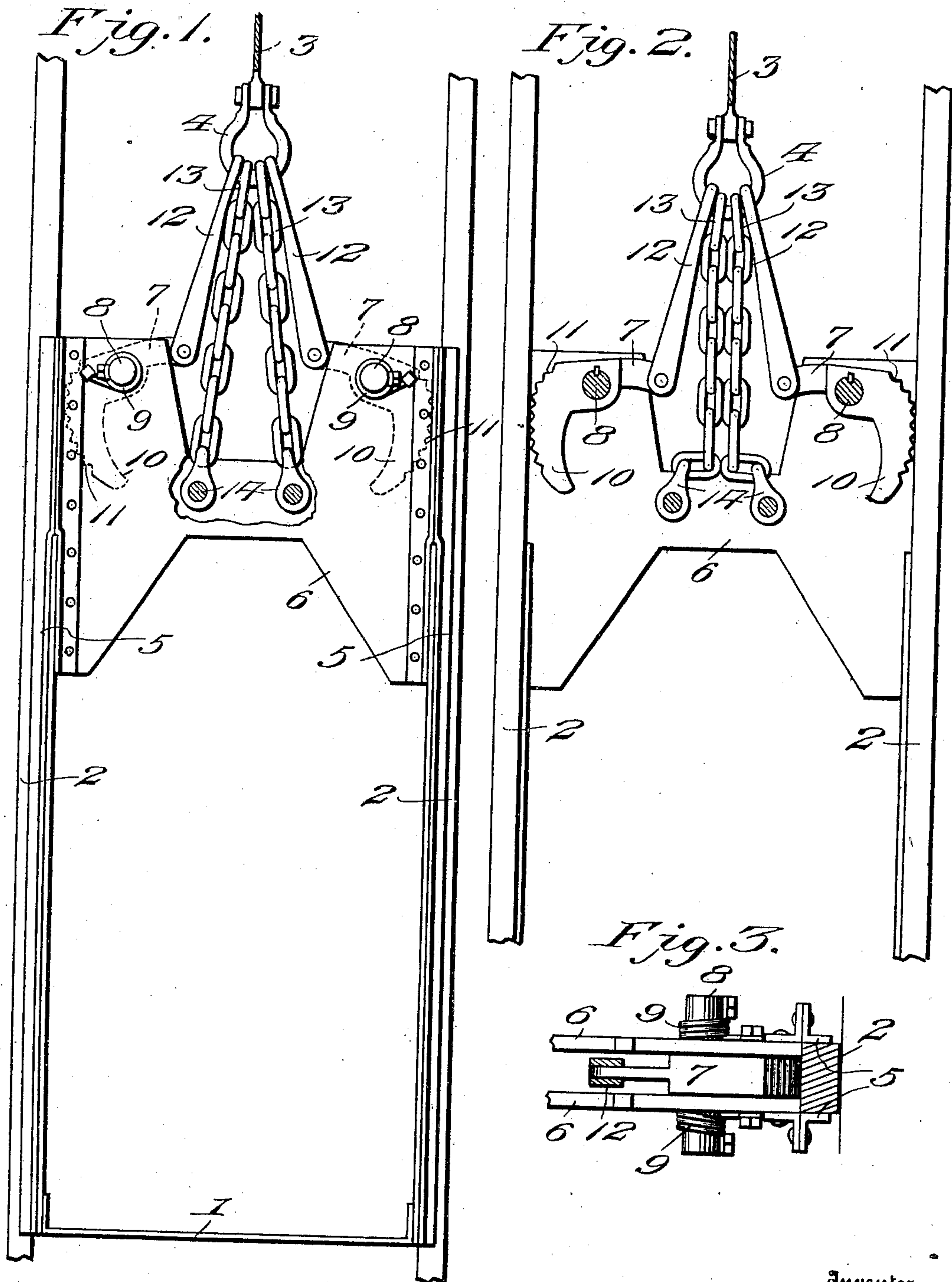


No. 837,804.

PATENTED DEC. 4, 1906.

M. J. DELANEY.
SAFETY DEVICE FOR ELEVATORS.
APPLICATION FILED OCT. 24, 1905.



Witnesses

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MARTIN J. DELANEY, OF SILVER CREEK, PENNSYLVANIA.

