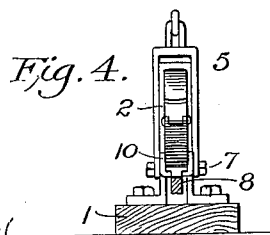
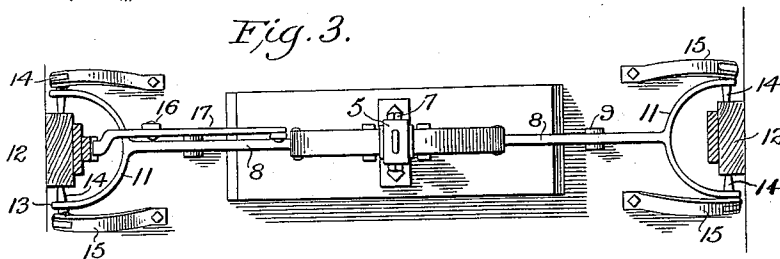
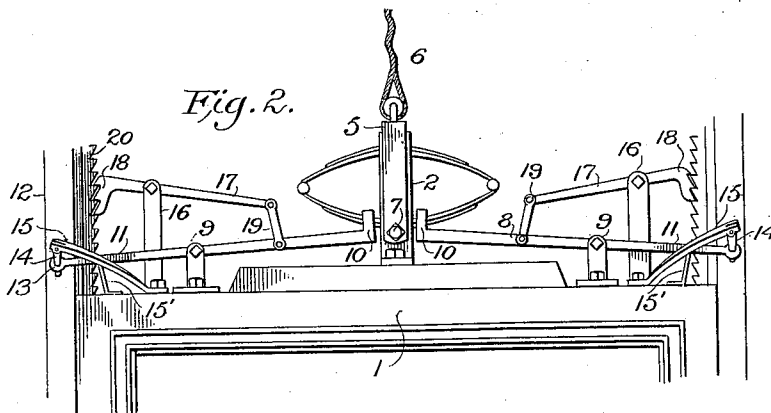
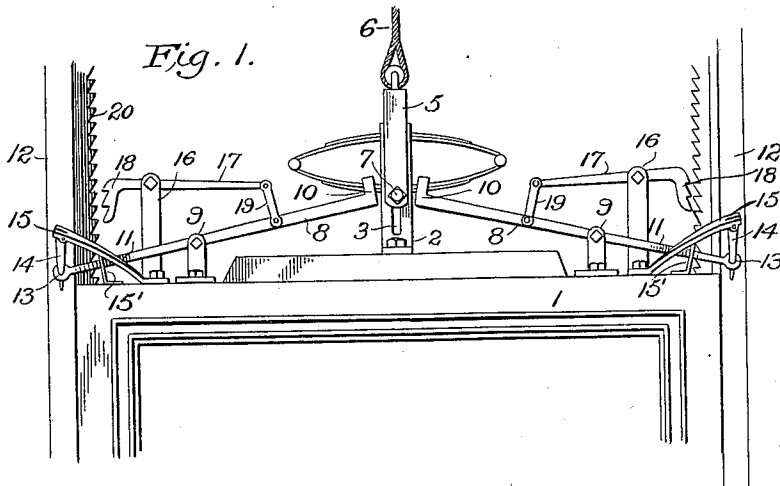


(No Model.)

W. E. ROGERS.
ELEVATOR SAFETY APPLIANCE.

No. 595,786.

Patented Dec. 21, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLETT E. ROGERS, OF ESSEX, NEW YORK.

ELEVATOR SAFETY APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 595,786, dated December 21, 1897.

Application filed June 3, 1897. Serial No. 639,322. (No model.)

To all whom it may concern:

Be it known that I, WILLETT E. ROGERS, of Essex, in the county of Essex and State of New York, have invented certain new and useful Improvements in Elevator Safety Appliances; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to safety appliances for elevators; and the object of the same is to provide an attachment to be permanently carried by the cage or car and be always in position for engaging the beams of the elevator-shaft should the cable or other part of the mechanism operating the elevator become broken, when the car will be prevented from falling.

The invention consists in the novel features of construction hereinafter fully described and claimed, and illustrated by the accompanying drawings, in which—

Figure 1 is a view illustrating a portion of the elevator-shaft and the top of the car, the same being shown in elevation. Fig. 2 is a similar view showing the position of the parts when some part of the mechanism has broken, the car being prevented from falling. Fig. 3 is a top plan view of Fig. 1. Fig. 4 is a detail view of a portion of the pivoted ends, the spring, the top of the car, and the bracket for securing the spring to the top of the car, together with a draw-iron to which the cable is attached.

