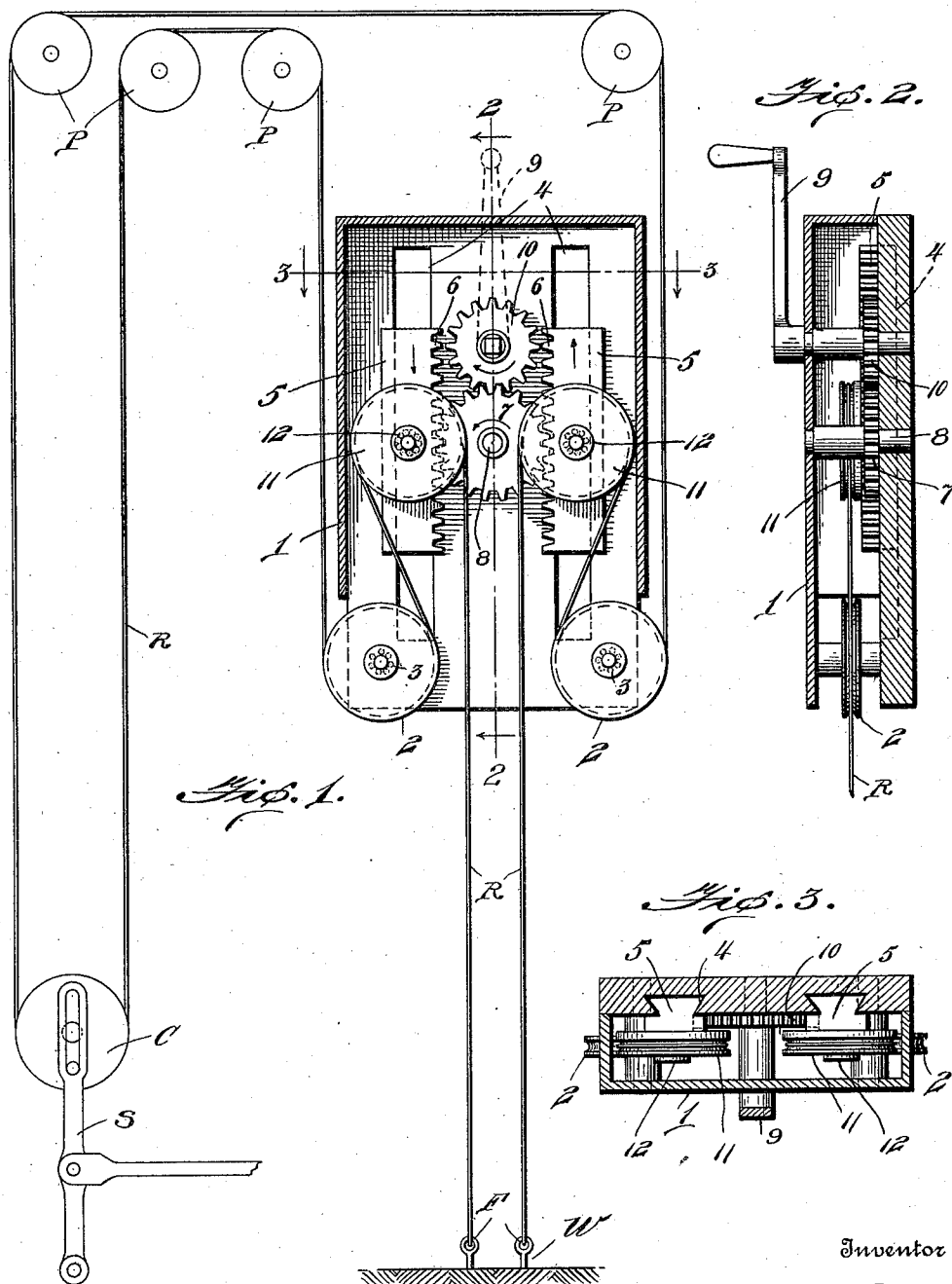


C. O. BOSSE.
ELEVATOR CONTROLLER.
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1,062,433.

Patented May 20, 1913.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES OSCAR BOSSE, OF TACOMA, WASHINGTON.

ELEVATOR-CONTROLLER.

