(No Model.)

W. H. WELLS, Jr.

DEVICE FOR CONTROLLING ELEVATORS.

No. 457,844. Patented Aug. 18, 1891.

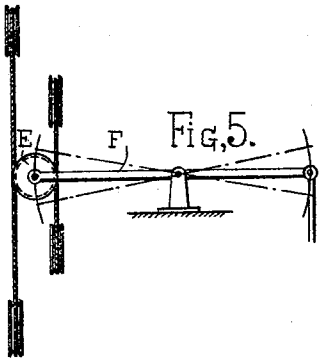


Fig. 5.

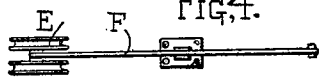


Fig. 4.

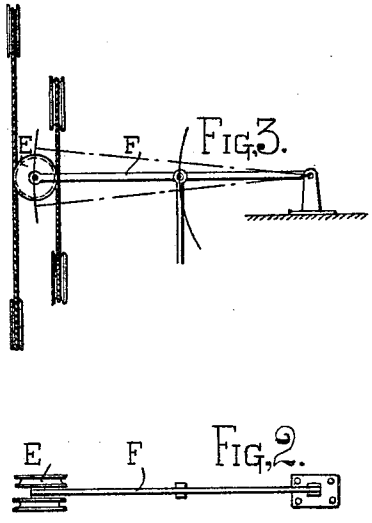


Fig. 3.

Fig. 2.

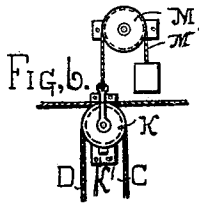


Fig. 6.

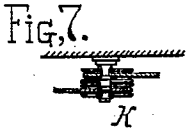


Fig. 7.

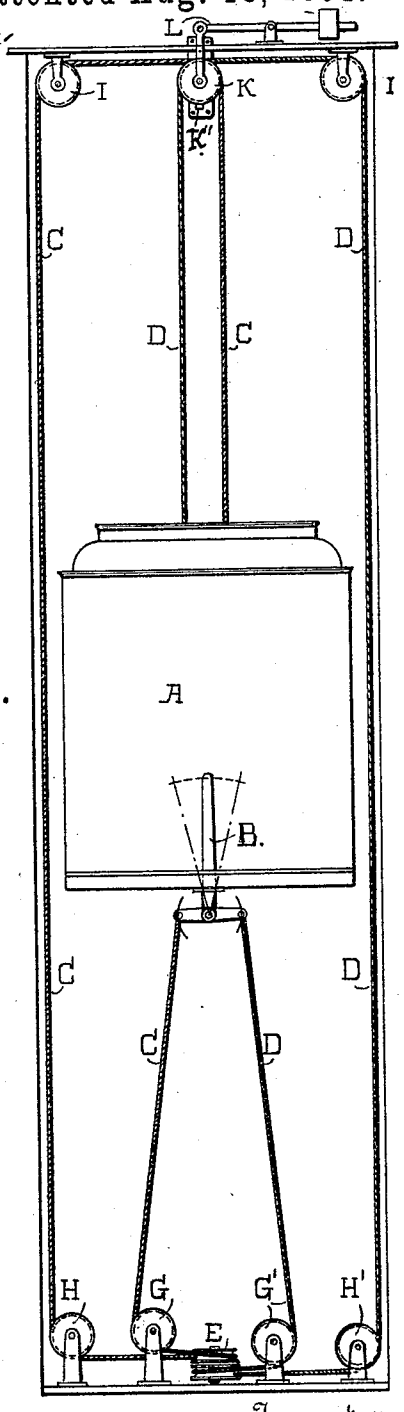


Fig. 1.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM H. WELLS, JR., OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO THE STANDARD ELEVATOR COMPANY, OF SAME PLACE.

DEVICE FOR CONTROLLING ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 457,844, dated August 18, 1891.

Application filed June 13, 1891. Serial No. 396,079. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WELLS, Jr., a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Means for Controlling the Valves of Elevators, of which the following is a specification.

This invention relates to means for controlling the valves of elevators and similar appliances; and it consists in the construction and arrangement substantially as hereinafter described and claimed.

