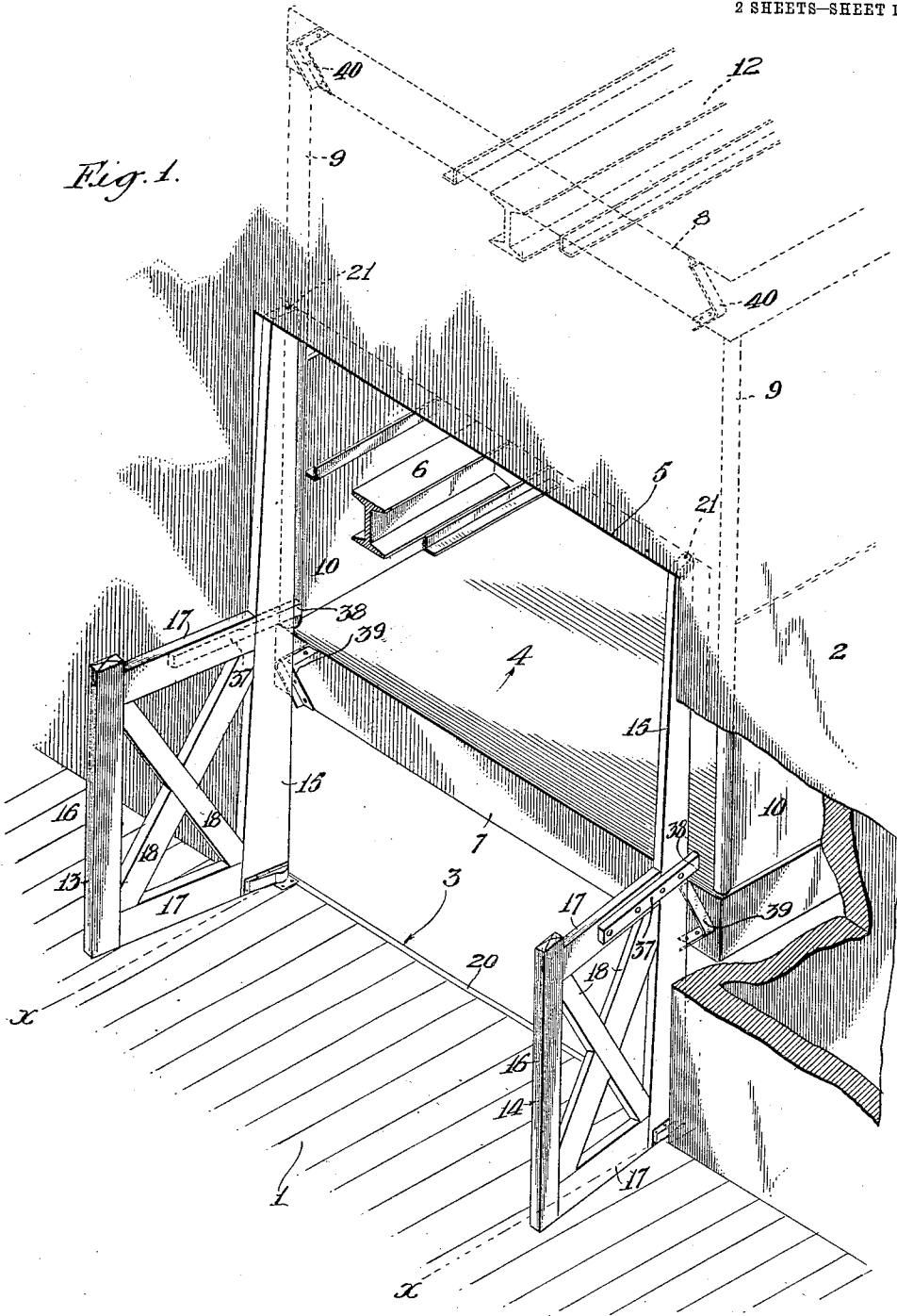


APPLICATION FILED APR. 27, 1912.

Patented Oct. 22, 1912.

Fig. 1.



Inventor
by *Frank E. Simonis*
Townsend & Graham
his attys.

