

No. 813,830.

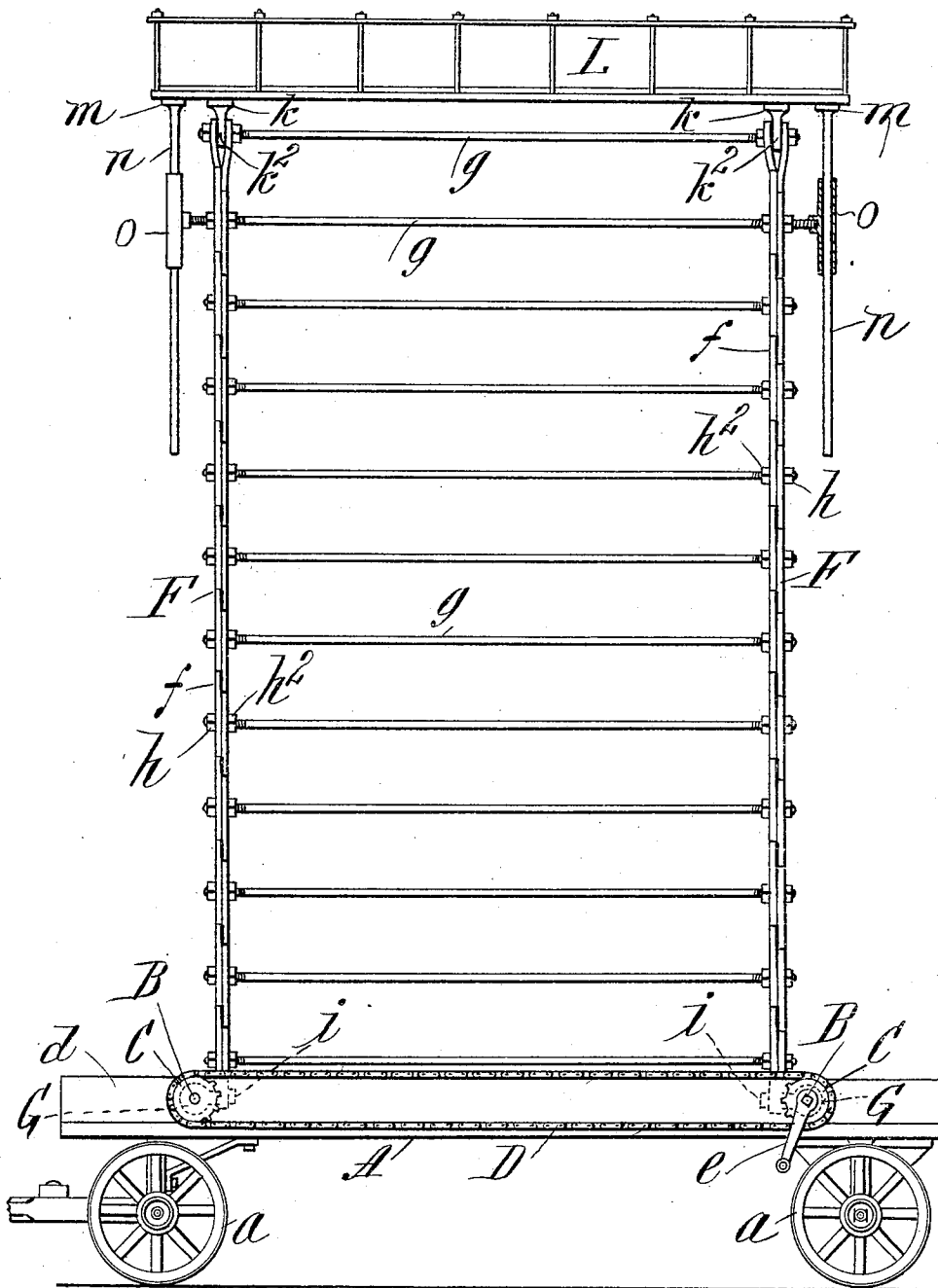
PATENTED FEB. 27, 1906.

