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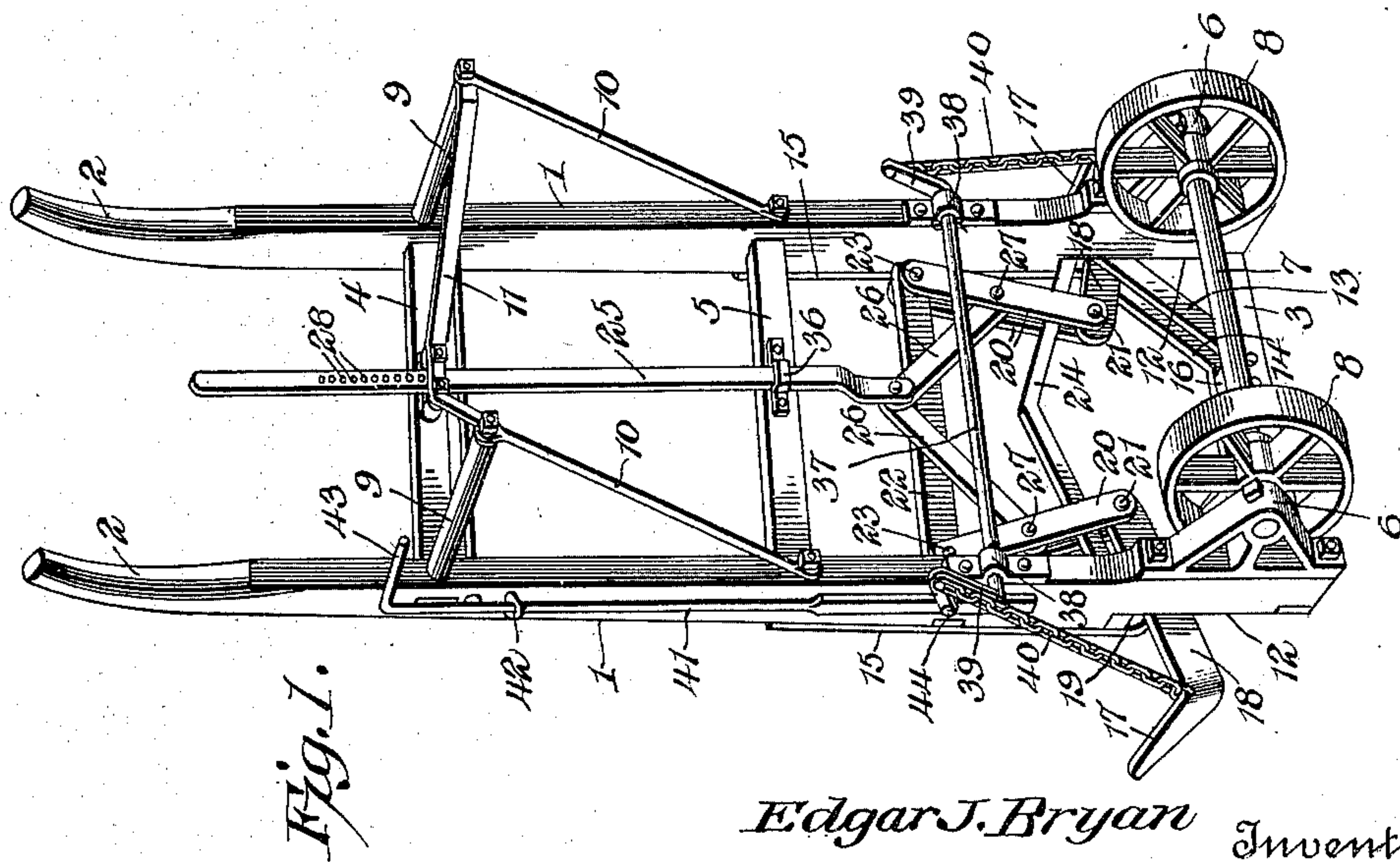
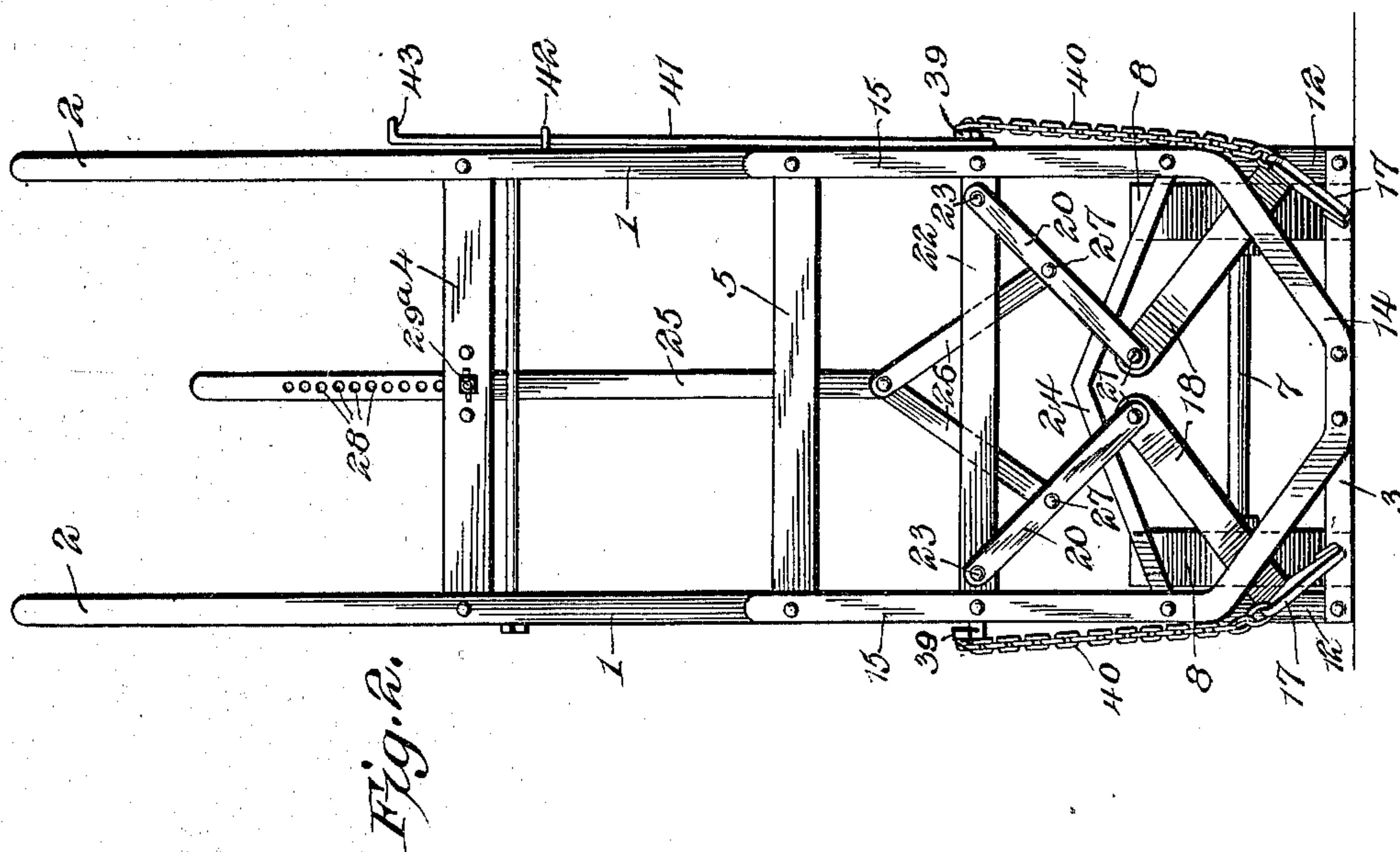
PATENTED JULY 7, 1903.