Referring to the accompanying drawings, 1 indicates the top of the cage or car, to which is secured the bracket or strap 2, the legs of the same being slotted longitudinally, as illustrated at 3. This bracket is secured to the central portion of the top of the car or cage, and secured to the top of the car by this bracket is an elliptical spring which is of such strength as to bear the weight of the car and contents.

5 indicates a U-shaped iron, to the upper end of which cable 6 of the elevator is attached, said iron being movable upon the bracket 2 by means of a bolt 7, which passes through the legs thereof and slots of the bracket, said bolt passing beneath the lower portion of the elliptical spring, the upper por-

tion of said spring resting against the under side of the top of the securing-bracket.

8 indicates levers or rods which are pivoted adjacent their outer ends to the top of the car by means of the brackets 9. The inner ends of these levers extend adjacent the spring-securing bracket and are provided with slotted plates 10, which slots are adapted to be engaged by the lower portion of the elliptical spring, so that when the spring is drawn upward the inner ends of the levers rise, drawing downward their outer ends. Secured to or formed integral with the outer ends of these levers are curved arms 11, which are adapted to extend on opposite sides of the beams 12 of the elevator-shaft, the same being two in number in the present instance. The extremities of these arms are provided with eyes or rings 13, through which the spikes 14 are adapted to loosely extend. These spikes 14 are formed very strongly and are loosely pivoted at their upper ends to the upper ends of the brackets 15, which are secured at their lower ends to the car. These brackets are braced by straps 15', which are secured thereto and to the top of the cage. Pivoted to the uprights 16, raised from the top of the car, are bell-crank levers 17, having their outer ends provided with a series of teeth 18 and their inner ends pivotally connected with the levers 8 by links 19. The inner side of each beam is provided with a rack 20, with which the notched ends of the levers are adapted to engage when the cable or other parts of the elevator mechanism becomes broken.

The operation of my invention is as follows: As illustrated in Fig. 1, the mechanism is in its normal position, the spring being drawn upward by the cable and weight of the car and the spikes held out of engagement with the beams of the shaft, as are also the notched bell-crank levers. Now should the cable or draw-iron become broken the spring will tend to resume the position which is illustrated in Fig. 2, moving downward the inner ends of the levers 8 and causing their outer ends, through which the points of the spikes loosely pass, to bring said spikes into such position that the downward movement of the car will cause them to engage and become embedded in the beams, stopping the down-

ward movement of the car. The bell-crank levers will also be engaged in the teeth of the beams and a further stop for the car will be provided.

5 From the above description it will be seen that I have produced a safety appliance for elevators which will stop the car at any point in the shaft should the elevator mechanism become broken.

10 Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of an elevator-car, mechanism for operating the same, a spring
15 loosely secured to the top of the car, levers pivoted to the car and adapted to engage the spring at their inner ends, said levers being bifurcated at their outer ends, the bifurcated portions adapted to move on the opposite
20 side of the beams of the elevator-shaft, spikes loosely secured at their upper ends to the car and adapted to be engaged by the ends of the bifurcations of the levers, and a connection between the spring and the hoisting-cable
25 whereby said spring is normally raised, thus holding the inner ends of the levers raised and their outer ends holding the spikes out of engagement with the beams, said spring regaining its natural position when the hoist-
30 ing-cable becomes broken, said movement of the spring causing the levers to move the

spikes into position to engage the beams of the shaft which they are caused to do by the downward movement of the car, substantially as set forth. 35

2. The combination of an elevator-car, a bracket secured to its central portion and slotted longitudinally, an elliptical spring secured to the car by said bracket, a U-shaped strip movable upon the securing-bracket by means of a bolt or pin passing through the
40 slotted wall thereof, said pin or bolt passing beneath the lower portion of the elliptical spring, the elevator rope or cable secured to the upper end of the U-shaped strap, levers
45 pivoted to the top of the elevator-car and engaging the spring at their inner ends, said levers being curved at their outer ends, said curved ends extending to the opposite sides of the beams of the shaft and having guides
50 formed upon their extremities, brackets secured at one end to the car, and spikes pivoted between the outer ends of said brackets and extending loosely through the guides, the parts operating, substantially as set forth. 55

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLETT E. ROGERS.

Witnesses:

ANDREW J. TUCKER,
TERENCE MCFARLAND.