

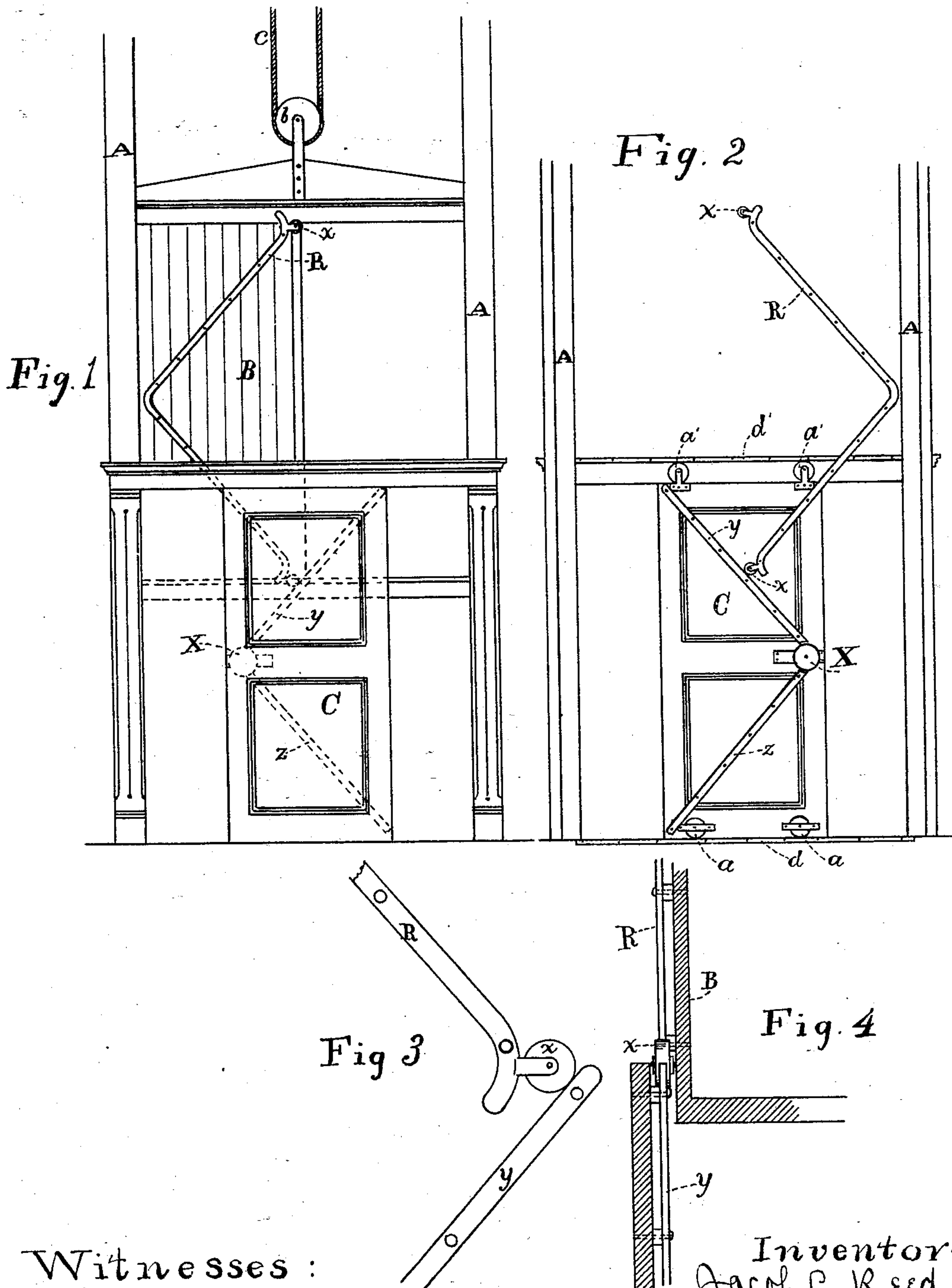
(No Model.)

J. C. REED.

DEVICE FOR AUTOMATICALLY CLOSING DOORS TO ELEVATOR WELLS.

No. 452,415.

Patented May 19, 1891.



Witnesses:
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UNITED STATES PATENT OFFICE.

JACOB C. REED, OF SIOUX CITY, IOWA.

DEVICE FOR AUTOMATICALLY CLOSING DOORS TO ELEVATOR-WELLS.

SPECIFICATION forming part of Letters Patent No. 452,415, dated May 19, 1891.