E. J. BRYAN.  
TRUCK.

APPLICATION FILED JULY 31, 1902.

NO MODEL.

4 SHEETS—SHEET 1.



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Witnesses  
Howard W. Orr.  
H. J. Shepard.

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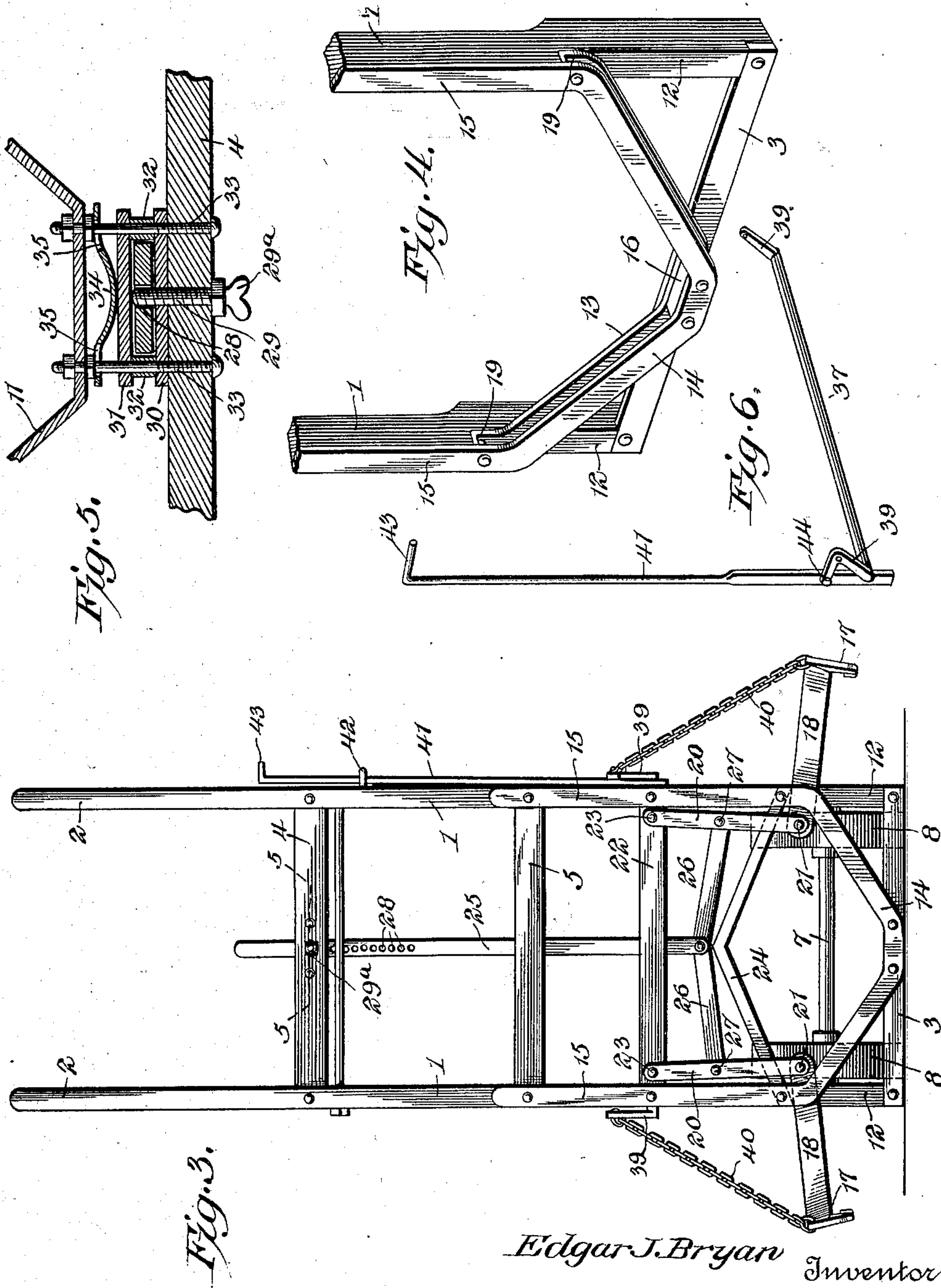
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4 SHEETS—SHEET 2.



