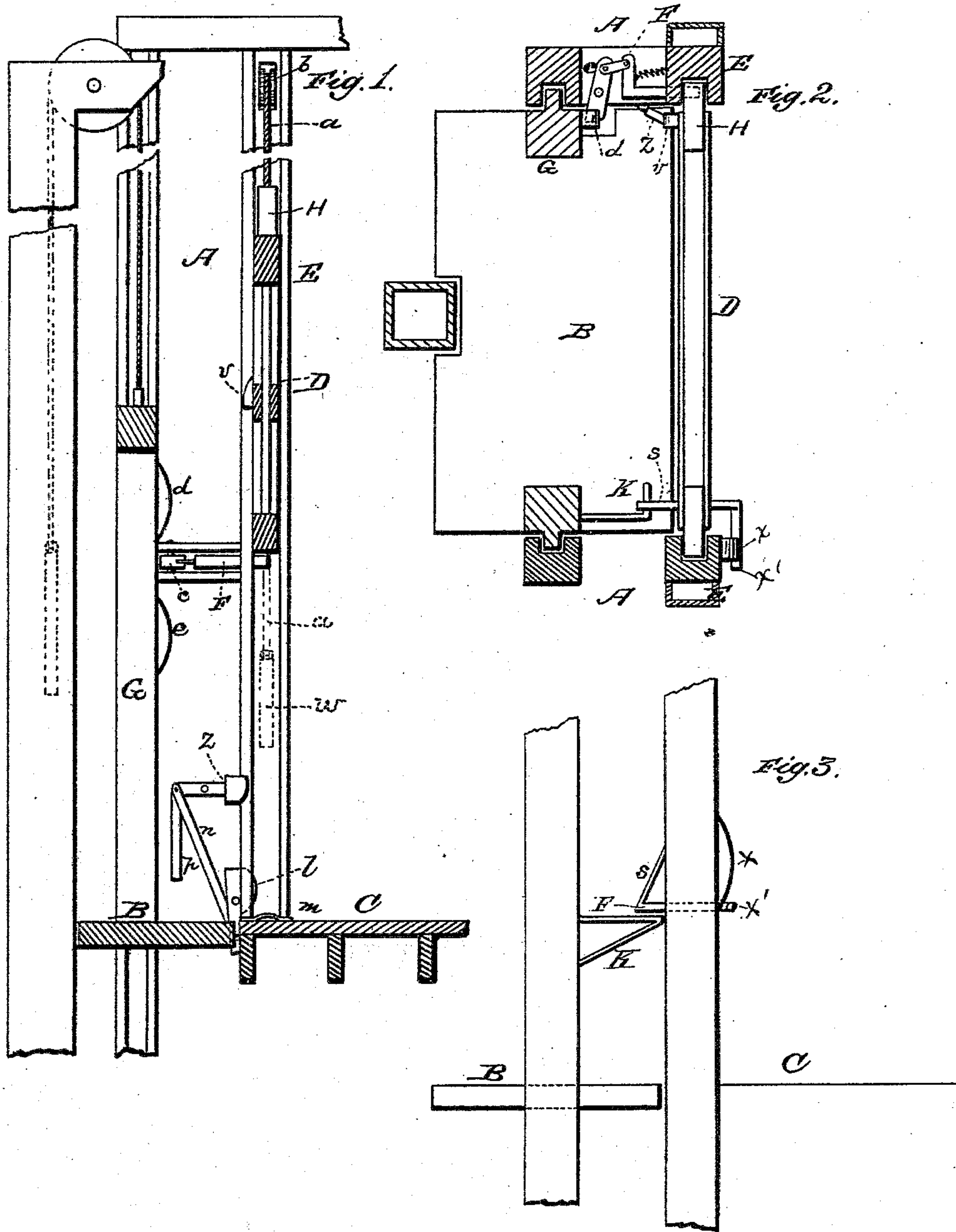


(No Model.)

T. E. ELLIOTT.
SELF CLOSING HATCHWAY.

No. 288,041.

Patented Nov. 6, 1883.



WITNESSES
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UNITED STATES PATENT OFFICE.

THOMAS E. ELLIOTT, OF NORFOLK, VIRGINIA.

SELF-CLOSING HATCHWAY.

SPECIFICATION forming part of Letters Patent No. 288,041, dated November 6, 1883.

Application filed May 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. ELLIOTT, of Norfolk, in the county of Norfolk and State of Virginia, have invented a new and valuable
5 Improvement in Elevator Safety - Gate, Bolt Attachment, and Cam-Brake; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to
10 the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical sectional view of my device. Fig.
15 2 is a horizontal section of the same, and Fig. 3 is a side view.

This invention has relation to safety-gates for elevators; and it consists in the construction and novel arrangement of parts, as will be
20 hereinafter more fully described and claimed.

