

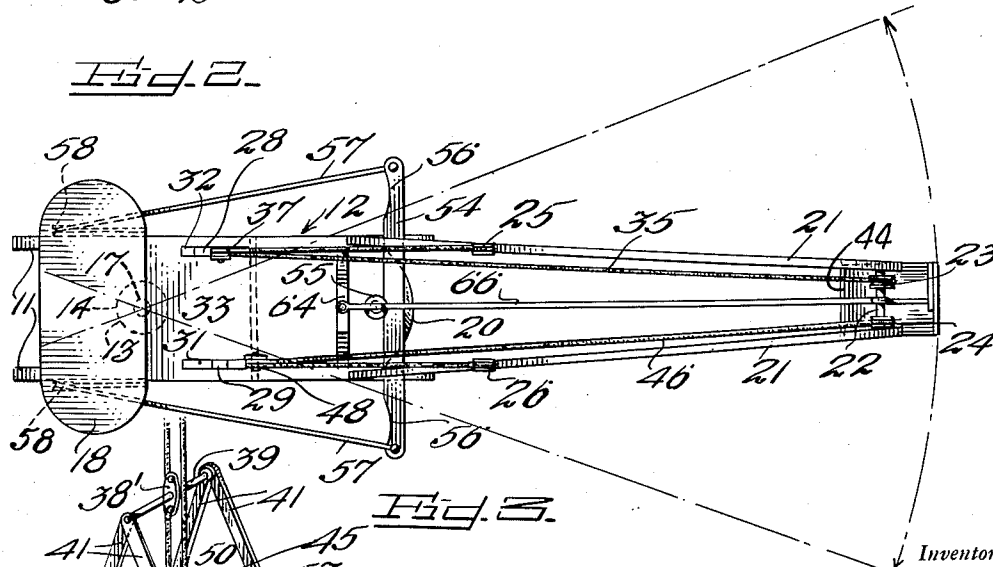
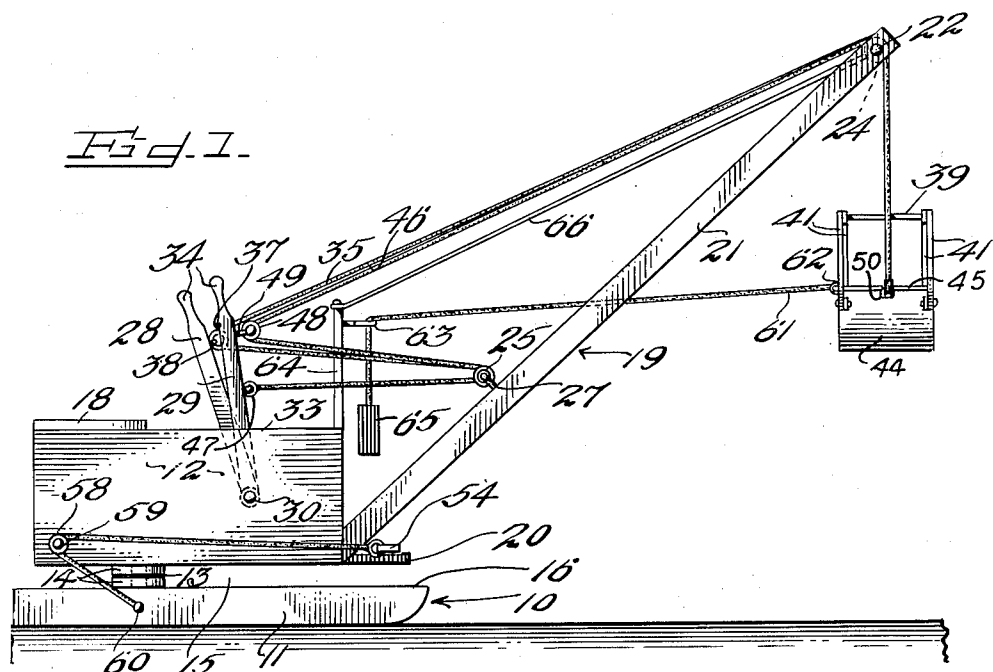
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I. LANDREE
TOY SWINGING CRANE

