

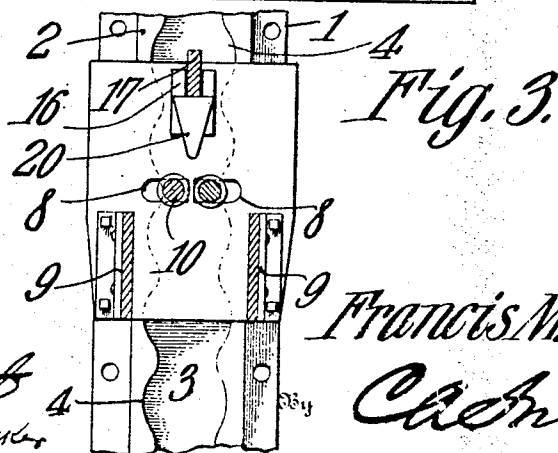
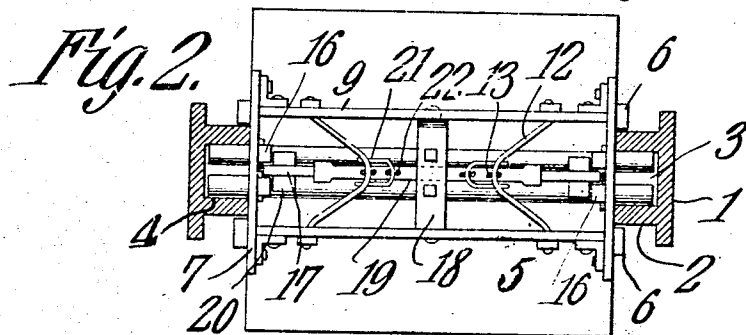
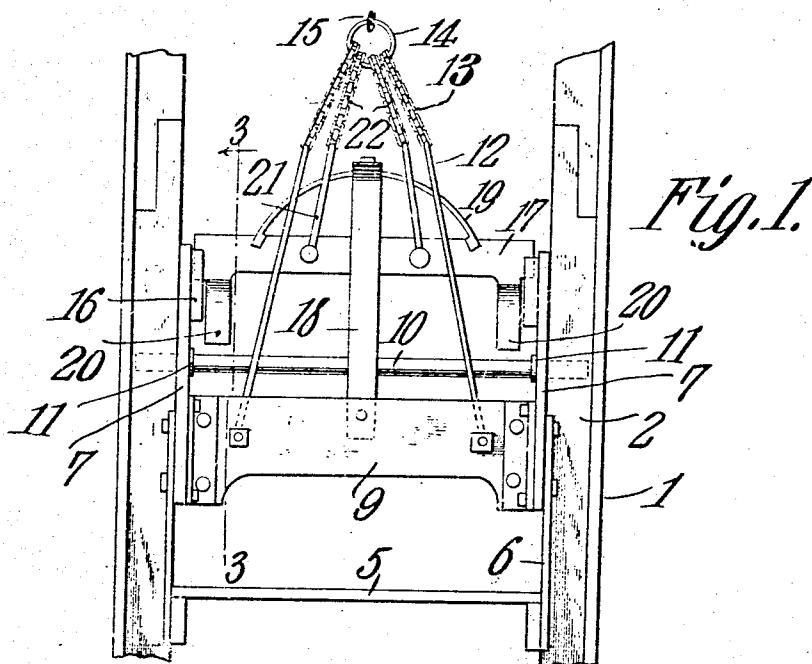
No. 878,489.

PATENTED FEB. 11, 1908.

F. M. ASHBY.

SAFETY APPLIANCE FOR ELEVATORS.

APPLICATION FILED AUG. 24, 1907.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANCIS M. ASHBY, OF PRINCETON, INDIANA.

SAFETY APPLIANCE FOR ELEVATORS.

No. 878,489.

Specification of Letters Patent.

Patented Feb. 11, 1908.

Application filed August 24, 1907. Serial No. 390,059.

To all whom it may concern:

Be it known that I, FRANCIS M. ASHBY, a citizen of the United States, residing at Princeton, in the county of Gibson and State of Indiana, have invented a new and useful Safety Appliance for Elevators, of which the following is a specification.

This invention has relation to safety appliances for elevators and it consists in the novel construction and arrangement of its parts as hereinafter shown and described.

The object of the invention is to provide a safety appliance adapted to be attached to the head or top of the elevator car and the parts of which are so arranged that they will automatically engage and check the descent of the car should the supporting cable thereof separate. The appliance may also be used to hold the car in a steady position when at rest.