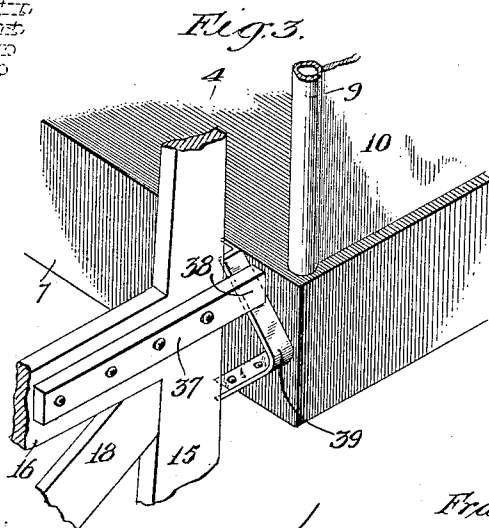
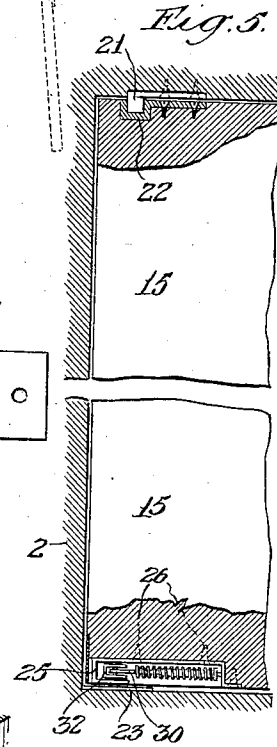
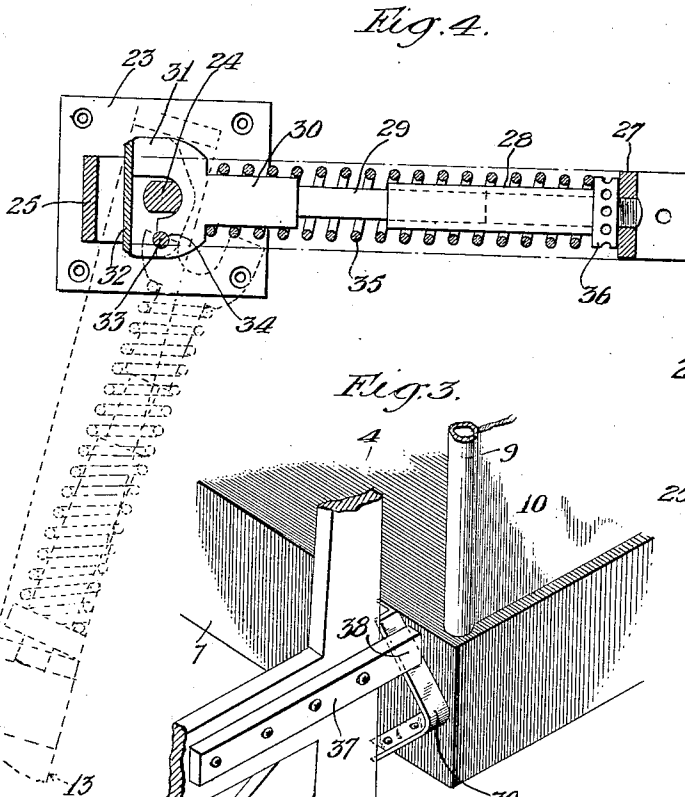
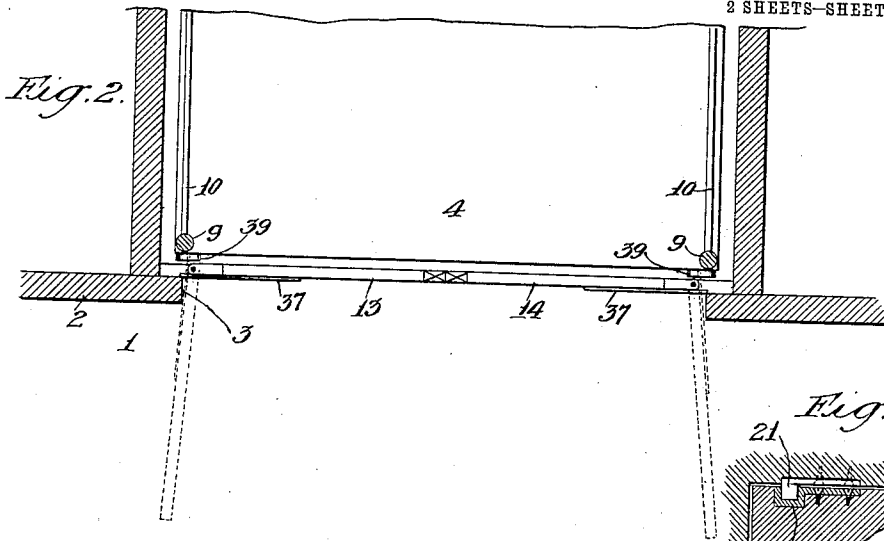
F. E. SIMONS.
ELEVATOR GATE.

