(No Model.)

N. C. BASSETT.

OPERATING MECHANISM FOR HYDRAULIC ELEVATOR VALVES.

No. 359,551. Patented Mar. 15, 1887.

Fig 1.

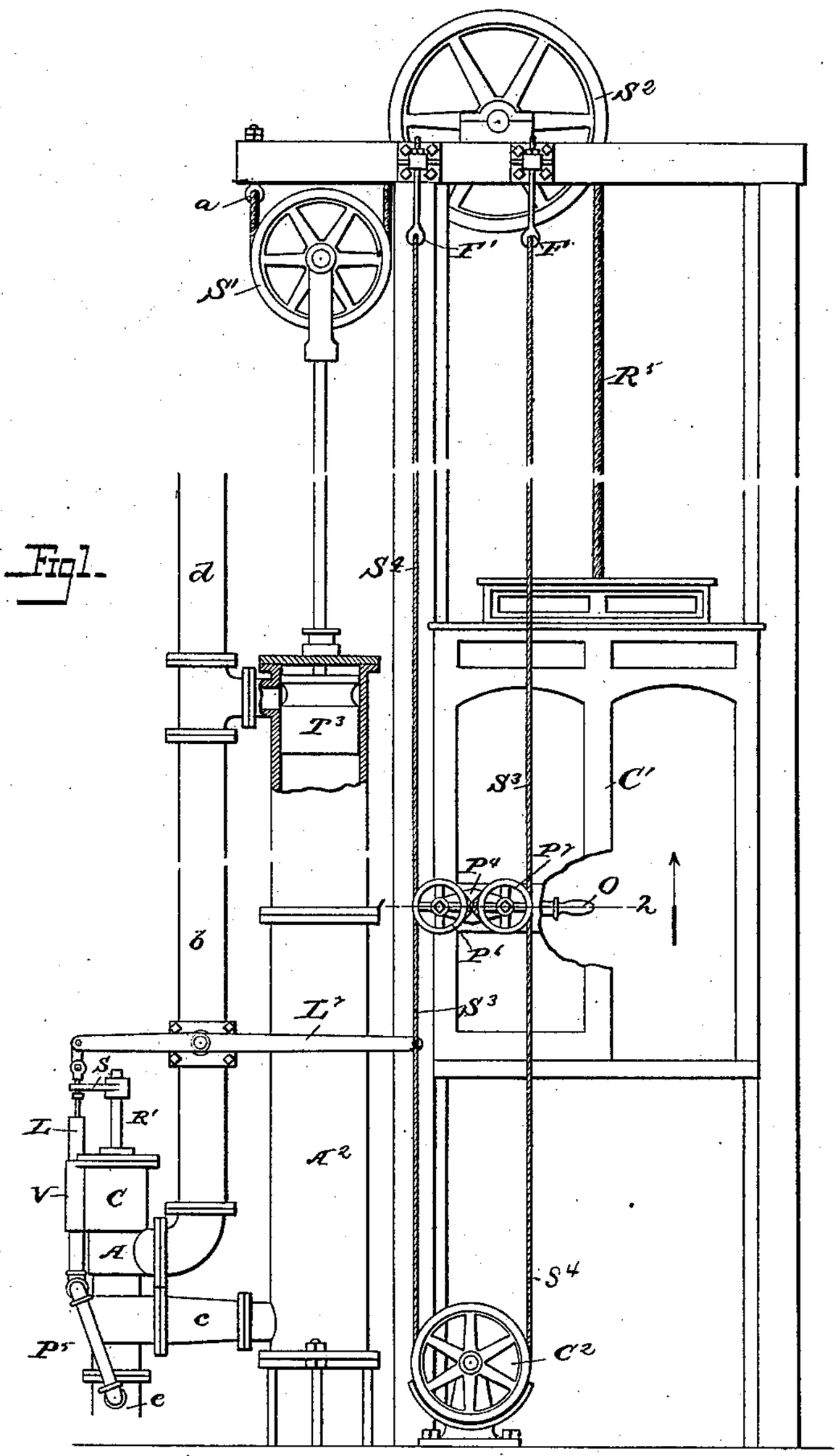
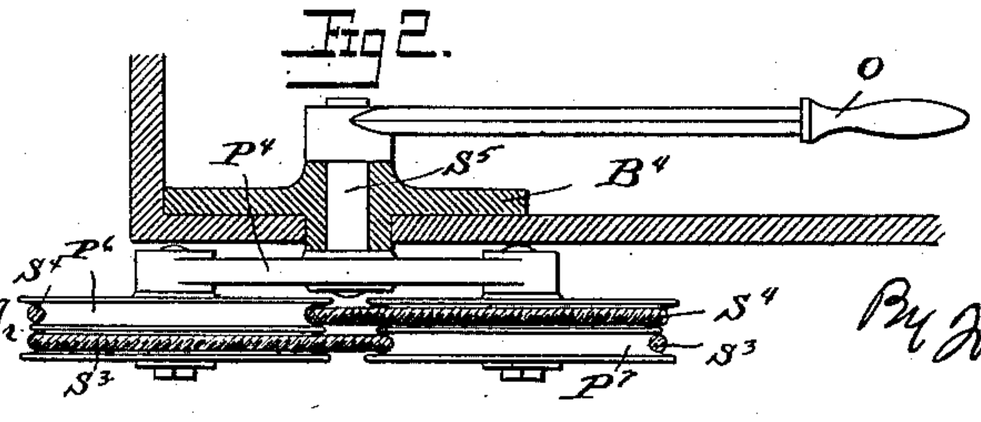


Fig 2.



