

(No Model.)

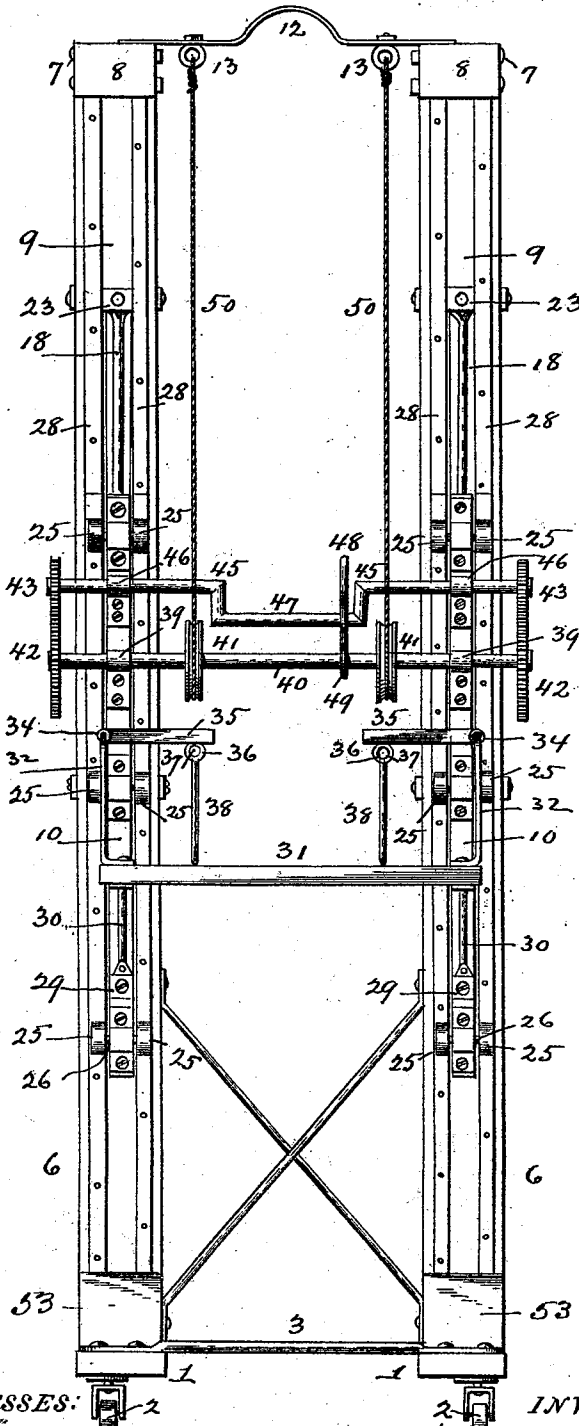
3 Sheets—Sheet 1.

W. H. RICKABACH.
ELEVATOR.

No. 517,768.

Patented Apr. 3, 1894.

Fig. 1.



WITNESSES:

F. L. Ourand
J. L. Leoumb

INVENTOR:

