No. 896,792. PATENTED AUG. 25, 1908.

C. F. BATH.

SAFETY BRAKE FOR ELEVATORS.

APPLICATION FILED AUG. 2, 1907.

FIG. 1.

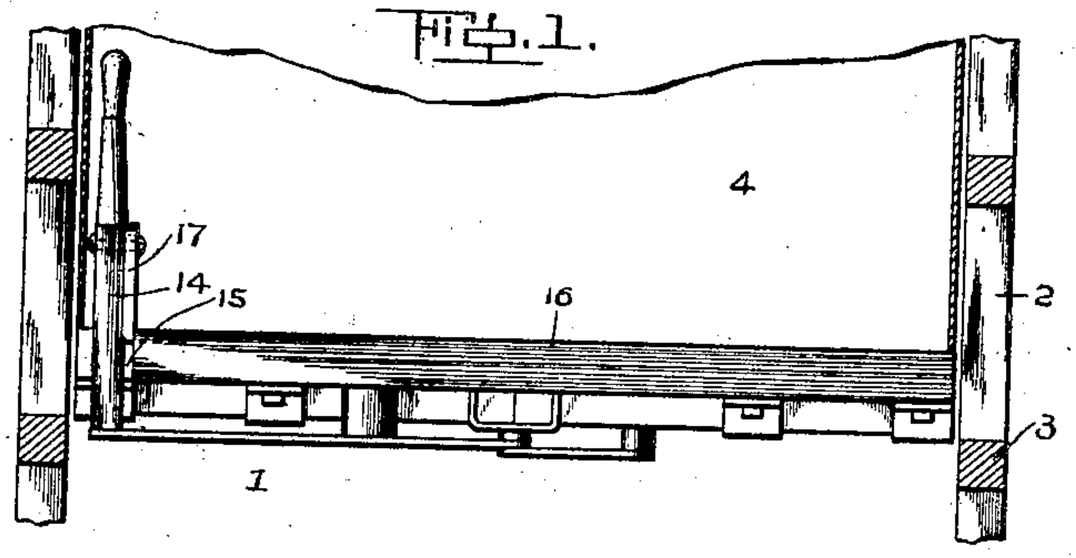
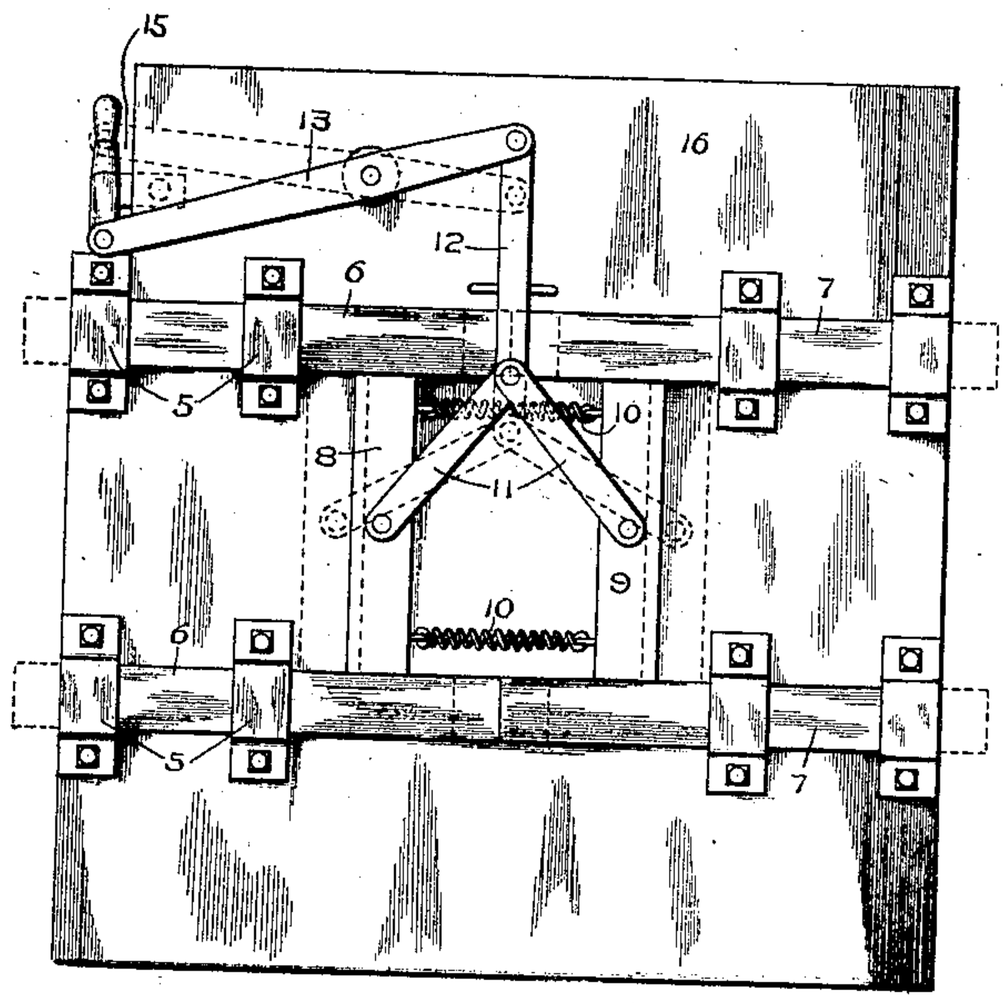


