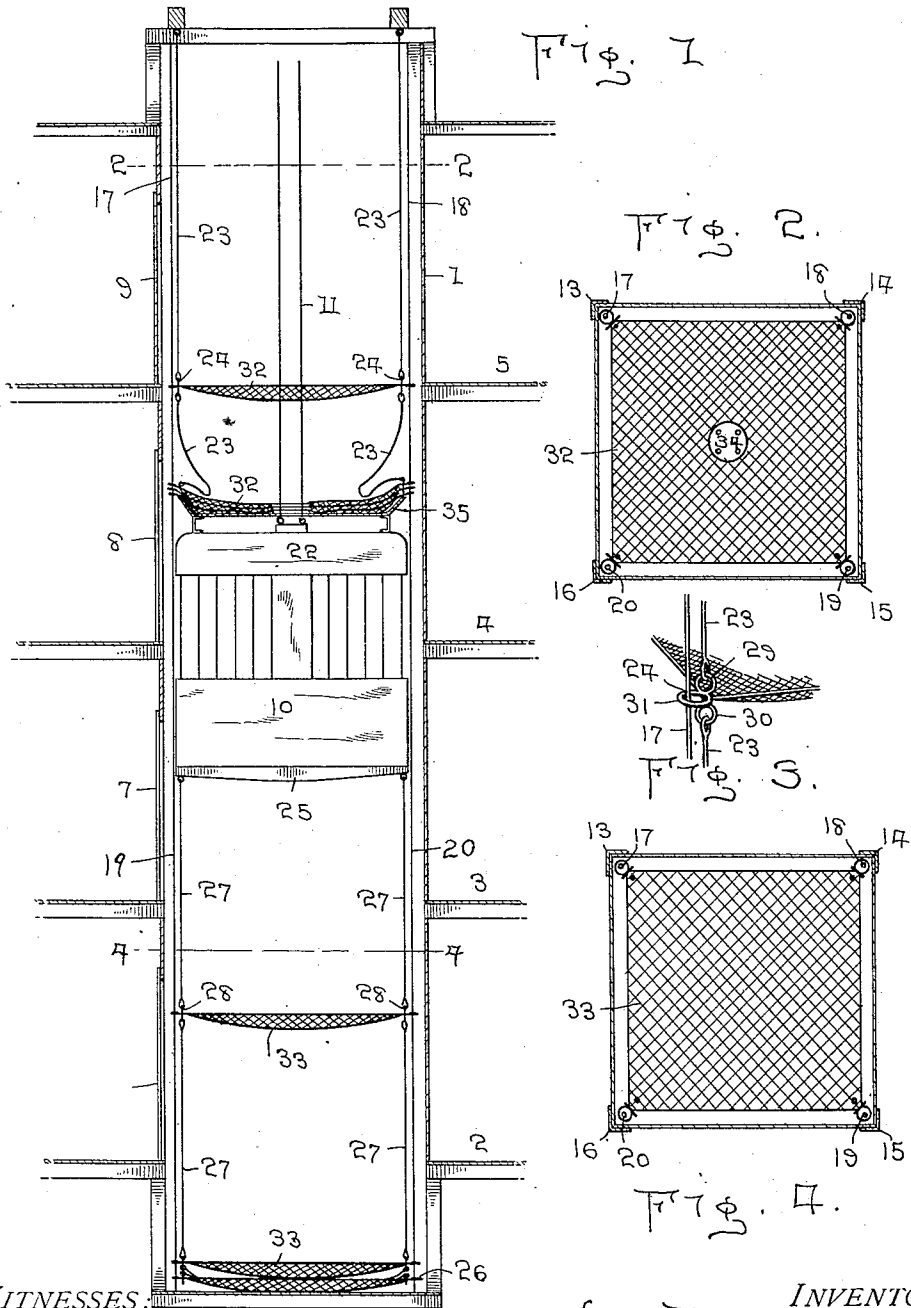


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SAFETY APPLIANCE FOR ELEVATORS.
APPLICATION FILED DEC. 5, 1911.

1,050,391.

Patented Jan. 14, 1913.



