

No. 679,614.

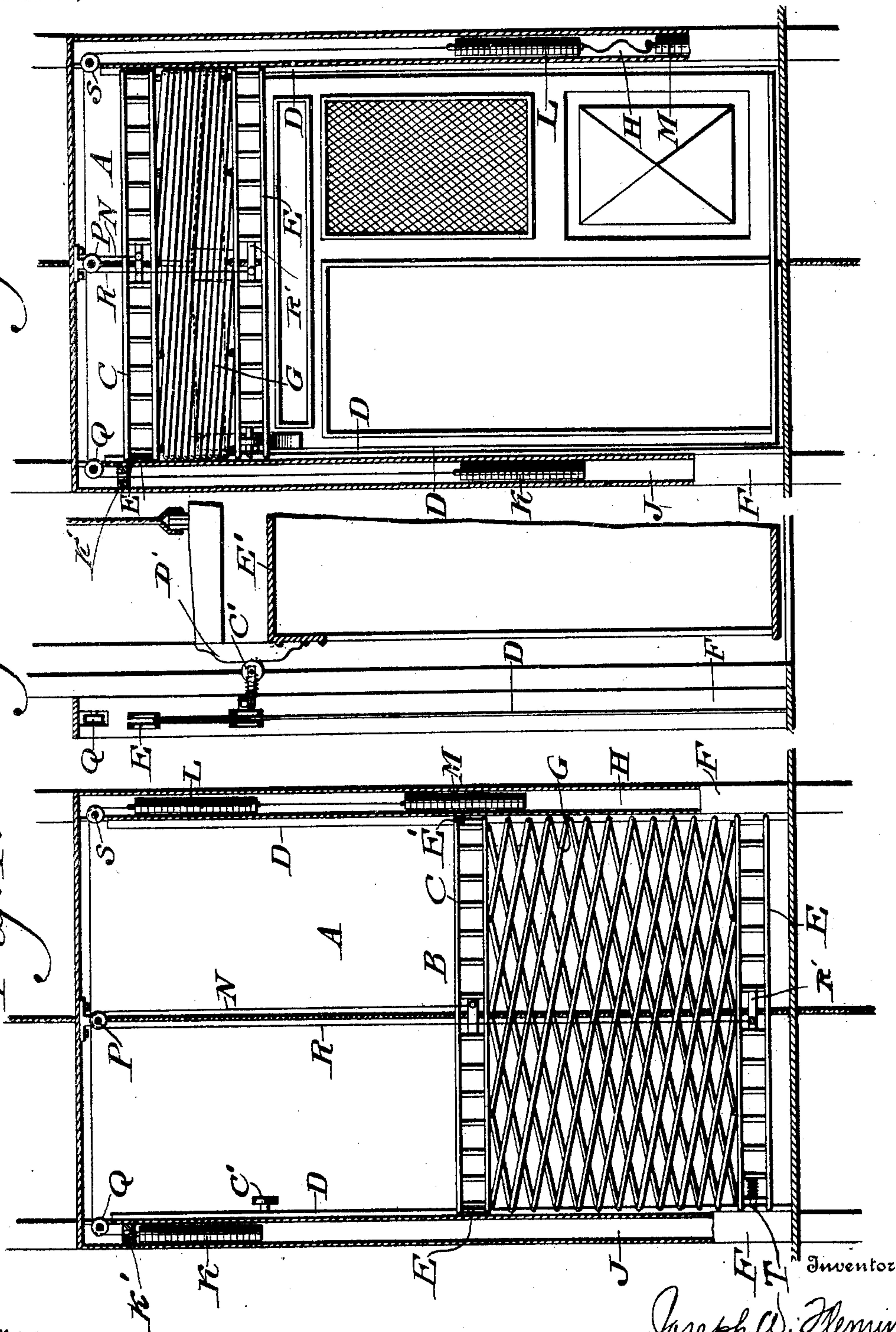
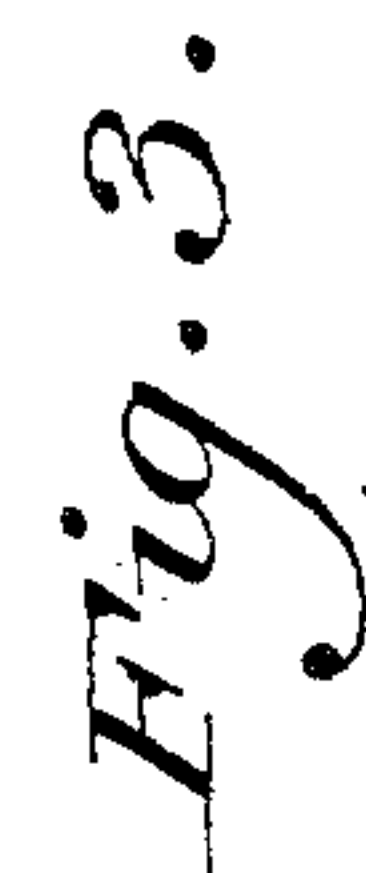
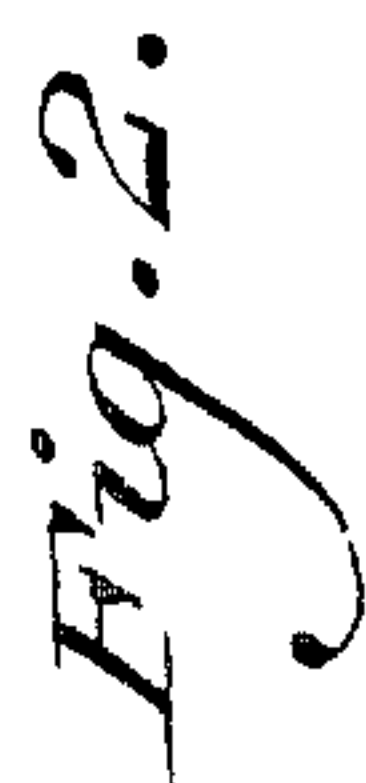
**Patented July 30, 1901.**

