

(No. Model.)

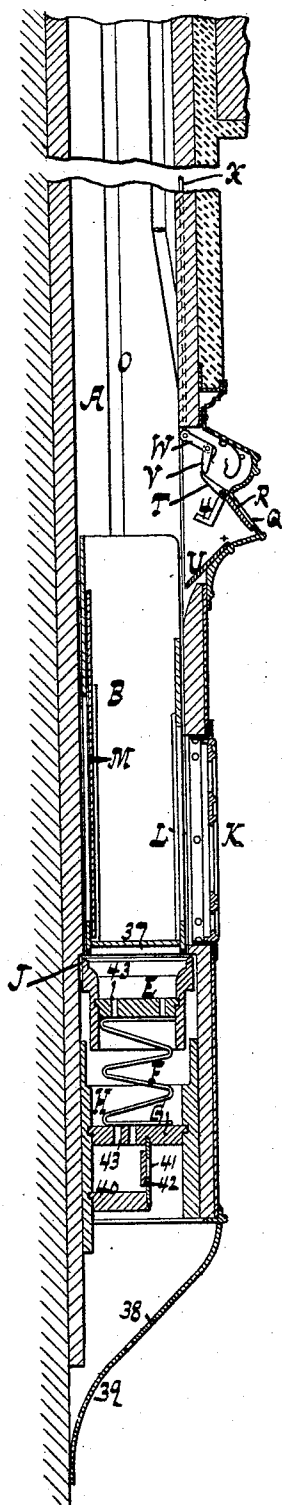
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C. E. REID.
ELEVATOR.

No. 486,794.

Patented Nov. 22, 1892.

Fig. 1.



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Fig. 2.

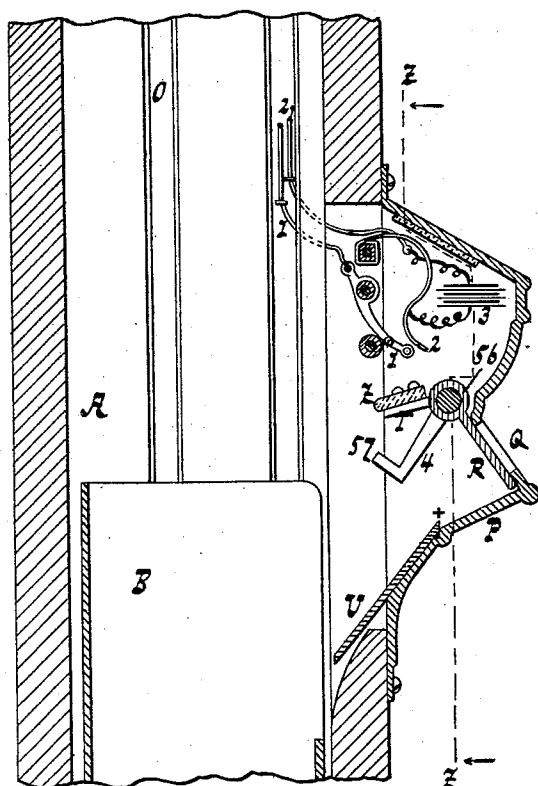
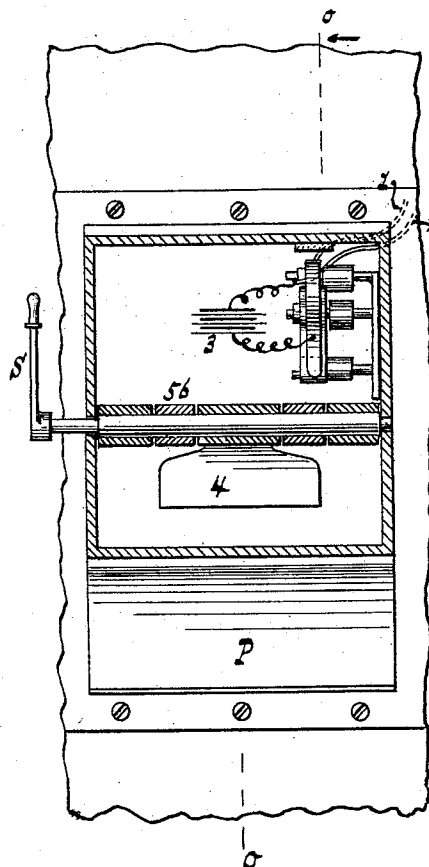


Fig. 3.



