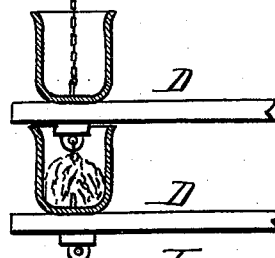
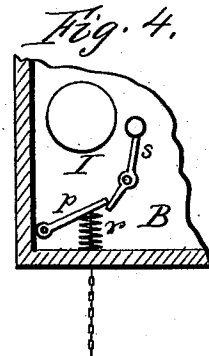
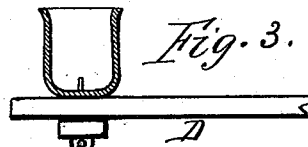
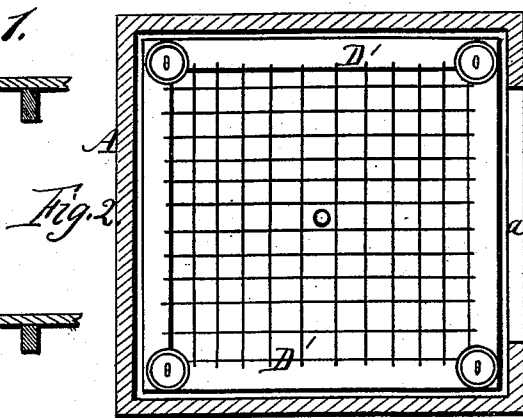
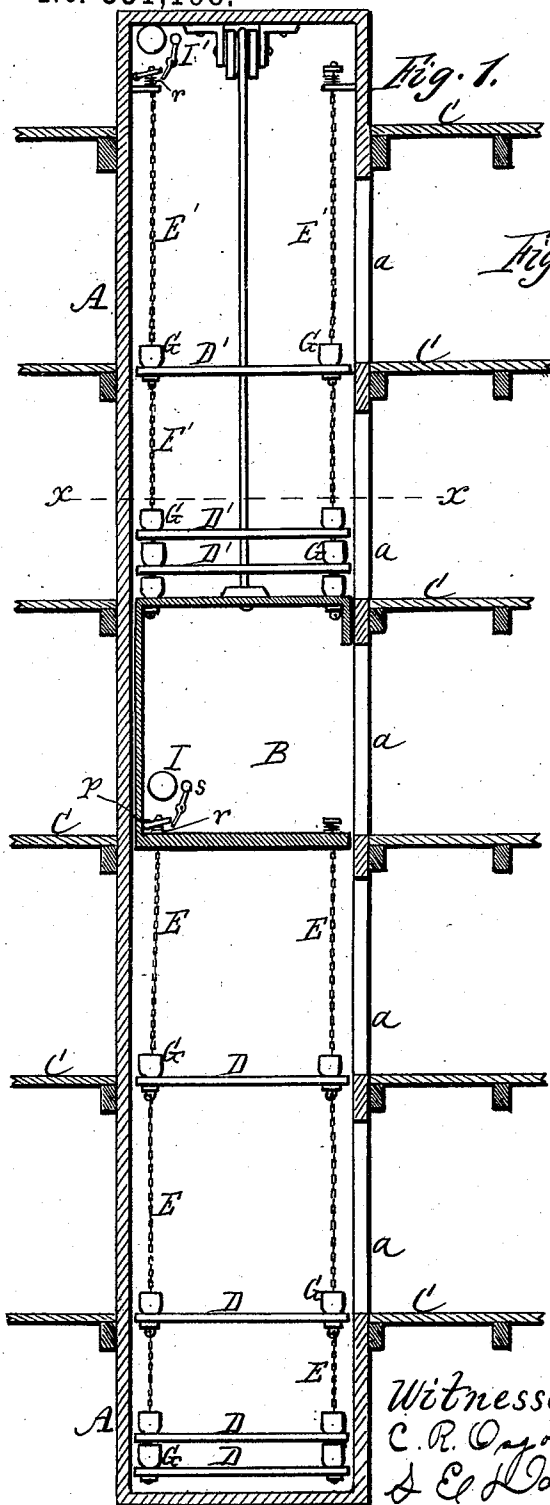


(No Model.)

N. LEVISON.
ELEVATOR GUARD.

No. 531,198.

Patented Dec. 18, 1894.



Witnesses.
C. R. Osgood.
S. C. Davis.

Inventor.
Norman Levison.
per R. F. Osgood,
att'y.

UNITED STATES PATENT OFFICE.