APPLICATION FILED APR. 27, 1912.

Patented Oct. 22, 1912.

1,042,160.

2 SHEETS-SHEET 2.



Witnesses:
Louis W. Gratz
O. H. Shelton

Inventor
Frank E. Simons
by Townsend & Graham
His Atty.

UNITED STATES PATENT OFFICE.

FRANK E. SIMONS, OF LOS ANGELES, CALIFORNIA.

ELEVATOR-GATE.

1,042,160.

Specification of Letters Patent.

Patented Oct. 22, 1912.

Application filed April 27, 1912. Serial No. 693,766.

To all whom it may concern:

Be it known that I, FRANK E. SIMONS, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Elevator-Gate, of which the following is a specification.

My invention relates to a gate for closing the entrance to elevators, and is particularly designed to be used where the overhead trolley system of loading and unloading is in use. In such cases the tracks in the room being arranged overhead extend to the elevator opening in such a manner as to be in alinement with the tracks on the elevator car when the elevator car is stopped at the floor. In such construction, elevator gates of the class which slide vertically can not be used in a satisfactory manner, and one of the main objects of my invention is to produce an elevator gate construction which may be conveniently used in instances where the overhead trolley system of loading and unloading is used.

Referring to the drawings, which are for illustrative purposes only: Figure 1 is a perspective view of a portion of a building showing the elevator entrance equipped with gates embodying a form of my invention, the gates being in open position. Fig. 2 is a sectional, plan view of a portion of a room, elevator car, and entrance to the same, with the gates in closed position. Fig. 3 is a perspective view of a portion of the gate and the operating means therefor on the elevator car. Fig. 4 is an enlarged, detail, sectional view of the spring actuated mechanism of the gate. Fig. 5 is a vertical, sectional view of a gate, showing the manner of hanging the same in the gate opening.

1 designates the floor of a building and 2 a wall having an opening 3 therein which serves as an entrance to the elevator car indicated at 4. Secured to the top 5 of the opening 3 and extending into the room are a series of tracks 6 adapted to support merchandise upon suitable trolleys of any common form, not shown. The elevator car 4 consists of a floor 7, a top or roof 8, standards 9 and side members 10. Secured to the underside of the top 8 of the elevator car are a series of tracks 12 indicated in dotted lines. The tracks 12 are arranged on the top of the elevator car in such a manner that when the floor 7 of the elevator car is flush with the floor 1 of the building the tracks