**J. W. FLEMING.**  
**SAFETY GATE FOR ELEVATORS.**

(Application filed Mar. 20, 1901.)

(No Model.)

**2 Sheets—Sheet 1.**



Witnesses

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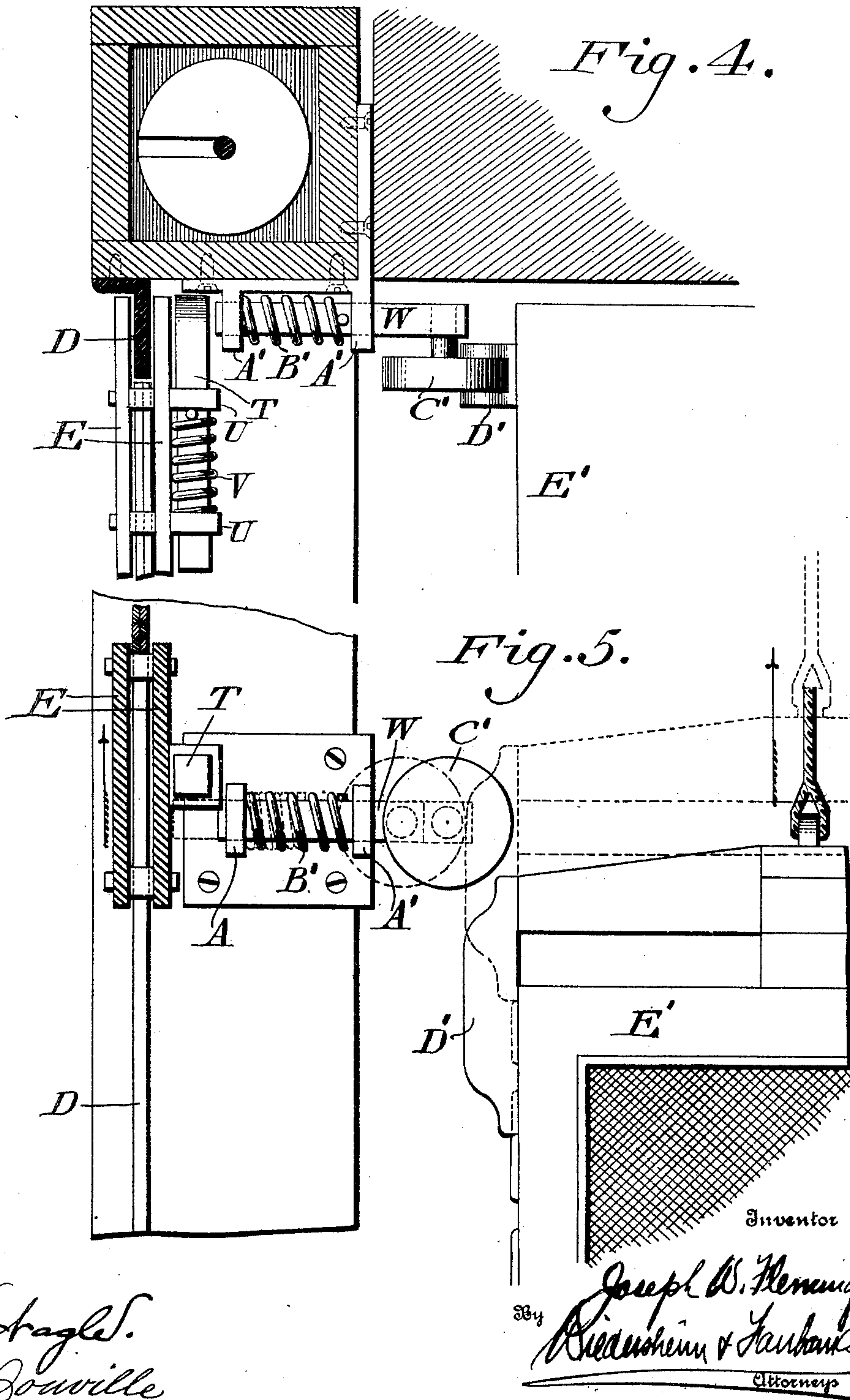
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2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

JOSEPH W. FLEMING, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO SAMUEL P. SIPE, OF SAME PLACE.

## SAFETY-GATE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 679,614, dated July 30, 1901.

Application filed March 20, 1901. Serial No. 51,976. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH W. FLEMING, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Safety-Gates for Elevators, of which the following is a specification.

My invention relates to an improvement in elevator-doors, which consists in constructing the same whereby they are compressible, and having weights, properly secured thereto, to assist in opening the same, and acting to cause the said doors to close slowly and quietly.

It further consists of novel details of construction, all of which will be hereinafter set forth.

Figures 1 and 2 represent partial front elevations and partial sectional views of an elevator-door and adjuncts embodying my invention, showing the door in different positions. Fig. 3 represents a partial side elevation and partial sectional view of a portion of the device. Fig. 4 represents a horizontal sectional view of a portion of the mechanism on an enlarged scale. Fig. 5 represents a partial sectional view and a partial side elevation of a portion of the mechanism on an enlarged scale.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates an elevator-shaft having the usual floor-openings, and B designates a door for one of the openings, the same consisting of the upper bars C, which are suitably secured together, the ends of which are situated on each side of the angle-irons D, which latter serve as guides for said bars C and are secured to the sides F of the elevator-shaft or other suitable point.

E designates the lower bars of the door B, which are suitably secured together and adapted to be guided upon angle-irons D.

G designates lazy-tongs which connect the upper and lower bars C and E, and in the sides F are the boxes or ways H and J, in which are situated the weights K, L, and M, the said weight K being connected with the upper bars C by means of the cord N or other suitable connection, which passes over the double pulley P and pulley Q, while the weight

L is connected with the lower bars E by means of the cord R or other suitable connection, which passes over the pulleys P and S, the weight M being connected with the weight L for purposes hereinafter explained.

