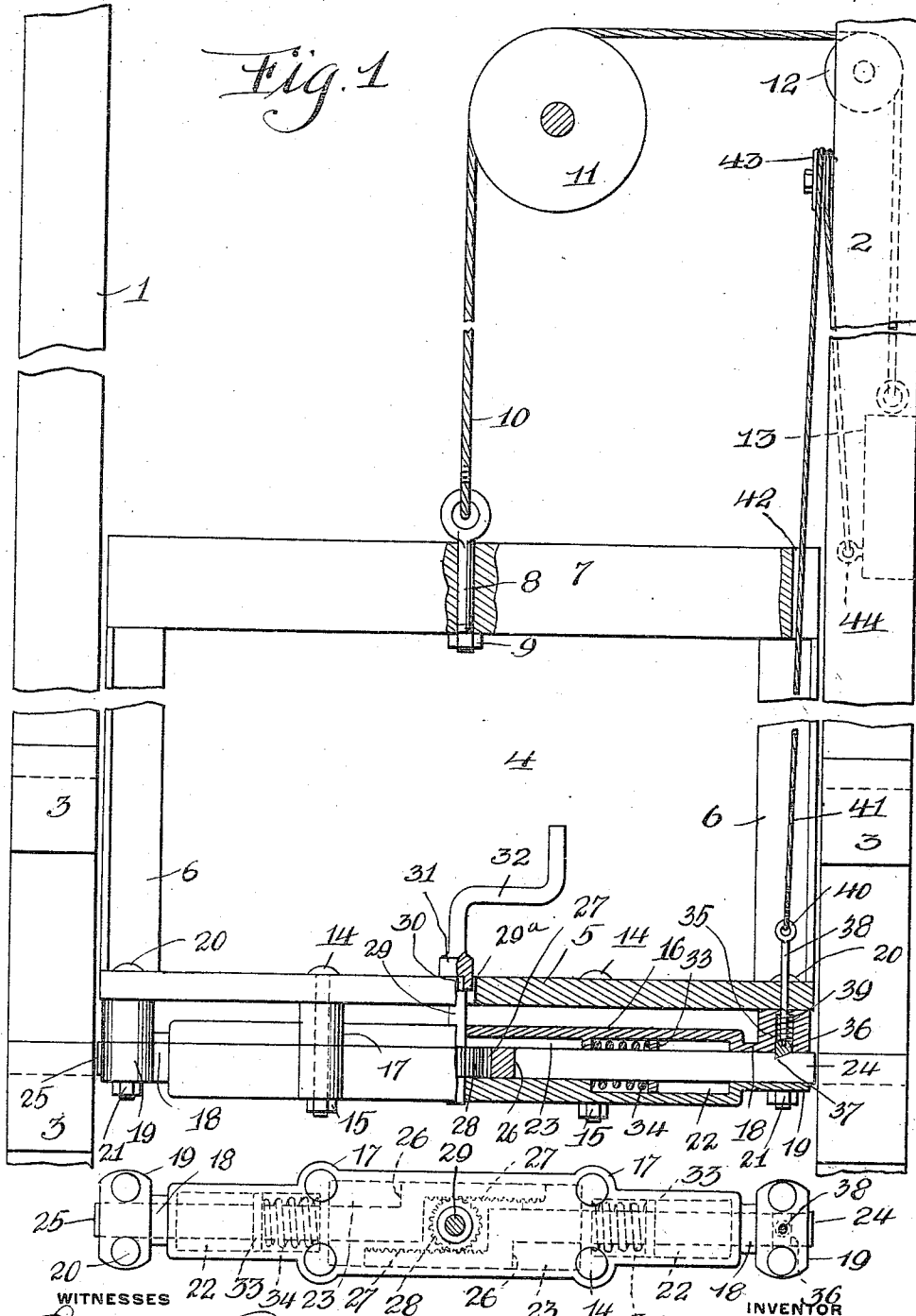


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SAFETY ELEVATOR DEVICE.
APPLICATION FILED DEC. 24, 1910.

986,371.

Patented Mar. 7, 1911.



WITNESSES
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Fig. 2.
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MIHALJ ELYOVSKY, OF ERIE, PENNSYLVANIA.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MIHALJ ELYOVSKY, a subject of the King of Hungary, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Safety Elevator Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to a safety elevator device, and the object of the invention is to furnish a cable hoisted elevator cage with positive and reliable means in a manner as will be hereinafter set forth for preventing
15 a sudden descent of the elevator cage due to a breaking of the hoisting cable, the mechanism employed for this purpose being simple in construction, durable, applicable to various types of cable hoisted elevators, and
20 highly efficient for the purposes for which it is intended.

