

1,009,561.

A. PECHY.
SAFETY ELEVATOR DEVICE.
APPLICATION FILED MAY 22, 1911.

Patented Nov. 21, 1911.

2 SHEETS—SHEET 1.

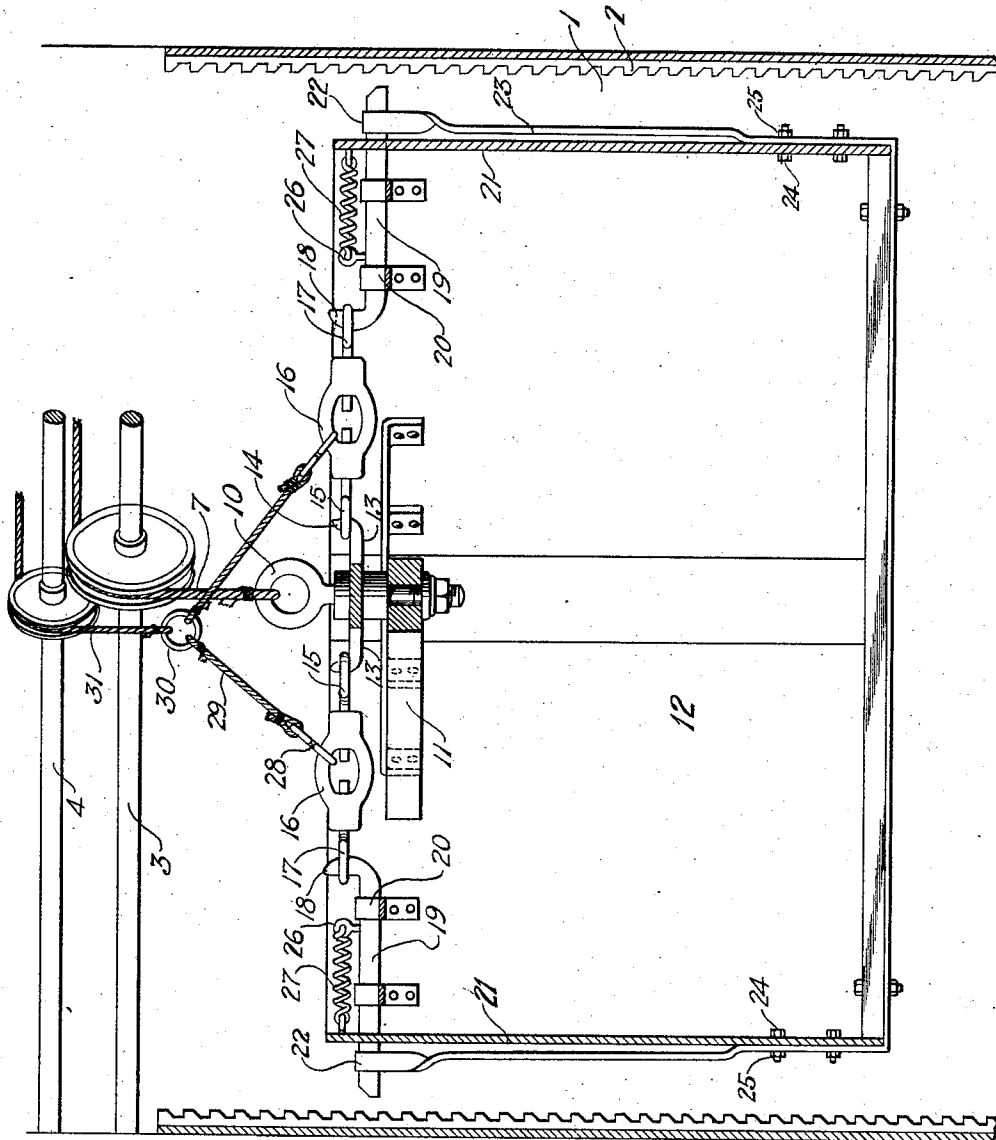


FIG. 1

WITNESSES
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H. H. Butler

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ATTORNEYS

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2 SHEETS—SHEET 2.

