

No. 698,385.

Patented Apr. 22, 1902.

G. E. ANDERSON.
SELF CLOSING ELEVATOR GATE.

(Application filed June 25, 1901.)

(No Model.)

Fig. 1.

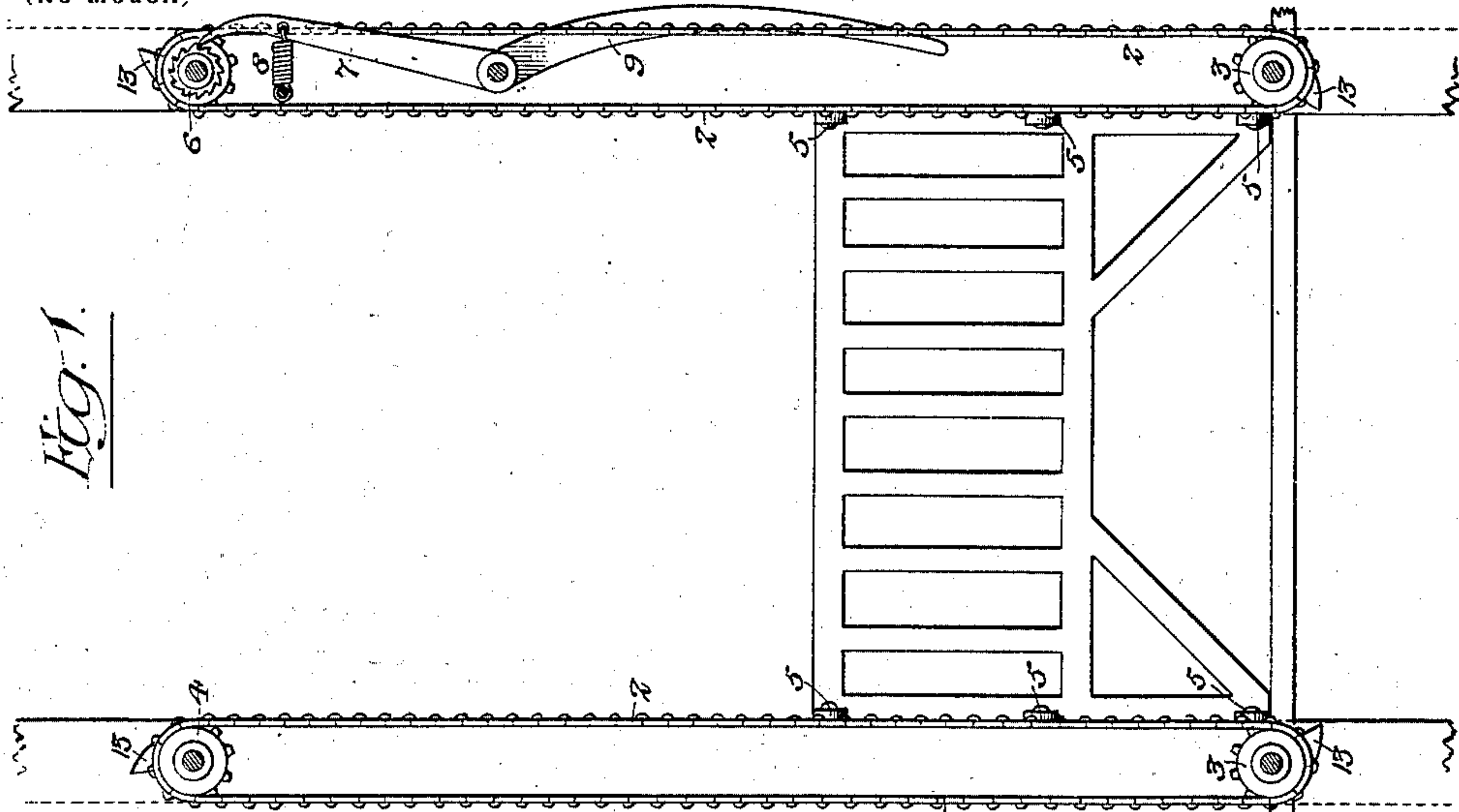


Fig. 3.