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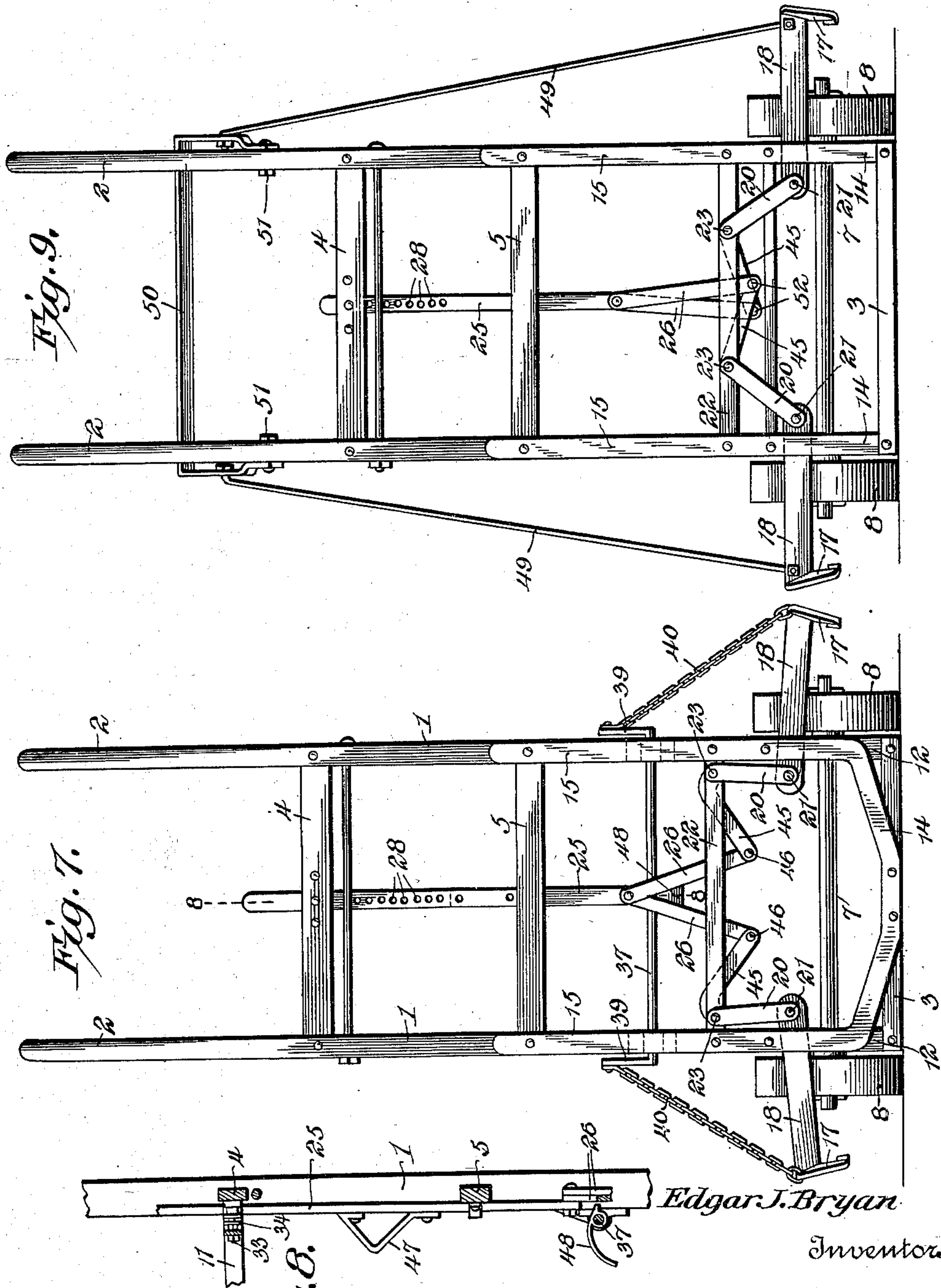
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4 SHEETS—SHEET 3.



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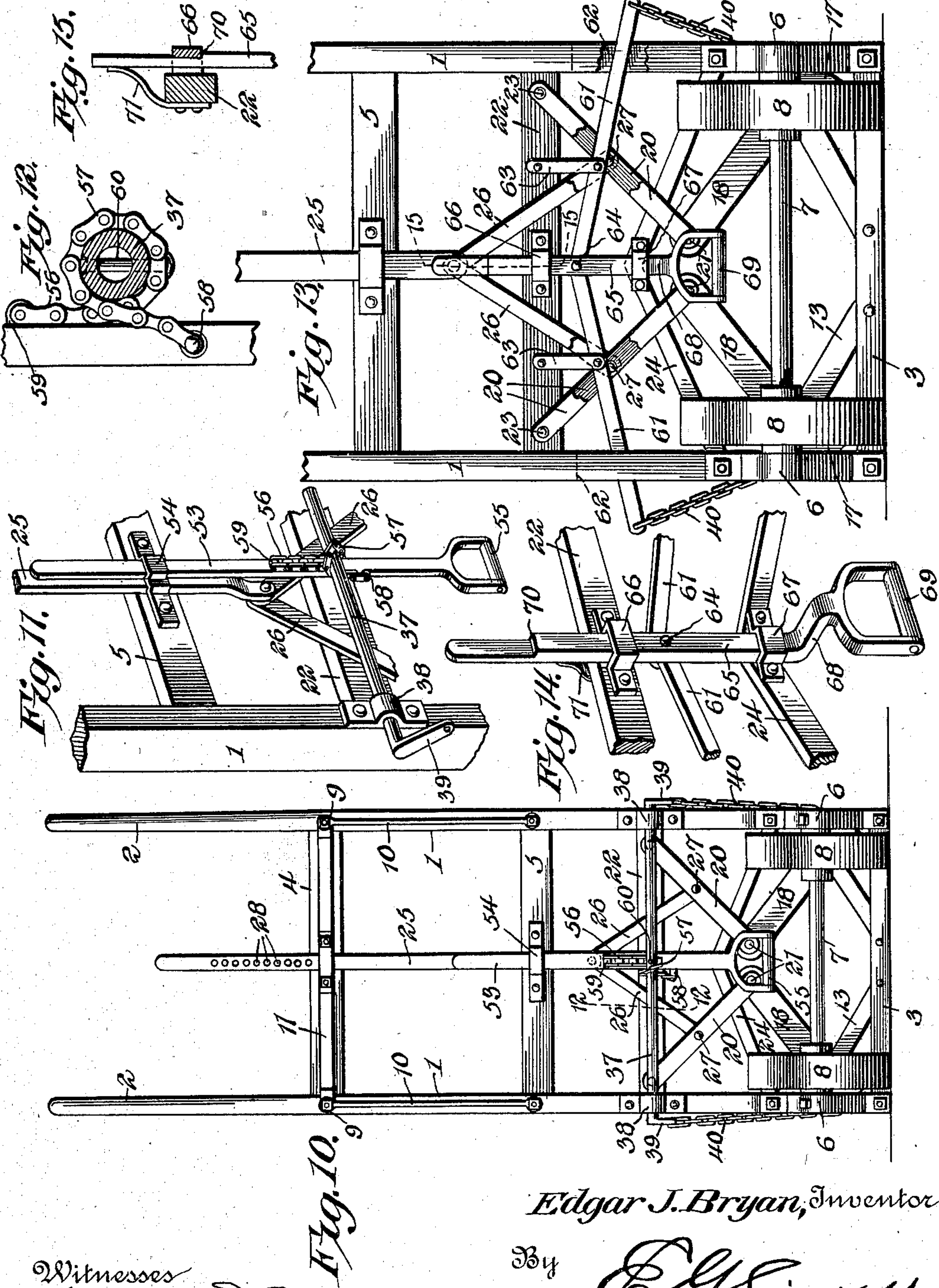
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4 SHEETS—SHEET 4.



