(No Model.)

C. R. WHITTIER.

SAFETY ATTACHMENT FOR ELEVATOR CARS.

No. 354,366. Patented Dec. 14, 1886.

Fig. 1.

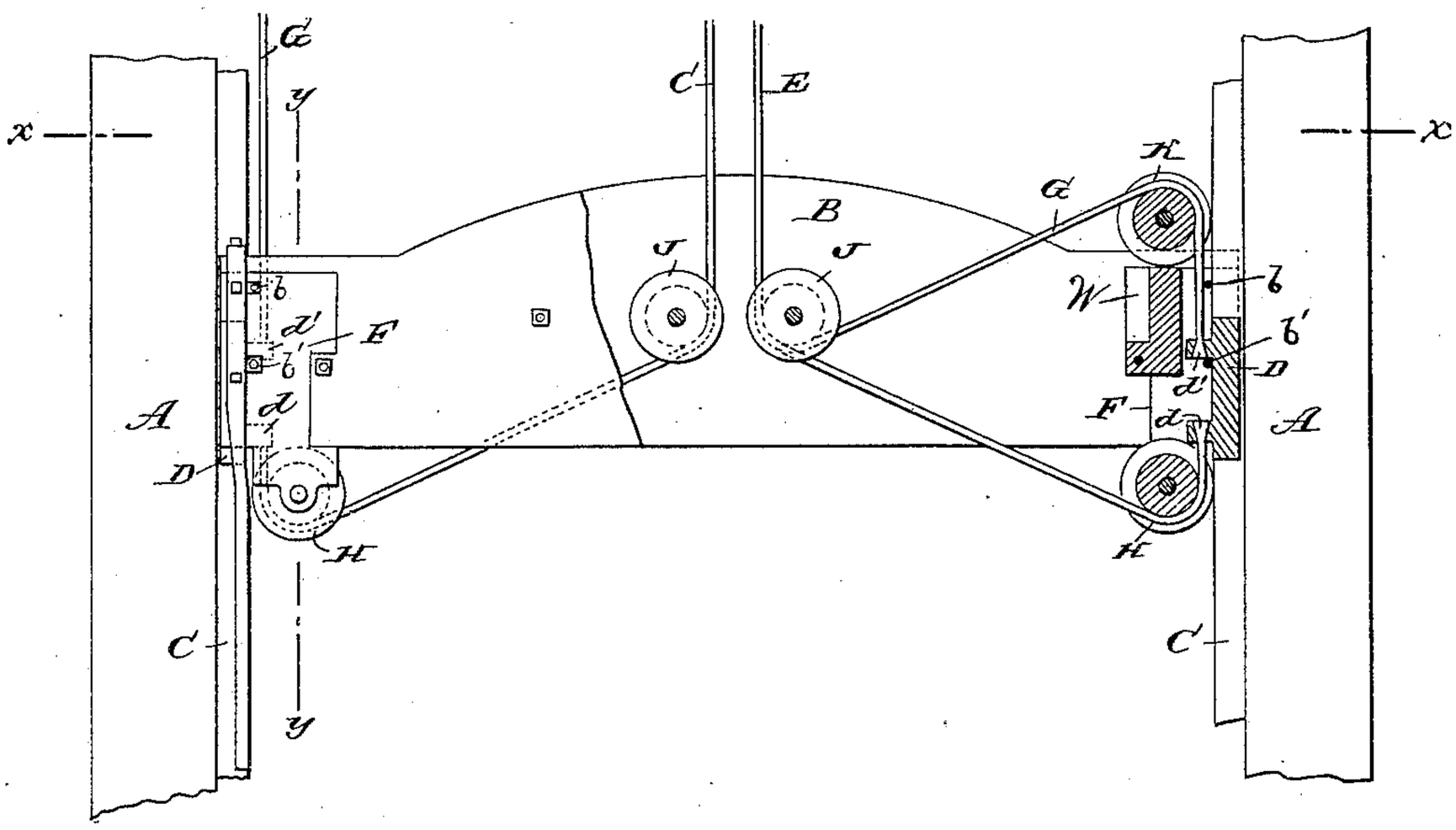


Fig. 2.

