

J. F. MARSH.
Elevators.

No. 137,940.

Patented April 15, 1873.

Fig. 1.

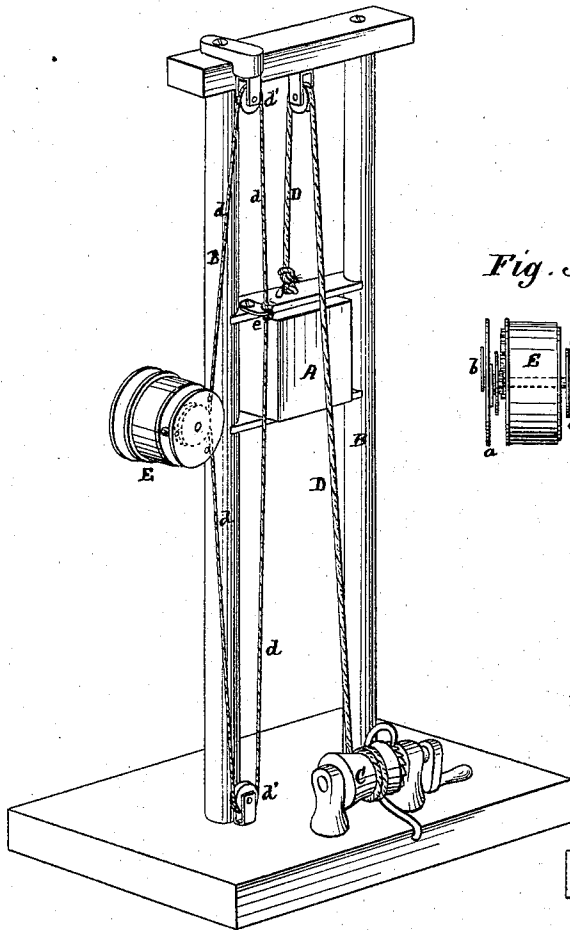


Fig. 2.

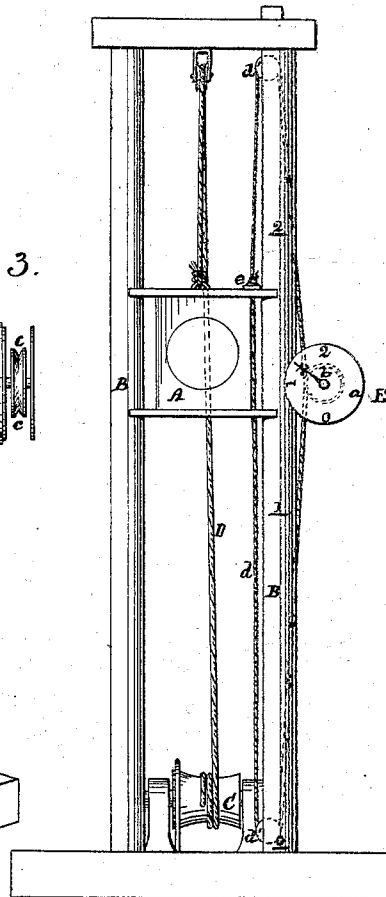


Fig. 3.

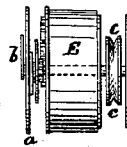
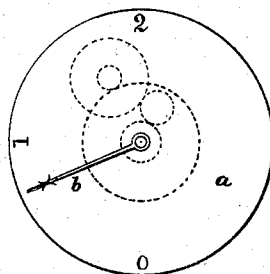


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN F. MARSH, OF LITTLETON, NEW HAMPSHIRE.

IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. **137,940**, dated April 15, 1873; application filed April 7, 1873.

To all whom it may concern:

Be it known that I, JOHN F. MARSH, of Littleton, Grafton county, New Hampshire, have invented certain new and useful Improvements in Elevators, of which the following is a specification:

This invention relates to elevators, such as used in hotels, warehouses, and other localities for conveying passengers or freight up and down in the building in which the elevator is located; and its object is to furnish a convenient and ready means whereby a person at any one of the various landings may ascertain where—*i. e.*, at what story or height—the elevator is, and in what direction it is moving. To this end I combine with the elevator proper one or more indicators operated by the moving elevator or its actuating devices, so as to indicate unerringly to the observer the position in which the elevator may happen to be at the time of taking the observation. The indicator is attached to some stationary part in the neighborhood of the elevator, well, or shaft in which the elevator moves. If desired, one indicator may be provided at each landing, being located at or near the door through which entrance is had to the elevator from the landing.

The manner in which my invention is or may be carried into effect will be understood by reference to the accompanying drawing, in which—

Figure 1 is a perspective view of an elevating apparatus embodying my invention. Fig. 2 is a front elevation of the same. Figs. 3 and 4 will be hereinafter referred to.

A is the elevator-carriage, moving up and down in suitable guides B. The carriage and guides for the same may be constructed in any ordinary or suitable manner. The carriage is moved up and down by means of a rotating drum, C, and rope D, or any suitable means, as ordinarily practiced. To some fixed or stationary part in the vicinity of the elevator I affix an indicator, E, consisting in this instance of a dial, *a*, and hand *b*, the latter being actuated by means of a rotating pulley, *c*, at the rear of the indicator, through

the intermediary of a suitable train of gearing so arranged and graduated as to properly reduce the movement of the hand over the dial to accord with the movement of the elevator.

The indicator is shown in side elevation on an enlarged scale in Fig. 3. Fig. 4 is a front view of the same, the gearing being indicated by the dotted lines.

Around the pulley *c* passes an endless belt or cord, *d*, which extends the height of the elevator-shaft, and is stretched over top and bottom pulleys *d'* *d'*. It is also attached to the elevator at a point, *e*.

It will be seen that under this arrangement a movement up or down of the elevator will produce a corresponding movement of the cord *d*, by which the pulley *c* will be rotated, and this movement, through the gear-train, will be transmitted to the hand *b*.

The dial *a* is spaced off at 1, 2, &c., these spaces being so graduated, and the movement of the hand being so timed, that when the elevator is at the first story the hand will be at 1; when the elevator is at the second story the hand will be at 2, and so on.

Thus the position of the hand on the dial will be an unerring guide to the actual position of the elevator at any point in its shaft; and, according to the direction in which the hand moves, it will be easy to determine the direction of motion of the elevator. If the hand moves from 1 to 2, and so on, the elevator is ascending. If it moves in the opposite direction the car is descending. In this way a person on any one of the landings can at once determine the position of the car and the direction of its movement.

It will be manifest that the construction of the indicator can be considerably varied; and, also, that the movement of the same can be derived either from the car itself or from some suitable part of the mechanism by which the car is actuated.

Having described my invention and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

The combination, with the elevator-car, of an indicating device or mechanism, substantially such as described, attached to some fixed or stationary part in the vicinity of the well or shaft in which the elevator-car moves, and connected with and operated by the elevator-car, or other moving part of the elevator apparatus, in the manner and by the means substantially as specified.

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

JOHN F. MARSH.

Witnesses:

EVARTS W. FARR,
C. H. GREENE.