FIG. 2.



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CHRISTIAN F. BATH, OF ABILENE, KANSAS.

SAFETY-BRAKE FOR ELEVATORS.

No. 896,792. Specification of Letters Patent. Patented Aug. 25, 1908.

Application filed August 2, 1907. Serial No. 386,771.

To all whom it may concern:

Be it known that I, CHRISTIAN F. BATH, a citizen of the United States of America, residing at Abilene, in the county of Dickinson and State of Kansas, have invented new and useful Improvements in Safety-Brakes for Elevators, of which the following is a specification.

This invention relates to a safety stop or brake for elevators, the object of the invention being to provide simple and efficient means under control of the elevator operator whereby, upon the breaking of the hoisting rope or cable, the downward movement of the elevator car may be arrested, thus preventing damage and loss of life liable to be caused by the dropping of the car.

In the accompanying drawing—Figure 1 is a vertical sectional elevation of an elevator shaft and car therein, showing the normal position of the brake mechanism. Fig. 2 is a bottom plan view of the car, showing in full and broken lines the normal and projected positions of the brake devices.

Referring to the drawings, 1 designates an elevator shaft, in which are arranged in the usual manner guides 2, the guides at the opposite sides of the shaft being connected by horizontal cross bars 3, constituting stationary brake members.

The elevator car 4 is designed to be raised and lowered through the medium of the usual hoisting mechanism, and is provided upon its bottom with pairs of guides 5, in which are slidably mounted two pairs of brake bars 6 and 7, respectively. The bars of each pair are movable in the guides on opposite sides of the center of the car for projection to respectively engage the bars 3 at opposite sides of the elevator shaft, and the bars of each pair are respectively connected for movement in unison by cross bars or pieces 8 and 9 limited in outward movement by the inner guides.

The brake bars 6 and 7 are arranged in longitudinal alinement and are adapted to abut at their inner ends when in retracted position, the bars being normally held retracted by springs 10 connecting the cross pieces 8 and 9. Toggle levers 11 are pivotally connected at one end to the cross bars 8 and 9 and at the opposite end to one end of a link 12 lying transversely to the plane of motion of the brake bars. The opposite end of the link is pivotally connected to the inner or shorter arm of a power transmitting lever 13, the long arm of which extends outwardly toward one side of the car and is pivotally connected to the lower end of an operating lever 14. The lever 14 projects upwardly through a slot or opening 15 formed in the car bottom 16, and is fulcrumed upon a supporting bracket 17, the upper or handle end of the lever being arranged within the car within convenient reach of the operator.

The normal position of the parts is shown in Fig. 2, from which it will be seen that the brake bars 6 and 7 are normally held retracted by the springs 10. If the hoisting rope or cable should break, the operator may, by throwing the hand lever 14, transmit motion to the link 12 to shift the toggle levers to the dotted line position, whereby the brake bars will be moved outwardly to engage the stationary brake members 3 in the shaft, thereby bringing the car to a stop.

Having thus described the invention, what is claimed as new, is:—

In a safety brake for elevators, the combination of an elevator shaft having stationary brake members arranged therein, a car, sets of inner and outer guides upon the bottom of the car, pairs of brake bars slidably mounted in the guides, cross pieces connecting the inner ends of the bars of each pair for movement in unison, retracting springs connecting said cross pieces, toggle levers connected at their ends to the cross pieces, an operating lever extending upward into the car, a power transmitting lever actuated thereby and arranged on the outer side of one of the brake bars, and a link extending transversely of the line of movement of the brake bars across one of the sets of bars and connecting the power transmitting lever with the inner ends of the toggle levers.

In testimony whereof I affix my signature in presence of two witnesses.

CHRISTIAN F. BATH.

Witnesses:

J. P. JOHNSON,

A. B. JOHNSON.