Application filed February 10, 1891. Serial No. 380,893. (No model.)

To all whom it may concern:

Be it known that I, JACOB C. REED, a citizen of the United States, residing at Sioux City, in the county of Woodbury and State of Iowa, have invented certain new and useful Improvements on an Automatic Elevator-Door Closer; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 letters of reference marked thereon, which form a part of this specification.

My invention relates to door-closing devices, and is intended as an improvement upon the invention for which I filed an application for patent dated January 24, 1891.

The object of this invention is to provide against all accidents that might possibly occur from the use of my previous invention when the elevator-door happens to get partly open from the wearing away of the catch or loosening of the door-fastenings, or in any other manner, when the cage is away from the door.

This invention provides means for preventing the rod R, attached to the cage, from breaking or catching in the elevator-door when said elevator-door happens in any way to get open when the cage is away from it, as above specified.

My invention therefore consists in the novel construction of the parts and their combination, as will be hereinafter fully described, and particularly pointed out in the claim.

I have fully and clearly illustrated my invention in the accompanying drawings, wherein—

Figure 1 is an exterior view showing the elevator-door partly closed, with the elevator-cage descending, and showing the operation of closing the elevator-door. Fig. 2 is an interior view of the same, showing the rod without the elevator-cage. Fig. 3 is an enlarged front view showing operation of rod R upon rod *y* by means of roller *x*. Fig. 4 is a side view of the same, also showing a section through portion of door and elevator-cage.

Referring now to the illustrations, wherein like parts are designated by the same letters of reference, as in my previous application,

A A designate corner-posts of an elevator-shaft.

B designates the elevator-cage, *b* the pulley, and *c* the cable, of the ordinary style of construction used to raise and lower the elevator-cage.

C designates the elevator-door; *aa*, grooved wheels, upon which the door slides backward and forward upon rod *d*.

a' a' designate grooved wheels placed at the top of the door and adapted to slide backward and forward upon the under side of rod *d'* to keep the door in position.

R is a flat rod with rounded edges, and having a bend in the center, as shown in the drawings, to allow the elevator-door to be opened without interfering and having its ends bent to allow them to freely pass by the sheave end when the elevator-cage is ascending or descending. Rod R is secured to the outside of the elevator-cage and set off a little distance from it by means of suitable bolts, all as previously described in my prior application.

Referring now to the improvement which forms the subject of this application, *y* and *z* designate flat rods having rounded edges, and corresponding in size and inclination, and intended to be placed on the elevator-door C in a manner to correspond with the placing of the rod R on the elevator-cage. The rods *y* and *z* are fastened to the elevator-door C and set off a little distance from it by means of suitable bolts in such a manner that the inside ends of said rods, where they verge toward the center, do not come snug together, but allow a small opening between. In this opening is set a roller X, which is secured to the door in a suitable manner, and which takes the place of roller *n*, referred to in my prior application. The rod R is provided at the point of curvature of its upper and lower ends with the grooved rollers *xx*.

It will be seen that the improvement which I claim in this application is the providing of rod R with the grooved rollers *xx* at the point of curvature at its upper and lower ends, and the providing of the elevator-door C with the rods *y* and *z*, between which is placed the roller X, suitably fastened to the door. On the rod R grooved rollers or anti-friction rollers may be used; but they are intended to be

smaller in size than the roller X between the rods y and z , so that if the elevator-door happens to get opened in any manner while the elevator-cage is away from it the result will
5 be as follows: As the elevator-cage ascends or descends, the grooved rollers xx , provided on rod R of the cage, will follow up or down on the rods y and z , as the case may be, and move freely into and over the large roller X
10 of the elevator-door C, preventing the rod R from catching into or breaking the elevator-door, as it might otherwise do in such case. X is to be a large deep-grooved roller. xx are to be small grooved rollers.
15 The operation is readily seen from the above description. Rollers xx may be anti-friction rollers or slightly-grooved rollers, as either will operate satisfactorily, as the rollers used must follow the rods y and z if the
20 rods are all placed as described.

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

In a device for closing elevator-well doors automatically, the combination of the eleva- 25 tor-cage provided with the angular rod R, having at its ends the rollers xx , with the elevator-well door C, provided with the angularly-arranged rods y z , and the roller X, located at the juncture of the inside ends of 30 said rods y and z , all substantially as described.

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

JACOB C. REED.

Witnesses:

GUY C. RICH,
L. L. CARPENTER.