

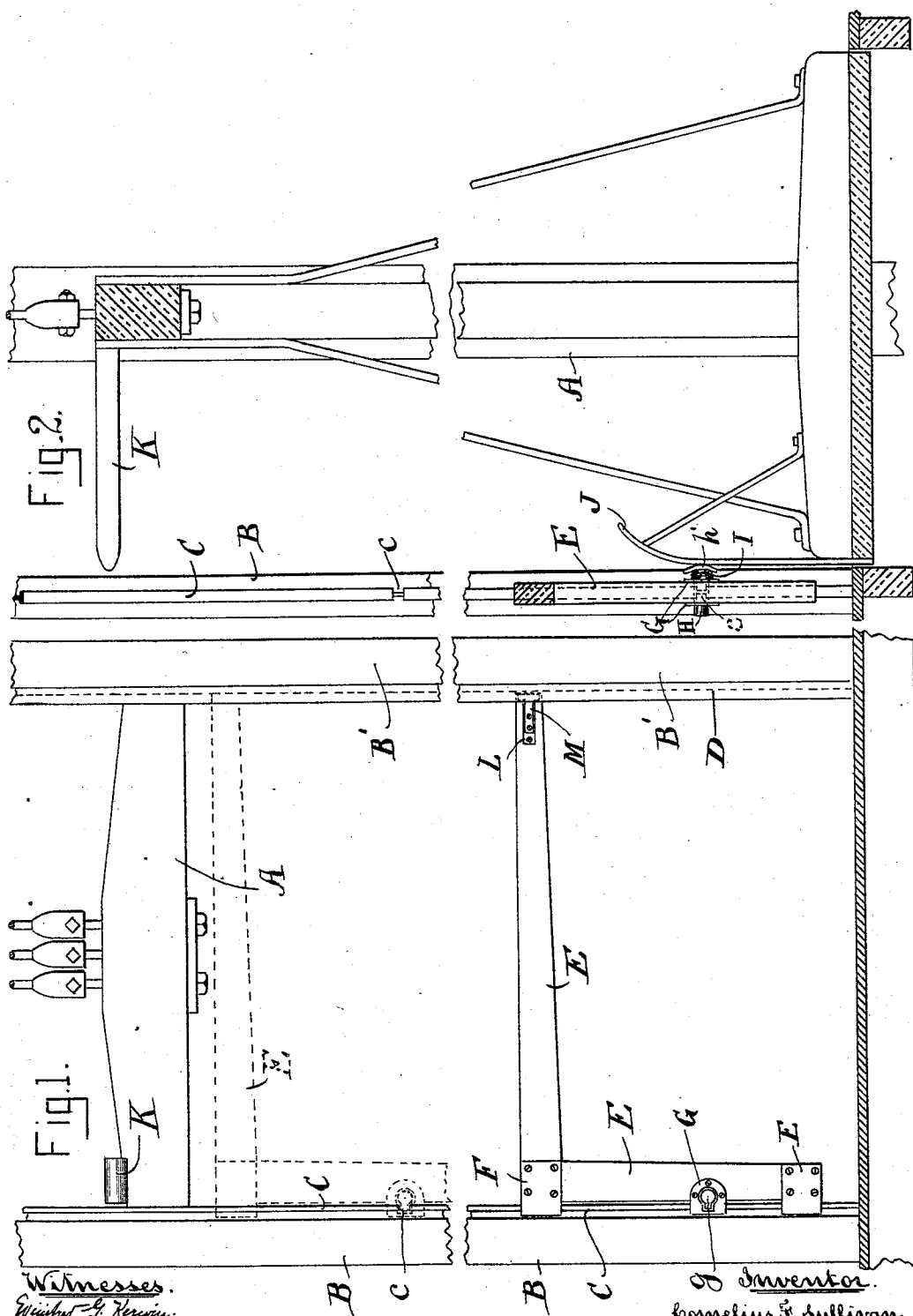
(No Model.)

3 Sheets—Sheet 1.

C. F. SULLIVAN.
ELEVATOR GATE.

No. 536,001.

Patented Mar. 19, 1895.



Witnesses.
Wm. J. Keweenaw.
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Inventor.
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(No Model.)

3 Sheets—Sheet 2.

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ELEVATOR GATE.

No. 536,001.

Patented Mar. 19, 1895.

