Z. C. FAVOR.

ELEVATOR.

No. 112,573. Patented Mar. 14, 1871.

Fig. 1.

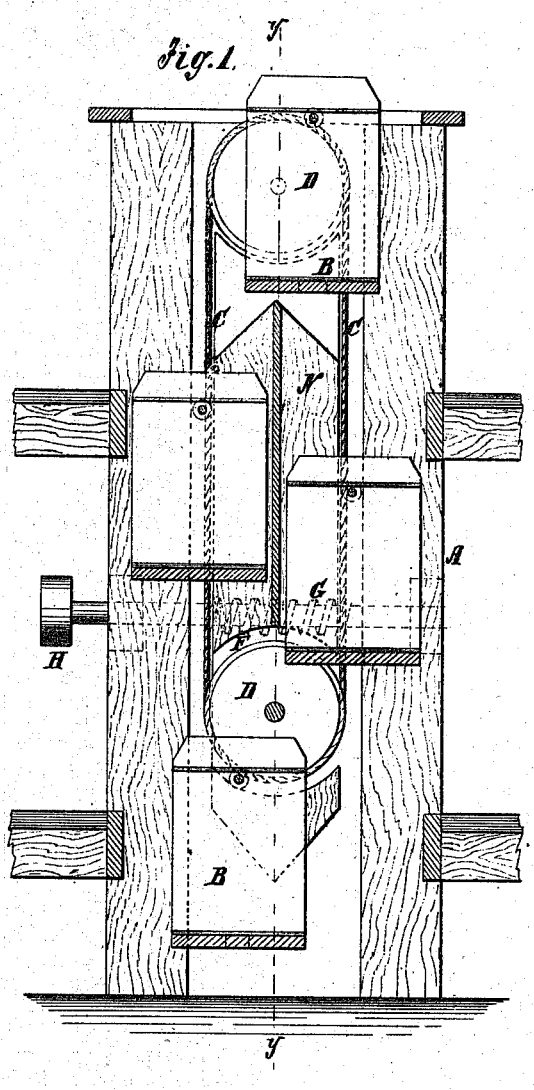


Fig. 2.

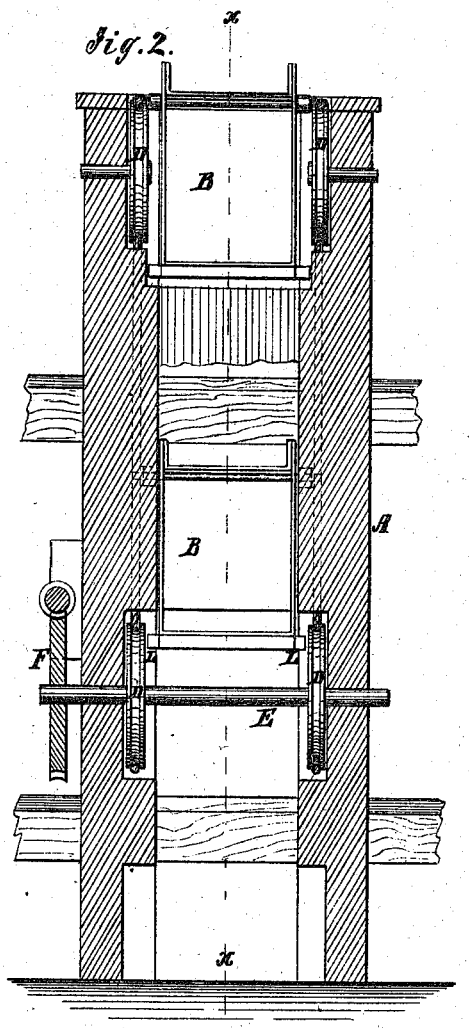


Fig. 3.

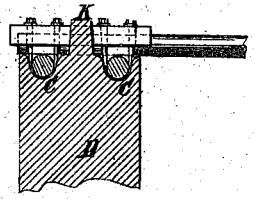
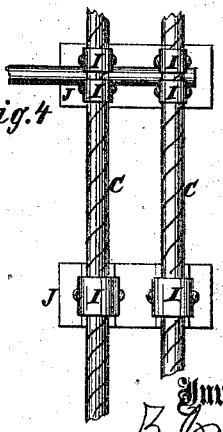


Fig. 4.



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ZEBULON C. FAVOR, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND OSCAR C. CHASE, OF SAME PLACE.

Letters Patent No. 112,573, dated March 14, 1871.

IMPROVEMENT IN ELEVATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ZEBULON C. FAVOR, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Elevators; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

The object of this invention is to provide means for elevating guests and baggage at hotels, goods and customers at stores, and for all purposes to which elevators or elevating-machines may be applied; and

It consists in the construction and arrangement hereinafter described.

In the accompanying drawing—

Figure 1 represents a vertical section of the elevator taken on the line *x x* of fig. 2.

Figure 2 is a vertical section on the line *y y* of fig. 1.

Figure 3 is a section, showing the mode of connecting and securing the ropes in a full-sized machine or with two ropes on each side.

Figure 4 is a front view of the same.

Similar letters of reference indicate corresponding parts.

This elevator consists of a train of cars attached to endless ropes or chains arranged so as to always remain in a perpendicular position and correspond with the different floors of the building, thus providing an ascending and a descending car for each floor, with a partition between the cars for separating them and cutting off the view from one to the other.

A is the well or opening in which the cars are made to operate, which may extend from the bottom to the top of the building;

B represents the car, of which there may be more or less in number;

C are the ropes from which the cars are supported; and

D are the wheels or pulleys (one pair above and one below) around which the ropes pass.

E is the shaft of the two lower rope wheels, which extend across the well and under which the cars pass.

On the outer end of this shaft E there is a worm-wheel, F.

G is a screw, which engages with the worm-wheel F, which screw is revolved by means of a belt on the pulley H. In this manner the motive power is applied for operating the elevator.

The cars are suspended from the rope or ropes on each side by means of a shaft or rod, which extends across the top of each car, the ends being attached to the respective ropes by boxes, so that the car will always maintain a perpendicular position.

The boxes in which the car-shafts are supported are secured to the ropes by clasps I, as seen in figs. 3 and 4.

As seen in those figures two ropes instead of one may be used, bridged together at intervals, as seen at J J, so as to prevent the possibility of slipping, the pulley being made double for that purpose, as represented, and provided with cogs K, which work between the bridges.

The power may be applied at either end of the bottom shaft, as may be found most convenient.

By the use of the worm-gear for the application of the power it will be seen that there can be no back motion to the gearing, and that when the cars are stopped they will remain at the proper point as long as may be desired, thus avoiding the necessity of a brake of any description.

The two upper rope wheels or pulleys have separate arbors, (confined in the sides of the well or opening,) on which they revolve, thus allowing the cars, as they are carried over and changed from an ascending to a descending motion, to pass between them.

At the bottom of each car, on each side, there is a projecting lug, L, seen in fig. 2, which runs in grooves in the sides of the well, for keeping the car steady and in the proper position.

N is a partition between the floors of the building, which separate the cars as they pass up and down.

The elevator can be regulated in its movements by signals to the engineer, or by shifting the driving-belt from the tight to a loose pulley, and *vice versa.*

The advantages of this mode of constructing elevators will be readily understood by all who are acquainted with this description of machinery.

Having thus described my invention,

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

1. The improved elevator, formed by cars B B, wheels D D, axles E E, ropes C C, partition N, worm-shaft *g*, all arranged substantially as specified.

2. The partition N, for separating the ascending and descending cars, substantially as described.

Witnesses: ZEBULON C. FAVOR.

OLIN J. GARY,

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