2,590,188

Filed May 7, 1946

2 SHEETS—SHEET 1



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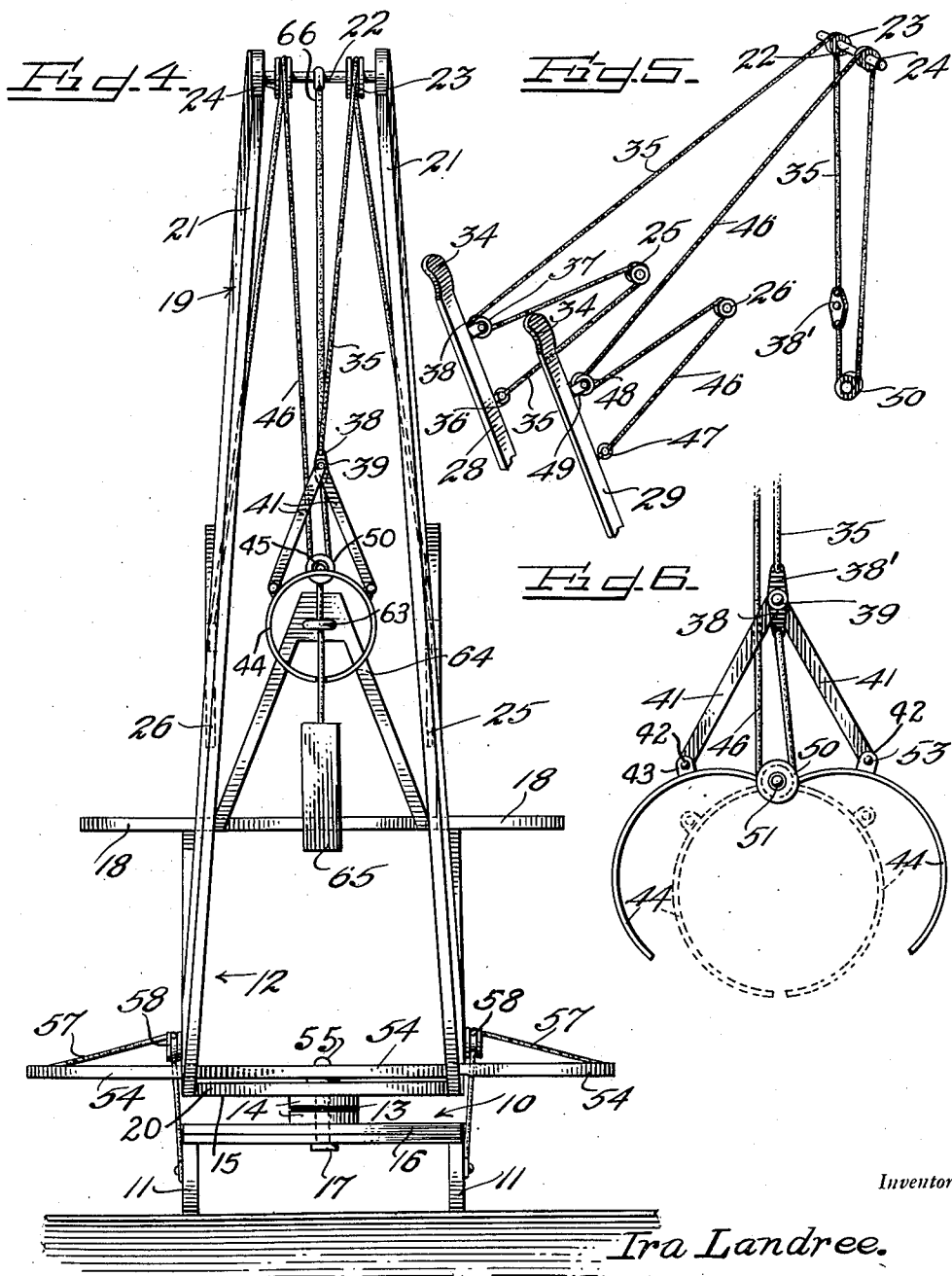
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2 SHEETS—SHEET 2



