S. LEVI.

ELEVATOR.

No. 187,647. Patented Feb. 20, 1877.

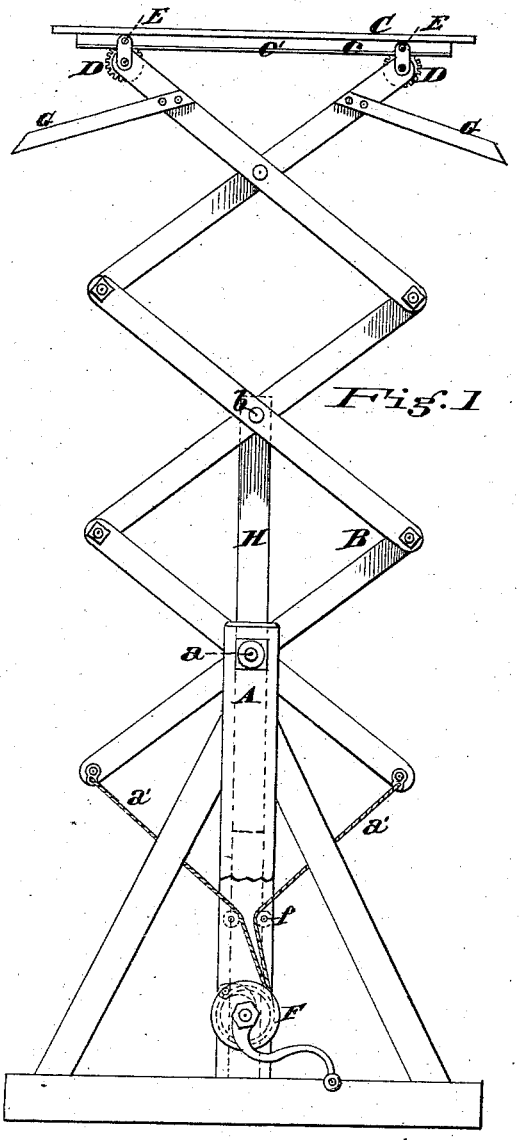


Fig. 1

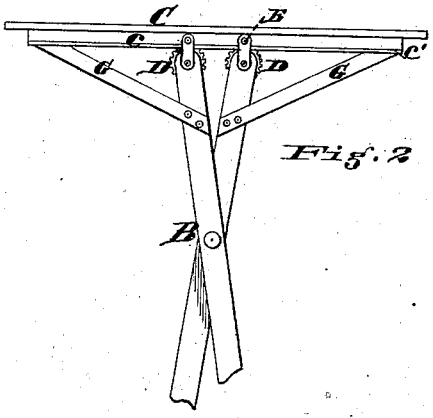
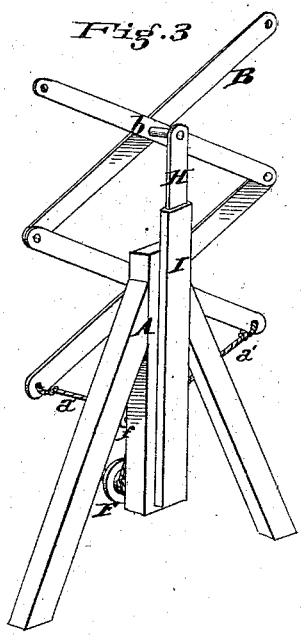


Fig. 2

Fig. 3



Attest

Edgar J. Gross

John E. Jones.

Inventor

Sigmund Levi

By F. Millward

Atty.

UNITED STATES PATENT OFFICE.

SIGMUND LEVI, OF CINCINNATI, OHIO.

IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. **187,647**, dated February 20, 1877; application filed July 25, 1876.

To all whom it may concern:

Be it known that I, SIGMUND LEVI, of Cincinnati, Hamilton county, State of Ohio, have invented an Improvement in Elevators, of which the following is a specification:

My invention relates to a class of elevators which rise and fall by power applied through a lazy-tongs support, and has for its object the construction of a better connection between the lazy-tongs and the elevator-platform, and the provision of means for steadying the platform upon the lazy-tongs frame when the bearing is narrow, owing to the lateral contraction of the frame when extended to its limit of rise; and my invention consists, in the first part, of a certain rack-and-pinion connection between the platform and lazy-tongs, secured by swinging and clamping rollers against disengaging, the whole more fully described hereafter.

My invention consists, in the second part, in connection with the lazy-tongs frame, of a series of supporting-bars, secured rigidly thereto in a manner to engage with the elevator-platform as the bearing thereof becomes narrowed by the lateral contraction of the lazy-tongs, and support it in a horizontal position.

Figure 1 is a partially-sectional elevation of an elevator embodying my invention. Fig. 2 is a detail elevation, showing platform and connection when at extremest elevation. Fig. 3 is a perspective view, detailing part of my invention.

A is the supporting-frame of the elevator, to which are pivoted the first sections of a pair of lazy-tong frames, B. C is the elevator-platform, secured to and resting upon the top of the lazy-tongs frames, which are provided with pinions D, to engage with the racks *c* of the platform. These racks are provided with flanges *c'*, by which the swinging roller-frames E secure the platform C to the lazy-tong frame; and, owing to the pivoting of these roller-frames upon a line with the centers of the pinions D, no obstacle is opposed to the movement of the pinions along the racks *c*. The first sections of the lazy-tong frame are pivoted to frame A at *a*, and the loose ends thereof provided with cables *a'*, connecting to an operating-drum, F, secured in frame A by way of idlers *f*.

The operation is this: that by rolling up the cable *a'* upon the drum F the lazy-tong frame B laterally contracts throughout its length, and upwardly expands or progresses, and thus the pinions D approach each other along the racks *c*, and toward the center of the elevator-platform. By this means the breadth of bearing for the platform is decreased, and in order to steady the platform at this point of extremest elevation I provide supports G, secured rigidly upon the last section of the lazy-tong frame, in such position as to, by the movement of the frame, come under the platform as the pinions D on the ends of the lazy-tong frame approach each other along racks *c*.

To steady the movement of the lazy-tong frame I attach to it at a center joint, *b*, preferably a sliding bar, H, which bar moves in an extended bearing, I, on frame A. The application of this style of elevator is intended mostly for conveying between two consecutive floors of a building by hand-power, although steam may evidently be used, and by relatively strengthening the sections of the frame B the elevator may be used any desirable length of lift.

This elevator may be connected to any of the well-known hoisting apparatus, and in cases where hand-elevators are used the mechanism from the upper floor may be taken from the upper floor and used in the cellar as a hoisting-windlass to connect with my elevator, to save expense in first cost.

Having thus described my invention, I claim—

1. In a lazy-tongs elevator, the connection, between frames B and platform C, of racks *c c'*, pinions D, and securing-rolls E, connected and operating substantially as and for the purpose specified.

2. In a lazy-tongs elevator, the combination, with frames B and platform C, of supporting-bars G, connected and operating substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

SIGMUND LEVI.

Witnesses:

JOHN E. JONES,

J. L. WARTMANN.