E. ROBIDOUX.
ELEVATING DEVICE.

APPLICATION FILED AUG. 23, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

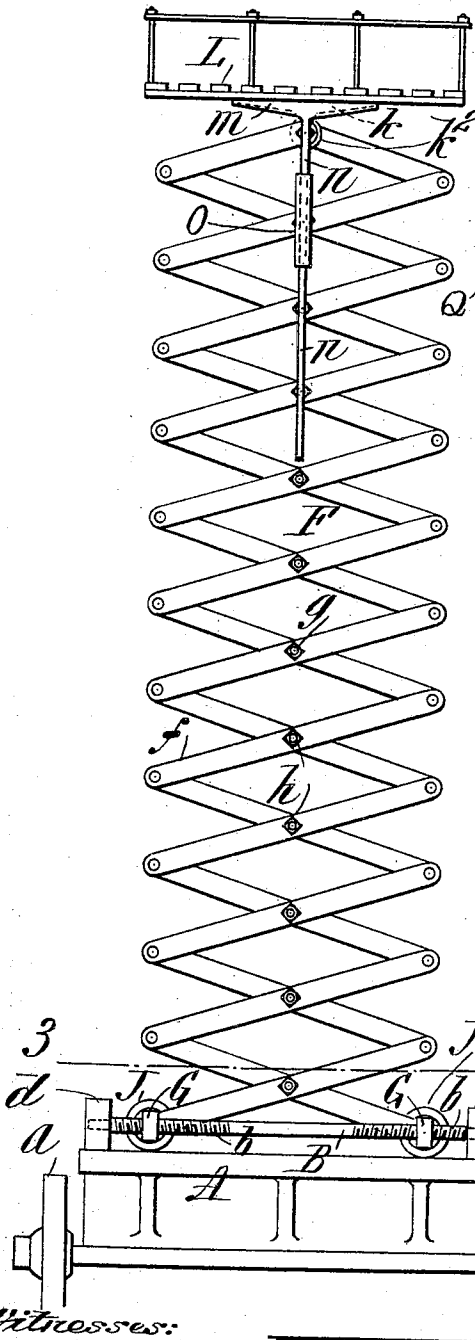


Fig. 3.

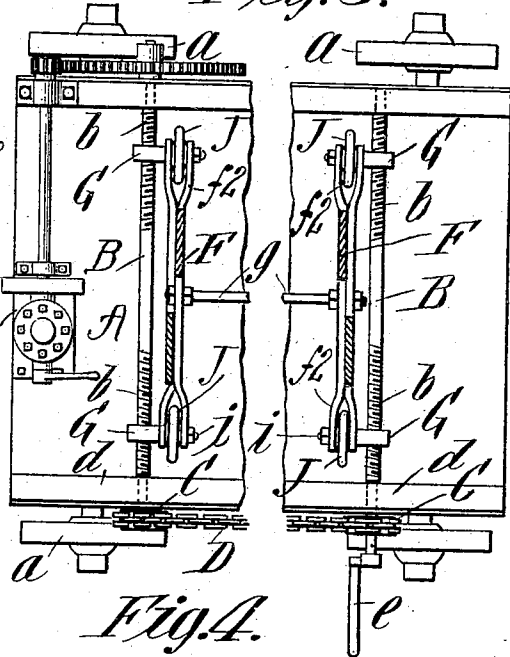


Fig. 4.

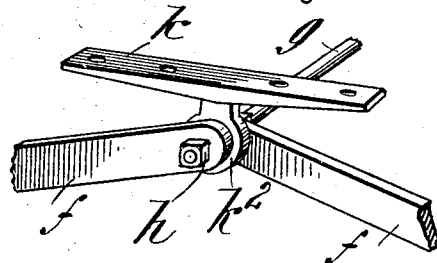
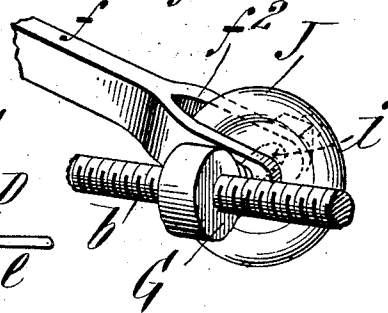


Fig. 5.