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# UNITED STATES PATENT OFFICE.

EDGAR J. BRYAN, OF RIVERSIDE, CALIFORNIA, ASSIGNOR OF ONE-HALF TO  
ALBERT W. MILLER, OF RIVERSIDE, CALIFORNIA.

## TRUCK.

SPECIFICATION forming part of Letters Patent No. 732,825, dated July 7, 1903.

Application filed July 31, 1902. Serial No. 117,845. (No model.)

*To all whom it may concern:*

Be it known that I, EDGAR J. BRYAN, a citizen of the United States, residing at Riverside, in the county of Riverside and State of California, have invented a new and useful Truck, of which the following is a specification.

This invention relates to hand-trucks which are provided with gripping-jaws for engagement with boxes, barrels, kegs, and the like to support the same upon the truck, and has for its object to provide certain new and useful improvements in this type of truck and in particular to improve the construction and arrangement set forth in my prior application for patent, filed November 30, 1901, Serial No. 84,242.

In the device just referred to the adjustment of the jaws to vary the distance between the same requires considerable time and attention, and in view of this objection it is a feature of the present invention to facilitate the adjustment of the jaws and to have the adjusting means in convenient reach of the operator when standing at the handles of the truck. It is furthermore designed to provide for conveniently separating the jaws upon their fulcrum-points as centers to engage said jaws with an object and also for disengaging said jaws when it is desired to release the object from the truck to have said means under the convenient control of the operator when standing at the handles of the truck and also to provide for controlling said means by hand or foot, as may be desired.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view looking at the rear of a truck constructed and arranged in accordance with the present invention and disposed in an upright po-

sition for engagement with a box. Fig. 2 is a front elevation thereof. Fig. 3 is a front elevation showing the jaws separated to their limit. Fig. 4 is a detail perspective view of the forward end of the truck-frame. Fig. 5 is an enlarged detail sectional view taken on the line 5 5 of Fig. 3. Fig. 6 is a detail perspective view of the rock-shaft and controlling-rod for separating the jaws. Fig. 7 is a front elevation of a modified form of truck. Fig. 8 is a detail sectional view thereof, taken on the line 8 8 of Fig. 7. Fig. 9 is a front elevation of a further modification of the truck. Fig. 10 is a rear elevation showing foot-controlled means for swinging the jaws on their fulcrum-supports. Fig. 11 is a detail perspective view showing the mounting of the stirrup or foot-piece. Fig. 12 is an enlarged detail sectional view on the line 12 12 of Fig. 10. Fig. 13 is a detail enlarged elevation showing another form of foot-controlled means for swinging the jaws upon their pivotal supports. Fig. 14 is a detail perspective view showing the stirrup or foot-piece pivoted in Fig. 13. Fig. 15 is a detail sectional view taken on the line 15 15 of Fig. 13 to show the foot-controlled bar in locked position.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

The truck of the present invention is made up of opposite longitudinal side bars 1, which terminate at their rear ends in handles 2 of the usual form and are connected at their forward ends by means of an end cross-bar 3, preferably formed of metal and let in flush with the upper or front sides of the frame-bars. In addition to the forward end cross-bar there is a rear cross-bar 4, and an intermediate cross-bar 5, connecting the side members of the frame.

At the forward ends of the side members of the truck and upon the rear faces thereof are suitable bearing-brackets 6, which support a shaft 7, carrying the wheels 8 for the support of the truck.

A pair of legs 9 project rearwardly from the rear sides of the frame members 1 and at the opposite ends of the rear end cross-bar 4. Suitable inclined braces 10 extend



from the outer ends of the legs to intermediate portions of the frame members 1, and another brace 11 extends between the legs and has its intermediate portion connected to the adjacent cross-bar 4.