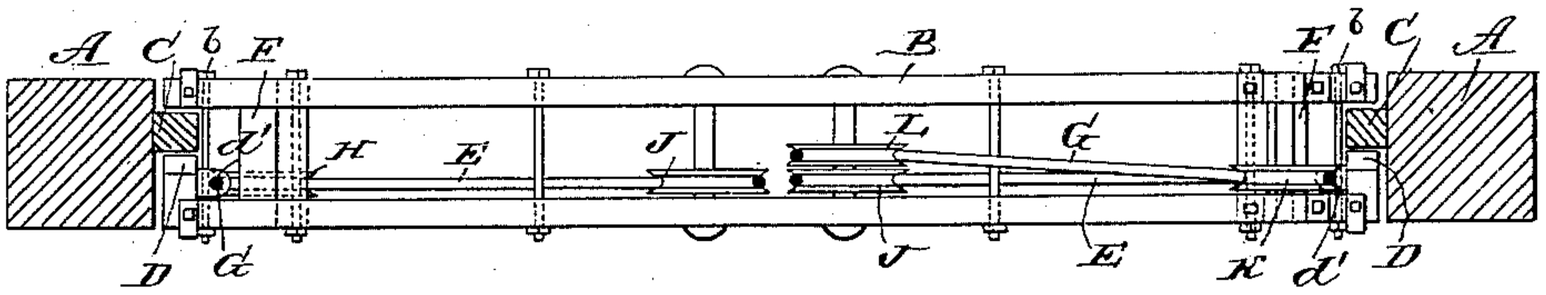
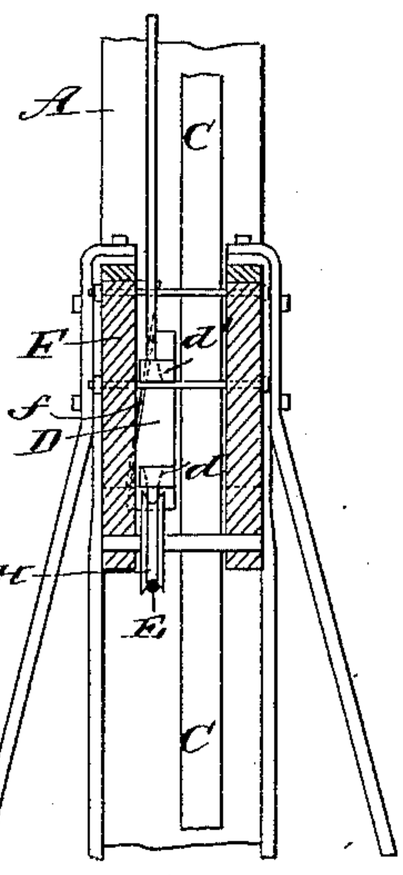


Fig. 3.



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CHARLES R. WHITTIER, OF YONKERS, NEW YORK.

SAFETY ATACHMENT FOR ELEVATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 354,366, dated December 14, 1886.

Application filed March 4, 1886. Serial No. 193,966. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. WHITTIER, of Yonkers, in the county of Westchester and State of New York, have invented a new and Improved Safety Attachment for Elevator-Cars, of which the following is a full, clear, and exact description.

The object of my invention is to provide a practical automatic safety device for elevators, to prevent the elevator-car from falling in case the hoisting-ropes should break; and the invention consists of the construction, arrangement, and combination of parts, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of a part of an elevator, showing my invention applied. Fig. 2 is a sectional plan view taken on the line *x x* of Fig. 1, and Fig. 3 is a transverse sectional elevation taken on the line *y y* of Fig. 1.

A A represent the guide-posts of an elevator-hoistway, and B represents the top cross-piece or head of an elevator car.

I will describe one side of the attachment, the other being similar.

The post A is provided with a guide-rail, C, which the slotted end of the head-block B embraces, as shown clearly in Fig. 2. Between the guide-rails C and one side of the head-block B is placed the wedge D, which serves to prevent accident in case the hoisting-ropes E should break. The wedge D is held in place by a casting, F, formed with beveled cheek *f*, in contact with which the beveled edge of the wedge is held. The casting consists of two cheek-pieces, which embrace the rail C, connected by a central web, W, which holds them together against the opening action of the wedge. To still further strengthen the casting F, and to form a stop for the wedge, I connect the cheeks by strong steel bolts *b b'*, thus bringing the main tensile strain of the opening action on wrought-steel. The bolts also serve as stops for limiting travel of the wedge. The wedge D is formed with lugs *d d'*, to which the hoisting-rope E and counter-balance-rope G are respectively attached. This counter-balance may be either the heavy weight, which counterbalances the whole car, which I prefer, or it may be a separate weight, whose function is to simply counterbalance the wedge and bring it into action when detached from the hoisting-rope. The hoisting-rope E, from its connection with the lug *d*, passes downward under the side sheave, H, and thence under the central sheave, J, so it serves to draw the wedge D downward, and thus hold it out of but ready for action. The counter-balance-rope G, from its connection with the lug *d'*, may pass directly upward to a counter-weight pulley at the top of the elevator-hoistway, as indicated at the left in Fig. 1; or it may pass over sheave K, arranged above the wedges, and thence under central sheave, I, as shown at the right in Fig. 1, so that in case the rope E should break, and thus release the wedge D, the counterbalance-weight will instantly draw the wedge D upward and bind the head B with the guide-rail C, and thus prevent the elevator-car from falling.

In case one hoisting-rope breaks, one wedge will stop the car. In case both hoisting-ropes break, both wedges will act, thus forming a double safety, which I deem desirable, but not necessary to the invention.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the guide-rail C, cheek-pieces *f*, and stop-bolts *b* and *b'*, attached to the elevator-car, of the wedge D, to which the hoisting-rope and counter-weight rope are directly attached to act in opposition to each other, substantially as described.

2. The rail C and the head of the elevator-cage, formed with cheek-pieces which embrace the rail C, and the wedge D, arranged between the rail and one of the cheek-pieces, in combination with the hoisting and counter-weight ropes, the latter attached to the ends of the wedge and passed around pulleys arranged above and below the wedge, substantially as described.

CHARLES R. WHITTIER.

Witnesses.
H. A. WEST,
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