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TOY SWINGING CRANE

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3 Claims. (Cl. 212-44)

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My invention relates to cranes, and more particularly to a toy swinging crane employing a log grapple, sand bucket or other pickup device adapted to be opened or closed at will, raised and lowered or swung to either side, as a useful, amusing and instructive mechanical toy for use by children.

The object of the invention is to provide a toy swinging crane on which the child is adapted to be seated and provided with controlling means or levers for raising or lowering the log grapple, sand bucket or other pickup device, and to open and close the same as well as provided with foot operative means constituting rests for the feet of the child, when seated on the body of the device, so as to swing or turn the same in substantially the same way that a steam shovel, dredge or crane is operated, so as to provide an amusing, instructive and mechanical device by which a child may move small logs, snow, sand and the like while furnishing pleasure and enjoyment the same as or in imitation of a full sized crane.

Another object of the invention is to provide a toy swinging crane, which is constructed in a simple and economical way, to give substantially all of the operative movements of a full sized crane, and which is strong, rugged and simple and practical to operate by a child.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevation of a toy swinging crane in accordance with the invention;

Figure 2 is a top plan view thereof;

Figure 3 is a fragmentary perspective view of a pickup device such as a log grapple or the like and showing the cable connections therewith;

Figure 4 is an enlarged front elevation of the device;

Figure 5 is a fragmentary perspective view showing the cables and operating connections thereof with the levers for controlling the movements of the pickup device of the crane and boom thereof, and

Figure 6 is an end elevation of the pickup device or log grapple, showing the same in open and closed positions in solid and dotted lines respectively.

Referring to the drawings in detail, in which like reference characters designate corresponding parts throughout the several views, my toy swinging crane is shown as comprising a port-

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able frame or base 10 in the form of a skid or sled having runners 11, but may be a wheeled frame or otherwise. A rectangular or other shaped body 12 in box or like form, is shown mounted to turn on the base 10, as by means of an anti-friction bearing or turntable 13 having circular or other bearing members 14, which are in the form of disks, spacing the bottom of the body indicated at 15, from the top or platform 16 of the base 10 and bolted through the same, as indicated at 17 to constitute a vertical pivot axis as well as connecting said parts in assembled relation. Mounted on the rear end of the body 12, is a seat 18, which projects from the opposite sides of the body and may have rounded ends, as shown, to prevent injury due to sharp corners. A boom 19 extends upwardly and forwardly in an inclined position from the front of the body 12 and an extension 20 of the bottom 15 thereof and comprises upwardly converging side members or boom arms or bars 21 suitably secured to the body rigid therewith, and connected at their outer and upper ends by a transverse horizontal shaft, rung or rod 22 fixed in position to rotatably support a pair of pulleys 23 and 24 thereon in spaced relation.

A pair of pulleys 25 and 26 are also supported by the boom 19 on the arms or bars 21 at points below the center of lengths thereof, as by means of bearing brackets 27 and a pair of levers 28 and 29 are pivoted on a horizontal pivot 30, within the body 12 and extend upwardly and are movable through a pair of spaced parallel longitudinal slots 31 and 32 in the top 33 of the body 12 to swing back and forth therein when operated manually, by gripping the handles 34 thereof by the child or operator reposed on the seat 18.