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UNITED STATES PATENT OFFICE.

NORMAN C. BASSETT, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE HYDRAULIC ELEVATOR COMPANY, OF SAME PLACE.

OPERATING MECHANISM FOR HYDRAULIC-ELEVATOR VALVES.

SPECIFICATION forming part of Letters Patent No. 359,551, dated March 15, 1887.

Application filed March 5, 1885. Serial No. 157,770. (No model.)

To all whom it may concern:

Be it known that I, NORMAN C. BASSETT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Operating Mechanism for Hydraulic-Elevator Valves, of which the following is a specification.

My invention consists in certain devices, fully set forth hereinafter, for facilitating the adjusting of the valve of an elevator from the cage.

In the drawings, Figure 1 is a side elevation in part section of a hydraulic elevating apparatus illustrating my invention. Fig. 2 is an enlarged sectional plan on the line 1 2, Fig. 1.

The lifting-cylinder A^2 is provided with the usual lifting-piston, T^3, the piston-rod of which carries the traveling sheave, and the rope or flexible suspensory R^5 passes from a stationary eyebolt, *a*, beneath the sheave S′, and over a sheave, S^2, to the cage C′, which travels in the well between suitable guides.

The upper and lower ends of the lifting-cylinder are connected by the usual circulating-pipes, *b c*, with the casing A of the main valve, and an inlet-pipe, *d*, communicates with the circulating-pipe *b*, or with the cylinder, and also with a suitable water-reservoir, and the valve-casing A communicates with a discharge-pipe, *e*.

The valve is adjusted from the cage through the medium of ropes and sheaves arranged as illustrated in Figs. 1 and 2, there being two ropes, S^3 S^4, attached at their upper ends to adjustable eyebolts F F′, a sheave, C^2, turning in stationary bearings near the bottom of the well, and two double-grooved sheaves, P^6 P^7, each turning upon a stud carried by a lever, P^4, secured centrally to a spindle, S^5, extending through a bearing-plate, B^4, secured to the side of the car, the spindle S^5 carrying at its inner end, within the car, a hand-lever, O. The rope S^4, attached to the eyebolt F′, passes beneath the sheave P^6 and over the sheave P^7, and downward beneath the sheave C^2, and upward, and is secured at its upper end to a lever, L^7, or other valve-operating device, and the rope S^3 is connected to the eyebolt F, and passes beneath the sheave P^7, over the sheave P^6, and downward, its end being connected to the said lever L^7.

When the parts are arranged as illustrated in Fig. 1, the lever O being horizontal, the upward or downward movement of the car will have no effect to draw upon either of the ropes S^3 S^4, the contact of which with the pulleys simply causes the latter to revolve. If the lever O is pulled upward by the attendant within the car, the lever P^4 will be vibrated, the pulley P^7 will be raised, and the pulley P^6 correspondingly lowered, slacking the rope S^3, and causing a draft upon the rope S^4, which will result in depressing the inner end of the lever L^7 to an extent depending upon the extent to which the lever O has been carried from a horizontal position. In like manner, if the lever O is depressed, the rope S^4 will be slackened and the rope S^3 will be correspondingly tightened, so as to lift the inner end of the lever L^7 to an extent corresponding to that of the movement of the lever. This arrangement permits a ready manipulation of the valve by the attendant, and enables him to determine by the extent to which he moves the lever O the extent of movement imparted to the valve.

This valve-operating mechanism actuates the valve or valve appliances positively in both directions, and may be used with valves of different constructions, and the ends of the ropes S^3 S^4, instead of being connected to a lever to raise and lower the end thereof, may be attached to the opposite sides of a sheave to turn the latter and a valve-operating shaft attached thereto.

I do not here claim any of the features also shown and claimed in my application Serial Nos. 157,771, 158,462, and 216,962.

I am aware that two suspended ropes connected to a valve device have been used in connection with two pairs of sheaves or pulleys, each pair on bearings that may be vibrated from within the cage. My invention differs from this in passing both ropes in opposite directions around one pair of pulleys.

I claim—

1. In an elevator, a cage, a valve device, two freely-turning sheaves or pulleys carried by the cage, a lever on the cage connected to

vibrate the bearings of said pulleys, and two suspended ropes secured to fixed supports, passing in opposite directions round said pulleys and connected to the valve device, substantially as described.

2. The combination, with an elevator-engine, a cage connected to be operated thereby, and valve devices, of two suspended ropes secured to fixed supports, a lever carried by the cage, and supporting double-grooved pulleys outside the latter and adjustable from within the same, the said ropes being passed around the pulleys in opposite directions, and each connected at its end to a part of the valve-operating devices, substantially as set forth.

3. The combination of the cage of a hydraulic elevator, a shaft extending through the side of the same and carrying levers at its opposite ends, sheaves carried by the arms of the external lever, a pulley near the bottom of the well, a rope fixed at the upper end, passing around the sheaves and around the pulley within the well to the valve-operating appliances, and a second rope fixed at one end, passing around the same sheaves and to the valve-operating appliances, substantially as set forth.

4. The combination of two suspended ropes secured to fixed supports connected to the operating-valve of a hydraulic elevator, an adjustable lever supported by the cage, and two sheaves carried upon the lever, around both of which sheaves both the said ropes are passed, substantially as specified.

5. The combination, in an elevator, of a lever pivoted to the car and having arms projecting therefrom, pulleys or sheaves carried by the arms, and two cables suspended at their upper ends from fixed supports, and passing round both of said sheaves to devices connected to the engine-valve, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

NORMAN C. BASSETT.

Witnesses:
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