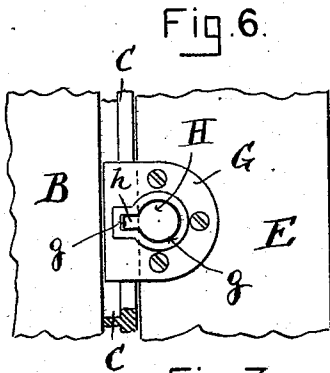
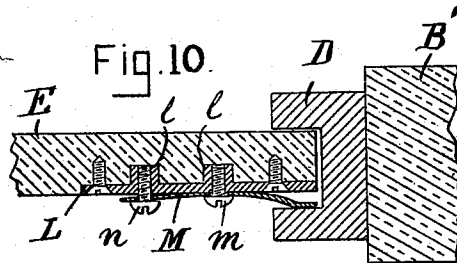
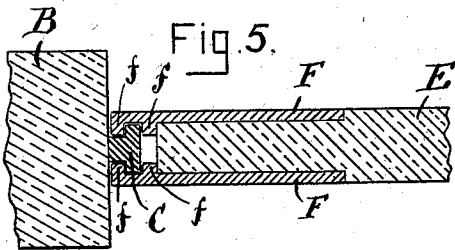
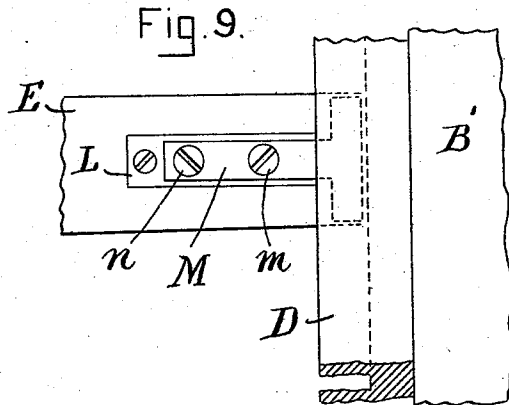
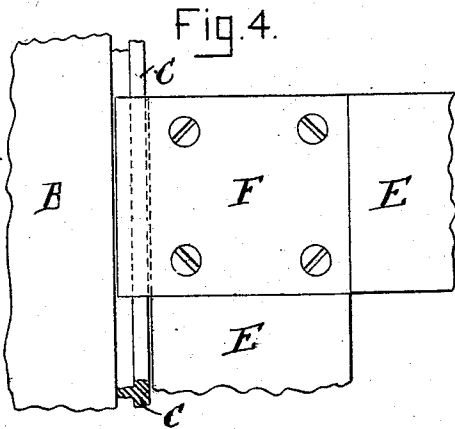
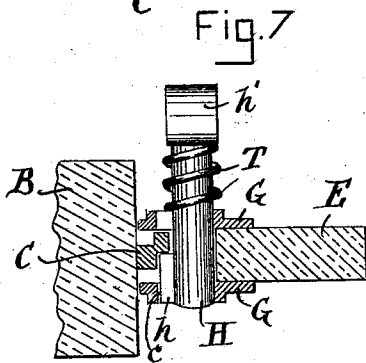
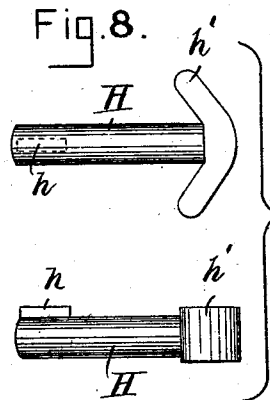
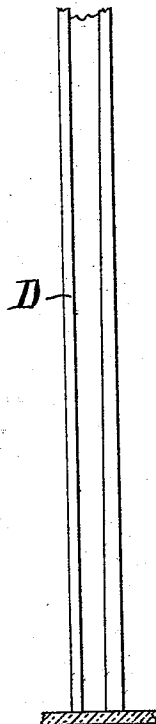


Fig. 3.



