

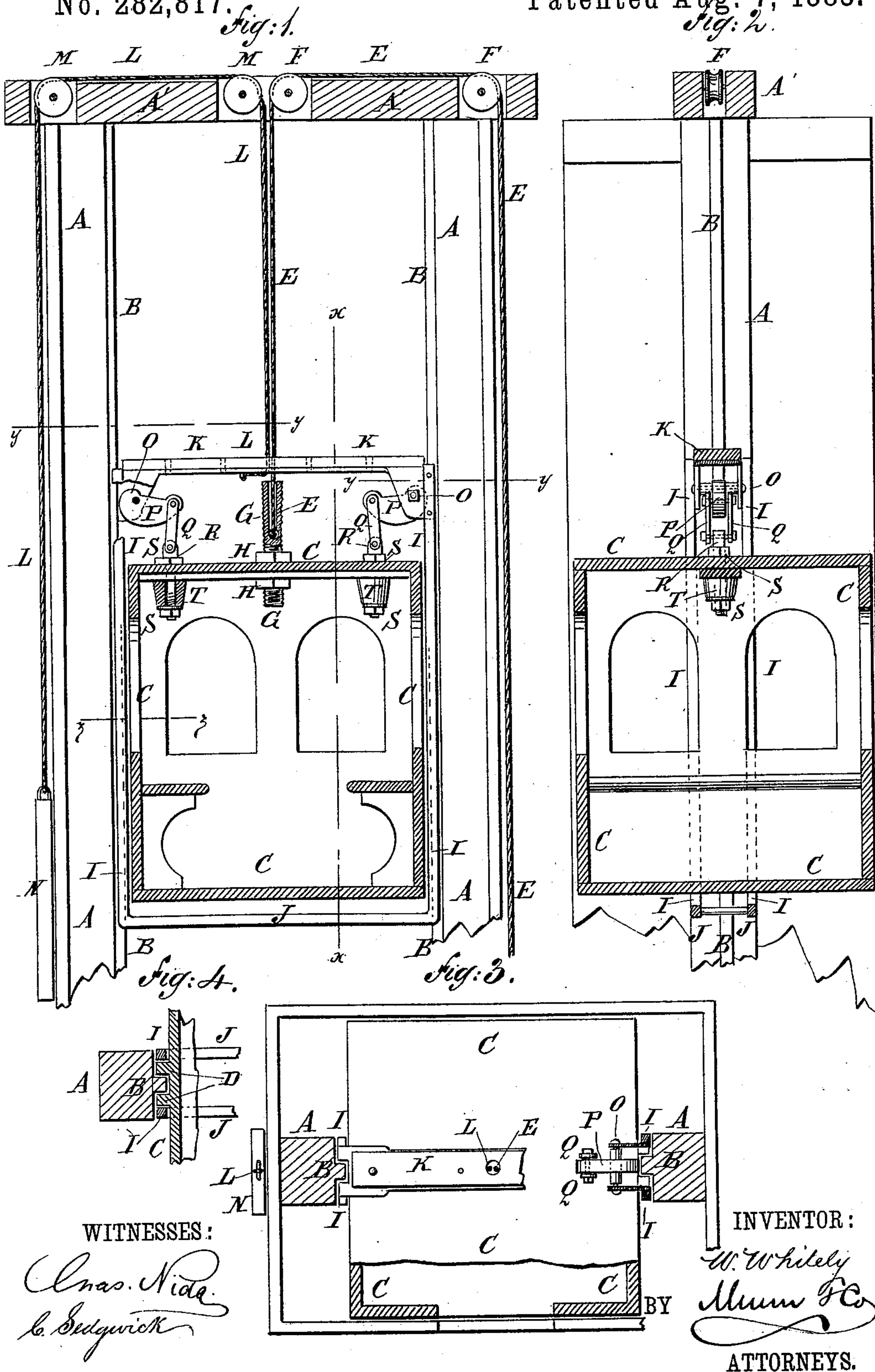
(No Model.)

W. WHITELEY.

SAFETY STOP FOR ELEVATORS.

No. 282,817.

Patented Aug. 7, 1883.





# UNITED STATES PATENT OFFICE.

WILLIAM WHITELEY, OF HOUSATONIC, MASSACHUSETTS.

## SAFETY-STOP FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 282,817, dated August 7, 1883.

Application filed March 29, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM WHITELEY, of Housatonic, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Safety-Stops for Elevators, of which the following is a full, clear, and exact description.

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 front elevation of an elevator to which my improvement has been applied. Fig. 2 is a sectional side elevation of the same, taken through the line *xx*, Fig. 1. Fig. 3 is a sectional plan view of the same, taken through the broken line *yyyy*, Fig. 1. Fig. 4 is a sectional plan view of a part of the same, taken through the line *zz*, Fig. 1.

