No. 803,283. PATENTED OCT. 31, 1905.

J. GUMMERSON.

SAFETY DEVICE FOR ELEVATORS.

APPLICATION FILED JUNE 17, 1905.

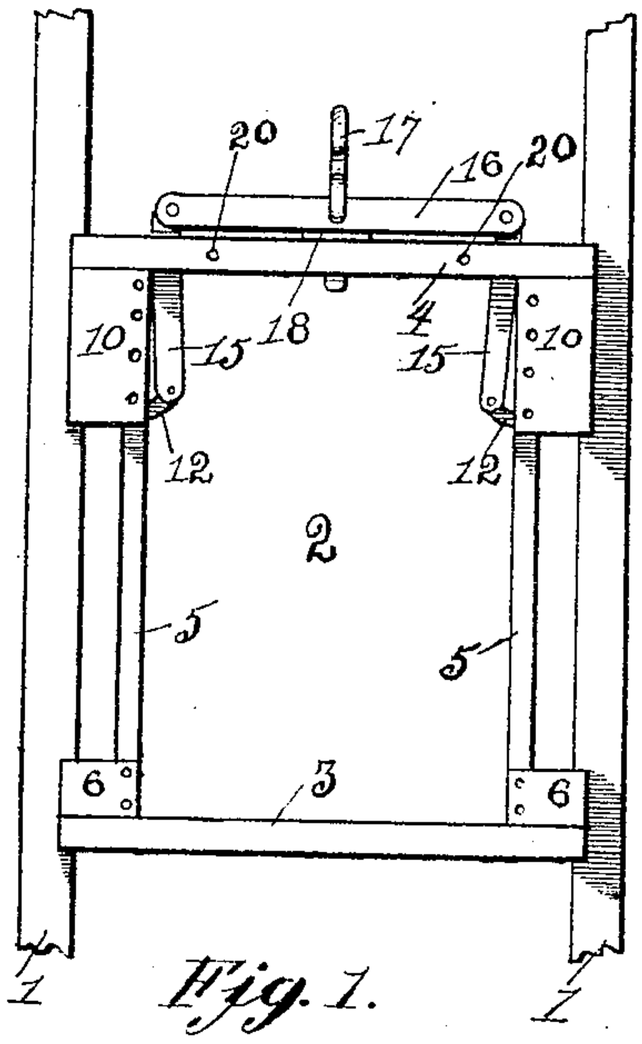

Fig. 1.