WITNESSES:

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SAFETY APPLIANCE FOR ELEVATORS.

1,050,391.

Specification of Letters Patent.

Patented Jan. 14, 1913.

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To all whom it may concern:

Be it known that I, CHARLES RAGER, a citizen of the United States of America, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Safety Appliances for Elevators, of which the following is a specification.

This invention relates to a new and useful improvement in safety appliances for elevators and consists in the construction hereinafter pointed out and claimed.

In the annexed drawings: Figure 1 represents a vertical section through a portion of the building having an elevator shaft and cage and provided with the invention. Fig. 2 is a top view looking down from line 2—2 upon one of the nets above the elevator cage, the shaft being shown in the horizontal section. Fig. 3 is a detail perspective view of a corner of a net at its connections. Fig. 4 is a similar view to Fig. 2 of one of the nets below the cage looking down from line 4—4.

In these drawings: the numeral 1 represents an elevator shaft passing through the several floors 2, 3, 4 and 5 of a building and having the doors 6, 7, 8 and 9 all constructed in the usual way. In this shaft 1 is the usual cage 10 having in the instance illustrated the cable 11 which may be reeved over a pulley at the top of the shaft 1.

The features above set forth may be of any well known construction and arrangement and the moving parts operate in any well known way. To such a construction or a similar one the invention is to be applied.

At the corners 13, 14, 15 and 16 of the elevator shaft 1, there are located wires 17, 18, 19 and 20 securely and firmly stayed so as to be rigid. Suspended from the top 21 of the elevator shaft and connected to the top 22 of the cage 10 at each corner of the elevator shaft is a series of ropes 23 held together by connections 24. Suspended from the bottom 25 of the cage 10 and extending down into the elevator shaft 1 near its bottom 26 at each corner of the elevator shaft 1 is another series of ropes 27 held together by connections 28. These connections 24 and 28 consist of the three rings 29, 30 and 31. To the rings 29 and 30, the ends of the cords 23 and 27 are fastened and the ring 30 is slipped around the wires 17, 18, 19 or 20

above and below the cage, being loose around said wires. The connections 24 are secured to the corners of the top nets 32 and the similar connections 28 to the bottom nets 33. In the top nets 32 are made central openings 34, through which the cage cable 11 passes.

The parts being constructed and arranged as described and shown, as the elevator cage is operated, the nets 32 above the cage 10 are gathered one under another, as the cage rises and the lower nets 33 are separated. As the cage 10 descends, the lower nets 33 fall of their own weight and are lowered one upon another and the upper nets 32 are separated.

The nets in both series are to be spaced apart substantially the heights of the various stories of a building, so that as the elevator cage rises and falls, a net will be spread at or near the floor of each story. Should a door be left open, an accidental falling down the shaft would be prevented by the presence of the net.

On top of the cage 10, there may be placed a basket 35, on which the top nets 32 rest, when collapsed.

I am made aware that collapsible safety nets for elevator shafts are not broadly new. But in the construction brought to my attention the nets have been made with rigid frames which hold them in extended position. In my device the nets do not have rigid frames, but the entire net is flexible and yielding, and hence would not tend to injure or bruise any one falling upon it. To keep such a flexible net in its extended position and hold it firm in case of the impact of a falling body, the guiding wires are used. These wires assure the proper extension of the nets horizontally and also insure their easy and correct traverse vertically.

Having described my invention, what I claim is:

1. The combination of an elevator shaft, wires in the corners thereof, a series of cords in each corner, and nets secured to such cords and loosely engaging the wires.

2. The combination of an elevator shaft, wires in the corners thereof, a series of cords in each corner, nets in the shaft and connections between the corners of the nets and the ends of the cords and the wires, such connections being secured to the corners of

the nets and the ends of the cords of the series and loosely engaging the wires.

3. The combination of an elevator shaft, wires in the corners thereof, a series of cords
5 in each corner, nets in the shaft and connections secured to the corners of the nets, each of such connections consisting of three rings, to two of which the ends of the cords are

secured and the third ring loosely engaging the wire at that corner.

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

CHARLES RAGER.

Witnesses:

JOHN L. HUDSON,
E. A. McHAN.

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