

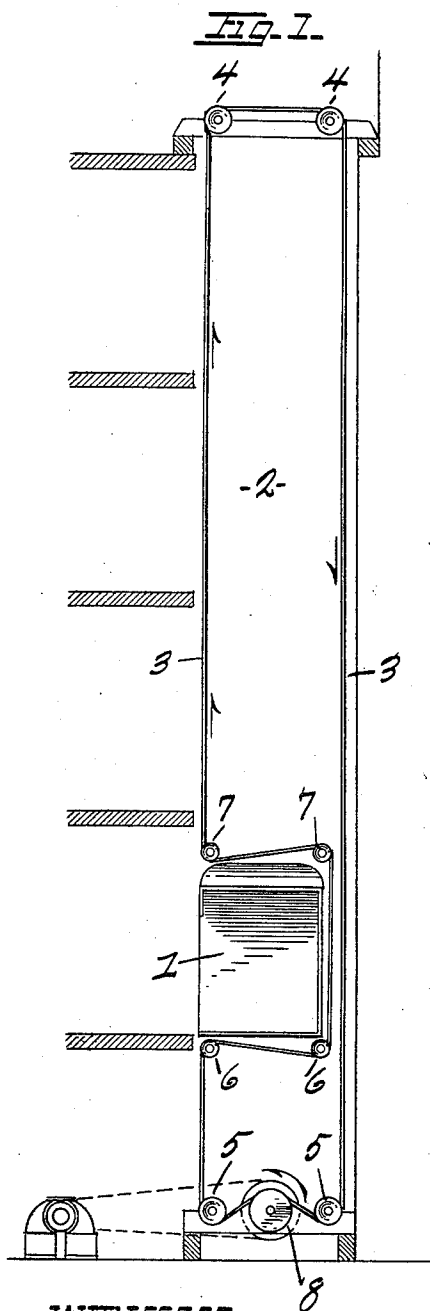
No. 736,642.

PATENTED AUG. 18, 1903.

W. SHERIDON.
SAFETY GUARD FOR ELEVATOR SHAFTS.

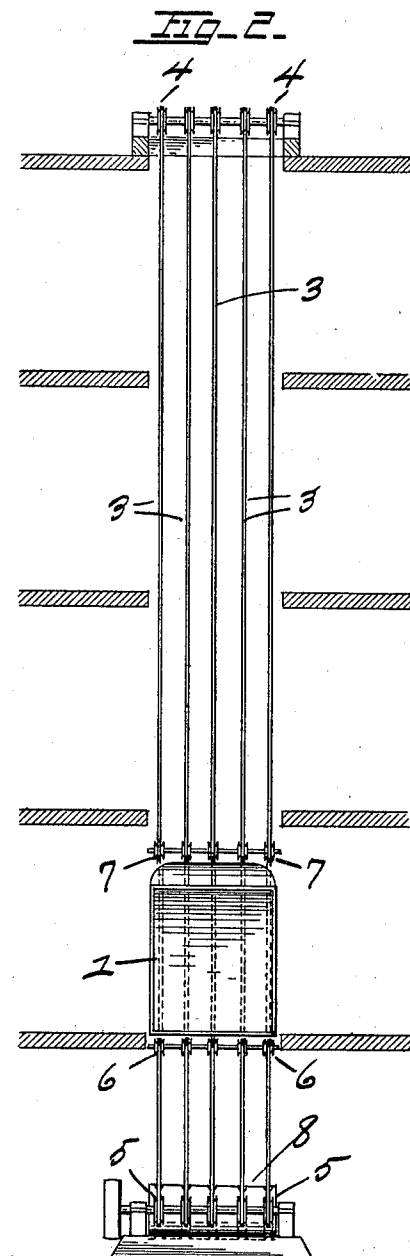
APPLICATION FILED DEC. 26, 1902.

NO MODEL.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM SHERIDON, OF TOLEDO, OHIO.

SAFETY-GUARD FOR ELEVATOR-SHAFTS.

SPECIFICATION forming part of Letters Patent No. 736,642, dated August 18, 1903.

Application filed December 26, 1902. Serial No. 136,591. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SHERIDON, a citizen of the United States, and a resident of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Safety-Guards for Elevator-Shafts; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention has for its object to provide an automatic device for guarding the entrance-openings into elevator-shafts, which shall be simple in construction, positive and effective in operation, and which may be manufactured and installed at a low cost.

