

J. F. NEWHALL.
Automatic Gate for Elevators.

No. 218,395.

Patented Aug 12, 1879.

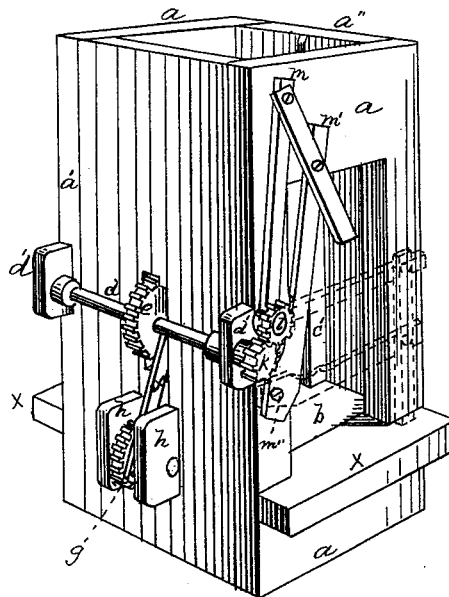


Fig. 1.

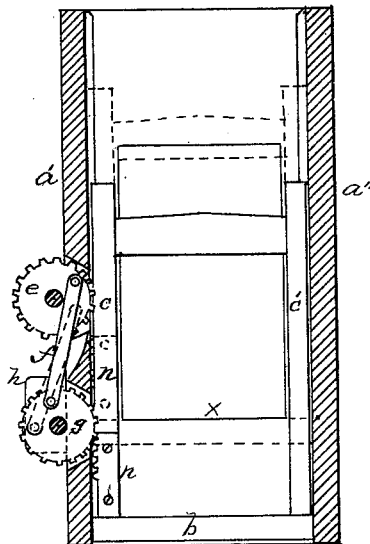


Fig. 2.

WITNESSES.

B. M. Williams
John C. Manning.

INVENTOR

John F. Newhall

By his Attys.

Henry W. Williams & Co.

UNITED STATES PATENT OFFICE.

JOHN F. NEWHALL, OF LYNN, ASSIGNOR TO GEORGE N. JOHNSON, OF SAME PLACE, AND SAMUEL P. BANCROFT, OF SWAMPSCOTT, MASSACHUSETTS, ONE-THIRD TO EACH.

IMPROVEMENT IN AUTOMATIC GATES FOR ELEVATORS.

Specification forming part of Letters Patent No. **218,395**, dated August 12, 1879; application filed May 2, 1879.

To all whom it may concern:

Be it known that I, JOHN F. NEWHALL, of Lynn, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Elevators, of which the following is a specification.

This improvement relates to elevators for the purpose of carrying passengers or merchandise in buildings; and consists in an arrangement or device by means of which a gate is automatically closed, by being lowered, when the elevator leaves a floor, and opened, by being raised, when it reaches a floor, so that passengers can enter or leave the elevator, substantially as below described.

The object, of course, is to prevent persons from falling down the elevator-way by stepping into it when the elevator is above or below the floor.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a view, in perspective, of an elevator embodying my improvement. In this figure the elevator is represented as being at the floor, and the gate is lifted to allow passage in and out. The broken lines show the position of the gate when down. Fig. 2 is a vertical section of the same with the elevator below the floor, the broken lines showing its position when at the floor.

a is the elevator way or well, *a' a''* being its sides. *b* is the elevator-floor, and *c c'* the sliding sides. *d* is a shaft, having its bearings in the projections *d' d''*, and having the cog-wheel *e* fixed thereto. This wheel *e* is connected, by means of the rod *f*, with a similar wheel, *g*, having bearings in projections *h h*, said rod being pivoted to the right side of wheel *e*, and to the left side of wheel *g*.

Fixed to the shaft *d* is the cog-wheel *k*, meshing into wheel *l*, which is fixed to the upper rail, *m*, of the gate, the lower rail, *m'*, being hinged or pivoted at *m''*.

A rack, *n*, is secured to the side *c* of the elevator, the lower half of said rack being without teeth, in a position to engage the gear-wheels *e g* as the elevator travels up and down.

When the elevator-floor is on a level with the building-floor *x*, the rack *n* is in the position shown in broken lines, Fig. 2, its teeth engaging neither wheel. As it is lowered the rack engages the wheel *g*, which, by means of the rod *f*, turns the wheel *e* in the opposite direction, and, by means of shaft *d* and gear *k l*, lowers the gate. As the elevator rises again, the reverse takes place until it passes the floor *x*, when the rack *n* engages the wheel *e* and again closes the gate.

The device is simple and perfectly automatic.

Of course, mechanism can be placed at each floor of the building.

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

The hereinbefore-described device for automatically raising and lowering the gate of an elevator for buildings, consisting of the combination, with the rack *n* upon the elevator-side *c*, of the gear-wheels *e g*, connected by the rod *f*, and arranged, by means of suitable gear *k l*, to raise and lower the gate *m m'*, substantially as set forth.

JOHN F. NEWHALL.

Witnesses:

HENRY W. WILLIAMS,
B. W. WILLIAMS.