The car guides are provided with grooves or strips, the opposite sides of which, are provided with compound curved surfaces. The head of the elevator car is provided with shafts having limited lateral movement with their end portions lying within the grooves of the opposite guides. A cross bar is located upon the head of the elevator car and is provided with wedges which are adapted to pass between the said shafts and force the same apart, whereby, their end portions are forced into positive contact with the curved sides of the grooves. The elevator car head is connected up with the operating cable as is also the said bar. The connection between the bar and the cable being of such length that so long as stress is upon the elevator cable the wedges will be held above and out of contact with the shafts, but should the said cable part, a spring mechanism is provided for forcing the wedges between the shafts.

In the accompanying drawing:—Figure 1 is a side elevation of an elevator provided with the appliance. Fig. 2 is a top plan view of the same, and Fig. 3 is a transverse sectional view of the upper portion of the elevator car cut on the line 3--3 of Fig. 1.

The guides 1, 1 are vertically arranged at the sides of the elevator shaft in the usual manner. Said guides are provided upon their inner faces with strips or flanges 2. Said flanges are arranged in pairs upon the guides and are spaced apart, leaving the grooves or recesses 3. The opposite inner edges of the strips 2 are provided with com-

pound surfaces 4 which gradually approach and recede from each other. The car 5 is provided at its sides with the strips 6 which operate along the outer sides of the strips 2. The head of the elevator car consists of the plates 7 which bear against the faces of the strips 2 and which are provided with elongated openings 8, 8 with their long axes horizontally disposed. The cross pieces 9 connect the plates 7 together. The shafts 10, 10 are loosely mounted in the openings 8 and their end portions lie in the grooves 3. Said shafts are held against longitudinal movement by the collars 11 which bear against the inner faces of the plates 7.

The bails 12 are attached at their lower ends to the cross pieces 9 and are connected at their upper portions by means of the chains 13 with the ring 14 to which is attached the end of the elevator cable 15. The inner faces of the plates 7 are provided with vertically disposed guides 16. The end portions of the bar 17 lie between the guides 16. The yoke 18 is attached at its ends to the cross pieces 9 and its intermediate portion is arched up over the shafts 10 and bar 17. The intermediate portion of the spring 19 is attached to the intermediate portion of the yoke 18 and the ends of the spring 19 bear directly upon the upper edge of the bar 17. The wedges 20 are carried by the bar 17 and are located above the shafts 10 and are disposed vertically over the space between the said shafts. The bails 21 are attached to the cross piece 17 and pass over the spring 19 and are connected by means of the chains 22 with the ring 14. The links 21 and chains 22 are of such length with relation to the links 12 and chains 13 that the cross piece 17 will be held in an elevated position when the elevator cable 15 is under stress. Should the said cable 15 become slack or, for any reason part, the tension of the spring 19 will come into play and force the bar 17 down which in turn will project the wedges 20 between the shafts 10 and spread the same so that their end portions will enter and positively engage the outwardly curved portions of the edges 4 of the strips 2. Thus the downward movement of the elevator car will be positively checked. The above operation of the parts takes place in case of accident and also occurs when the elevator car comes to a stop and the cable 15 becomes slack. Thus, when the elevator car is at rest and the cable is

slack, it is effectually braced against lateral sway or vibration.

The guides 1 are made of steel and are provided with bolt holes, as indicated in Fig. 3, through which holes bolts may be passed to fasten the guides to the elevator-shaft framework.

Having described my invention what I claim as new and desire to secure by Letters-Patent is:—

1. In combination with guides having grooves provided with edges describing compound curves, an elevator car mounted for movement between the guides, shafts mounted upon the elevator car and having their end portions lying within the grooves of the guides, and means mounted upon the elevator car for moving the shafts laterally into engagement with the edges of the grooves of the guides.

2. In combination with guides having grooves provided with edges which describe compound curves, an elevator car mounted for movement between the guides, shafts mounted upon the elevator car and having their end portions lying within the grooves of the guides, wedges mounted upon the elevator car and spring actuated means for projecting the wedges between the shafts.

3. In combination with guides having grooves provided with edges which describe

compound curves, an elevator car mounted for movement within the guides, shafts mounted upon the elevator car and having their ends lying within the guides, a movable bar mounted upon the elevator car and having wedges attached thereto, a spring bearing upon the bar and means operatively connecting the bar with the hoisting means of the elevator car.

4. In combination with guides having grooves with edges describing compound curves, an elevator car mounted for movement between the guides, a hoisting means for the car, shafts mounted upon the elevator car and having their end portions lying within the grooves of the guides, a bar movably mounted upon the elevator car and having depending wedges, a yoke attached to the top of the elevator car and passing over said bar, a spring attached to the yoke and bearing against the bar, and means connecting the top of the elevator car with the hoisting means and means connecting said bar with the hoisting means.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FRANCIS M. ASHBY.

Witnesses:

MADISON SMITH,
JOSEPH PARTENHEIMER.