As best illustrated in Fig. 4 of the drawings, the front end of each frame-bar 1 has its front end notched or cut away, as indicated at 12, and a flat bowed metallic bar 13 has its intermediate portion connected to an intermediate portion of the front end bar 3 and its opposite ends secured to the rear ends of the notched or cut-away portions 12 of the longitudinal frame-bars. Another flat bowed metallic bar 14 is disposed in front of and parallel with the bar 13, with its opposite end portions 15 secured to the front faces of the longitudinal bars 1, the intermediate portions of the two bars being separated by a suitable spacing-block 16, whereby the bar members are separated by slots or spaces disposed transversely of the truck at opposite sides of the block 16, so as to form guideways for the jaws.

There are two mutually-coöperating jaws 17, which stand at substantially right angles to the plane of the truck and are provided at their inner ends with straight shanks 18, which are disposed at substantially right angles to the jaws and work across the truck in a plane substantially parallel therewith, the shanks of the jaws being received in the slots or guideways formed by the members 13 and 14. It will here be noted that the swing of the jaws is limited by the stop-shoulders formed by the spacing-block 16 and the rear ends 19 of the notches or cut-away portions 12 of the frame-bars 1. Each jaw is fulcrumed upon an adjustable support, consisting of a pair of parallel links 20, which embrace the rear end of the shank and are connected thereto by means of a pivot or fulcrum pin 21, the rear ends of the links embracing a cross-bar 22, which lies between the intermediate cross-bar 5 and the end cross-bar 3 and are connected thereto by means of a suitable pivot-pin 23. An arched guide-bar 24 is disposed transversely across the truck, with its end portion lying between the members of the pairs of links and rigidly connected to the frame-bars 1.

For adjusting the swinging fulcrum-supports transversely across the truck, so as to vary the distance between the jaws, there is provided an endwise-shiftable controlling-rod 25, which is disposed centrally and longitudinally at the back of the truck and is provided at its forward end with a pair of diverged swinging links 26, which have their outer free ends disposed between the members of the respective pairs of links 20 and pivotally connected thereto, as at 27, so that by shifting the rod 25 rearwardly the links 20 may be drawn inwardly, so as to bring the jaws closer together, and vice versa. It will here be observed that the guide-bar 24 is arched upwardly or rearwardly, so as to ac-

commodate for the movement of the adjustable fulcrums 21, or, in other words, the inner ends of the jaws. It will of course be understood that after the controlling-bar 25 has been moved to adjust the jaws it is necessary to lock the same, so as to hold the links 20 stationary. To accomplish this result, the upper end portion of the controlling-bar 25 is provided with a longitudinal series of perforations 28 for the reception of a locking pin or projection 29 (best shown in Fig. 5 of the drawings) and carried by the rear end bar 4. The controlling-bar 25 is guided in its movement between two plates 30 and 31, which are maintained separated at a distance somewhat greater than the thickness of the bar by means of a pair of spacing-sleeves 32, which embrace bolts 33, that pierce the plates and the end bar 4. The bolts 33 also pass through the straight intermediate portion of the brace 11, and between the brace and the outer plate 31 there is a bowed spring 34, which is provided with slots 35 to receive the bolts. The purpose of this spring is to yieldably hold the controlling-bar 25 in engagement with the projection 29, so as to lock the bar against accidental endwise movement and at the same time to permit of the bar being pulled rearwardly out of engagement with the projection 29, so that it may be moved in an endwise direction to adjust the jaws toward or away from one another. It is preferred to have the projection 29 endwise adjustable, so as to project the same rearwardly should the spring 34 become weak, and therefore the projection is in the form of a bolt or screw-threaded pin and is provided at its front end with a handle or finger-piece 29<sup>a</sup> for convenience in turning the pin when it is desired to extend the same rearwardly. As illustrated in Fig. 1, it will be seen that the forward end portion of the bar 25 works through a guide-clip 36, secured to the back of the intermediate cross-bar 5.

For the purpose of swinging the jaws upon their fulcrums, so as to spread the same sufficiently to embrace a box or other object, there is provided a rock-shaft 37, as shown in Fig. 1 of the drawings, said shaft being disposed transversely across the back of a truck and mounted in bearings 38, carried by the rear edges of the frame-bars 1. Each end of the rock-bar is provided with a crank-arm 39, which lies upon the outer side of the frame and has one end of a chain 40 connected to the arm, the opposite end of the chain being connected to the adjacent jaw, so that by turning the rock-shaft the chains may be caused to pull upon the jaws, so as to separate the same. For controlling the rock-shaft there is provided an endwise-shiftable rod 41, mounted upon the outer side of one of the longitudinal bars 1 and working in a suitable guide 42 carried thereon, the upper end of the rod being provided with a suitable manipulating-handle 43. One of the crank-arms 39 has an elbow, or, in other words, it is an



angle-arm or bell-crank lever, and is terminally pivoted, as at 44, to the lower portion of the rod 41 and at a point above the lower end thereof. By shoving the rod 41 downwardly the rock-shaft is manipulated to swing the crank-arms downwardly, so as to release the jaws and permit the same to swing downwardly and inwardly by gravity to grip the object to be carried by the truck, and by pulling the rod upwardly the jaws may be separated or drawn out of engagement with the object. By having the bell-crank arm of the rock-shaft connected to the rod 41 at a point above the lower end thereof said lower end will be drawn rearwardly into engagement with the rock-shaft when the rod 41 is being elevated, whereby the rotation of the shaft is stopped and the upward movement of the rod is also stopped and the jaws are held in an elevated and separated position.

In using the truck the rod 41 is drawn upwardly, so as to swing the jaws to their outer limit, and then the truck is run up to the box or object and the bar 25 manipulated so as to adjust the fulcrums of the jaws and to bring the outer extremities of the latter into engagement with opposite sides of the box, after which the rod 41 is pushed downwardly, so as to release the jaws, and then the truck is tilted downwardly and rearwardly, whereby the weight of the box upon the jaws tends to swing the latter inwardly, and thereby clamps the same snugly upon the box, and the latter is effectively held upon the truck. When it is desired to deposit the box, the truck is swung into an upright position and the rod 41 is pulled upwardly, so as to swing the jaws outwardly out of engagement with the box, whereby the latter is freed, and the truck may be backed off from the box. From this description it is apparent that the jaws are under the complete control of the operator when standing at the handles of the truck, so as to readily adjust the jaws for taking different sizes of boxes and also for swinging the jaws into and out of engagement with said boxes. In view of the wide range of adjustment of the fulcrum-supports the jaws may be disposed to engage objects which are considerably wider than the truck, as well as boxes which are shorter than the width of the truck, and therefore the present device has a wide range of application.

