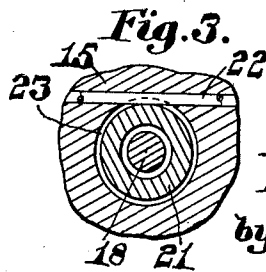
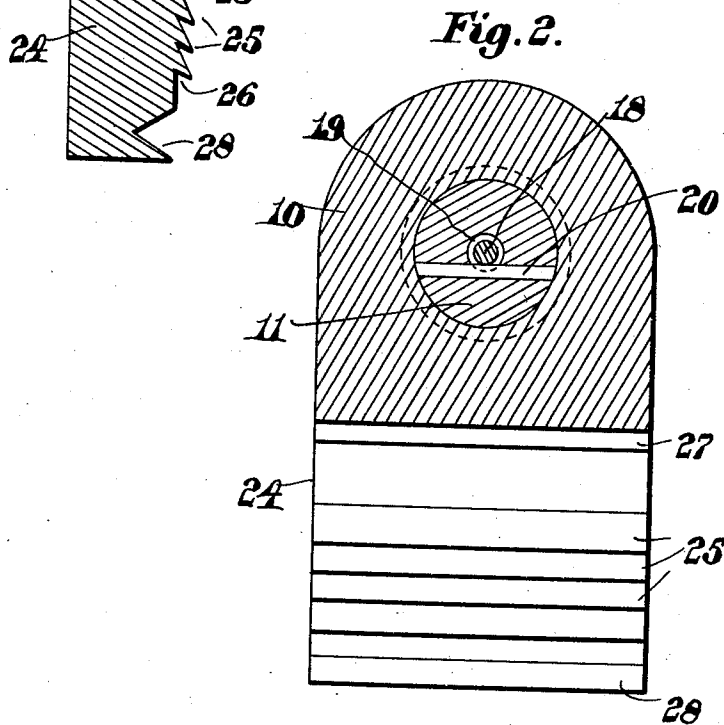
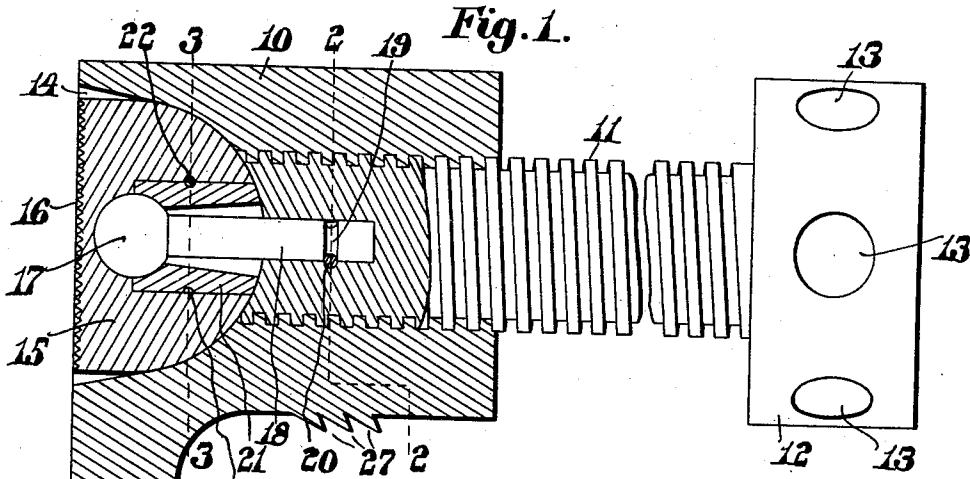


M. F. SILVA & E. J. SHALLOW.
 DEVICE FOR RELEASING PERSONS CAUGHT BY ELEVATORS.
 APPLICATION FILED DEC. 26, 1912.

1,062,667.

Patented May 27, 1913.



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UNITED STATES PATENT OFFICE.

MICHAEL F. SILVA AND EDWARD J. SHALLOW, OF BOSTON, MASSACHUSETTS.

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Specification of Letters Patent.

Patented May 27, 1913.

Application filed December 26, 1912. Serial No. 738,763.

To all whom it may concern:

Be it known that we, MICHAEL F. SILVA and EDWARD J. SHALLOW, citizens of the United States of America, and residents of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Devices for Releasing Persons Caught by Elevators, of which the following is a specification.

This invention relates to devices for use in connection with elevator accidents and particularly accidents in which a person is caught between the car platform and the wall of the elevator well.

Heretofore it has been necessary to improvise devices to force the elevator car sideways so that the injured person could be released and consequently such person is confined for an unnecessary length of time greatly suffering during this period and the pain is increased during the releasing operations by the means generally employed.

To obviate this suffering and quickly release the injured party so that his injuries may be attended at the earliest possible moment is the object of the present invention.

It consists of a nut provided with a series of platform gripping devices and having a depression in one face in which is normally positioned a bearing member connected by means of a universal joint to an operating screw threaded to said nut.

It consists further in providing said nut with means for ripping the floor boards from the frame of the elevator platform.

It consists further in certain novel features of construction and arrangement of parts which will be fully understood by reference to the description of the drawings and to the claims hereinafter given.

Of the drawings: Figure 1 represents a section of a device embodying the features of the present invention, a portion of the operating screw being shown in elevation. Fig. 2 represents a transverse section of the same, the cutting plane being on line 2—2 on Fig. 1 of the drawings, and Fig. 3 represents a partial transverse section of the same, the cutting plane being on line 3—3 on Fig. 1.