FIG. 2

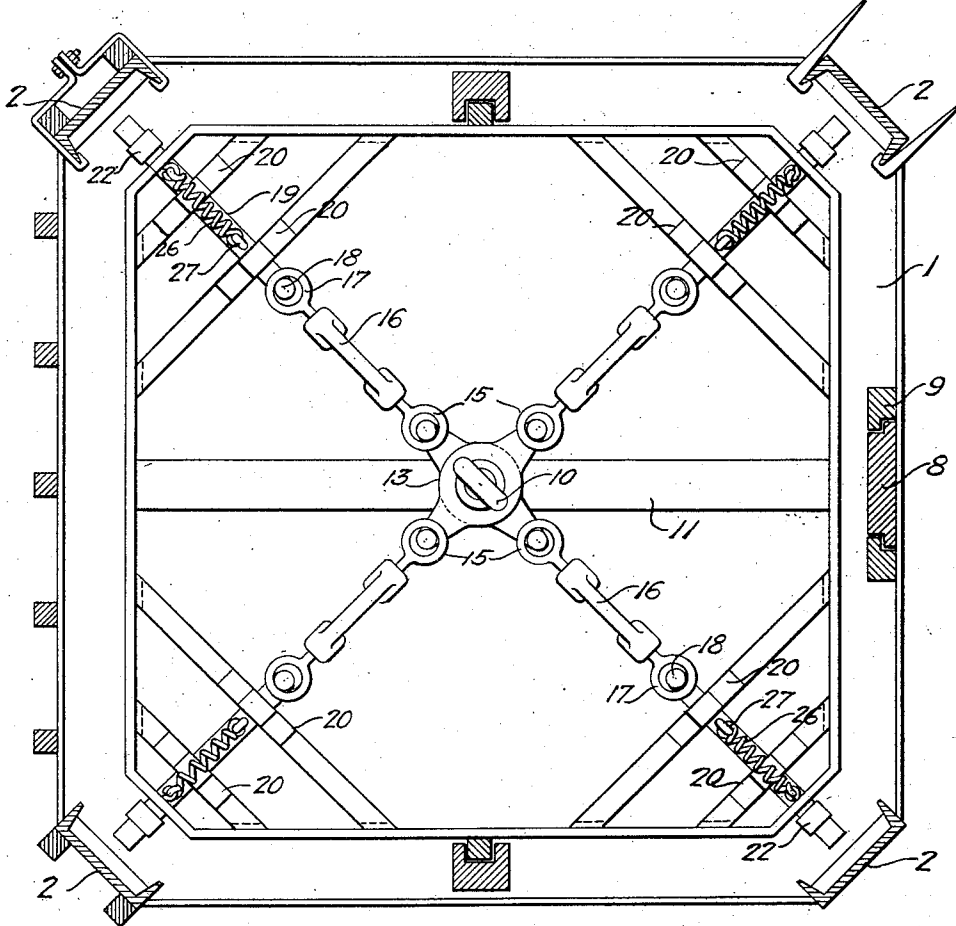
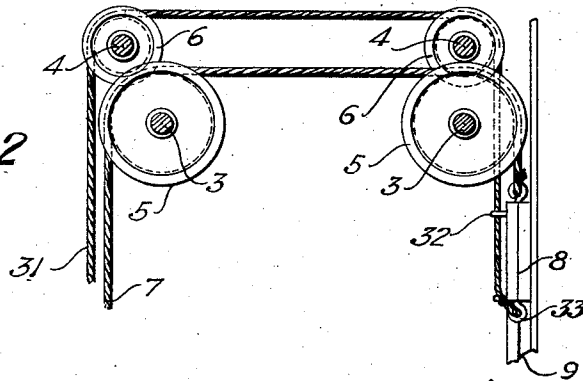


FIG. 3

WITNESSES:
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UNITED STATES PATENT OFFICE.

ANDREW PECHY, OF NEW YORK, N. Y.

SAFETY ELEVATOR DEVICE.

1,009,561.

Specification of Letters Patent.

Patented Nov. 21, 1911.

Application filed May 22, 1911. Serial No. 628,622.

To all whom it may concern:

Be it known that I, ANDREW PECHY, a subject of the King of Hungary, residing at New York, in the county of New York and State of New York, 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.

This invention relates to a safety elevator device, and the objects of my invention are, first, to provide a device that can be installed in connection with the present type of elevator for preventing a sudden descent of the cage when the hoisting cable thereof breaks; second, to provide a device that is positive in its action and free from injury by ordinary use; third, to provide a device of the above type adapted to be actuated by the counter-balance weight of an elevator cage, and fourth, to accomplish the above results by a mechanical construction that is inexpensive to manufacture and highly efficient for the purposes for which it is intended.