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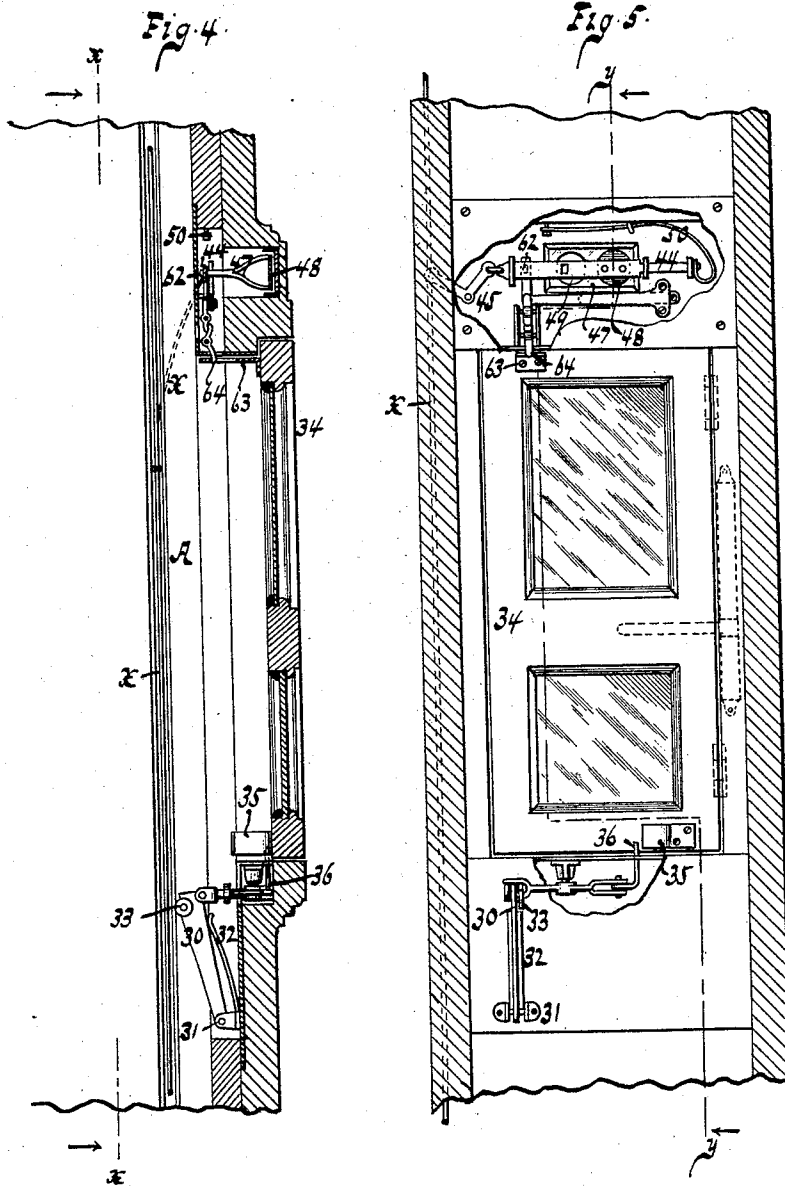
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UNITED STATES PATENT OFFICE.

CHARLES E. REID, OF KANSAS CITY, MISSOURI.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 486,794, dated November 22, 1892.