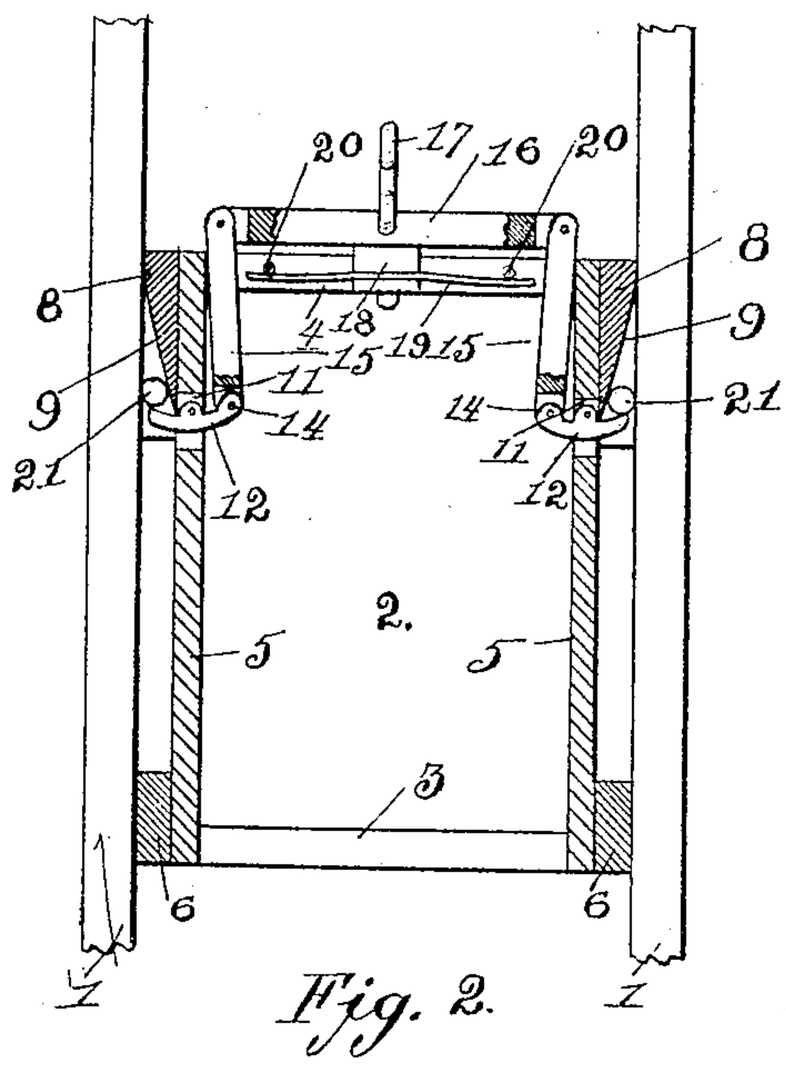

Fig. 2.

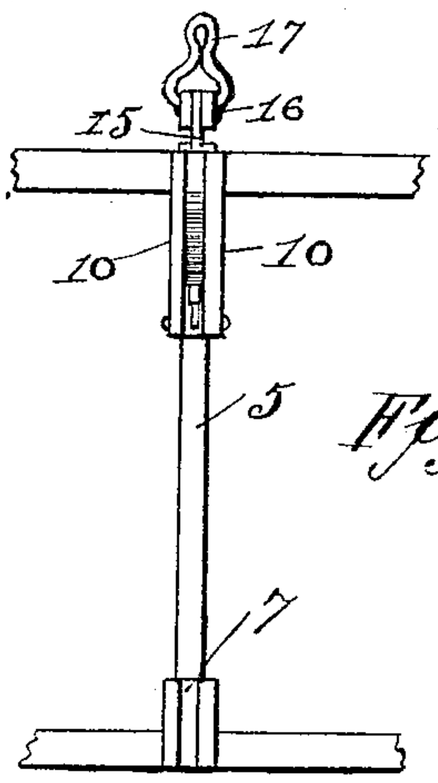

Fig. 3.

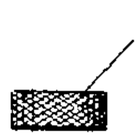

Fig. 4.

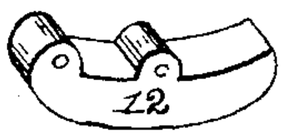

Fig. 5.

Witnesses.
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UNITED STATES PATENT OFFICE.

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SAFETY DEVICE FOR ELEVATORS.

No. 803,283. Specification of Letters Patent. Patented Oct. 31, 1905.

Application filed June 17, 1905. Serial No. 265,707.

To all whom it may concern:

Be it known that I, JOSEPH GUMMERSON, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Safety Devices for Elevators, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in elevator safety devices; and the invention has for its object the provision of novel means for preventing elevator cages or platforms from falling when their hoisting or supporting cables are broken.

Another object of this invention is to provide a safety elevator mechanism applicable to the present type of elevators used. My improved mechanism is adapted to be applied to the sides of an elevator-cage and to be actuated by the breaking of its supporting or hoisting cable to grip the guide-rails of an elevator well or shaft.

A further object of this invention is to provide a safety elevator mechanism which will be strong and durable, positive in its action, and comparatively inexpensive to manufacture.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts which will be hereinafter more fully described and then specifically pointed out in the claims, and referring to the drawings accompanying this application like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a front elevation of an elevator-cage equipped with my improved safety mechanism. Fig. 2 is a vertical sectional view of the cage, partly in side elevation. Fig. 3 is an edge view of a portion of the cage. Fig. 4 is a detail view of a roller used in connection with the mechanism, and Fig. 5 is a detail perspective view of a pivoted dog.