NORMAN LEVISON, OF ROCHESTER, NEW YORK.

ELEVATOR-GUARD.

SPECIFICATION forming part of Letters Patent No. 531,198, dated December 18, 1894.

Application filed June 16, 1894. Serial No. 514,818. (No model.)

To all whom it may concern:

Be it known that I, NORMAN LEVISON, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Elevator-Guards; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this application.

My improvement relates to that class where the hatchways or openings through the elevator shaft, opposite the various floors, are all closed, as the car ascends or descends, by means of platforms, attached to chains.

It also relates to means whereby said platforms when folded together are separated to such an extent as to prevent injury, in the rise and fall of the car; to a person confined between them.

It also relates to means whereby a signal is given in case a person falls upon one of the platforms.

The invention consists in the construction and arrangement of parts hereinafter described and claimed.

In the drawings—Figure 1 is a vertical section of an elevator shaft exhibiting my invention, and showing the car partially raised. Fig. 2 is an enlarged cross section on line xx of Fig. 1. Fig. 3 is a diagram showing a portion of three of the platforms in elevation, one being raised and the other two folded together. Fig. 4 is a section of one corner of the car, showing the signal attachment.

A indicates the elevator shaft or well and B the car resting therein, both of ordinary construction.

C C C C are the various floors of the building, and $a a a a$ the doors which communicate with the shaft.

D D D are a set of platforms attached by chains, cords, or cables, E E E, to the under side of the car, the opposite ends of the chains hanging free; and D' D' D' are similar platforms attached by chains E' E' E' to the ceiling of the elevator shaft, hanging loosely and extending to the top of the car. The platforms are so spaced that when the car stops before the door of any floor the platforms rest opposite all the other floors of the building, as shown in Fig. 1, thus closing the passage of the shaft opposite each floor and obviating

danger from falling through. In the ascent of the car the platforms above it are all taken up and folded on top of the car, and in its descent those below are folded and piled in the bottom of the well.

Each of the platforms is provided at its corners with stops G G G G, which stand up and folded on top of the car, and in its descent those below are folded and piled in the bottom of the well. When the platforms are folded together one platform strikes the stops of the next, and so on. By this means the platforms are all separated a given distance, which is sufficient to prevent injury to a person by crushing in case the elevator car should come in contact with the platforms when a person is so confined.

As shown in the drawings the stops consist of cups or receptacles which stand upward, and the chains are made in short sections attached at one end inside the cups and at the opposite end to the next platform. Instead of being made in short sections the chains may be made in one continuous length. In the closing of the platforms together the chains all fold into the cups and are held in compact form, instead of being spread loosely over the platforms. The platforms themselves may be of any suitable material and construction. As shown in the drawings each consists of a rectangular frame of sufficient size to nearly fill the cross area of the hatchway, and a filling of net work. A frame with a filling of woven wire similar to that used in spring bed bottoms would be effective.

I is an alarm located in the bottom of the car, and I' a similar alarm located in the top of the well, the design of which is to sound an alarm in case a person falls on any one of the platforms. The device shown in the drawings consists of gongs, but any other device may be used. One of the chains below the car is passed up loosely through the bottom of the car and attached to a hinged arm p , and a spring r is interposed between the arm and the bottom of the car. In case a person falls on one side of the platforms below the car the extra weight depresses the platform, draws down the arm p against the spring, and trips the hammer s of the gong. The arrangement is the same at the top of the well, except that the gong and the hinged arm are attached to the well.

The construction before described is such

that in case a person falls in the shaft his fall is arrested by a platform, and an alarm is sounded, and in case the car ascends or descends to its full extent with the person confined between the platforms, the stops on the platforms prevent danger of crushing.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

- 10 1. In an elevator, the combination, with the car, of two sets of chains, one attached to the car and rising and falling with it, the other attached to the well and rising and falling with the car, a set of platforms connected with the chains spaced to separate a distance equal to the distance between the floors, and cups
- 15 attached to the platforms serving as stops to

separate the platforms when closed, and as receptacles to take up the loose chain in closing the platforms, as described.

- 20 2. In an elevator, the combination, with the car, of chains, a set of platforms connected with the chains, and a signal device, the chains being connected with a movable part whereby an alarm is made by the depression of any one of the platforms by extra weight thereon, as herein shown and described.
- 25

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

NORMAN LEVISON.

Witnesses:

CHARLES F. MEYERING,

R. F. OSGOOD.