SAFETY DEVICE FOR ELEVATORS.

No. 837,804.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed October 24, 1905. Serial No. 284,217.

To all whom it may concern:

Be it known that I, MARTIN J. DELANEY, a citizen of the United States, residing at Silver Creek, in the county of Schuylkill and State of Pennsylvania, have invented new and useful Improvements in Safety Devices for Elevators, of which the following is a specification.

This invention relates to safety devices for elevators designed especially for use in mine-shafts, and has for its objects to produce a comparatively simple inexpensive device of this character which will positively and effectually stop the car in the event of the elevator-rope breaking, one wherein the safety members will be thrown automatically into engagement with the car-guides, and one in which the members will have a sufficient range of movement to clutch the guides in the event of the latter spreading.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is an elevation of a mine-car equipped with a safety device embodying the invention. Fig. 2 is a similar view, partly in section, showing the clutches in engaging position. Fig. 3 is an enlarged detail plan view of one of the clutches.

Referring to the drawings, 1 designates the elevator-car arranged for travel between vertical guides 2 and adapted for movement through the medium of an elevator rope or cable 3, equipped at its lower end with a coupling member or link 4, there being attached to the car 1 vertical angle-bars 5, arranged in pairs and spaced to bear upon opposite sides of the guides 2. These parts may all be of the usual or any preferred construction and material and are adapted in practice to perform their ordinary functions.

Connected in the car-frame 1 is a head member comprising a pair of relatively spaced plates or webs 6, between which there is disposed a pair of clutching members or levers 7, designed for engagement, respectively, with the guides 2, these levers being keyed to and for rotation with pivoting members or shafts 8, journaled in the head and having bearing in suitable openings formed in the plates 6, while coiled upon the ends of the shafts 8, which project beyond the outer faces of the plates, are springs 9, each fixed at

one end to the adjacent plate and at its other end to the shaft and tending to rotate the shafts in a direction for moving the levers 7 into engagement with the guide-rails. The levers 7, which are of substantially L shape, present depending engaging portions or arms 10, having their outer or active faces curved and provided with transversely-extending engaging teeth 11, designed to bite into the material of the guides 2 when the levers are thrown into engaging position.

Pivoted to the inner ends of the substantially horizontal portion or arms of the clutch-levers are links 12, engaged at their upper ends with the coupling member 4, with which is also engaged a pair of flexible elements or chains 13, attached at their lower ends to the coupling members 14, pivoted between the plates 6 of the frame-head.

In practice the car or cage 1 is operated in the usual manner, and in the event of the rope 3 breaking the springs 9 operate for rotating the clutching-levers on their axes and throwing their active toothed faces 11 into contact with the guide-rails 2, whereupon, and owing to said devices being curved, the weight of the cage acting on the levers serves to rotate the latter for forcibly embedding the teeth 11 into the material of the guide-rails, whereby the car is immediately and effectually brought to a standstill. It is to be observed in this connection that the range of movement of the levers 7 is such that should the guide-rails 2 spread relatively through any cause clutching engagement of the levers therewith will be insured.

Having thus fully described my invention, what I claim as new is—

In an elevator, a pair of vertical guide-rails, a car arranged for travel therebetween and having a frame including a pair of relatively spaced head-plates, a flexible operating element connected with and for sustaining the car, rotary shafts journaled in said plates and projecting beyond the outer faces of the latter, clutch-levers keyed onto said shafts for movement therewith, said levers being arranged between the plates and of substantially L shape presenting depending engaging portions having curved active faces disposed toward the guide-rails and adapted to swing in an arc, the line of which intersects and extends outwardly beyond the inner faces of the rails, and springs coiled on the projecting portions of the shafts and tending

to rotate the latter in a direction for throwing
the active portions of the clutch-levers into
contact with the guide-rails, the depending
portions of the levers being designed through
5 frictional contact with the rails to swing up-
wardly and outwardly into secure clutching
engagement with the rails,

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

MARTIN J. DELANEY.

Witnesses:

J. LINEAWEAVER,
FRANK LITTLE.