With the above and other objects in view, the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawings, wherein:—

Figure 1 is a vertical cross sectional view of a portion of an elevator cage provided with the device, Fig. 2 is an elevation of the hoisting and weight cables of the elevator cage, and Fig. 3 is a horizontal sectional view of the elevator shaft showing the cage in plan.

The reference numeral 1 denotes an elevator shaft provided with four equally spaced vertical racks 2, said racks being preferably arranged at the vertical meeting edges of the walls of the shaft 1.

At the top of the elevator shaft there are arranged transverse rods 3, 3, and 4, 4 and revolvably mounted upon the rods 3 are sheaves 5. Revolvably mounted upon the rods 4 are sheaves 6. Running over the sheaves 5 is a hoisting cable 7 having one end thereof attached to a weight 8 slidably mounted in vertical guides 9, on one of the walls of the shaft 1. The other end of the hoisting cable 7 is connected to a vertical eye bolt 10 mounted centrally of a transverse beam 11, carried by the top of an ele-

vator cage 12. The eye bolt 10 above the beam 11 has a cross head 13 provided with upwardly extending pointed ends 14. Detachably connected to the ends 14 of the cross head are the inner eye ends 15 of turnbuckles 16, said turnbuckles having the outer eyelet ends 17 detachably connected to the inner vertical ends 18 of locking members 19. The turnbuckles 16 and their end eyes 15, 17, and cross head 13, constitute means for holding the locking members normally in retracted position, and I do not limit myself in this connection to the employment of turnbuckles, as it will be readily observed that any equivalent device which provides end eyes and means for attaching one end of the cables 29 will answer the same purpose. The locking members 19 are slidably mounted in keepers 20, carried by the roof or top of the cage 12 which is slightly below the upper ends of the cage side walls, and these locking members extend through the side walls 21 of the cage 12 above the roof or top and are adapted to engage the racks 2.

Embracing the outer ends of the locking members 19 are the upper ends 22 of resilient bars 23, said bars having the lower ends thereof connected to the side walls 21 of the cage by bolts 24 and nuts 25. The resiliency of the bars 23 is sufficient to force the members 19 into engagement with the racks, when said members are released, and to further assist in an outward movement of the members 19, each member has an eye bolt 26 connected by a retractile spring 27 to the walls 21 of the elevator cage.

Connected to the turnbuckles 16 by links 28 are branch cables 29 having the upper ends thereof connected by a link 30 to one end of a weight cable 31. The weight cable 31 passes over the sheaves 6, through an eye 32 carried by the weight 8 and has its other end attached to an eye 33, carried by the lower end of the weight.

When the hoisting cable 7 breaks, the counter-balance weight is immediately released and this weight is heavy enough to shift the cable 31 of the branch cables 29 thereby moving the turnbuckles out of engagement with the inner ends of the locking members 19 and the ends of the cross head 13. When the inner ends of the locking members are released, the resilient bars 23 and the retractile springs 27 immediately shift the locking members into engagement

with the racks 2, thereby preventing the sudden descent of the elevator cage. Under ordinary working conditions, the turnbuckles hold the locking members in a retracted position and it is only when the hoisting cable breaks that said locking members are released.

From the foregoing it will be observed that the cross head 13 has the advantage of removing all stresses and strains from the cables 29 and 31, said cross head preventing an accidental release of the locking members. It will of course be understood that a conventional form of hoisting mechanism, forming no part of this invention, is used for raising and lowering the elevator cage in connection with the counter-balance weight.

What I claim is:—

In a safety elevator device, the combination with an elevator shaft having vertical racks, a cage movably mounted in said shaft, a hoisting cable having one end connected to said cage, and a counter-balance weight carried by the other end of said hoisting cable, of keepers arranged upon the top of said cage, locking members slidably mounted in

said keepers and adapted to engage said racks, resilient bars having the upper ends thereof connected to the outer ends of said members and the lower ends thereof secured to the side walls of said cage, retractile springs connecting said members and the side walls of said cage, a cross head located centrally of the top of said cage, turnbuckles having the ends thereof loosely connected to the ends of said cross head and the inner ends of said locking members and adapted to retain said locking members in a retracted position, branch cables connected to said turnbuckles, and a weight cable having one end thereof connected to said branch cables and the other end to the weight of said hoisting cable and adapted through the medium of said weight to move said turnbuckles and release said locking members when said hoisting cable breaks.

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

ANDREW PECHY.

Witnesses:

CHARLES MARKER,
PAUL BOURNE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."