Similar characters designate like parts throughout the several figures of the drawings.

In the drawings, 10 represents a nut having threaded thereto an operating screw 11,

the outer end of which is provided with a head 12 having sockets 13 formed therein, these sockets being adapted to receive a handle or a spanner wrench to turn the screw. The nut 10 on its operating face is provided with a depression 14 in which is normally positioned the bearing member 15 provided on its outer face with a plurality of serrations 16. This bearing member 15 has positioned therein a ball 17 provided with a shank 18 extending into the inner end of the operating screw 11, said shank 18 being in axial alinement with said screw. The shank 18 is provided with a peripheral groove 19 with which coöperates a pin 20 extending transversely of the operating screw 11, and thereby preventing any end movement of the ball 17 relative to the operating screw 11, but permitting the ball to turn freely about the axis of the shank 18 independent of said operating screw 11. The ball 17 is positioned in the bearing member 15 by means of the bushing 21, said bushing being prevented from end movement in said bearing member 15 by means of the pin 22 coacting with the annular groove 23 formed in the periphery of said bushing. By means of this construction when the operating screw 11 is rotated, end movement will be imparted thereto and to the bearing plate 15. It is obvious that this bearing plate 15 is free to move about the center of the ball 17 at all times so that when the device is in use the serrated face 16 of said bearing plate may engage with any surface at an angle to the axis of the screw 11. The nut 10 is provided with a downwardly extending flange 24, the outer face of which is provided with one or more transverse teeth or engaging members 25, the end faces of which are undercut as indicated at 26. In a similar manner the under face of the main body of the nut is provided with a plurality of similar engaging teeth 27. In the operation of the device the under face of the nut is intended to be placed upon the platform of an elevator car while the teeth or engaging members 25 bear against the edge of the platform. When pressure is applied by the rotation of the operating screw 11 these teeth 27 will be forced into the edge of the platform, and owing to the undercut faces 26 thereof the teeth 27 will be forced into the upper surface of the platform, thereby providing a means for securing a firm hold upon the car

during the operation of the device. When in use the depending flange 24 is inserted between the edge of the car and the wall of the elevator well, and the operating screw is
5 then rotated so that the serrated face 16 of the bearing member 15 will impinge firmly on the wall of said well. Continued rotation of the screw 11 will force the car platform away from the wall thereby in-
10 creasing the space between the platform edge and said wall, thus relieving the pressure against any person who has been accidentally caught by the elevator car so that he may be removed and his injuries at-
15 tended to.

In the operation of the device it is intended that two of these devices would be used, one on either side of an injured person. By the use of such a device the action upon the
20 car in forcing it away from the wall is gradual and the injured person does not suffer by means of its operation, as is true with the usual improvised devices now in use. The present device is intended for use
25 mainly with fire departments who are generally called upon in the case of such elevator accidents. Heretofore, in the case of accidents of this nature, it has been necessary to provide wedges to place between the
30 car platform and the wall of the elevator well and hammer them down by repeated blows until the necessary space between the car and the wall is secured so that the injured person may be removed. Each blow
35 upon one of these wedges causes the injured party increased pain, which is entirely obviated by the use of the present device.

It is obvious that owing to the freedom of the bearing plate 15 to move about the
40 center of the ball 17 the device will operate even when the car platform is inclined to the elevator wall. In some cases it is impossible owing to the nature of the elevator well and the size of the car to force the car
45 to one side sufficiently to gain enough space to remove the injured person. In such cases it is necessary to tear the boards from the car platform and in some cases destroy the framework itself. To provide for such a
50 condition the lower end of the depending flange 24 has formed thereon a wedge-shaped member 28, the thin edge of which may be inserted beneath the boards of the car plat-

form so that as the screw 11 is rotated they will be detached from the car platform and
55 removed. Should it be necessary to break the framework itself of the car in order to remove the injured person it is obvious that with the depending flange 24 placed against
60 one of the side frames the necessary pressure may be brought to bear thereupon by the rotation of the screw 11 to break said frame. Such elevator accidents as are herein described are of frequent occurrence and often-
65 times the person is jammed between the car and the wall so firmly that it is impossible to remove him for many hours with the improvised means heretofore used, and as a
consequence the person not only is subjected to intense and unnecessary suffering during
70 this prolonged period, but in many cases his life is at stake owing to the inability to give his injuries immediate attention. It is intended that every fire company should be
75 provided with a set of these devices for use in case of accidents of this nature, and it is quite obvious that with their use the injured person may be quickly removed without subjecting him to unnecessary pain.

It is believed that the operation and many
80 advantages of this device will be fully apparent without further description.

Having thus described our invention, we claim:

1. In a device of the class described, the
85 combination of a nut provided with a depending flange; a screw threaded thereto; and a face plate secured to the end of said screw and in which said screw is free to turn, said face plate being normally positioned
90 within a depression in said nut.

2. In a device of the class described, the combination of a nut provided with a de-
depending flange; a screw threaded thereto
95 having a ball end; and a face plate fitted to said ball and within which said ball is free to turn, said face plate being normally positioned in a depression in said nut having a wall concentric with said ball member.

Signed by us at 4 Post Office Sq., Boston,
100 Mass., this 21st day of December, 1912.

MICHAEL F. SILVA.

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Witnesses:

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