(No Model.)

R. FYFE.

SAFETY GATE FOR FREIGHT ELEVATORS.

No. 301,109. Patented July 1, 1884.

Fig. 1.

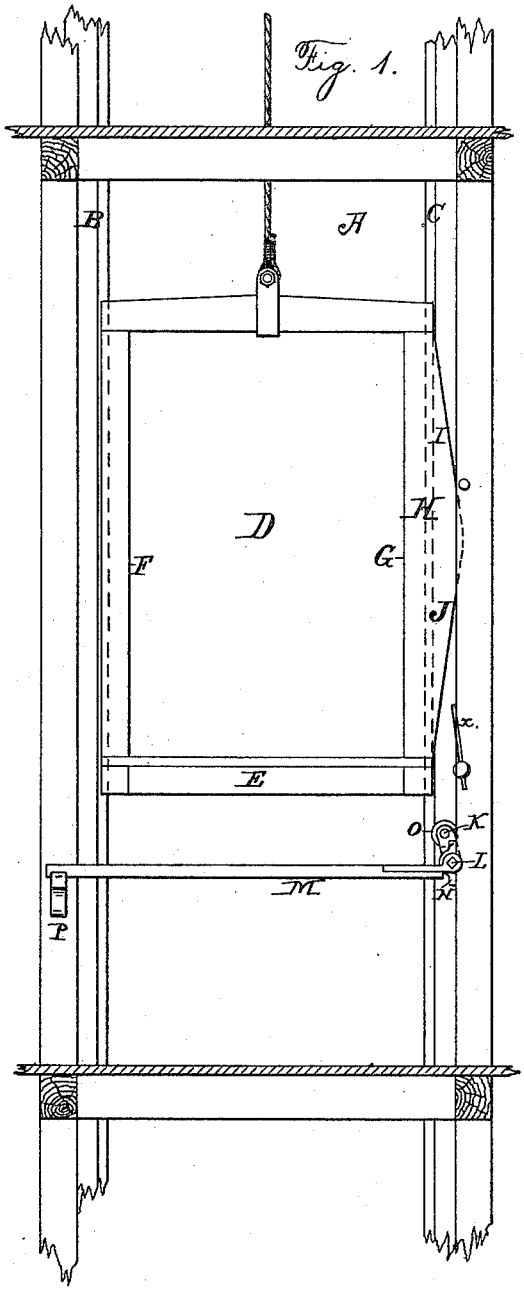
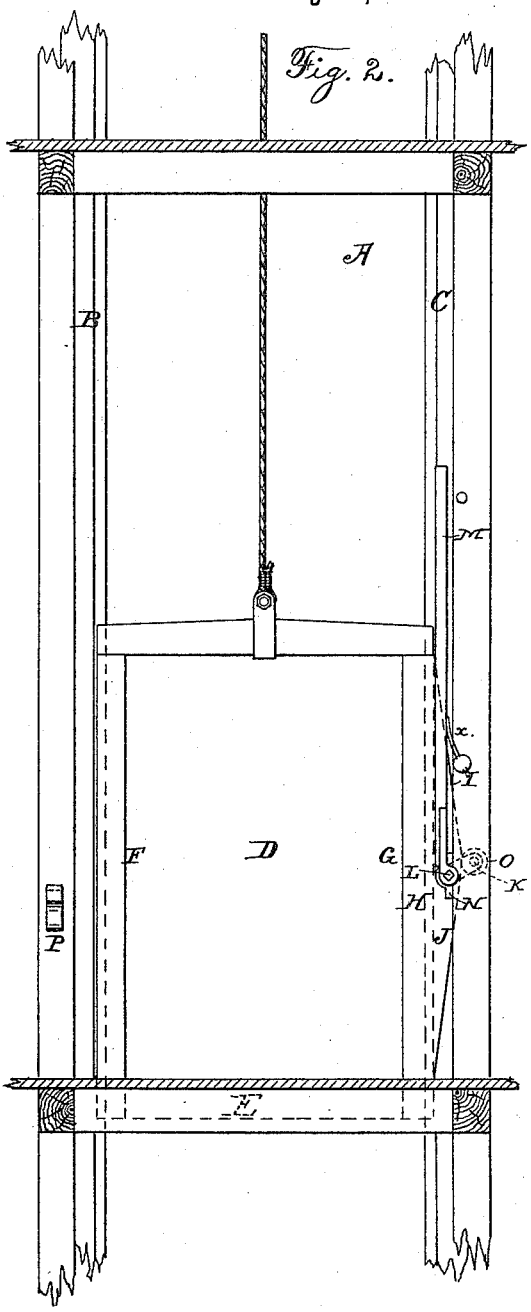


Fig. 2.



WITNESSES

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SAFETY-GATE FOR FREIGHT-ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 301,109, dated July 1, 1884.