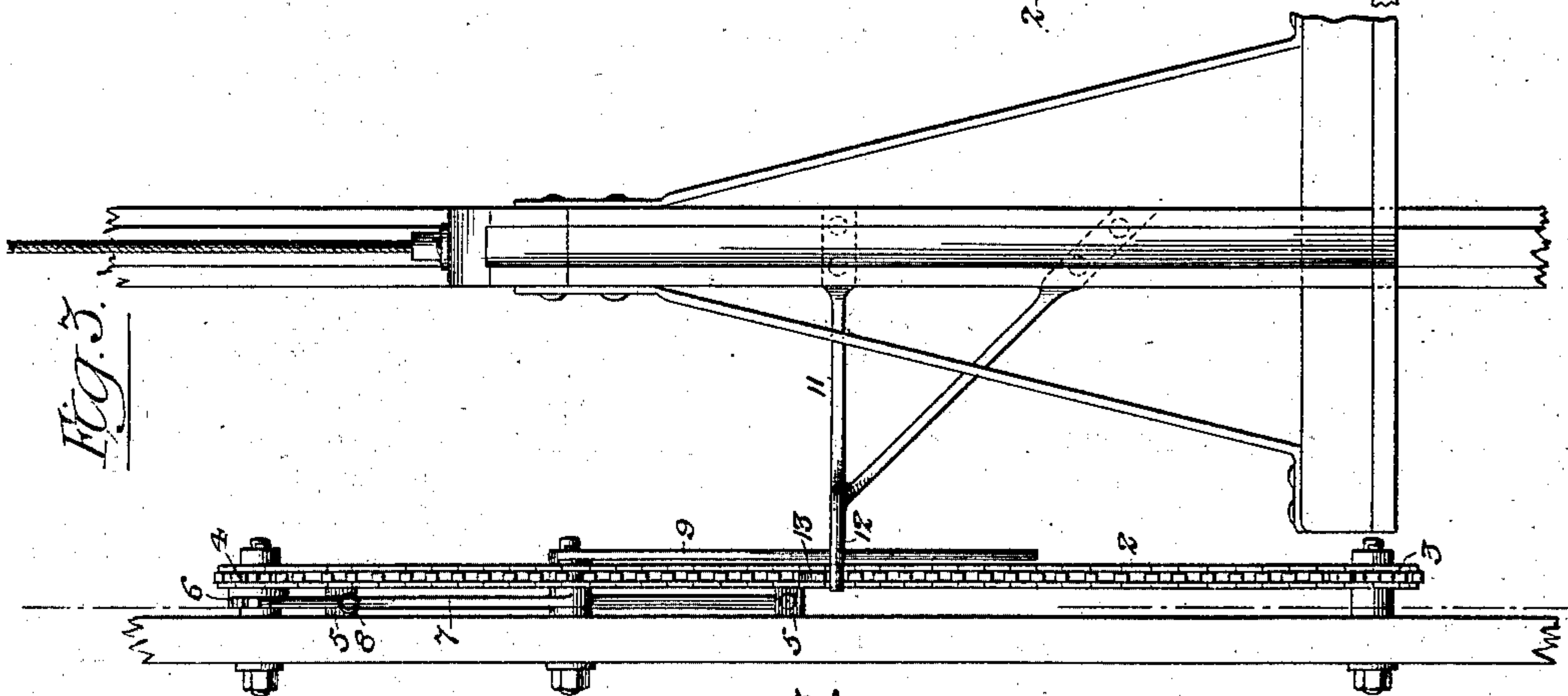
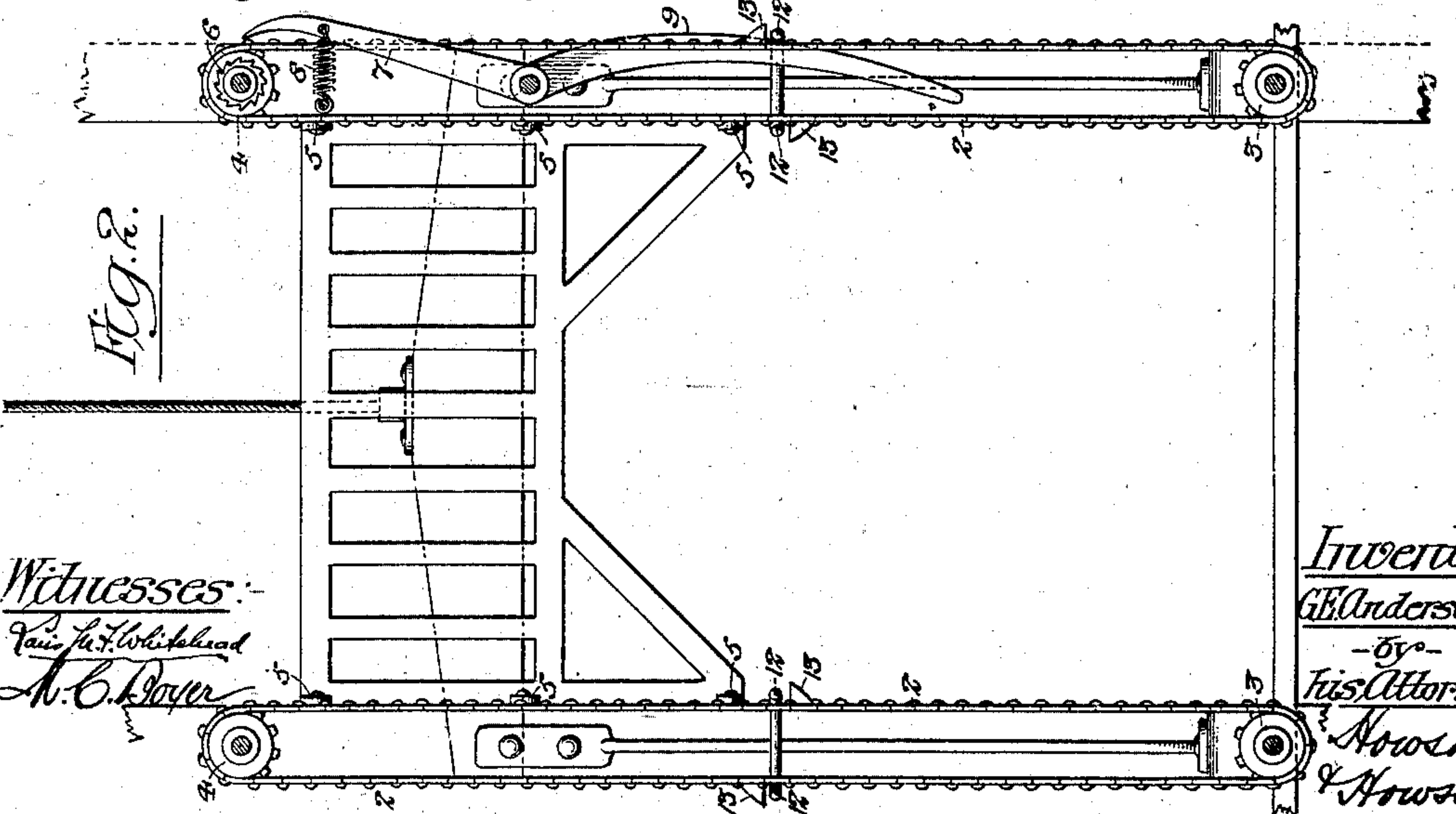