Like letters refer to the same parts in the several figures of the drawings, in which—

Figure 1 represents a side elevation of the invention as applied to an elevator. Fig. 2 represents a detail view, in side elevation, of the lever at the bottom of the elevator-shaft with its sheaves. Fig. 3 represents a plan view of the same. Fig. 4 represents a side view of a modified form of such lever. Fig. 5 represents a plan view of this modified form. Fig. 6 is a side view in detail of a modified arrangement of adjusting weight and hanger. Fig. 7 is a plan view of the hanger and sheaves.

In the drawings, A designates the cage or carriage of the elevator, which is of the usual construction, and B designates a lever carried in such cage, which is likewise of a common form. At the bottom of the elevator-shaft is mounted a lever F, which carries two sheaves E E at one of its ends, and such lever may have its fulcrum at its other end, as is shown in Figs. 2 and 3, or in the center, as is shown in Figs. 4 and 5. In case the fulcrum of the lever is at its end, the rod connecting it with the valve will be secured to its center; but in case the fulcrum of the lever is at its center, such rod will be secured at the end of the lever opposite the sheaves. This lever is pivoted on its fulcrum so as to move in a horizontal plane and has no vertical movement, and the two sheaves arranged upon its end are upon opposite sides thereof, and therefore move in a horizontal plane. A short distance from the end of the lever carrying the sheaves and respectively on opposite sides thereof are arranged two sheaves G G′; but these sheaves G G′ are pivoted in vertical brackets and revolve on horizontal axes. Two sheaves H H′ are also pivoted upon horizontal axes in vertical brackets, and are respectively arranged a short distance beyond the sheaves G G′ before mentioned.

At or near the top of the elevator-shaft are arranged sheaves I I, which are also mounted upon horizontal axes, and are preferably supported in a vertical line with the sheaves H H′. Sheaves K are horizontally and independently mounted in a hanger depending from a weighted lever L, which latter is secured to the top of the elevator-shaft, or said sheave and hanger may be fastened to a cord M′, which passes over a sheave M and has a weight attached to its free end, as shown in Fig. 6, or some other kind of tension device may be employed. The hanger preferably is guided in a slotted bracket, as shown at K′. Two cords or ropes C D are secured at one end to points on opposite sides of its fulcrum to the lever B, and these cords pass downward and respectively under the sheaves G G′, and then around the sheaves E E, and outward and under the sheaves H H′, and upward and over the sheaves I I′, and thence over the sheaves K down to the elevator cage or carriage to which their other ends are secured.

In Fig. 6 of the drawings, the cord to which the tension-lever is attached is designated by the letter L.

The operation of this invention is as follows: The operator in the carriage may by manipulating the lever B in either direction at will draw upon the cord C or the cord D, and hence cause the free end of the lever F with its sheaves E E to be pulled to one side or the other, and through its connection with the valve open or close the latter. As both of the ropes pass over the sheaves K, any slack in either of them will be taken up by the weighted lever to which said sheave is connected.

It is obvious that slight changes might be made in the details of the present invention without departing from the principle thereof.

I disclaim and declare that I am not the

first inventor of, first, the combination of a cage, two operating-cables connected to travel with the cage-supports for the cables, and a counter-weight for the support; second, in a cable-operating mechanism for elevators comprising two controlled cables attached to the car, a weighted lever having sheaves over which cables run for regulating and maintaining the tension of the cable.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a traveling carriage, of two cords or ropes connected with an operating device on the car, horizontally-movable sheaves near the bottom of the elevator-shaft around which the cords pass in opposite directions, and guiding-sheaves at the top and bottom of the elevator-shaft, around which the ropes pass, said ropes being then attached to the car, substantially as and for the purpose set forth.

2. The combination, with a traveling carriage, of cords or ropes secured at one end to an operating means upon such carriage, a horizontally-moving lever near the bottom of the elevator-shaft carrying sheaves around which said ropes pass in opposite directions, guiding-sheaves at the bottom and top of such elevator-shaft, and adjustably-supported sheaves at the top of the shaft, around which said ropes also pass in opposite directions, such ropes being then attached at their ends to the car, substantially as and for the purpose set forth.

WILLIAM H. WELLS, JR.

Witnesses:
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