A further object consists in arranging the device so that the same will not operate to impede or interfere with the motion of the elevator-car, and thereby detract from its efficiency.

In carrying out my invention I employ the novel arrangement hereinafter shown, described, and claimed.

In the drawings, Figure 1 is a vertical sectional elevation through the floors of a building to disclose the application of my invention. Fig. 2 is a similar view in front elevation.

1 indicates the elevator-car adapted to be operated by any suitable means within the shaft 2. The ordinary well-known means employed for suspending an elevator-car, comprising an inverted-U-shaped suspending-yoke, to which the lifting-cable is centrally attached, offers the best means for the application of my invention to elevators already in use. Arranged so as to extend the entire length of the shaft are a plurality of endless cables 3 3 3 3 3. These may be arranged at suitable distances apart to effectually guard the openings into the elevator-shaft. Ropes may be employed for this purpose; but flexible-wire cables are preferred. If desired, the cables may be secured together by means of a suitable fabric, or the cables may be dispensed with and an endless belt or apron employed in their stead. Extending upwardly

in the forward side of the shaft the endless cables are carried over sheaves 4, provided at the top of the shaft, and then downward along the rear of the shaft behind the elevator-car and around sheaves 5, provided at the bottom of the shaft, and again extending upwardly from the sheaves 5 they are directed around the elevator-car by means of sheaves 6 and 7, secured, respectively, to the bottom and top of the car, the circuit of the cables being therefore complete.

In carrying out my invention where an endless belt or apron is employed instead of a plurality of cables the same is directed to pass below the suspending-yoke of the car, and at the bottom of the car the apron is directed between the floor of the car and the operating mechanism suspended from the bottom of the car. It is apparent that in order to provide room for the apron to pass an additional or false floor may be arranged slightly above the bottom of the car proper. Arranged, preferably, at the lower end of the shaft between sheaves 5 is a drum 8, operated by suitable power and adapted to engage the endless cables to impart motion thereto, as indicated by the arrows, Fig. 1.

From the foregoing it is apparent that the movement of the car is wholly independent of the movement of the cables. If the ends of the cables were attached directly to the car, so as to operate therewith, obviously the motion of the cables would be arrested whenever the car was stopped, and in buildings of considerable height, owing to the great length and weight of the cables, the acquired momentum of the same when in motion would be such as to seriously impair the efficient operation of the elevator. On the other hand, if the cables were thus attached to the car the same would be set in motion only when the car was started. This arrangement would obviously not only be accompanied by a considerable waste of power, expended in starting the cables, but the movement of the elevator would be seriously checked at the moment of starting, the car not attaining its full speed until the cables had acquired their full momentum.

If the cables or the apron used in lieu thereof were to remain stationary by being secured to the top and bottom of the shaft and ar-

ranged to be directed around the car, the same would impose sufficient friction upon the car to interfere with its operation, especially at the moment of starting and stopping.

5 It will be observed in the operation of my invention that with the cables moving continuously in one direction the car when in motion operates in the same manner relative thereto as if the cables were attached to the
10 top and bottom thereof. However, as soon as the motion of the car is checked the cables will pass around the same and continue their upward movement on the forward side of the shaft. When the car is started after having
15 been at rest, the motion of the same will not be checked in the least, but will be assisted by the moving cables of the guard.

The cables as arranged are operated with a uniform motion, no added weight or friction being imposed upon the car itself. The
20 value of my invention as a means of protection to individuals against falling into elevator-shafts will be apparent.

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

1. In a safety-guard for elevator-shafts, the combination with the car and the shaft, of an endless apron arranged to operate the full length of the shaft, means provided at the top and bottom of the shaft for guiding the apron, means carried by the car for directing the apron around the same, and means for imparting motion to the apron, as set forth. 30

2. In a safety-guard for elevator-shafts, the combination with the car and the shaft, of a plurality of endless cables operating the full length of the shaft, a group of sheaves arranged at the top of the shaft and a similar group of sheaves arranged at the bottom of the shaft to guide the cables, sheaves carried by the car to direct the cables around the same, and suitable means for imparting motion to the cables. 35 40

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses. 45

WILLIAM SHERIDON.

Witnesses:

CHAS. C. DEFENBAUGH,
WILLIAM A. CASE.