In the accompanying drawings, the letter A designates the framing of the vertical passage in which the elevator car or platform B moves, in the usual manner.

25 C represents a floor at which the car is designed to stop, and above the margin *m* of which an opening is made into the elevator-way, to provide means of access or exit with relation to the car. The object of this invention is to keep this opening guarded or closed
30 by means of a gate, D, at all times, except when the car or platform is in position with its floor flush with the floor C of the building.

Vertical guides or ways E are provided in
35 the frame-work on each side of the opening to receive the ends of the gate.

Counter-weights *w* are connected to the gate by cords or small chains, as indicated at *a*, which pass over pulleys *b* in the framing.
40 These weights are designed to move in boxes, and are not sufficiently heavy to balance the gate, the weight of which preponderates, it being intended that the gate shall move downward to the floor C when unsupported.

45 F designates a spring bolt or catch, which is seated in the elevator-well frame-work in a stationary position, or connected to the gate so as to move with it. In the former case the spring bolt or stop is provided with or con-

nected to a short lever or dog, *c*, having a projecting end, which extends near one of the lateral upright timbers G of the car or moving platform. To this timber, in the path of the end of the dog, are secured an upper and a lower projection, *d* and *e*, which are preferably beveled
50 at their upper and lower ends and rounded to secure easy action. The position of these cam projections is such that when the end of the dog is between them the floor of the elevator car or platform will be flush with the floor of
55 the building.

H represents the end of the gate, or a vertical guard-strip connected to the gate, and arranged in the path of the spring-stop F, serving to hold the stop back at all times except
60 when the gate is opened.

The construction shown in Fig. 1 and upper end of Fig. 2 is alternative with that shown in Fig. 3, and is not claimed in this application. The right is, however, herein reserved
65 to make a future separate application therefor.

When the spring-stop is attached to the gate, the presser-piece is connected to an upright of the car or moving platform, as indicated at K, where the presser-piece is shown
70 in bracket form, and is designed to serve also as a catch to engage the spring-stop when the gate has been raised sufficiently high. In this case a single beveled or cam projection, *x*, attached to the frame-work of the elevator-way,
75 is employed, the gate-stop being provided with a lateral arm, *x'*, to engage the same.

When the elevator car or platform, in either ascending or descending, comes into position opposite the gate-opening, with its floor flush
80 with the floor of the building, the gate can be raised until the spring-stop is released and engages the gate or gate-catch, thereby holding it in the raised position. When, however, the elevator car or platform commences to
85 move upward, the spring-catch will be immediately retracted, releasing the gate, which will at once fall and close the opening to the hatchway or elevator passage. When the
90 spring-stop is stationary, being attached to the frame-work of the elevator-way, it will be retracted when the car or platform commences to descend by the projection *d*, which is up-

permost on said car or platform, and when the movement is upward the lower projection, *e*, will act on the dog to retract the stop.

Should it be preferred to attach the spring-stop to the gate, it should be provided with a beveled stem, *s*, in order that the presser-piece or catch on the car may pass over it easily when the car is descending. In the ascent of the car the catch engages the spring-stop on the gate, and thereby acts automatically to lift the gate to the raised position. As the car descends to a floor, upon lifting the gate the spring-stem enables the stop upon it to click past the projection *K*. Should the car or platform move upward, the spring-stop will be retracted by the action of its arm in passing over the cam projection on the side of the opening. In its downward movement the car or platform lowers the gate to the floor without retracting its spring-stop.

In order to prevent shock when the gate descends, a cam-brake is employed, which is located at the side of the elevator-way. As usually constructed for this purpose, it consists of a pivoted brake-block, *l*, arranged near the floor *C* in such a position that when its rounded end is moved forward it will engage the lower portion of the gate at or near its end and check its movement. The action of the brake is designed to be automatic, and in order to effect this a lever, *Z*, is provided, one

end of which projects forward to engage a shoulder or catch, *v*, on the gate, and the other end of which is connected to one end of the pivoted brake-block by a rod or connection, *n*. When the gate descends, it engages the lever *Z*, which turns the brake-block and forces its operating end against the gate. The brake is held out of the path of the gate when the latter is raised by means of a spring or weight, *p*, as indicated in the drawings.

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

1. In an elevator, the car provided with the presser-piece *K*, in combination with the gate *D*, provided with the spring-stop having the arm *x'*, and the upright *E*, having the projection *x*, substantially as specified.

2. In an elevator, the pivoted block *l*, arranged near the floor *C*, rod *n*, pivoted lever *Z*, and weight *p*, in combination with the gate *D*, having a shoulder, *v*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS EDWD. ELLIOTT.

Witnesses:

WALTER HERRON TAYLOR,
WM. F. LAITZ.