Fig. 2.



Witnesses:
Fairfax Whitelock
A. C. Boyer

Inventor:
G. E. Anderson
-by-
His Attorneys
Nowson
& Nowson

UNITED STATES PATENT OFFICE.

GUSTAVE E. ANDERSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO FAIRMOUNT MACHINE COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SELF-CLOSING ELEVATOR-GATE.

SPECIFICATION forming part of Letters Patent No. 698,385, dated April 22, 1902.

Application filed June 25, 1901. Serial No. 65,988. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE E. ANDERSON, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Self-Closing Elevator-Gates, of which the following is a specification.

My invention relates to gates for use at the floor-landings of elevator-shafts.

The gate forming the subject of my invention is arranged to be opened by hand when the elevator-car reaches any floor or landing, locking mechanism for the same being released by the car, such gate to be automatically closed by the car when the latter moves away from the floor or landing in either direction.

My invention is fully illustrated in the accompanying drawings, in which—

Figure 1 is a view of the improved gate forming the subject of my invention, showing the same in the normally closed position with the locking mechanism in its operative position. Fig. 2 is a view of the gate showing it in the raised position, the elevator-car having released the locking mechanism and permitting the upward movement of the gate by hand; and Fig. 3 is a side elevation of the elevator-car, showing also the gate operating and locking mechanism.