Original application filed September 27, 1888, Serial No. 286,492. Divided and this application filed April 21, 1890. Renewed June 2, 1892. Serial No. 435,248. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. REID, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented new and useful Improvements in Elevators for Letters and other Articles, of which the following is a specification.

This invention relates to elevators for the conveyance of letters and packages from a lower to a higher story in dwellings and other buildings, so that letters and other articles dropped into the elevator in the lower story can be raised to such higher story with facility or be conveyed from a higher to a lower story. It is intended that each story shall have its own elevator and its own separate well, as is also provided in my Letters Patent No. 302,776. The letter or article to be carried up is deposited by the postman in the carrier of the elevator through a drop-box provided with a door, and his action in opening the door of the drop-box causes a signal to be given on the floor where the top of the well of the elevator is situated. The signal may be visual and also audible. The occupant of said floor on hearing or seeing the signal proceeds to operate the elevator, so as to fetch up the carrier, to which he can obtain access through a door placed in the upper part of said well. Having taken out the letters from the carrier, the operator releases the door, which immediately closes, and at the same time the carrier is released and descends to its former position, ready for another operation.

The construction and arrangement of the several parts relating to the present invention and their operation are described in this specification, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical central section of an elevator-well, showing the carrier in position in the lower part of the well ready to receive letters from the drop-box. Fig. 2 is a vertical section of the carrier (in part) in its well and of the drop-box, the section being taken on the line *o o* of Fig. 3. This Fig. 2 shows how the signal given on the opening of the drop-box may be given by electrical means. Fig. 3 is a section taken on the bent line *z z* of Fig. 2 through the drop-box. Fig. 4 is a

vertical section taken on the bent line *y y* of Fig. 5, looking in the direction of the arrow in Fig. 5, showing the annunciator device and the spring-stop, which arrests the descent of the carrier. Fig. 5 is a vertical section taken on the line *x x* of Fig. 4, looking in the direction of the arrow.

The present application is a division of my application for Letters Patent for an improvement in elevators filed by me September 27, 1888, Serial No. 286,492.

The letter A designates an elevator-well, in which is placed a carrier B, that runs up and down in the well, being drawn up by a suitable hoisting apparatus. (Not shown.) In Fig. 1 is shown the lower part of the well, in which is seen the carrier B, resting on the upper edges of a platform E, which is supported on a spring F, whose lower end rests on a partition G, extending across a casing H, fitted in the lower part of the well. The platform E is adapted to slide in the casing H as far down as the shoulder I. The platform E consists of a frame whose vertical sides are connected by a horizontal piece. The height to which the platform E can be pushed upward by the spring F is limited by the shoulder J in the sides of the well. The carrier B in its lower position, Fig. 1, comes opposite a glazed door K, made in one of the sides of the well, and a window L is provided in the corresponding side of the carrier, so that the interior of the carrier and its contents can be seen through them. The carrier is also provided on one of its sides with a slide M, by raising which access is had to the interior of the carrier to remove its contents when it has been moved up to the proper floor. The carrier, as represented in Figs. 1 and 2, is in position so receive letters or other articles, its front side, which is shorter than its other sides, being opposite the drop-box P, as shown in said Figs. 1 and 2, the drop-box being placed in an opening made for that purpose in the lower part of the well. The drop-box P is provided with an inlet Q, which is closed by an inner door R, which door is opened by means of crank S and is closed by means of the weight of arm 4, the crank S, as well as the arm 4, being fixed to the same axle as is the door R and turning with it. The arm 4 constitutes a counter-weight to the door

R to close the same automatically, being properly weighted to give the proper counterpoise to insure the reclosing of the door R after the crank or lever S has been released by the person who has inserted the mail-matter or other article. Where the arm 4 is not made of the proper weight in the first instance, it may be provided with an angle 57 to receive any counterpoise-weight required. Letters or articles introduced through the inlet Q pass into the carrier over the inclined plane U. Before the door R has been opened as far as the star (*) the arm T, which projects inward from the axle of the door R, has been moved against the lever V so as to turn the bell-crank VW and thereby pull the bell-wire X and ring the bell (not shown) connected therewith on the upper floor, and at the same time operate the visual annunciator, (see Figs. 4 and 5,) the arrangement being such that no mail-matter or other article can be inserted through the drop-box into the carrier until the bell has been rung, as the door R does not reach the place of the star (*) until the bell has been rung.