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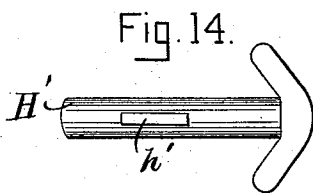
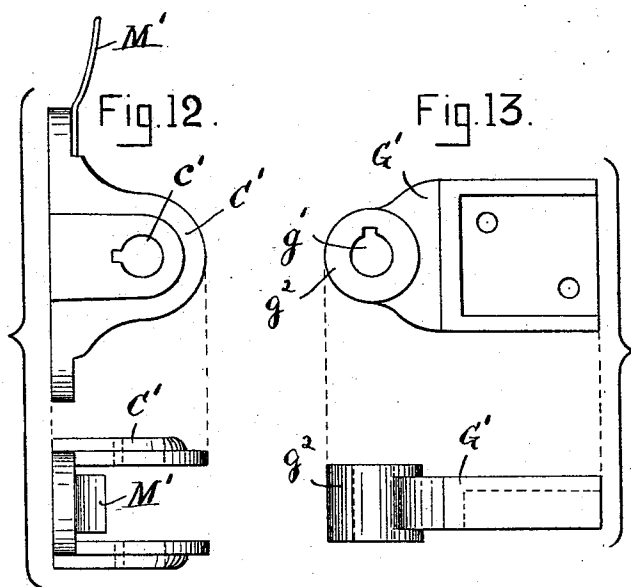
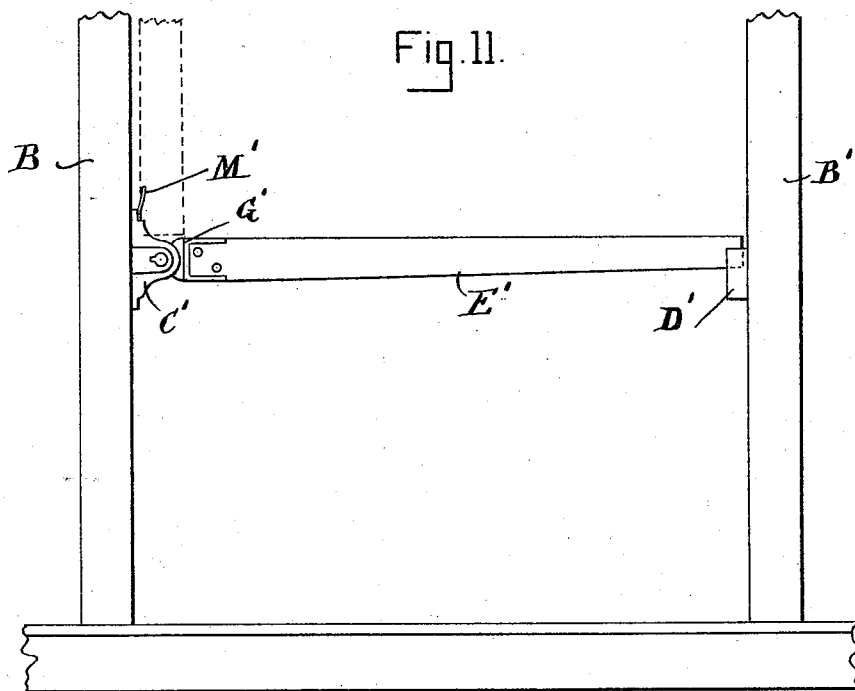
(No Model.)

3 Sheets—Sheet 3.

C. F. SULLIVAN.
ELEVATOR GATE.

No. 536,001.

Patented Mar. 19, 1895.



Witnesses.
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Inventor.
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Attorney.

UNITED STATES PATENT OFFICE.

CORNELIUS F. SULLIVAN, OF BOSTON, MASSACHUSETTS.

ELEVATOR-GATE.

SPECIFICATION forming part of Letters Patent No. 536,001, dated March 19, 1895.

Application filed December 18, 1893. Serial No. 494,006. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS F. SULLIVAN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Elevator-Gates, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to certain improvements in locking elevator gates or bars, and automatically releasing the same by the elevator, and the invention consists of certain details of construction as hereinafter fully described and pointed out in the claims.

Referring to the accompanying drawings: Figure 1 is a front view of an elevator fitted with a gate embodying my invention. Fig. 2 is a vertical transverse section of the same. Figs. 3 to 10 are detail views of various parts. Fig. 11 is a front view of an elevator bar, and Figs. 12 to 14 are detail views of same.

A, represents an elevator car; B, B', the posts to which the gate or bar is usually attached.

To one side of the post B, I secure a bar of T iron C, said bar having two notches *c* cut therein for the purpose hereinafter described, and opposite thereto on the post B', I secure a grooved piece D, a face view of which is shown in Fig. 3, the groove being wider at the upper end than at the lower end.

E, is the gate which at its upper and lower ends is fitted with plates F, each formed with two small projections *f*, which embrace the edges of the T piece C, as will be best seen in Fig. 5. On each side of the upright piece between these plates is secured a small plate G, having a hole *g* of the form shown. (See Fig. 6.) The sides of these plates embrace the T piece C, and the small square portion of the hole *g* extends over the edge of same.

H, is a bolt having a feather *h*, on one side which bolt and feather fit the hole *g* in the plate G. The outer end of this bolt is formed with a double beveled head *h'*. (See Fig. 8.) Around this bolt between the head and plate G, is placed a spiral spring T (see Fig. 7) so as to keep the bolt always drawn inward toward the elevator car.