The object of this invention is to promote security in the use of elevators.

The invention consists in a stop for elevators constructed with a frame passing across the top and down the sides of the carriage, connected with the carriage by cams and links, and partially supported by a weight and cord, so that the descent of the carriage within the frame will apply the cams and stop the downward movement of the said frame and carriage. The top of the carriage is provided with an adjustable tube or pin, to support the said frame and limit the upward movement of the carriage within the frame. Upon the bolts that connect the cam-links with the top of the carriage are placed rubber blocks, to relieve the jar when the descent of the carriage is stopped by the cams, as will be hereinafter fully described.

A are posts upon the opposite sides of an elevator-well, and which are connected at their upper ends by a beam, A', and have tongues B upon their faces, to form ways for the elevator-carriage C to move up and down upon. The carriage C is kept in place upon the ways A B by guide-bars D, attached to its sides, and which form grooves to receive the tongues B.

The carriage C is raised and lowered by power applied in the ordinary manner to the hoisting-rope E, which passes up at the side of the elevator-well, over guide-pulleys F, pivoted in slots in the beam A', passes down

through the center of the elevator-well, and enters and is secured in a tube, G, by being passed through a hole in the side of the said tube G, and having a knot formed upon it, or by other suitable means; or the rope E can be attached to the top of the carriage and the tube G replaced by a pin or pins.

The tube G has a screw-thread formed upon its outer surface, passes through a hole in the center of the top of the carriage C, and has nuts H screwed upon it, one above and one below the said top, so that the upward projection of the said tube can be regulated by adjusting the nuts H.

I are bars which pass up the sides of the carriage C upon the opposite sides of the guide-bars D. The lower ends of the bars I are connected at a little distance below the bottom of the carriage C by a cross-bar, J, to prevent the said carriage from falling should the mechanism that supports it break.

If desired, the cross-bar J can be omitted and the bars I connected with the sides of the carriage C by bolts passing through holes in one of the said parts and through short slots in the other, to give the said carriage and bars the necessary movement upon each other.

The upper ends of the bars I, at a little distance above the top of the carriage C, are connected by a cross-bar, K, through a hole in the center of which the hoisting-rope E passes. Through the hole in the center of the cross-bar K also passes the end of the rope L, which is secured to the lower side of the said cross-bar K. The rope L passes up through the center of the elevator-well, passes over guide-pulleys M, pivoted in slots in the top beam, A', and to its other end is attached a weight, N, of such a gravity as to nearly balance the gravity of the bars or frame I K, so that the said bars or frame will always be partially supported above the carriage C, and will thus fall slower than the carriage C should the hoisting-rope break.

To lugs or angle-plates secured to the bars I K are hinged, by bolts O, the cams P, with the ends of which are connected, by links Q or other suitable means, the eyebolts R, which pass down through the top of the carriage C, and have nuts S screwed upon them above and below the said top of the carriage. Upon the



bolts R, between the top of the carriage C and the lower nuts, S, are placed rubber washers or blocks T, four inches (more or less) in thickness, to relieve the jar should the hoisting apparatus break and the stop mechanism come into use. The carriage C is kept from being drawn up too close to the cross-bar K, and is made to carry the said bar by the tube G, the upper end of which comes in contact with the said cross-bar.

With this construction, should the hoisting-rope E or any other part of the hoisting apparatus break, the weight of the carriage C will be thrown upon the cams P, and will place them against the ways A B, so that the descent of the carriage will be instantly stopped.

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

1. A stop for elevators constructed substantially as herein shown and described, and consisting of the frame I K, the cams and links P Q, the adjustable tube or pins G, and the weight and rope N L, as set forth.

2. In a stop for elevators, the combination, with the guides A B and the carriage C, of the frame I K, the cams and links P Q, and the rope and weight L N, substantially as herein shown and described, whereby the downward movement of the said carriage within the said frame will apply the cams and stop the descent, as set forth.

3. In a stop for elevators, the combination, with the carriage C and the frame I K, of the tube or pins G, substantially as herein shown and described, whereby the upward movement of the said carriage within the said frame is limited, as set forth.

4. In a stop for elevators, the combination, with the carriage C, the frame I K, and the cams and links P Q, of the eyebolts R and rubber blocks T, substantially as herein shown and described, whereby the jar is relieved when the descent of the carriage is stopped by the cams, as set forth.

WILLIAM WHITELY.

Witnesses:

JUSTIN DEWEY,  
WM. I. VAN DEUSEN.