1,062,433.

Specification of Letters Patent.

Patented May 20, 1913.

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To all whom it may concern:

Be it known that I, CHARLES OSCAR BOSSE, a citizen of the United States, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Elevator-Controllers; 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.

This invention relates to elevators, and more especially to the controllers therefor which employ a running rope; and the object of the same is to improve the actuating mechanism for shifting such rope in either direction and throwing the switch so as to cut off the power or reverse it.

This and other objects are accomplished by constructing the controller in the manner hereinafter more fully described and claimed and as shown in the drawings wherein—

Figure 1 is a vertical section through the controller casing contained within the elevator cage, and a diagrammatic elevation of the running rope and switch lever; Figs. 2 and 3 are sections on the lines 2—2 and 3—3 of Fig. 1.

In the drawings the running rope R is shown as fastened at its extremities F in the bottom of the elevator pit or well W, with its two rope stretches passing through the controlling mechanism yet to be described and over pulleys P, P in any suitable manner to a cranked pulley C whose partial rotation moves the switch lever S, and the latter controls the application or direction of the power in a manner not necessary to illustrate. This much of what is shown in the drawings is well known in the art and therefore illustrated only diagrammatically in Fig. 1.

Coming now more particularly to the present invention, the numeral 1 designates the casing in which this improved elevator controller is contained, the same being mounted within the car or cage not shown, and at its lower end said casing contains idle pulleys 2 preferably mounted on roller bearings 3, and around which pulleys the rope R is led. Within the casing are formed parallel upright guides 4, herein shown as dove-tailed slots or grooves in the back of the casing, and in these guides move two rack bars 5 whose teeth 6 project inwardly

and engage a gear wheel 7 pivoted at 8 between them, said wheel being rotated in either direction by a crank handle 9 which as herein shown is fast upon the shaft of a power gear 10 which meshes with the gear 7 but whose specific arrangement need not be amplified further. Each rack bar 5 carries a pulley 11 mounted on roller bearings 12 so that it shall run with extreme ease, and the stretch of the rope R which leads upward from the idle pulley 2 immediately below either of these pulleys 11 passes over the same and thence downward to the point F within the well W as shown.

As the cage ascends the vertically movable pulleys 11 turn in toward each other and the idle pulleys 2 turn in the opposite directions so that the entire controller travels upward along the two stretches of the running rope R; all parts remain idle when the cage is at rest; and when the cage descends, the reverse action takes place. The operator manipulates this controller by means of the handle 9, and when the same is moved to the right for instance, as shown by the arrows in Fig. 1, the power gear 10 turns the gear 7 in the opposite direction, and this gear moves one rack bar 5 and its pulley 11 downward while the other rack bar 5 and its pulley 11 is moved upward to the same degree and at the same time—thereby drawing on one stretch of the running rope R and paying out on the other stretch thereof so that the crank wheel C is turned partly and the switch lever S is moved.

It will be seen at once that this device is extremely compact and simple, the rack bars 5 and the pulleys 11 carried thereby are perfectly balanced whether the parts are at rest or being adjusted, and when the gear 7 is turned in either direction one rack bar is forced to move in one way and the other in the other so that the action is absolute, positive, and perfectly equalized and there is no lost motion.

The parts are of any desired sizes, shapes, proportions and materials, and changes in details may be made without departing from the principle of my invention.

What is claimed as new is:—

In an elevator controller, the combination with a rope looped at its center and having its stretches disposed throughout the length of an elevator well in which the cage travels, a pulley engaging said loop, a switch lever,

and connections between said lever and pulley for moving the former by the rotation of the latter in either direction; of controlling mechanism, consisting of a casing fixed
5 within said cage and having a pair of upright guides, rack bars slidably mounted in said guides with their teeth disposed inward, a gear pivoted in the casing and engaging the teeth of both bars, a power gear
10 in mesh with this gear and having an operating handle, pulleys separately journaled

on said rack bars and over which the stretches of said rope pass, and idle pulleys journaled on the casing and under which said stretches respectively pass. 15

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

CHARLES OSCAR BOSSE.

Witnesses:

Mrs. M. I. BRUECKNER,
Mrs. E. B. MOORE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."