William H. Rickabach
J. S. Capper & Co
Attorneys

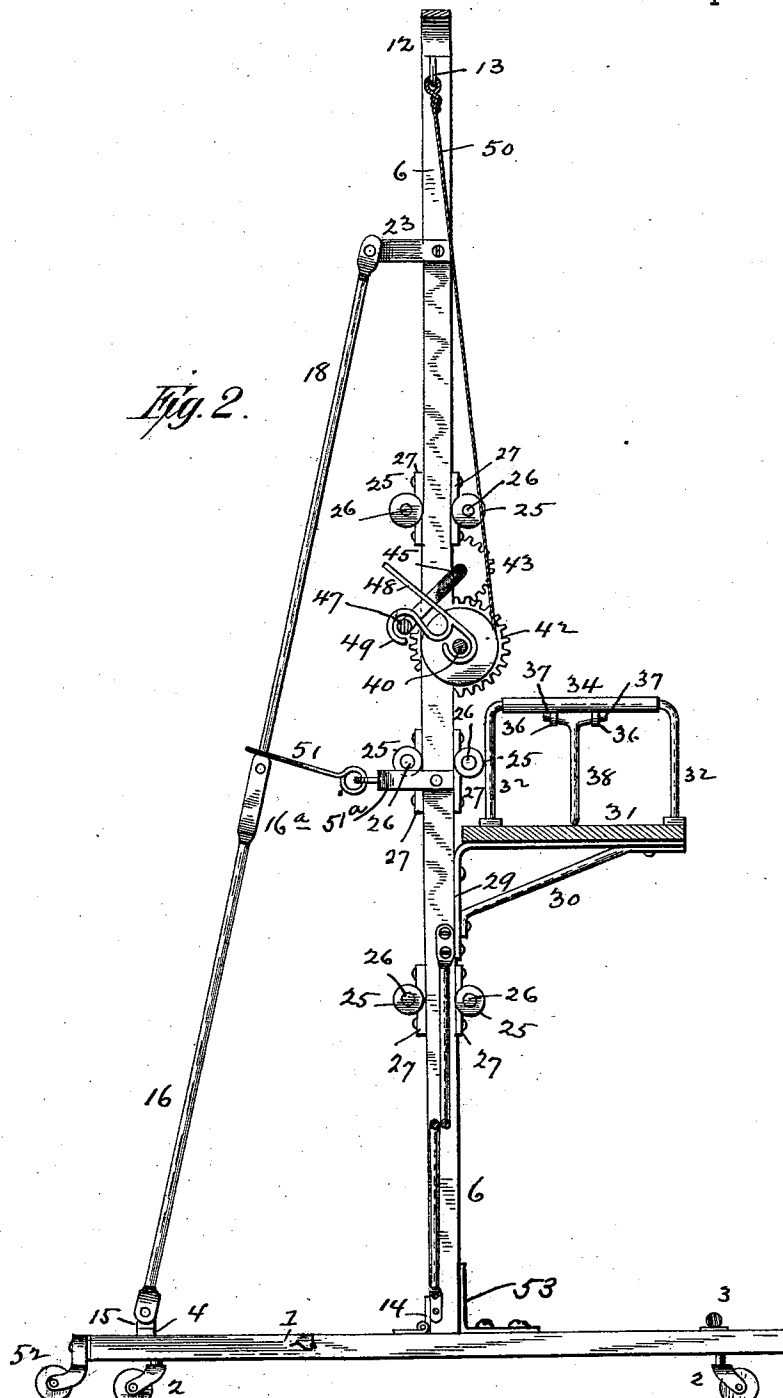
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Patented Apr. 3, 1894.



WITNESSES:
F. L. Ostrand.
J. D. Leonard.

INVENTOR:
William H. Rickabach,
James Dagg & Co.
Attorneys.

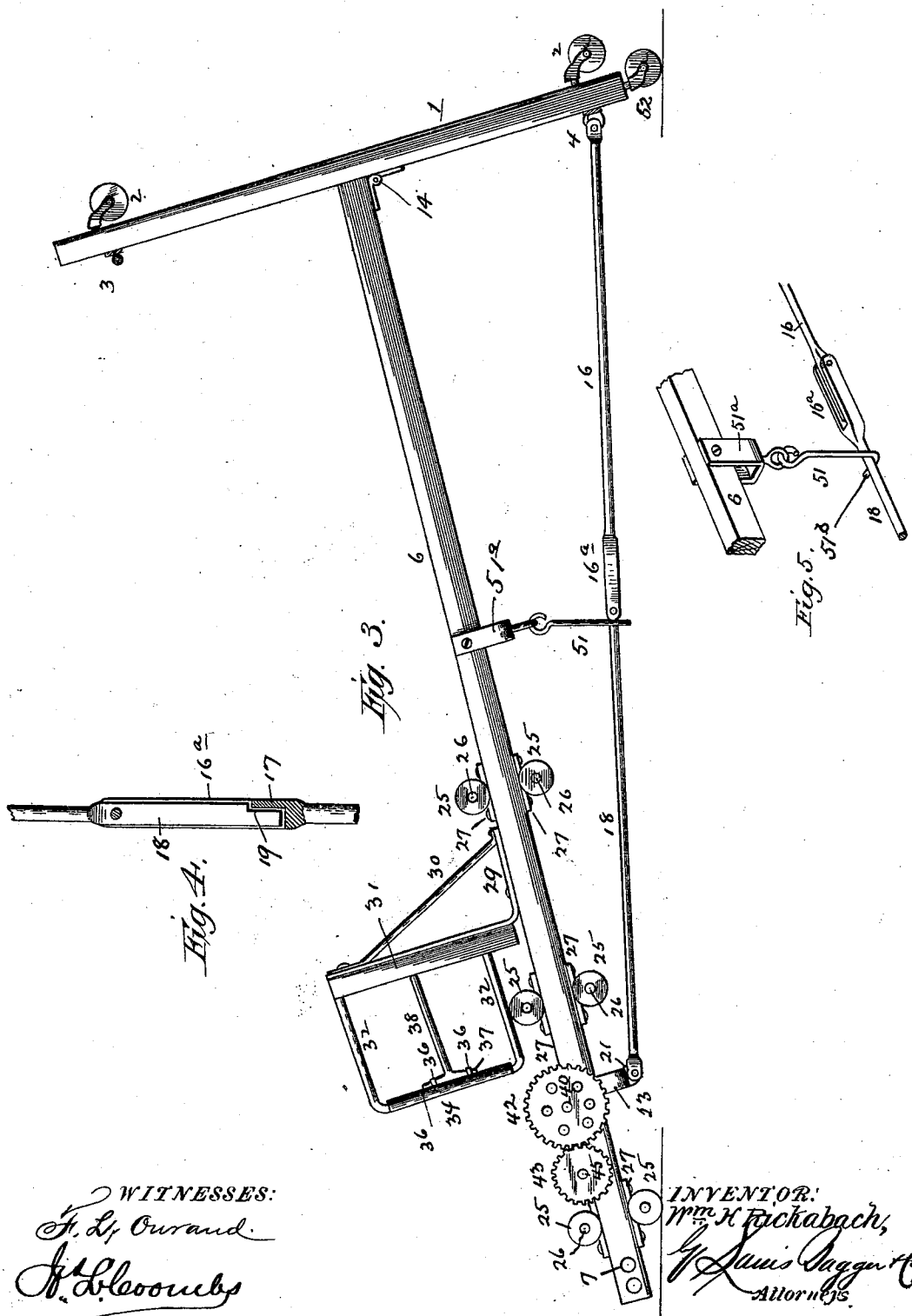
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3 Sheets—Sheet 3.