12 register and are in alinement with the tracks 6, so that merchandise may be moved upon and off of the elevator car by means of the trolleys, not shown, which run upon the tracks 6 and 12 respectively. The elevator gate in the present instance consists of two gate members 13 and 14, each having a vertical supporting standard 15 which extends from the floor to the top of the opening 3. Extending outwardly from each standard 15 is a frame consisting of end members 16, cross members 17 and diagonally arranged members 18, which frames are so constructed that when the gate members are in closed position, the end members 16 of each gate member are close enough to each other to close the opening 3 so that passage to the elevator shaft is closed. The gate members 13 and 14 in the form shown are elastically hung in such a manner that when placed in the position shown in Fig. 1, which is at an angle slightly more than 90 degrees with the sill 20 of the floor 1, they remain in such position until they are thrown upon their center. To accomplish this the top 5 of the opening 3 is provided with a pin 21 which extends downwardly into a socket 22 secured in the top of the standards 15 of the gate members. On the floor 1 is mounted a plate 23 provided with a stud 24 extending upwardly therefrom. Rotatably mounted on the stud 24 is a frame 25 secured to the gate members by suitable screws 26. Secured to the end 27 of the frame 25 is a hollow stud 28 adapted to slidably receive the end of a rod 29, the outer end of which is provided with a head 30 having an extension 31 adapted to engage the inner face of a U-shaped member 32 which is fixed upon the stud 24. The U-shaped member 32 is provided with a pin 33 which is engaged by means of a seat 34 formed on the head 30 of the rod 29. Mounted on the stud 28 and rod 29 is a coil compression spring 35, the ends of which respectively engage the head 30 and a nut 36 on the stud 28. With the construction of mechanism as just described, the gate members will assume the position shown in dot and dash lines Fig. 4 unless the gate members are moved into the position shown in dotted lines in Fig. 4. With the gate in the position shown in dot and dash lines, the spring 35 is exerting pressure on the center line of the stud 24, but as the gate swings away from the dot and dash line

position the head 30 on the rod 29 moves out of alinement with the stud 24, swinging on the pin 33 into the position shown in dotted lines, in which position the line of force exerted by the spring is beyond the center line of the stud and the gate member, so that the force exerted by the spring tends to hold the gate in the open position indicated in dotted lines, and when in such dotted line position, being beyond 90 degrees from the sill 20 of the floor, the gate is off center and held in such position by the spring, as heretofore described.

Secured to each gate member 13 and 14 is an arm 37, one end 38 of which, when the gate is in open position, extends into the path of cam bars 39 and 40 mounted respectively on the floor 7 and top 8 of the elevator car, there being provided a cam bar 39 and 40 at each side of the elevator car adapted to engage respectively the arms 37 on the respective gate members 13 and 14. The cam bars 39 and 40 are V-shaped so that in going either up or down the cam bars coming into engagement with the respective arms 37 throw the gate members 13 and 14 back onto center when the springs become active to close the gate.

The gate operates in the following manner: Assuming that in the position shown in Fig. 1 the elevator car has been started upwardly, the gates remain in the open position shown until the cam bars 39 on the floor of the elevator car come into engagement with the arms 37 of the respective gate members 13 and 14. As the upper faces of the cam bars strike the ends 38 of the arms 37, the ends 38 of the arms are moved outwardly in the direction of the sides of the elevator car, thereby throwing the gates on the center indicated by dotted lines *x* in Fig. 1, and when so moved the springs 35 on the respective gate members exert force to close the gates into the position shown in full lines Fig. 2, in which position the gates remain until manually opened. Should the elevator car be started downwardly after the loading operation has been completed, the cam bars 40 on the top of the elevator car would come in contact with the arms 37 upon the respective gate members and operate the same in the manner above

described, so that no matter whether the elevator car is started upwardly or downwardly, after the loading operation has been completed, the gates would be closed as the elevator car passes away from the floor.

What I claim is:—

1. An elevator gate comprising a pivotally mounted gate member, means for elastically holding said gate member in closed position when on center and in open position when off center, and means on the elevator car coacting with said gate member for throwing said gate member on center.

2. An elevator gate comprising gate members, means on each gate member for elastically holding said gate members in closed position when on center and in open position when off center, and means on the elevator car coacting with said gate members to throw said gate members on center.

3. An elevator gate comprising gate members, means on each gate member for elastically holding said gate members in closed position when on center and in open position when off center, an arm on each gate member, and cam means on the elevator car for operating said arms to throw said gate members on center.

4. An elevator gate comprising gate members, means on each gate member for elastically holding said gate members in closed position when on center and in open position when off center, an arm on each gate member, and cam means on the top and floor of said elevator car adapted to respectively engage the arms on said gate members.

5. An elevator gate comprising a plurality of gate members pivotally mounted within a door opening, a spring on each gate member adapted to hold the gate member off center when in open position and to close the gate members when on center, and means on the elevator car adapted to coact with the gate members to throw the gate members on center to close the gates.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 19th day of April, 1912.

FRANK E. SIMONS.

In presence of—

P. H. SHELTON,
F. M. TOWNSEND.