In the accompanying drawings I have illustrated the guide-rails 1 1 of an elevator well or shaft, and between these guide-rails a cage 2 is adapted to travel. I have simply illustrated the skeleton frame of an elevator-cage, it being obvious that a suitable housing or framework may be constructed in connection with the skeleton frame, or the same may represent the framework of a freight-elevator.

The skeleton frame illustrated comprises bottom rails 3 3, top rails 4 4, and side frames 5 5. The lower ends of the side frames 5 5 are provided with guide-blocks 6 6, which are grooved, as indicated at 7, to receive the guide-rails 1 1 of the elevator well or shaft. The upper ends of the side frames 5 5 are enlarged upon their outer sides, as indicated at 8 8, and provided with beveled or inclined faces 9 9. Upon each side of the side frames 5 5, adjacent to the enlargements 8 8, I mount plates 10 10, these plates being adapted to engage the guide-rails 1 1 of the elevator-shaft and guide the cage in its movement.

The side frames 5 5 are slotted, as indicated at 11 11, and in these slots are pivotally-mounted dogs 12 12, the outer ends of said dogs lying beneath the beveled or inclined faces 9 9 of the enlargements 8, while the opposite ends extend inwardly and are pivotally connected, as indicated at 14 14, to links 15 15. These links have their upper ends pivotally connected to a cross-head 16, which centrally of its length is provided with an eyelet 17, in which a hoisting-cable (not shown) is secured. The under face of the cross-head 16 is provided with a block 18, to which is attached a flat spring 19, the ends of which extend outwardly beneath pins 20 20, mounted between the top rails 4 4 of the cage.

The reference-numerals 21 21 designate rollers, which are mounted in the space existing between the inclined or beveled faces 9 of the enlargements 8 and the guide-rails 1 1 of the elevator-well, these rollers being supported by the outwardly-extending ends of the dogs 12 12. The plates 10 10, which engage the sides of the rails 1 1, form a compartment in which the rollers ride, and in order that these rollers may serve their purpose, as will be hereinafter set forth, I provide the same with serrated surfaces 22.

In operation should anything happen to cause the hoisting-cable or support to break the releasing of the cross-head 16 relieves the spring 19, said spring pulling downwardly upon the cross-head, which, through the medium of the links 15 15, lowers the inner ends of the dogs 12 12, causing the rollers 21 21 to be elevated. The elevation of the rollers 21 21 causes them to become impinged between the beveled or tapering faces 9 9 of the enlargements 8 8 and the guide-rails 1 of the elevator-shaft, it being impossible for the cage to further descend until the rollers 21 are released by partly elevating the cage. As soon as the hoisting-cable is in a taut condition the rollers 21 21 are held out of en-

gagement with the inclined faces 9 9 of the enlargements 8 8. Consequently the cage can slide between the guide-rails 1 1 of the shaft.

What I claim, and desire to secure by Letters Patent, is—

1. The combination with the guide-rails of an elevator-shaft, a cage comprising side frames and adapted to be supported from a suitable hoisting-cable, of dogs pivotally mounted in said side frames near the upper ends thereof, plates carried by the sides of said frames adjacent to said dogs, a spring-actuated cross-head pivotally connected to said dogs and adapted to be connected to said hoisting-cable, rollers supported by said dogs and said guide-rails, and beveled enlargements carried by said side frames above said dogs to impinge said rollers between said side frames and said rails when said cage is released from a hoisting-cable, substantially as described.

2. The combination with the guide-rails of an elevator-shaft, of a cage comprising side frames having inclined faces and plates adapted to embrace said rails, dogs pivotally mounted in said side frames and extending therethrough, rollers mounted between said frames and said rails and supported by said dogs, a cross-head arranged above said frame, a flat spring carried by the frame to which said cross-head is attached, and links connected to said cross-head and to said dogs whereby the downward movement of said cross-head will serve to actuate said dogs to impinge said rollers between said frames and said rails, substantially as described.

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

JOSEPH GUMMERSON.

Witnesses:

HENRY C. EVERT,

WM. C. HEITZ.