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UNITED STATES PATENT OFFICE.

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ELEVATING DEVICE.

No. 813,830.

Specification of Letters Patent.

Patented Feb. 27, 1906.

Application filed August 23, 1905. Serial No. 275,398.

To all whom it may concern:

Be it known that I, ELI ROBIDOUX, a citizen of the United States of America, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Elevating Devices, of which the following is a full, clear, and exact description.

This invention relates to improved mechanism for elevating to any desired height within reasonable limits and lowering at pleasure a platform or support of any suitable character—such, for instance, as one capable of sustaining a person or persons—the apparatus being available for rescuing persons in the upper stories of buildings in case of fire, for an elevated or variably-elevating staging for carpenters or painters or repairers of trolley-wires, and for other manifest purposes.

The invention consists in novel combinations of parts including oppositely-arranged vertically-distensible and contractible lazy-tongs, a bottom support, means for mechanically operating the lower bars of both sets of lazy-tongs in an easy and practical manner, a support, platform, or staging at the tops of the lazy-tongs, with provisions maintaining the latter against tilting, and all as hereinafter more definitely described, and set forth in the claims.

The improved elevating structure is illustrated in the accompanying drawings, in which—

Figures 1 and 2 are elevations, as seen at right angles to each other. Fig. 3 is a horizontal section and plan view as seen between the line 3 3, Fig. 2. Fig. 4 is a perspective view showing forms of engaging parts at the upper part of the structure, and Fig. 5 is a perspective view showing duplicated details of constructions at the lower portion of the structure.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A represents the bottom support of this apparatus, here shown as the platform of a truck, of which *a* represents the wheels.

B B represent two parallel horizontal shafts having at opposite end portions thereof the right and left screw-threads *b*, said shafts being mounted for rotations in journal-supports *d* of the platform A, and have sprocket-wheels C C, around which runs the sprocket-chain D. One of the shafts has a

hand-crank *e* thereon by means of which to rotate both shafts in a desired direction and in unison.

F F represent two oppositely and vertically arranged sets of lazy-tongs, the pivotal connections for the crossing middle portions of the series of bars *f* thereof being constituted by the comparatively long rods *g*, confined by nuts *h h*² on their threaded extremities.

G G represent shaft-engaging parts or traveling nuts, a pair for each right and left threaded screw-shaft. Each nut has a transversely-extended integral journal-stud *i*, on which is mounted a wheel J, having a rolling support on the top of the platform for a traveling movement in unison with the traveler-nut parallel with the screw-shaft.

The lower crossing lazy-tongs bars *f* of the opposite sets are formed fork-shaped, as shown at *f*², and have their perforated ends in suitably-loose engagements with the said studs *i*, and said fork-shaped lower crossing lazy-tongs bars embrace and hold between them the wheels J.

L represents the top platform or supporting structure sustained by and between the upper portions of the opposite sets of lazy-tongs. The means of connections of the platform L with the lazy-tongs tops are by the duplicated plates *k* screwed to the under sides of the platform ends and having the depending perforated ear-lugs *k*², with and through which the extremities of the pivot-rod *g* for the upper lazy-tongs bars engage.

In order to prevent the upper platform, which is jointed to the lazy-tongs on a horizontal pivot-axis, which is directly under its middle, from having a rocking motion, which would be most undesirable, the platform has at its ends the firmly-affixed plates *m*, having the depending rigid rods or bars *n*, which play for vertical restraining engagements through the vertical ways or passages in the guides *o*, which are immovably affixed on the outwardly-protruding ends of one of the lazy-tongs pivot-rods *g* below the top one, here shown as the next to the top one.