W. H. RICKABACH.
ELEVATOR.

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Patented Apr. 3, 1894.



UNITED STATES PATENT OFFICE.

WILLIAM H. RICKABACH, OF MISHAWAKA, INDIANA, ASSIGNOR OF ONE-HALF TO WINFIELD L. HUSTON, OF SAME PLACE.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 517,768, dated April 3, 1894.

Application filed September 16, 1893. Serial No. 485,660. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. RICKABACH, a citizen of the United States, and a resident of Mishawaka, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Elevators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in portable hand-elevators or derricks, for use more especially for elevating workmen and material in the erection of buildings.

The object of the invention is to provide an apparatus of the above description which can be readily shifted or moved from place to place during the progress of the work, and which can be lowered or folded when not in use for transportation.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings: Figure 1 is a front view of a derrick or elevator constructed in accordance with my invention. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a detail sectional view of the jointed brace-bars. Fig. 4 is a detail view showing the meeting ends of the brace rods. Fig. 5 is a detail perspective view showing the meeting ends of the brace rods, also the hook engaging with the upper rod.

In the said drawings, the reference numeral 1 designates two beams constituting the base of the apparatus, provided with casters 2 and connected together at the ends by front and rear cross-bars 3 and 4. Hinged to the base beams are two standards 6, each consisting of two parallel posts connected together at their upper ends by means of bolts 7 and plates 8, and there is a space between each pair of posts forming guideways 9 for the vertically movable slides 10 which carry the elevating platform or cage hereinafter described. The upper ends of the standards are connected together by a transverse bar 12 provided with eye-bolts 13.

The numeral 14 designates the hinges which connect the lower ends of the standards with the base beams. The cross-bar 4 which connects the rear ends of beams 1 together is provided near each end with a lug 15 to which is pivoted the bifurcated end of a brace-rod 16. This rod at its upper end is bifurcated forming two arms 16^a connected together near their lower ends by a cross-plate 17, which serves as a stop for the end of the upper brace-rod 18. Each rod 18 is pivoted a short distance from its lower end to the arms 16^a, and is cut away at 19 forming a shoulder 20 which engages with the stop-plate 17. The upper end of rod 18 is pivoted to a lug 21, secured to a bail 23 attached to the standard 6, near the upper end thereof. While I have described but one of these jointed brace-rods, in practice two will be employed, one for each standard.

The numeral 10 designates two vertically movable slides, located in the spaces or guideways between the posts of the standards, and provided at each end and at the center with front and rear rollers 25. These rollers are journaled on shafts 26 secured to brackets 27 on the front and rear sides of said slide, and travel on vertical ways or tracks 28 consisting of metal plates secured to the front and rear sides of the posts of the standards. Near the lower ends of these slides are secured brackets 29, braced by means of rods 30, which support the platform 31. This platform at each end is provided with rails 32, to the horizontal arms of which are journaled sleeves or curved plates 34, secured to seats 35. The inner ends of these seats are provided with eye-bolts 36, in which are journaled lugs 37 on the upper ends of legs 38 which support the seat when the latter is let down into a horizontal position for use. When not in use, the seats may be turned up into a vertical position, so as to give more room on the platform.