A modified form of fulcrum-support for the jaws has been shown in Fig. 7 of the drawings, wherein one member of each pair of links 20 is in the form of a bell-crank lever 45, which is fulcrumed intermediately upon the pivot-pin 23, which connects the link 20 to the cross-bar 22, while the links 26 are connected to the adjacent terminals of the bell-crank levers, as at 46. For convenience in manipulating the bar 25 it is provided at an intermediate point with a handle 47, which is projected from the back of the bar. In this form of truck it is also designed to manipulate the crank-shaft 37 by foot instead of by

hand, and therefore the hand-controlling rod is dispensed with and the intermediate portion of the shaft is provided with a foot-piece 48, whereby the shaft may be rocked by the operator when standing at the handles of the truck with the latter in an upright or inclined position. With the exception of the differences noted this form of truck is practically the same as that first described.

A further modification of means for swinging the jaws upon their fulcrums has been shown in Fig. 9, wherein the rock-shaft and the chains have been dispensed with, and in lieu thereof each jaw is provided with a connecting-rod 49, which extends rearwardly and has its rear end connected to the adjacent end of a swinging bail 50, which embraces the rear end portions of the frame-bars 1 and has its opposite ends pivotally connected thereto, as indicated at 51. This bail lies across the back of the truck and is in convenient reach when standing at the handles of the truck. When the bail is swung away from the jaws, the latter are swung outwardly or separated upon their fulcrums as centers through the medium of the connecting-rods 49, and when the bail is swung toward the jaws the latter are permitted to swing inwardly, so as to grip an object. In the latter form of truck there is a slight change in the connection between the controlling-bar 25 and the bell-crank levers 45, as the links 26 instead of being connected to the adjacent bell-crank are pivotally connected, as at 52, to the free ends of the opposite bell-cranks.

In some instances it may be desirable to operate by foot the means for swinging the jaws upon their pivotal supports, and to provide for such a contingency I have devised means, as shown in Figs. 10 to 15, inclusive, wherein the mounting of the jaws and the means for shifting the pivotal supports thereof are substantially the same as that shown in Fig. 1 of the drawings.

As shown in Figs. 10, 11, and 12, it will be seen that the rock-shaft 37 is retained as one element of the means for swinging the jaws, and the change in mechanism resides in dispensing with the hand-controlling means and providing foot-controlled means consisting of an endwise-shiftable bar 53, which works through a guide clip or bracket 54, carried by the back of the cross-bar 5, in this instance the bracket or guide being double, so as to also receive the bar 25, and hence takes the place of the guide 36 shown in Fig. 1. The lower end of this bar is provided with a foot-piece or stirrup 55, which is disposed in convenient reach of either foot of the operator when standing at the handles of the truck with the latter in an upright or in an inclined position. The intermediate portion of the bar extends across the rock-shaft 37 and lies between the same and the cross-bar 22. The connection between the bar 53 and the rock-shaft is a flexible one, with its intermediate portion wound upon the shaft and its opposite



ends connected with the bar, so that by shifting the latter the flexible connection will be wound and unwound with respect to the shaft, so as to rock the same. By preference this flexible connection consists of a chain which is made up of an upper double link-section 56 and a lower single link-section 57, the free end of the latter being connected to one side of the foot-bar 53, as indicated at 58, while the upper terminal link of the double link-section is open and embraces and is pivotally secured to a stud or projection 59, carried by the back of the bar 53. Should the bar 53 be narrow enough, the projection 59 may be dispensed with and the terminal link placed astraddle of the bar and pivotally connected directly thereto, and as this change is perfectly obvious it has not been deemed necessary to illustrate the same. As best illustrated in Fig. 12, it will be seen that the lower end of the double link-section 56 is secured to the rock-shaft 37, which may be hollow, as shown, by means of a pin or bolt 60, and, as shown in Fig. 10, it will be seen that the single link-section 57 is secured to one side of the double link-section, whereby the two sections work in substantially parallel planes, and therefore do not kink, as would a continuous single or double linked chain. It will of course be understood that when there is no object upon the truck the jaws will swing downwardly and inwardly to their limits by gravity, thereby rotating the rock-shaft and through the medium of the chain elevating the stirrup or foot-piece to the position shown in Fig. 10, and when it is desired to spread the jaws the operator places one foot in the stirrup and depresses the same, thereby rotating the rock-shaft in a reverse direction and swinging the jaws outward, wherefor it is apparent that it is not necessary to employ springs or other means for holding the foot-piece in an elevated position.

The other form of foot-controlled means for swinging the jaws has been shown in Figs. 13, 14, and 15, and it will here be observed that the rock-shaft is dispensed with in this form of the device, and in lieu thereof a pair of levers 61 are disposed transversely of the truck and work through longitudinal slots 62 in the longitudinal side bars of the frame of the truck, the chains 40 being connected to the outer free ends of the levers, which work at the outer sides of the truck. Each lever 61 passes between the members of the adjacent pair of links 20 and is intermediately fulcrumed upon the lower end of a link or hanger 63, which is pivotally connected to the cross-bar 22, while the inner ends of the levers have a mutual pivotal connection 64 to the front side of an endwise-shiftable bar 65, which works through an upper guide 66, secured to the back of the cross-bar 22, and a lower guide 67, secured to the back of the arched guide-bar 24, the lower end of the bar being laterally or rearwardly offset, as at 68, and provided with a pendent stirrup

or foot-piece 69. The upper end of the bar 65 has its rear side notched, as at 70, with said notched portion normally projected above the guide 66, the shoulder presented by the inner end of the notch being designed to engage beneath the under side of the guide 66, so as to hold the bar against accidental upward movement when in its depressed position, there being a spring 71 carried by the cross-bar 22 and frictionally bearing against the front side of the bar, so as to automatically snap the shoulder into engagement with the guide, as shown in Fig. 15. It will be understood that the intermediate portion of the bar has a working fit in the guide 66; but when the upper reduced end portion is within the guide the spring forces the same away from the cross-bar 22. Therefore it is apparent that the shoulder can be conveniently disengaged from the guide by giving the bar a kick or pressing the foot against the same, thereby releasing the bar and permitting the jaws to gravitate into engagement with the object to be carried upon the truck.