Application filed April 1, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT FYFE, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Safety-Gates for Freight-Elevators, of which the following is a specification.

The invention relates to an improvement in safety gates or appliances for freight-elevators; and it consists in the novel arrangement of a bar secured upon the end of a rotating shaft, which is operated by a cam secured upon the elevator, whereby when the elevator is in motion it will operate to either raise or lower said bar, as hereinafter more particularly described.

The invention is applicable to all kinds of elevators which are used in buildings, but particularly to that class of elevators which consist, generally, of a platform moving in a shaft unprotected by doors, and which is employed for elevating freight, &c.

The object of the invention is to provide a safety appliance for elevators of the kind referred to, whereby the shaft will be sufficiently closed at all times, and at each floor of the building, to prevent persons walking into the same except at such floor where the elevator may be in waiting.

The invention will be more fully understood by reference to the accompanying drawings, in which Figure 1 is a front plan view of the invention, the elevator being midway between two floors of the building; and Fig. 2 is a similar view, the elevator being in this instance stationary and the safety-bar elevated.

In the drawings, A denotes the elevator-shaft, upon the two opposite sides of which are arranged the guides B C, between which the elevator D may have a vertical movement, being actuated in the customary manner. The elevator D will be of usual construction, being shown in the present instance as consisting of the platform E and sides F G. Upon the side G of the elevator is applied the cam H, having the two oppositely-inclined faces I J, which are arranged to come in contact, when the elevator is in motion, with the bent end K of the horizontal shaft L, upon the outer end of which, adjacent to one side of the shaft, is rigidly secured the safety-bar M. The shaft L will be suitably mounted in boxes N, to permit of its being rotated when required, and upon its bent end will preferably be supplied a roller or wheel, O, which will be impinged by the cam H during the operation of the elevator. The bar M will be of sufficient length to extend entirely across the elevator-shaft, a stop, P, being provided upon the side thereof opposite to the shaft L, upon which the free end of the said bar may rest when in a horizontal position. The normal position of the bar M is horizontally across the elevator-shaft, and that of the shaft L is with its bent end extended upward and inclined slightly inward toward the elevator. The position of the shaft L should be such that when the elevator is stationary at any given floor, the point of the greatest projection of the cam H will be in contact with the bent end of the shaft L, whereby said shaft will be held in such position that the bar M will remain elevated and freight may be placed upon or withdrawn from the elevator. When the elevator is ascending, the outwardly-inclined face I of the cam H will first come in contact with the bent end of the shaft L and elevate the bar M, and after the point of greatest projection of the cam H has passed the said bent end of the shaft L the bar M will gradually lower to its former position by reason of the inwardly-inclined face J of the said cam permitting such movement, and the fact that the center of gravity of the bar M when elevated will preponderate slightly toward the opposite side of the elevator-shaft to that upon which the shaft L is secured. Thus it will be understood that as the elevator is ascending and passing the different floors of the building it will automatically elevate the bar M during its approach, and permit its lowering again during the continuation of its upward ascent, and that when the elevator stops at any given floor the bar M will be retained in an elevated position during such time as the elevator is stationary, said bar being permitted to lower the moment the elevator ascends or descends, either of which movements will permit the bent end of the shaft L to move inward, thus insuring the lowering of the bar M.

In the employment of elevators where it is desired to use two bars, M—one on each side of the elevator-shaft—the shaft L will be elon-

gated and have a bar, as M, secured on each of its ends. A spring, *x*, may be utilized to aid in lowering the bar M, if desired.

It is to be noted that the faces I J incline inward toward the ends of the elevator from a definite point about on a line with the transverse center of the sides F G, and that in view of this construction the bar M will have a gradual movement, either upward or downward, while the elevator is in motion. The construction presented avoids any sudden movement of the bar M, and hence saves damage to machinery and other accidents.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the elevator, the cam H, secured upon the side thereof, and having faces I J, diverging from a point substantially near the center of said side inward toward the ends of same, the horizontal shaft L, having its inner portion in the form of a crank and in position to be acted upon by the faces I J, and the bar M, affixed upon the outer end of the shaft F, and having a movement from a horizontal position across the elevator-shaft to a vertical position, substantially as set forth.

2. In combination with the elevator, the cam H, secured upon the side thereof, and having faces I J, diverging from a point substantially near the center of said side inward toward the ends of same, the horizontal shaft F, having its inner portion in the form of a crank, and in position to be acted upon by the faces I J, the safety-bar M, affixed upon the outer end of the shaft E, and the spring *x*, substantially as and for the purposes set forth.

Signed at New York, in the county of New York and State of New York, this 12th day of March, A. D. 1884.

ROBERT FYFE.

Witnesses:
CHAS. C. GILL,
HERMAN GUSTOW.