In operating with both sets of the lazy-tongs somewhat collapsed, as shown in Fig. 2, or very much farther collapsed, as is possible, the turning of the paired right and left threaded screw-shafts in the proper direction causes the opposite nuts G of both pairs to approach each other and the lower lazy-tongs bars to be brought together, distending and

elevating the entire lazy-tongs structures and the supporting-platform thereon, which latter by the steadying provisions before pointed out will always remain level, and of course
 5 rotations of the screw-shafts in the opposite directions will insure a lowering of the structure partially or fully to the limits of the contraction of the paired lazy-tongs.

If desired, a motor (represented on the
 10 truck-platform at Q, Fig. 3) may have driving connection with one of the screw-shafts B, whereby the elevating apparatus may be operated by power.

The wheels or rollers J are mediums for
 15 practically sustaining the weight of the lazy-tongs and top platform from the lower platform and relieving the nuts and screw-shafts from the weights of these parts.

Having thus described my invention, what
 20 I claim, and desire to secure by Letters Patent, is—

1. In an elevating device, the combination with a bottom platform or support, a pair of horizontal parallel right and left threaded
 25 screw-shafts journaled for rotation thereon, and means for concurrently turning said shafts, of two pairs of nuts or screw-engaging parts on said shafts, opposite sets of lazy-tongs having the crossed lower members
 30 thereof pivotally engaged with said nuts, wheels or rollers provided for rotation on the pivots of the lower lazy-tongs bars, and having rolling supports on said bottom platform in lines parallel with the lengths of said screws,
 35 and a platform or supporting structure, supported at the tops of said sets of lazy-tongs.

2. In an elevating device, the combination with a bottom platform or support, a pair of horizontal parallel right and left threaded
 40 screw-shafts journaled for rotation thereon, and means for concurrently turning said shafts, of two pairs of nuts or screw-engaging parts, opposite sets of lazy-tongs having the crossed bar members thereof pivotally engaged with said nuts, and a platform or supporting structure, having at its opposite end
 45 portions centrally located, rigidly-affixed depending members pivotally connected at the

junctions of the top pairs of lazy-tongs bars; and said platform also having at the middles
 50 of their end portions outside the said lazy-tongs rigidly-affixed depending bars, and guiding members, having vertical ways there-through, affixed to each end of one of the pivot-bars between opposite pairs of the lazy-
 55 tongs bars which are below the top bars, in which members said depending bars have guiding engagements.

3. In an elevating device, the combination with a bottom platform or support, a pair of horizontal parallel right and left threaded
 60 screw-shafts journaled for rotation thereon, and means for concurrently turning said shafts, of two pairs of nuts or screw-engaging parts having horizontal transversely-extending
 65 studs, wheels mounted for rotation on said studs and running on said platform, opposite sets of lazy-tongs having the crossed lower bars thereof fork-shaped, engaged on
 70 said nut-studs and embracing said wheels, and nuts on the extremities of the studs and confining the forked lazy-tongs bars and said wheels in place on the nut-studs.

4. In an elevating device the combination with a bottom platform, a pair of horizontal
 75 parallel right and left threaded screw-shafts journaled for rotation thereon and each having a sprocket-wheel, a sprocket-chain running around said wheels, and means for rotating one of said screw-shafts, of two pairs
 80 of nuts having horizontal transversely-extending studs, wheels mounted for rotation on said studs, and running on said platform, opposite sets of lazy-tongs having the crossed
 85 lower bars thereof fork-shaped, engaged on said nut-studs and embracing said wheels, and nuts on the extremities of the studs and confining the forked lazy-tongs bars and said wheels in place on the nut-studs.

Signed by me at Springfield, Massachusetts, 90
 setts, in presence of two subscribing witnesses.

ELI ROBIDOUX.

Witnesses:

DAVID BERTRAND,
 WM. S. BELLOWES.