The gate 1 is carried by the endless chains 2, which are arranged at either side of the elevator-shaft, said chains being adapted to sprocket-wheels 3 and 4, suitably journaled to uprights and arranged the proper distance apart. The gate may be secured to the chains in any suitable manner, in the present instance special projecting links 5 being provided, as shown in the drawings, and the movement of the gate is limited by the length of said chains.

In order to lock the gate in the lowered position, one of the sprocket-wheels 4 is provided with a ratchet-wheel 6, with which a pawl 7 engages, controlled by a spring 8. Normally these parts are in engagement, and the gate is held locked in the lowered position, as shown in Fig. 1. In order to permit the upward movement of the gate, the elevator-

car is provided with means for lifting the pawl out of engagement with the ratchet-wheel, thereby permitting a movement of the chains and the consequent rise of the gate. This object is attained as follows: The pawl 7 is provided with a lower cam extension 9, which when the pawl is in engagement with the ratchet-wheel projects into the path of a portion of the elevator-car. Carried by the elevator-car are the braces 11, having yoke-arms 12, which are so arranged as to embrace the chains, and when the car is moving toward any landing one arm of one of said yokes will engage the cam projection 9 of the pawl and move said pawl out of engagement with its ratchet-wheel. Whenever the elevator-car stops at a landing, such locking mechanism being then released, the gate may be raised to the position shown in Fig. 2.

Each of the chains 2 carries projections 13, which are so disposed with relation to the gate when the latter is closed that they are respectively above and below the upper and lower sprocket-wheels 3 and 4, as shown in Fig. 1. When in this position, they are free from all danger of contact with the yokes 12. When the elevator-car is stopped, however, and the gate is raised, these projections are brought to the position shown in Fig. 2, the inner set being below the yoke-arms 12 and the outer set above said yoke-arms, midway between the sprocket-wheels 3 and 4. Now if the car be moved in either direction one set of said projections will be engaged by the yokes 12, the chain will be moved, and the gate returned to its normal position. As soon as said yokes have passed the cam projection 9 the pawl 7 will fall into proper engagement with the ratchet-wheel 6, and the gate will be locked until the elevator-car again stops at a landing.

Although not shown in the drawings, I prefer to house the chains and the locking mechanism, so that they cannot be tampered with from the floor-landings. Such housing, however, will necessarily be open toward the shaft.

It will be understood that each landing of the shaft through which the elevator-car

passes is provided with one of the gates hereinbefore described.

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

1. The combination of an elevator-gate, endless chains suitably mounted and supporting said gate, means for locking the gate, an elevator-car, means carried thereby for releasing the locking mechanism and permitting the raising of the gate by hand said means serving also to engage the chains and return the gate to the closed position as the elevator-car moves away from the floor or landing.

2. The combination of an elevator-gate, endless chains suitably mounted and supporting said gate, means for locking said chains, projections carried by said chains, an elevator-car, and means carried by said car adapted to release the chain locking mechanism and to engage said projections whereby the chains may be moved to return the gate to its normal position as the elevator-car moves away from the floor or landing.

3. The combination of an elevator-car, a gate for a floor or landing, endless chains suitably mounted and supporting said gate, sprocket-wheels over which said chains pass, a ratchet-wheel carried by one of said sprocket-wheels, a spring-controlled pawl in engagement with said ratchet-wheel, and an arm carried by the elevator-car and adapted to move

said pawl out of engagement with the ratchet-wheel, substantially as described.

4. The combination of an elevator-gate, endless chains suitably mounted and supporting said gate, sprocket-wheels over which said chains pass, a ratchet-wheel carried by one of said sprocket-wheels, a spring-controlled pawl in engagement with said ratchet-wheel, an elevator-car, a cam projection carried by said pawl, and an arm carried by the elevator-car and adapted to engage said cam projection to hold the pawl out of engagement with the ratchet-wheel, substantially as described.

5. The combination of the elevator-gate, endless chains suitably mounted and supporting said gate, projections on said chains, an elevator-car, yoke-arms carried by said car and arranged to pass on both sides of the chains, said yoke-arms being adjacent to the projections on the chains when the gate is in the raised position, and adapted to engage one set of such projections when the elevator-car moves away from a floor or landing in either direction.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAVE E. ANDERSON.

Witnesses:

THOS. S. BROWN,
PARMENIO E. ANAYA.