

(No Model.)

J. W. ELLWANGER & W. EDDINGTON.

LOCK FOR ELEVATOR GATES.

No. 270,648.

Patented Jan. 16, 1883.

Fig. 2. Fig. 3.

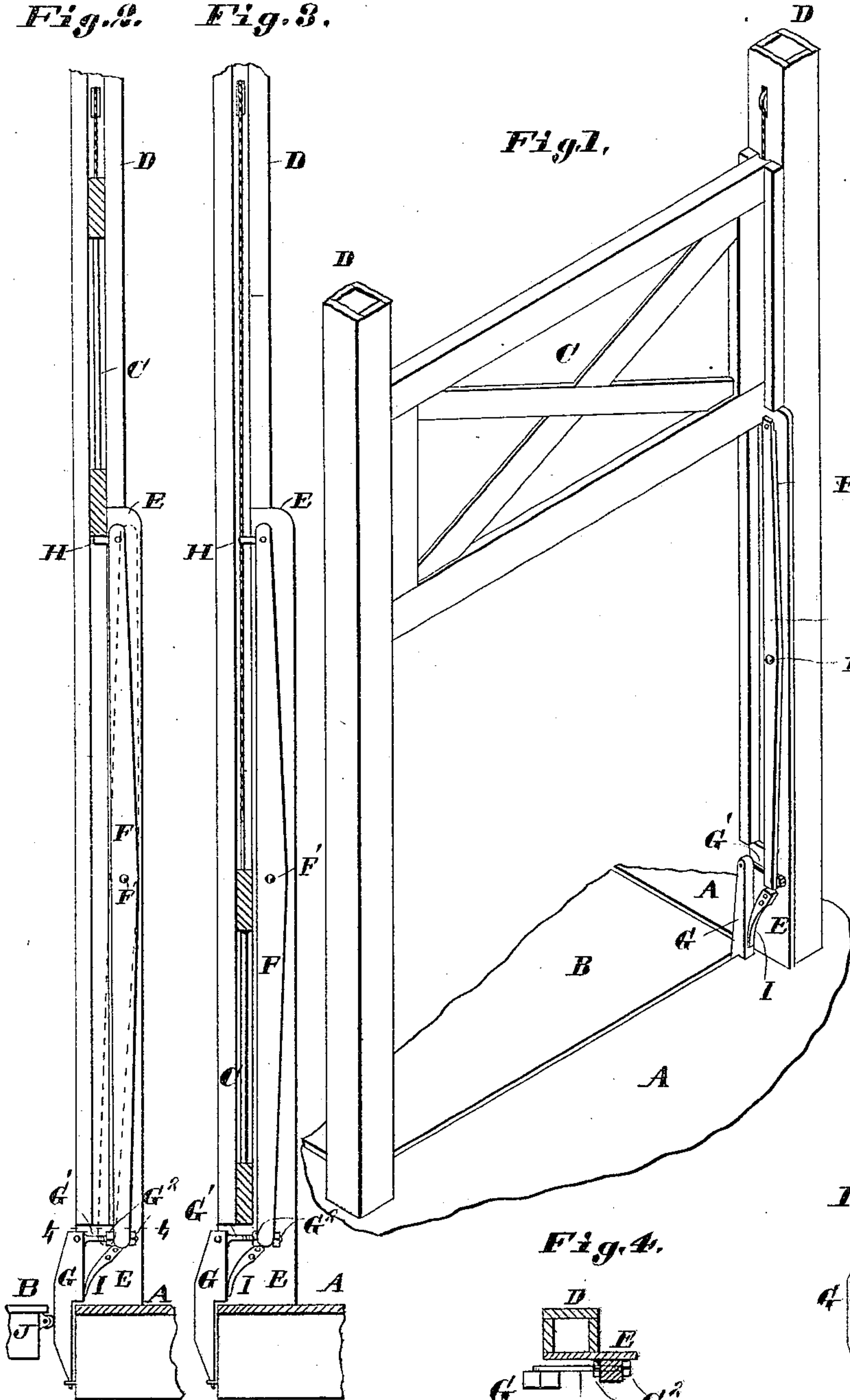


Fig. 7.