Suitably connected with the lower bars E is a bolt T, which is adapted to move in the ways U, and has the coiled spring V for holding the same in normal position.

W designates a bolt which is attached to the wall of the elevator-shaft and is adapted to move in the ways A' and is provided with the coiled spring B' and has pivoted thereto a roller C', the normal position of said bolt W being shown in Fig. 4 and in full lines in Fig. 5. The free end of the bolt T is tapered or beveled, as seen in Fig. 4, to allow of the proper relative movements of the bolts T and W.

D' designates a projecting plate on the elevator-car E'.

The cord R is connected to the cross-piece R', that serves also as a handle by which the door B may be raised, as hereinafter explained.

K' is a block or stop in the upper portion of the box or way J to limit the upward movement of the weight K, and consequently limits the downward movement of the bar C.

The operation is as follows: When it is desired to enter the elevator-car, the door B is raised by means of the handle R' on the lower bar E, the weights being so arranged as to render this an easy matter, and the door B will assume the position seen in Fig. 2—that is, the lazy-tongs will be closed or, in other words, the bars E will be raised and will travel a greater distance comparatively than the bars C, the bolt T assuming the position slightly above the bolt W, and when the elevator-car, with the plate D', reaches the roller C' it forces in the bolt W, which will be beneath the bolt T, as seen in dotted lines in Fig. 5, and hold the door in an elevated position. When the bolt T is released, the door will descend rapidly by gravity, carrying with it the weights K and L until the weight M is elevated from the floor or bottom of the way H, which additional weight causes the door to move more slowly and to close quietly, it being seen that by this construction a door of



the proper height when in closed position can be employed, while by reason of the lazy-tongs or compressible means of which the door is constructed the use thereof is permissible in places where it would be otherwise impossible to use the doors when in their upper position.

It will of course be evident that various changes may be made in the construction as herein shown that will come within the spirit of my invention, and I do not desire to be limited in every instance to the exact form as herein shown and described.

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

1. In a door for elevator-shafts, upper and lower bars, compressible means connecting the same, a weight secured to the upper bar of said door and a weight secured to the lower bar of said door, the construction being such that when said door is elevated the compressible means will be closed.

2. In a door for elevator-shafts, upper and lower bars, lazy-tongs connecting the same, a weight secured to the upper bars and weights secured to the lower bars, whereby when said door is elevated the lazy-tongs will be closed.

3. In a door for elevator-shafts, upper and lower bars, compressible means connecting the same and a bolt adapted to engage with said door and hold the same in elevated position when the elevator-car is opposite thereto.

4. In a door for elevator-shafts, upper and lower bars, lazy-tongs connecting the same, a

bolt carried by one of said bars, and a second bolt operated by the elevator-car for locking said door in raised position.

5. In a door for elevator-shafts, upper and lower bars, lazy-tongs connecting the same, guides for said bars, weights connected with said bars, a bolt carried by one of said bars, and a second bolt operated by the elevator-car for locking said door in elevated position.

6. In a door for elevator-shafts, upper and lower bars, lazy-tongs connecting the same, a weight attached to the upper bar, a way in which said weight travels, weights connected with said lower bar, ways in which said weights travel and guides for said bars.

7. In a door for elevator-shafts, upper and lower bars, compressible means connecting the same, a spring-actuated bolt carried by one of said bars and a spring-actuated bolt secured to the walls of said shaft and adapted to be operated by the car, in order to hold the door in elevated position.

8. In a door for elevator-shafts, upper and lower bars connected together, counterbalance-weights connected therewith, and a supplemental weight suspended from one of said weights and adapted to be supported in its way when the door is in its elevated position and brought into action as the door approaches its closed position to cause said door to close slowly.

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Witnesses:

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