Journalled in bearings 39 on the slides 10 above the bracket 29, is a transverse shaft 40 provided with grooved or flanged pulleys or drums 41, intermediate the ends, and at each end with a cog-wheel 42, meshing with a smaller cog-wheel or pinion 43, on the end of a shaft 45, journaled in bearings 46 secured

to said slides. At its center this shaft 45 is formed with a hand-crank 47, and journaled on shaft 40 is a bar 48 provided with a hook 49 which is adapted to engage with the crank 47 and prevent shaft 45 from rotating, whereby the downward movement of the platform may be checked or stopped.

The numeral 50 designates ropes or cables secured to pulleys 41 and to the eye-bolts 13 of the bar 12 at the upper end of the standards.

Secured to the standards intermediate of their ends are hooks 51 which are adapted to engage with and hold the jointed brace bars. These hooks consist of short rods having one end bent into an eye and connected with clasps 51^a, secured to the standard 6. The other end of the rods is bent at a right angle forming a short arm 51^b, which engages with the upper brace rods 18. At their rear ends the base beams 1 are provided with rollers 52.

The operation is as follows: When in the position shown in Figs. 1 and 2 the platform can be elevated and lowered by rotating the crank-shaft, and may be held in any position intermediate of the ends of the standards by engaging the hook 49 with the crank 47.

The apparatus can be readily shifted from place to place as the necessities of the work require. When it is desired to lower the standards when the work is finished and the apparatus is to be removed, the platform is lowered to the bottom of the standards and the hooks 51 disengaged from the jointed brace-bars and the joints of the latter broken by forcing the inner ends of the bars outwardly. The standards are then turned upon their hinges until the lower ends of the upper brace bars rest upon the ground as seen in Fig. 3. The base beams are elevated when the upper ends of the standards reach the ground when the brace bars will resume their normal positions and be again engaged with the hooks 51. The base beams will now be supported by rollers 52, and the cage is run to the opposite ends of the standards when the rear upper rollers 25 will rest on the ground as seen in Fig. 4. The apparatus will now be supported by said rollers 25 and 52 and can be readily transported to destination. When the standards are elevated the side beams may be provided with angle irons 53, which brace the lower ends of the standards. These angle irons are removed when the standards are to be lowered.

Having thus described my invention, what I claim is—

1. In an elevating apparatus, the combination of the base beams provided with rollers on their under sides and at their rear ends,

standards hinged to said base beams, the jointed brace rods connected with said beams and standards, and elevating devices, substantially as described.

2. In an elevating apparatus, the combination with the base beams provided with rollers on their under sides and rear ends, the standards hinged to said base beams and the jointed brace rods connected with said beams and standards, of the vertically movable slides working in guideways in said standards and provided with rollers, the platform connected with said slides, the crank shaft journaled to said slides and provided with pinions at each end, the shaft having intermediate pulleys and cog-wheels each end meshing with said pinions, and the ropes or cables connected with said pulleys and with eye-bolts secured to the transverse rod connecting the upper ends of the standards, substantially as described.

3. In an elevating apparatus, the combination with the base beams, and the hinged standards, of the lower brace-rods connected with said base beams having their upper ends bifurcated and provided with a stop-plate, and the upper brace-rods connected with said standards and pivoted near their lower ends to said bifurcated rods, substantially as described.

4. In an elevating apparatus, the combination with the base beams, and the standards hinged thereto, of the lower brace-rods pivotally connected with said beams and having their upper ends bifurcated, forming arms, the stop plates secured to said arms, the upper brace-rods pivoted near their lower ends to said arms, and the hook connected with said standards for engaging with said brace-rods, substantially as described.

5. In an elevating apparatus, the combination with the base beams, the standards hinged thereto and connected at their upper ends by a transverse bar having eye-bolts, of the vertically movable slides working in guide-ways in said standards and provided with rollers, the platform secured to said slides, the shaft journaled in said slides and provided with pulleys and cog-wheels, the hooked retaining bar journaled to the crank shaft journaled in said beams and provided with pinions, and the ropes or cables connecting said eye-bolts and pulleys, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILLIAM H. RICKABACH.

Witnesses:

JAMES H. DOOLITTLE,
ALBERT GAYLOR.