To the lower portion of the elevator car A,

is attached an iron bar J, curved at its upper end as shown in Fig. 2, and to the upper portion of the elevator car is secured a bar K. The bar J, is for releasing the bolt or lock so that the gate may be raised when the elevator car is on a level with the floor and also for releasing it when in the raised position as the elevator car is being raised, the bar K releasing it from the raised position as the elevator car is lowered.

On the outer end of the gate E, is fitted a spring to prevent the too sudden fall of the gate. On the end of the gate is secured a plate L, having two screw threaded bosses *l*. To this plate is attached by means of a screw *m*, a spring M, of a T form as shown. (See Figs. 9 and 10.) The outer end of this spring is held by a screw *n*, so that by the adjustment of the screw *n*, the outer end of the spring M, will be forced farther from or allowed to recede nearer to the gate. The end of the gate and the spring work in the groove in the piece D, so that when the gate is raised and released and it falls the tension on the spring will be gradually increased and thus the gate will be lowered easily and without any sudden jar.

The operation is as follows:—The gate being in the lower or closed position when the elevator is brought to a level with the floor, the bolt H, will be pressed in by the bar J, thus forcing the feather *h* out of the notch *c*, in the bar C, and the gate is then free to be pushed up into the position shown in dotted lines in Fig. 1, when the spring *l*, will force the bolt out and the feather *h* will enter the notch *c*, and hold the gate in the raised position. Now, if the elevator is raised the bar J, will come into contact with the bolt H, and if lowered the bar K, will come into contact therewith thus forcing the bolt in and the feather out of the notch *c*, so that the gate will fall by its own weight and as it falls at first there will be little or no resistance made by the spring M, but as it lowers the friction will be increased and the gate more slowly lowered. After the gate has fallen to its normal position the bolt will by means of the spring I, be forced out and the feather *h*, will enter the lower notch *c*, and lock the gate in place.

When the gate consists of a bar, a similar locking device is employed for holding the bar in the raised position. This arrangement I have shown in Figs. 11 to 14. On the post B, is secured a two armed bracket C', having a hole c', in each arm as will be best seen in Fig. 12, and to the end of the bar is secured a shoe G', provided with a rear boss g', having a hole g', to correspond with the hole in the bracket C'. In these holes is inserted a bolt H', having a feather h', as before described excepting that the bolt is somewhat longer and the end extends beyond the feather h' as shown in Fig. 14.

To the bracket C', is attached a spring M', which forces the bar over the center when the same is in the raised position, and the bolt H', has been forced back to release the same so that the bar will fall by its own weight the outer end falling into a piece D', secured on the part B'.

The bar is released by bars on the elevator as before described.

What I claim is—

1. The combination of an elevator shaft gate, a T iron on which said gate is mounted and runs and having notches cut therein, a bolt having a feather on one side and a double beveled head, said bolt being adapted to engage said notches, plates to guide said bolt, and bars secured to the elevator car to operate the bolt, substantially as set forth.

2. The combination of an elevator gate locking device consisting of a bolt having a feather on one side and a double beveled head, the gate having plates secured thereto, a fixed part having a notch with which said feather is adapted to engage, the elevator car having bars thereon adapted to engage said bolt to move it inwardly to release the same,

and a spiral spring for normally pressing said bolt outwardly, substantially as set forth.

3. The combination of a T bar provided with notches secured to one of the upright posts, a gate having plates to embrace said bar, plates G, secured to the upright of said gate, a bolt having a feather and a double beveled head, said bolt working in said plates G, a spiral spring on said bolt acting to normally press it outwardly and bars attached to the elevator to press said bolts inwardly, substantially as set forth.

4. The combination of a T bar C, provided with notches and secured to the upright post B, a gate E, having plates F, adapted to embrace the T bar C, plates G, secured on upright of said gate, a bolt H, having a feather h, and double bevel head h', said bolt and feather being free to slide in the plates G, so that when in the locked position the feather h, will enter a notch in the bar C, a spiral spring L, for throwing the bolt out and bars attached to the elevator for pressing the bolt in, substantially as set forth.

5. In combination with an elevator gate the gate posts one of said posts having a groove in its side, said groove being widest at its upper end and extending to a height equal to the rise of the gate in combination with a spring secured to one side of the end of the gate that works in said groove, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 4th day of October, A. D. 1893.

CORNELIUS F. SULLIVAN.

Witnesses:

CHAS. STEERE,
EDWIN PLANTA.