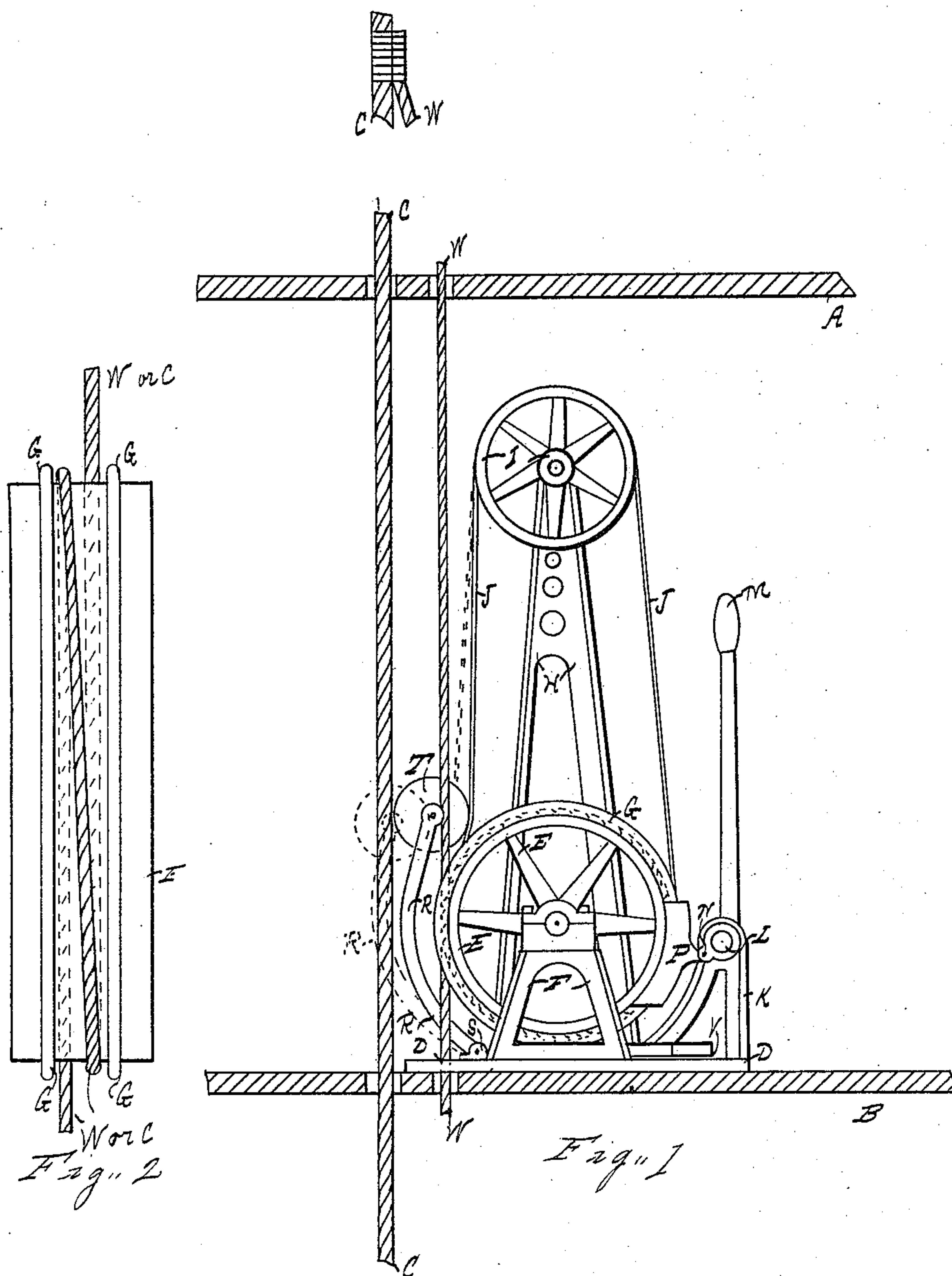


(No Model.)

S. J. MARTIN & H. C. HADSTATE.
ELEVATOR.

No. 442,632.

Patented Dec. 16, 1890.



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UNITED STATES PATENT OFFICE.

