said star-wheel fixed in the path of travel of the rounded lower ends 10 of twin jaws 9. Now when the gate 4 is lifted to the open position to permit ingress to or egress from the car 2 the contact of the rounded lower ends 10 of twin jaws 9 with the projecting arm of star-wheel 15 will cause said jaws to separate against the tension of spring 13 until said arm of the star-wheel passes above the shoulders 12 on said twin jaws 9, when the latter will again be forced together by spring 13. Now with the described parts in this position the arm of star-wheel 15 by its engagement with the shoulders 12 of twin jaws 9 will prevent any upward movement of said twin jaws and their attached counterweight 5 and will thus retain the gate 4 in the raised or open position,

as will be readily understood. When, however, the car 2 is moved away from said floor in either direction, the consequent passage of plate 14, carried by said car, from contact
 5 with the star-wheel 15 will instantly permit the latter to rotate freely, thus releasing twin jaws 9 and counterweight 5, whereupon the weight of the gate 4 will cause it to again descend or close automatically. Should the gate
 10 4 be lifted to a point where the twin jaws 9 are dropped sufficiently to cause the star-wheel 15 to contact with them if rotated by contact with the plate 17, the rounded or chamfered sides 11 of said jaws will permit the
 15 passage of the arm of the star-wheel therebetween without danger of breaking any of the parts.

It will thus be seen that the described construction combines certainty of operation with
 20 simplicity of structure and at the same time is practically incapable of getting out of order or of being broken.

Having thus described my invention, what I claim as new, and desire to secure by Letters
 25 Patent, is—

1. In an elevator, the combination with the car thereof, of a gate, a star-wheel adapted to be contacted with by said gate or its connected parts when said gate is open, said star-wheel
 30 being normally freely rotatable, and means on the car for engaging said star-wheel to prevent its rotation, said star-wheel when thus held being adapted to retain said gate.

2. In an elevator, the combination with the
 35 car thereof, of a gate, a weight partially coun-

terbalancing said gate, a star-wheel adapted to be contacted with by said weight when the gate is open, said star-wheel being normally freely rotatable, and means on the car for engaging said star-wheel to prevent its rotation,
 40 said star-wheel when thus held being adapted to engage and retain said counterweight.

3. In an elevator, the combination with the car thereof, of a gate, a weight partially counterbalancing said gate, a star-wheel adapted to
 45 be contacted with by said weight when the gate is open, said star-wheel being normally freely rotatable, and a plate on the car for engaging said star-wheel to prevent its rotation, said star-wheel when thus held being adapted
 50 to engage and retain said counterweight.

4. In an elevator, the combination with the car thereof, of a gate, a weight partially counterbalancing said gate, twin jaws carried by
 55 said weight and normally spring-pressed together, a star-wheel lying in the path of travel of said twin jaws as said gate reaches the open position, said star-wheel being normally freely rotatable, and a plate on the car for engaging
 60 said star-wheel to prevent its rotation, said star-wheel when thus held being adapted to force apart and engage said twin jaws to retain the same and the gate in the open position.

In testimony whereof I have hereunto set my hand in the presence of two subscribing
 65 witnesses.

WALTER N. PHILLIMORE.

Witnesses:

WM. H. SHRYOCK,
 MILTON WOLF.