What I claim is—

1. The combination with a truck, of a pair of normally fixed and shiftable supports thereon, jaws fulcrumed on the supports, and means connected to the supports for adjustably shifting the same to vary the distance between the fulcrums of the jaws.

2. The combination with a truck, of normally fixed pivotal supports thereon, jaws fulcrumed upon the supports, and means connected to the pivotal supports for adjustably swinging the latter to vary the distance between the fulcrums of the jaws.

3. The combination with a truck, of normally fixed pivotal supports thereon, jaws fulcrumed upon the supports, links pivotally connected to the supports, a controlling device connected to the links, and means to prevent accidental movement of the pivotal supports.

4. The combination with a truck, of shiftable supports thereon; jaws fulcrumed upon the supports, and an endwise-shiftable controlling-bar located between the handles of the truck with its rear end terminated at the outer ends thereof and its forward end connected to the supports for adjustably shifting the same.

5. The combination with a truck, of a pair of supports pivoted thereon, jaws fulcrumed upon the supports, an endwise-shiftable controlling-bar mounted upon the frame of the truck, and links pivotally carried by the bar and also pivotally connected to the supports for shifting the same.

6. The combination with a truck, of a pair of links pivotally hung from one of the cross-bars thereof, jaws fulcrumed upon the lower ends of the links, a pair of links having their lower ends pivoted to the respective first-mentioned links, and an endwise-shiftable controlling-bar pivotally connected to the upper ends of the links.



7. The combination with a truck, of normally fixed pivotal links hung thereon, jaws fulcrumed upon the lower ends of the links, and adjusting means connected to the intermediate portions of the links.

8. The combination with a truck, of normally fixed supporting-links hung therefrom, jaws fulcrumed upon the lower ends of the links, an adjusting device, and link connections between the adjusting device and intermediate portions of the supporting-links.

9. The combination with a truck, of a pair of supporting-links pivotally mounted at opposite sides of the truck to swing transversely thereof, a jaw fulcrumed between the lower ends of the members of each pair of links, a guide-bar extending between the members of the pairs of links, and adjusting means connected to the links.

10. The combination with a truck, of a pair of adjustable jaws, an endwise-shiftable adjusting-rod connected to the jaws, and spring-actuated means to adjustably lock the shiftable rod against accidental movement.

11. The combination with a truck, of adjustable jaws mounted thereon, an endwise-shiftable controlling device connected to the jaws and provided with a series of perforations, and a projection carried by the truck in coöperative relation with the perforations of the controlling device to adjustably lock the same against accidental movement.

12. The combination with a truck, of adjustable jaws carried thereby, an endwise-shiftable adjusting device connected to the jaws and provided with a series of perforations, a projection carried by the truck in coöperative relation with the perforations, and a spring to yieldably hold the adjusting device in engagement with the projection.

13. The combination with a truck, of a pair of adjustable jaws mounted thereon, an endwise-shiftable adjusting device connected to the jaws and provided with a series of perforations, a projection carried by the truck and in coöperative relation with the perforations of the adjusting device, a laterally-shiftable guide receiving the adjusting device, and a spring bearing against the guide to yieldably hold the adjusting device in engagement with the projection.

14. The combination with a truck-frame having a cross-bar, of adjustable jaws mounted upon the truck, an endwise-shiftable adjusting-bar connected to the jaws and provided with a longitudinal series of perforations, a projection carried by the cross-bar and in coöperative relation with the perforations of the adjusting-bar, a pair of fastenings projected from the cross-bar at opposite sides of the adjusting-bar, a pair of plates loosely embracing the adjusting-bar and slidably mounted upon the fastenings, spacing-sleeves slidably embracing the fastenings and lying between the plates, and a bowed spring mounted upon the fastenings and bearing against the adjacent plate to yieldably hold the ad-

justing-bar in engagement with the projection.

15. The combination of a truck having a rear cross-bar, legs at opposite ends of the cross-bar, and a brace extending between the outer ends of the legs and an intermediate portion of the cross-bar, the intermediate portion of the brace being spaced from and substantially parallel with the end bar, fastenings projecting from the cross-bar and connected to the intermediate portion of the brace, a pair of plates slidably mounted upon the fastenings, spacing-sleeves slidably embracing the fastening and interposed between the plates, a bowed spring bearing against the outer plate and slidably mounted upon the fastening, a projection carried by the cross-bar and piercing the inner plate, a pair of adjustable jaws mounted upon the truck, and an endwise-shiftable adjusting-bar connected to the jaws and having a longitudinal series of perforations, the perforate portion of the bar working between the guide-plates in coöperative relation with the projection.

16. The combination with a truck, of pivotal supporting-links thereon, jaws fulcrumed upon the links, an endwise-shiftable adjusting-bar having its rear end provided with a longitudinal series of perforations, links connecting the forward end of the bar to the supporting-links, a projection carried by the truck and in coöperative relation with the perforations of the adjusting-bars, the latter being shiftable out of engagement with the projection, and a spring to yieldably hold the bar in engagement with the projection.

17. The combination with a truck, of movable jaws mounted thereon to work beyond the side bars of the truck, and means for moving the jaws apart, said means being connected to the outer end portions of the jaws.

18. The combination with a truck, of movable jaws mounted thereon to work beyond the side bars of the truck, jaw-operating means for moving the jaws apart, and connecting means extending from the operating means to the outer portions of the jaws and lying outside of the truck.