If it is so preferred, the opening or partial opening of the drop-box can be made to operate the signal by means of electricity, as illustrated in Figs. 2 and 3, where the opening of the door R of the drop-box as far as to within, say, one sixteenth of an inch of the star (*) causes the arm T, whose upper surface is covered with porcelain Z or other suitable non-conductor of electricity, to bring into momentary contact with each other the ends of the wires 1 2 of battery 3 and close an electric circuit through them, and thereby operate the hammer of the bell and the bell-crank 4 5 of the annunciator above mentioned, both of which are placed in or near the story to which the carrier is to be hoisted or on which the operator lives. The ends of the wires 1 2 are arranged in such a manner as to spring apart and break the circuit when the arm TZ has passed by or ceased to act on them. The further movement of the door R opens the drop-box, so as to allow of the introduction of letters and other articles into the carrier. The signal, which is operated automatically by the opening of the drop-box, informs the occupants of said story that the carrier contains letters or articles for them, and they thereupon proceed to operate the hoisting apparatus and hoist the carrier up to their story.

The apparatus is provided with a visual signal or annunciator. (Shown in Figs. 4 and 5.) It is operated by the same wire X that operates the signal-beli. The annunciator consists of a slide 44, which is connected to wire X by a bell-crank 45. The slide 44 is mounted in a frame 46, set in an opening 47 made for it in the wall of the well above the door 34, which is a door made in the well at

a place opposite the point to which the carrier is hoisted, so as to allow access to the carrier. The front of the opening 47 is protected by glass, so that the slide can be seen from without. The slide 44 carries a disk 48, which is carried by the movement of the slide toward the left in Fig. 5, so as to cover the opening 49 made in the frame 46. The return movement of the slide is effected by the spring 50, which acts automatically the moment the door 34 is opened, thus carrying the disk 48 of the annunciator out of view. The annunciator can be operated and the disk 48 be brought into view while the door 34 remains closed, and the slide 44 is locked in its position toward the left by means of a catch 62, which holds the slide 44 stationary against the force of spring 50, said catch being connected with the door 34 in such a manner that when the said door is opened an arm 63, projecting inward from it, releases the slide 44 through the agency of lever 64, and the spring 50 is allowed to exert its force to remove the disk 48 from the front of the opening 49 by restoring the slide 44 to its former position.

When the carrier has been hoisted, it rests upon the spring-stop 30, Figs. 4 and 5, which is hinged at its lower end at 31 in a recess in the side of the well, while its upper end is pushed outward by a spring 32. The stop 30 is provided with an antifriction-roller 33 at its upper end. When door 34 is being closed, the arm 35 strikes the spring-lever 36, whose longer arm engages with the upper end of the spring-stop and suddenly withdraws the latter inward from beneath the carrier and the carrier drops to its lower position, the arm 35 meanwhile passing the lever 36 and allowing it to resume its normal position, ready for a repetition of the operation when the door is again shut.

What I claim as new, and desire to secure by Letters Patent, is—

1. In elevators for letters and other articles, the carrier B, in combination with the drop-box P, door R, insulated arm T, battery 3, and wires 1 2, and signal-bell, substantially as described.

2. In elevators for letters and other articles, the carrier B, the drop-box P, door R, and arm T, in combination with the disk 48 and slide 49 and the parts connecting the same with the lever VW, substantially as shown and described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES E. REID.

Witnesses:

R. W. MULLINS,
W. W. JOHNSON.