STEPHEN J. MARTIN AND HOYTE C. HADSTATE, OF DETROIT, MICHIGAN.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 442,632, dated December 16, 1890.

Application filed May 22, 1890. Serial No. 352,790. (No model.)

To all whom it may concern:

Be it known that we, STEPHEN J. MARTIN and HOYTE C. HADSTATE, of the city of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Elevators, of which the following is a specification.

Our invention relates to that kind of elevator in which the valves which control the motion of the car are actuated by a rope which extends perpendicularly through the car; and the object of our invention is to facilitate the manipulation of said rope. We attain this object by the device illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the device embodying our invention attached to an elevator-car; and Fig. 2 is an enlarged detail view of the pulley E, showing the formation of its rim and the rope passing around said pulley.

Similar letters refer to similar parts throughout both the views.

A is the roof, and B the floor, of an elevator-car.

C is the rope which actuates the valves which control the motion of the car.

D is the frame attached to the floor of an elevator-car.

E is a pulley mounted in bearings upon a standard F, which standard rises from the frame D. The rim of the pulley E is provided with flanges G G, which rise from the rim of said pulley upon each side of its center and extend around said pulley.

W is a small rope bound to the rope C at the upper and lower end of the elevator-well, extending through the elevator-car parallel to the rope C, passing around the pulley E between the flanges G G and drawn tight, so as to be restrained from motion independent of the pulley E by its friction against the rim of said pulley.

H is a standard rising from the frame D.

I is a pulley pivoted in a bearing at the upper end of the standard H.

J is a belt passing loosely around the pulley I in the form shown in Fig. 1. The belt J also passes around the pulley E upon one side of the flanges G G.

K is a standard rising from the frame D.

L is a shaft pivoted in a bearing at the upper end of the standard K.

M is a hand-lever keyed upon one end of the shaft L, and N is an arm extending from the other end of said shaft.

P is a brake-shoe pivoted to the end of the arm N and adapted to be pressed against and withdrawn from the rim of the pulley E by turning said arm.

R is a bent lever pivoted at S to the frame D and bearing at its upper end the roller T.

V is a plate upon the lower end of the lever R, upon which the operator presses his foot to oscillate said lever. Where the belt J is drawn tight around the pulleys I and E, the tightening-lever R may be dispensed with. Where the belt J is drawn tightly around its pulleys it will always move with the pulley E, while where it is passed loosely around said pulleys it will remain at rest except when it is tightened by the lever R in order to employ it to start the car, as below described.

The operation of the above-described device is as follows: When the elevator-car is in motion, the motion of said car relative to the rope W causes said rope to rotate the pulley E. When it is desired to stop the car, the operator draws upon the hand-lever M, thus forcing the brake-shoe P against the rim of the pulley E, checking the motion of said pulley, and consequently drawing upon the rope W, because of the adhesion of its rim to said rope. The rope W carries with it the rope C, thus stopping the car. When the elevator-car is at rest and it is desired to start it, the operator presses with his foot upon the plate V, thus oscillating the lever R and forcing the roller T against the belt J, thus tightening said belt. By drawing downward upon the right or left portions of the belt J the pulley E is turned in one or the other direction, because of the adhesion of said belt to the rim of said pulley, drawing upon the rope W, because of the adhesion of its rim to said rope, and drawing, by means of the rope W, upon the rope C, thus starting the car.

It will be noticed that in the above device the car can be started in either direction by drawing down upon the belt J, and it is never necessary to go through with the inconvenient operation of drawing upward. The belt

J is made of a material and form convenient for the operator to grasp, and the injury to the operator's hands incident to the handling of the valve-shifting rope is avoided.

5 Having fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In controlling devices for elevators, the combination of a pulley E, pivoted in bearings upon the car, a rope C, adapted to actuate the valves by which the motion of the elevator-car is controlled, an auxiliary rope W, bound at its ends to the rope C at the top and bottom of the elevator-well and passing around the pulley E, and a brake mech-

anism for retarding the motion of said pulley, substantially as shown, and for the purpose described.

2. In a controlling device for elevators, the combination of a pulley E, pivoted in bearings to the elevator-car, a valve-actuating rope passing around said pulley, a pulley I, pivoted to said car, and a belt J, passing around the pulleys I and E, substantially as and for the purpose described.

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