19. The combination with a truck, of pivotal jaws mounted thereon to work outside of the truck, jaw-operating means to separate the jaws, and flexible connections extending from the operating means to the outer portions of the jaws and lying outside of the truck.

20. The combination with a truck, of pivotal jaws mounted thereon, and means for swinging the jaws including flexible connections secured to the jaws.

21. The combination with a truck having pivotal jaws, of cranks, flexible connections between the cranks and the jaws, and means for simultaneously turning the cranks to swing the jaws upon their pivotal supports.

22. The combination with a truck, of a pair of jaws pivoted thereon, means connected with the pivots of the jaws for simultaneously



shifting the same, said means being located contiguous to the handles of the truck, and means to swing the jaws upon their pivots independently of the pivot-shifting movements.

23. The combination with a truck, of a pair of movable jaws mounted thereon, a transverse rock-shaft on the truck, connections between the rock-shaft and the jaws at one side of the pivots of the latter, and means for turning the rock-shaft.

24. The combination with a truck, having a pair of movable jaws, of a rock-shaft mounted transversely across the truck and provided with terminal crank-arms, connections between the crank-arms and the jaws, and means for turning the rock-shaft.

25. The combination with a truck, having movable jaws, of a transverse rock-shaft having cranks, individual connections between the cranks and the jaws at one side of the pivots of the latter, and an endwise-shiftable operating device mounted upon the truck and connected to the shaft.

26. The combination with a truck, of a pair of movable jaws mounted thereon, a rock-shaft mounted upon the truck and provided with cranks, connections between the cranks and the jaws, and an endwise-shiftable operating-rod mounted upon one of the side members of the truck-frame and connected to one of the crank-arms.

27. The combination with a truck having a pair of movable jaws, of a transverse rock-shaft having cranks, individual connections between the cranks and the jaws at one side of the pivots of the latter, and means for limiting the rotation of the rock-shaft in one direction.

28. The combination with a truck having movable jaws, of a rock-shaft, connections between the jaws and the rock-shaft, a crank carried by the rock-shaft, and an endwise-shiftable operating device pivoted to the crank, the shaft lying in the path of a portion of the operating device to limit the movement of said device and the shaft.

29. The combination with a truck having movable jaws, of a rock-shaft having crank-arms, one of which is in the form of a bell-crank lever, connections between the crank-arms and the jaws, and an endwise-shiftable operating-rod mounted upon the truck and having an intermediate portion pivotally connected to the bell-crank lever, the rock-shaft lying in the lateral path of the rod to limit the lateral movement thereof.

30. The combination with a truck having movable jaws, of a rock-shaft mounted transversely thereof and provided with terminal crank-arms working at the outer sides of the truck, one of the crank-arms being in the form of a bell-crank lever, connections between the crank-arms and the jaws, and an endwise-shiftable adjusting-rod mounted upon one of the longitudinal bars of the frame, the rear end of the rod being disposed in reach of an operator when standing at the

handles of the truck, and the opposite end portion of the rod being pivotally connected to the free end of the bell-crank lever at a point remote from the extreme end of the rod, a portion of the rock-shaft lying in the lateral path of the forward end portion of the rod to limit the lateral movement thereof.

31. The combination with a truck having pivotal jaws, of means for simultaneously shifting the pivots of the jaws with respect to one another, and independent means for swinging the jaws upon their pivots.

32. The combination with a truck, of pivotal jaws, means for simultaneously shifting the pivotal supports of the jaws, and means having flexible connections with the jaws for swinging the latter upon their pivots.

33. The combination with a truck, of swinging supports thereon, jaws fulcrumed upon the swinging supports, means for shifting the swinging supports, a rock-shaft mounted upon the truck, connections between the rock-shaft and the jaws to swing the same upon their fulcrums, and means to turn the rock-shaft.

34. The combination with a truck, of swinging supports mounted thereon, jaws fulcrumed upon the supports, an endwise-shiftable adjusting-rod mounted longitudinally upon the back of the truck, link connections between the rod and the swinging supports, means to hold the rod against accidental movement, a rock-shaft mounted transversely across the back of the truck and provided with terminal cranks, flexible connections between the cranks and the respective jaws, and an endwise-movable adjusting-rod mounted upon one of the side members of the truck and connected to the rock-shaft for turning the same, the adjusting-rod and the adjusting-bar being accessible for manipulation when standing at the handles of the truck with the latter in an inclined or upright position.

35. A truck having the forward ends of the front faces of the longitudinal side bars notched or recessed longitudinally, a bowed bar connected intermediately to the front cross-bar of the truck with its opposite ends secured to the back of the notched portions of the truck, a corresponding bowed bar disposed substantially parallel in front of the first-mentioned bar with its opposite ends connected to the front faces of the side bars of the truck in rear of the notched portions thereof, a spacing-block held between the two bars at the point of attachment thereof with the front cross-bar of the truck, and swinging jaws working in the slots or guideways between the bars and at opposite sides of the spacing-block.

36. The combination with a truck, of a pair of pivotal jaws mounted thereon, operating means for swinging the jaws apart upon their pivots, said jaws being mounted independently of the operating means, and flexible connecting means between the operating



means and the jaws to permit of the latter gravitating toward each other when the operating device is released.

37. A hand-truck having a longitudinally-movable bar, means to lock the bar against movement, gripping-jaws having their outer ends extended beyond the sides of the truck-frame, means for connecting the inner ends of the jaws to the longitudinally-movable bar, guides for the jaws, and operating means to actuate the jaws.

38. A hand-truck having a longitudinally-movable bar located between the sides of the truck, means to lock the bar to the truck

against movement, gripping-jaws having their outer ends extended beyond the sides of the truck-frame, pivotal means for connecting the inner ends of the jaws to the longitudinally-movable bar, guides provided on the truck for the jaws, and foot-controlled operating means to actuate the jaws.

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

EDGAR J. BRYAN.

Witnesses:

W. T. DENSMORE,

ED. F. WADDINGHAM.