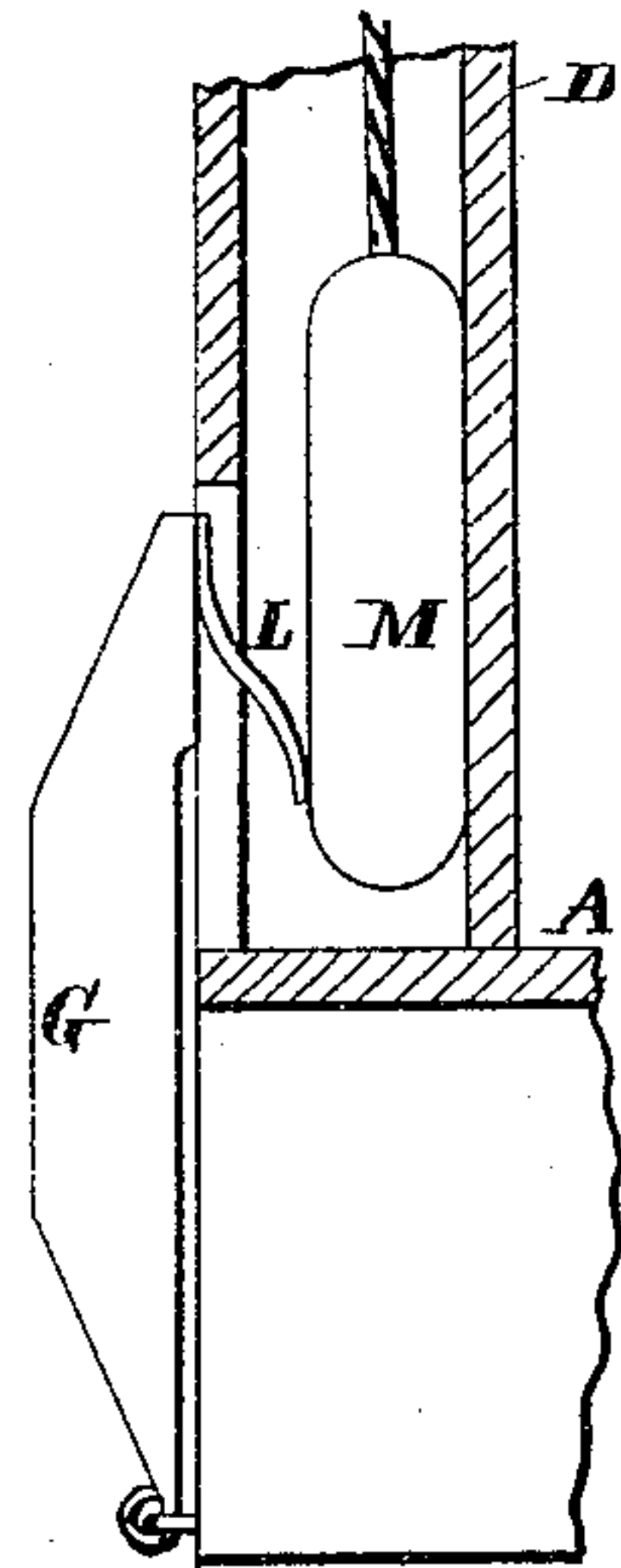


Fig. 6.

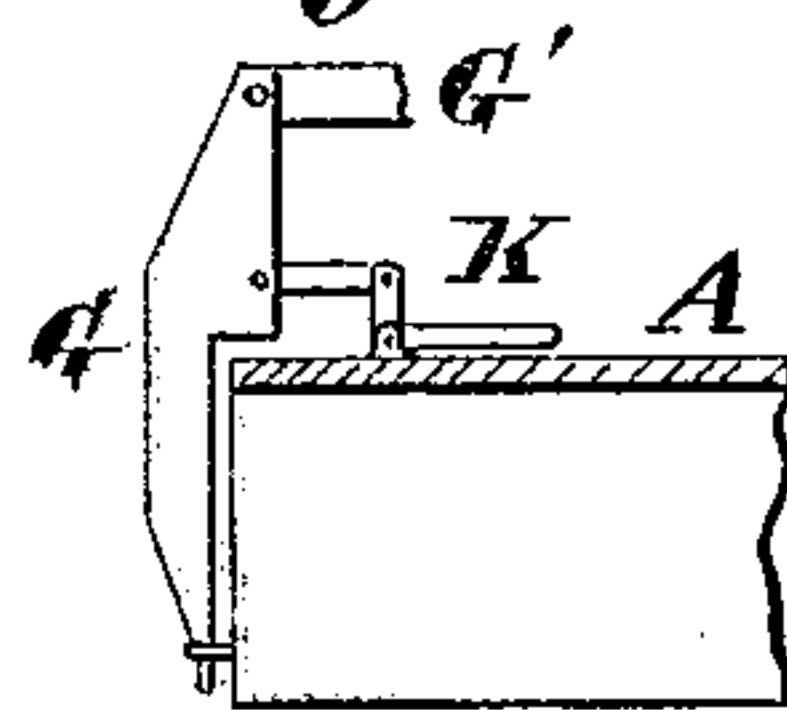


Fig. 4.

