

M. HANFORD.

Elevators.

No. 134,273.

Patented Dec. 24, 1872.

Fig. 1

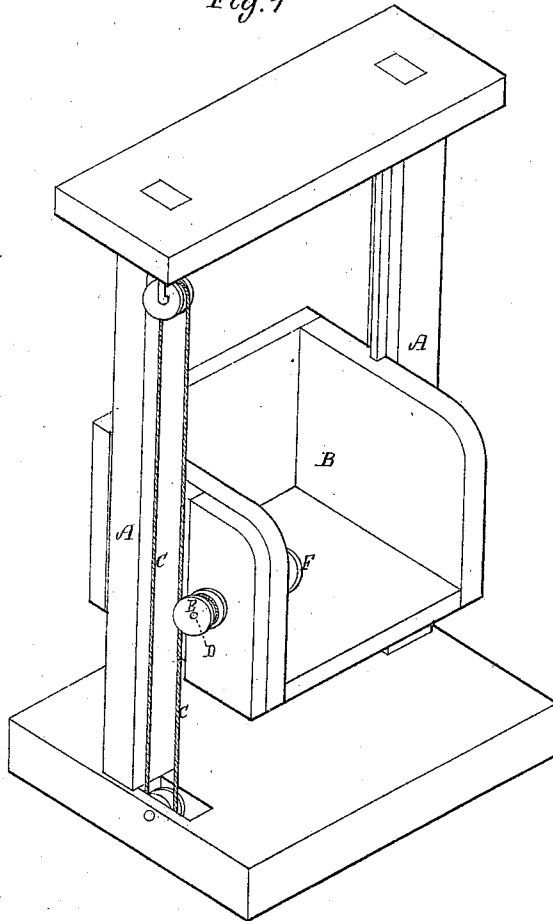
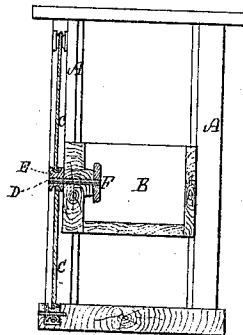


Fig. 2



Witnesses.
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MELANCTHON HANFORD, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. 134,273, dated December 24, 1872.

To all whom it may concern:

Be it known that I, MELANCTHON HANFORD, of Boston, Suffolk county, Massachusetts, have invented an Improvement in Power Elevators, or the Reversing Apparatus of the same, of which the following is a specification:

This invention relates to a class of apparatus for shifting or reversing the direction traveled by the hoisting drum or drums in which a rope is employed which is connected with the shifting or reversing apparatus, and is to be seized and raised or lowered by the attendant according to whether the carriage or platform be ascending or descending.

Heretofore this rope has been passed through the car or carriage of the elevator in order that it may be readily seized and operated by the attendant while the car is in motion, and this introduction of the rope into the interior of the car is objectionable partially on account of its unsightly appearance and partly on account of the fact that, owing to its small diameter and the power to be exerted upon it, considerable power must be exerted to operate it.

My present improvement obviates these objections; and consists in disposing the reversing-rope outside of the car and coiling it one or more times about a grooved disk or pulley which is attached to the outer end of a horizontal shaft or rod that extends into the interior of the car and finds a bearing and freely revolves in or near one side of the latter in suitable boxes, the inner end of such shaft being provided within the car with a hand-wheel or its equivalent, whereby the revolution of the disk about the rope while the car is in motion is arrested and the rope compelled to travel by and with the car until the reversing of the hoisting mechanism. As this hoisting mechanism, and the connection of the reversing-rope with it, possesses no novelty, and is in general use, no particular mention is made of it in this specification.

The drawing accompanying this specification represents, in Figure 1, a perspective view of an elevator embodying my improvements, Fig. 2 being a vertical and transverse section of the same.

In this drawing, A represents the frame, and

B the platform or carriage of an elevator of ordinary construction, C being the hand-rope or cord which extends from the top to the bottom of the building or structure containing the elevator, and which is connected with and operates the reversing mechanism in the usual manner, a down pull upon the rope causing the carriage to ascend, and an upward pull causing it to descend, there being an intermediate point between the two, at which the driving-belt is running upon the loose pulley, and the carriage is motionless. As before stated, one side or half of the cord C has passed through the car or carriage of the platform with several objectionable results.

In carrying my invention into practice I dispose the entire cord outside of the carriage, and mount, within suitable bearings or boxes applied to or near one side of such carriage, a short horizontal shaft, D, while to the outer end of such shaft I affix a grooved roller or disk, E, about the periphery of which one side of the cord C is coiled one or more times, as shown in the drawing, the result being that, when the carriage is in motion either ascending or descending, the roller travels along the cord without effect upon it unless the rotation of the disk be forcibly stopped. To the inner extremity of the shaft D I affix a hand-wheel, F, or its equivalent, by which the attendant of the carriage constantly remains, as by this wheel he controls the movements of such carriage. Should this car be in motion, and the attendant desires to stop it, he seizes the hand-wheel and stops its rotation and locks it to the cord until the cord has traveled with the carriage a sufficient distance to throw the driving-belt upon the loose pulley of the driving apparatus and stop the motion of the carriage. Upon desiring to again start the carriage the attendant rotates the hand-wheel in one or the other direction and raises or lowers the cord as the case may be, the effect being to shift the driving-belt to and upon one or the other of the driving-pulleys and compel the carriage to travel in the direction which such pulley intends.

My invention above described possesses a very neat appearance, far exceeding that presented by the passage of the hand-rope through

the carriage, while the hand-wheel provides a means of enabling the attendant to much more easily and readily actuate the rope and control the movements of the carriage than by the use of the rope alone.

Claim.

I claim—

Locating the reversing rope or cord of an elevator outside of the carriage of the latter,

and connecting such rope with a shifting or actuating device which extends into or communicates with the interior of the carriage, as shown by the roller E, shaft D, and hand-wheel F, or an equivalent device which effects like results.

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Witnesses:

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