I attain the above object by a mechanical construction that will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein:

Figure 1 is a front elevation of a portion of an elevator shaft and elevator constructed in accordance with this invention, and Fig.
30 2 is a horizontal sectional view of a portion of the same.

In the drawing the reference numerals 1 and 2 denote vertical frames of an elevator shaft and these frames are provided throughout
35 their length with equally spaced stops or projections 3.

Movable between the frames 1 and 2 is an elevator cage 4 comprising a floor 5 side frames 6 and a top beam 7, to which is attached by means of an eye-bolt 8 and a nut
40 9 a cable 10. The cable 10 is adapted to pass over a revoluble sheave or hoisting drum 11 and a sheave 12 revolubly supported by the frame 2. Attached to the end of the
45 cable 10 is a counter balance weight 13.

Connected to the floor 5 of the elevator cage 4 by bolts 14 and nuts 15 is a casing comprising a noblong structure 16 provided with vertical barrels 17 to receive the bolts
50 14. The ends of the structure 16 are reduced, as at 18, and provided with housings 19, these housings being secured to the floor 5 by bolts 20 and nuts 21. The oblong structure 16 has the ends thereof provided
55 with spring compartments 22 and a central compartment 23.

Extending through the housings 19, compartments 22, into the compartment 23 are locking bars 24 and 25 having the inner ends thereof off-set, as at 26, and provided with
60 confronting racks 27 adapted to mesh with a pinion 28 mounted upon a vertical shaft 29 journaled in the casing or oblong structure 16, said shaft extending upwardly into an opening 29^a provided therefor in the
65 floor 5, the upper end of the shaft having a rectangular shank 30 to receive the socket end 31 of the crank 32, the crank 32 being detachably mounted upon the shank 30 and employed for restoring the locking bars 24
70 and 25 to their normal position after having been released.

Mounted upon the locking bars 24 and 25 within the compartments 22 are heads 33 and encircling said bars between the heads
75 33 and the inner ends of the compartments 22 are coiled compression springs 34 normally retained under tension and adapted when released to shift the locking bars 24 and 25 outwardly whereby they will engage
80 the stops 3 of the frames 1 and 2.

The housing 19 at the outer end of the locking bar 24 is provided with a recess 35 and movably mounted in said recess is a
85 beveled latch 36 adapted to engage in a notch 37 provided therefor in the upper side of the bar 24. The beveled latch 36 is detachably connected to a rod 38 extending upwardly through the recess 35, the housing 19 and the floor 5 of the elevator
90 cage 4.

Encircling the rod 38 within the recess 35 is a compression spring 39 adapted to normally retain the latch 36 within the
95 notch 37 of the bar 24. The upper end of the rod 38 is provided with an eye 40 and connected to said eye is the lower end of a cable 41 passing upwardly through an opening 42 provided therefor in the beam 7, the cable 41 passing over a sheave 43 revolubly
100 supported by the vertical frame 2 adjacent to the sheave 12, the end of the cable 41 being attached to an eye 44, carried by the lower end of the counter balance weight 13.

Should the hoisting cable 10 break and
105 release the counter balance weight 13, said weight through the medium of the cable 41 immediately withdraws the latch 36 from the notch 37 of the bar 24, thereby releasing the tension of the springs 34 and
110 allowing said springs to shift the bars 24 and 25 outwardly to engage the stops 3 of

the frames 1 and 2. A sudden descent of the elevator cage is thereby prevented, and after the cable 10 has been repaired the locking bars 24 and 25 can be restored to their normal position by placing the crank 32 upon the upper end of the shaft 29 thereby rotating the latter, whereby the bars 24 and 25 can be retracted and immediately upon the latch 36 engaging in the notch 37, both of said bars will be held until released by withdrawal of the latch.

It is thought that the operation and utility of the safety elevator device will be apparent without further description, and while in the drawings there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements thereof are susceptible to such changes as fall within the scope of the appended claim.

What I claim, is:

In a safety elevator device, the combination with vertical frames having stops, an elevator cage movable between said frames, a hoisting cable attached to said cage, and a counter balance weight carried by said

cable, of a casing suspended beneath the floor of said cage, housings carried by the ends of said casing, locking bars slidably mounted in said housings and extending into said casing, a spring-pressed latch movably mounted in one of said housings and adapted to engage the upper side of one of said bars, a rod connected to said latch and extending into said elevator cage, a cable attached to said rod and to said counter balance weight and adapted to retract said latch when said weight is released, means including springs arranged within said casing and adapted to shift said bars to engage the stops of said frame when released by said latch, and means including a vertical shaft, a pinion and racks adapted to restore said bars to their normal position, substantially as described.

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

MIHALJ ELYOVSKY.

Witnesses:

HERMAN STAHL,
HUGO E. STAHL.