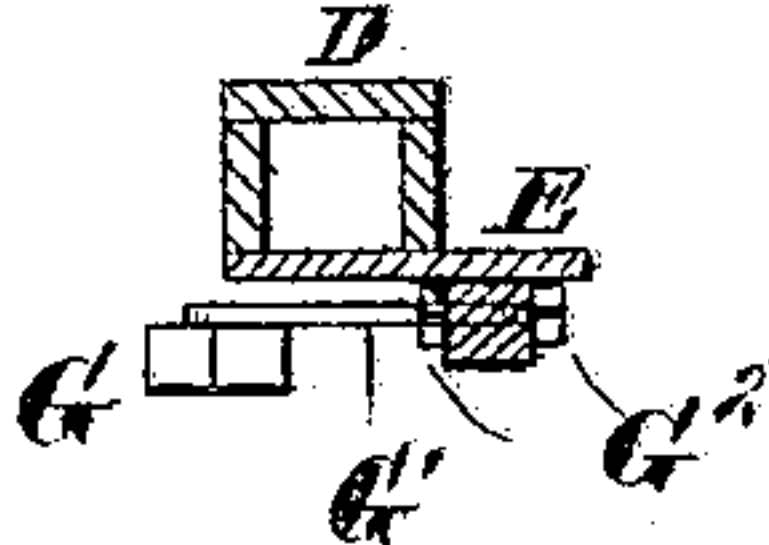


Fig. 5.



Attest.

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UNITED STATES PATENT OFFICE.

JOHN W. ELLWANGER AND WILLIAM EDDINGTON, OF ST. LOUIS, MISSOURI.

LOCK FOR ELEVATOR-GATES.

SPECIFICATION forming part of Letters Patent No. 270,648, dated January 16, 1883.

Application filed September 8, 1882. (No model.)

To all whom it may concern:

Be it known that we, JOHN W. ELLWANGER and WILLIAM EDDINGTON, both of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Locks for Elevator-Gates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a perspective view. Fig. 2 is a vertical section, showing the gate open, and Fig. 3 is a similar view with the gate closed. Fig. 4 is a transverse section on line 4 4, Fig. 2. Fig. 5 shows two positions of the hinged catch on the upper end of the lever. Fig. 6 is a detail section, showing how the lock can be operated and used on a hand-elevator. Fig. 7 is an enlarged detail view of a modification.

A represents part of a floor of a building, B part of the bottom of an elevator-cage, C the gate, and D D the upright guides, all of which are of common construction. To one or both (one is sufficient in most cases) we secure a board, E, to which is pivoted at F' a lever, F, connected by its lower end, by means of a bolt, G', to the upper end of an arm, G, which is hinged by its lower end to one of the joists of the floor. To the upper end of the lever is pivoted a catch-bar, H, and to the board E is secured a spring, I, whose free end bears against the arm G, as shown. The top of the arm is made inclined, as shown, and so is the lower end. Against these inclined faces of the arm comes a roller, J, secured to the cage, (shown in Fig. 2,) as the cage comes opposite the floor, and the roller bearing against the arm will force the upper end of the lever inward, bringing the catch-bar H across the groove in which the gate travels, sustaining the gate, as shown in Fig. 2. If the gate has not been opened before the cage reaches this position, it can still be done, for when it strikes the pivoted catch-bar it will throw it up, as shown in Fig. 5, and when the gate passes the bar will fall back to its horizontal position, preventing the descent of the gate. When the cage leaves the floor, and consequently the roller the arm, the spring I forces the arm and lower end of the lever inward, disengaging the catch-bar from beneath the gate, al-

lowing the gate to gravitate to its closed position, as shown in Fig. 3. The position of the lever and arm when the cage first leaves the floor is shown by dotted lines, Fig. 2, and it will be seen that the lower end or portion of the lever crosses or partly crosses the groove in which that end of the gate works, and as the gate falls it has to force the lever back against the pressure of the spring I, which prevents it falling with too great force. It will thus be seen that by making the gate heavier than its weights it will always automatically close as soon as the cage leaves the floor. The lower end of the lever is secured to the connecting-bolt G by means of nuts G², one on each side, so that the distance between this end of the lever and the arm may be changed to regulate the movement of the upper end of the lever. When a hand-elevator is used the catch-bar can be held into engagement with the bottom of the gate by means of a foot bell-crank lever, K, pivoted to the floor and connected to the arm G, as shown in Fig. 6.

In the modification shown in Fig. 7 the lever is done away with entirely, and a spring, L, secured to the upper end of the arm, which extends through into one of the boxes containing the gate-weights M. When the arm is held in by the cage and the gate raised the weight will jam between the spring and side of the box and be held there, sustaining the gate. Then as the cage leaves the arm it swings out, releasing the weight, when the gate will close.

We claim as our invention—

1. In a lock for elevator-gates, the lever F, with catch-bar H on its upper end, in combination with and connected to the arm G, which is hinged to the floor or joist, and having a spring, I, located behind it, as set forth.

2. The combination of lever F, pivoted to the board E, and having a pivoted catch-bar, H, on its upper end, connecting-bolt G', with nuts G², hinged arm G, and spring I, all arranged and operating substantially as shown and described, for the purpose set forth.

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Witnesses:

SAML. KNIGHT,
GEO. H. KNIGHT.