A line, cord or cable 35 is connected to the lever 28 between its ends, preferably adjacent the top 33 of the body 12 as by means of a screw eye or the like 36 and extends under, around in front of and over the pulley 25, after which it is extended under and around a pulley 37 attached by a bearing bracket 38 to the same lever 28 near the upper end or handle 34 thereof above the point of attachment 36 of the cable 35 with said lever at a lower point. The cable then extends up over and around the pulley 23 which turns on the shaft 22 connecting the arms 21 of the boom 19 and downwardly to the upper end of a plate 38' which is centrally apertured for mounting it on the cross rod 39 of a pickup device such as a log grapple, sand bucket or the like 40. Pairs of downwardly di-

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vergent arms or links 41 are pivoted at their upper ends to the end portions of the rod 39 and pivotally connected at their lower ends, as indicated at 42, to pivot ears 43 fixed to the opposite edges of two semi-circular sheet metal or like grapple or bucket sections 44 as seen in Figures 3 and 6. These sections 44 are hinged together at their upper edges as indicated at 45 and the lower edges are free to separate or move to open position and adapted to close in abutting relation when swung toward each other normally by their weight or gravity.

Another cable 46 is connected to the lever 29 as by means of a screw eye or the like 47, similar to the connection 36 of the cable 35 to the lever 28 and extends forwardly and under, around and over the pulley 26 carried by the other boom arm 21, after which it is extended rearwardly under and around a pulley 48 mounted in a bearing bracket 49 on the lever 29 above the eye 47 and in the same manner as the pulley bearing bracket 38 is mounted on the lever 28. The cable 46 then extends forwardly over and around the pulley 24 and downwardly under and around the pulley 50 mounted on the pivot pin or pintle 51 of the hinge 45 at the center of the length thereof and of the pick-up device 40 at the jaws or sections 44 in a slot formed by a pair of aligned recesses 52 formed in the hinged edges of the grapple or bucket sections or halves 44. From pulley 50, cable 46 extends upwardly and attaches to plate 38'.

By swinging both of the levers 28 and 29 rearwardly, the pickup device 40 may be raised, and by swinging both of said levers forwardly, said pickup device may be lowered. Also, by swinging only the lever 29 rearwardly the pickup device will be closed, and by swinging only said lever 29 forwardly the pickup device will be allowed to open. Obviously, the pickup device may be allowed to open before lowering it, and said device may be closed after lowering it. The ears 43 of each section 44 may be connected by a rod 53.

In order to swing the boom together with the body, to the right or left, that is to one side or the other, the forward extension 20 at the bottom of the body, has a foot or cross lever 54 pivoted intermediately thereon, as indicated at 55 and the ends of the foot lever are recessed as indicated at 56, to accommodate the feet of the child or operator sitting astride of the toy on the seat 18, with one foot on each side of the foot lever near the ends thereof. Cables 57 are connected to the ends of the foot lever 54 and are extended rearwardly along the sides of the body 12 and around pulleys 58 journaled or rotatably mounted as at 59, on the sides of the body near the back or rear end thereof and also close to but in spaced relation to the bottom 15. These cables then extend downwardly and forwardly in an inclined position where they are anchored to the sides or runners 11 of the base or transporting frame 10 as indicated at 60, and shown connected to the skids or runners 11 preferably substantially beneath the turn table or pivot 13, 14 and 17 or at any other suitable place. Thus, by pressing on the foot lever 54 with one foot, the boom and body are swung to one side and by pressing on the other end of the foot lever the boom and body are swung on the pivot axis or turn table to the other side. In order to hold the pickup device in position, a cable 61 is fastened thereto at one end, as indicated at 62, adjacent one end of the pivot or hinge 45 of the sections 44 and

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extends rearwardly through or around an eye or pulley 63 attached near the upper end of an upright extension or bracket 64 at the front end of the body and shown tapering upwardly or comprising upwardly converging side members in the form of an inverted V-shaped upright support or bracket, and has its lower depending end, attached to and suspending a weight 65 which exerts inward or rearward pull on the pickup device or bucket 40, to hold it from swinging upwardly and thereby controlling its position. A brace or tie rod 66, also connects the upper end of the boom to the upright 64, which corresponds to a dashboard or instrument board in front of the levers 28 and 29 and the operator in the manner of a fender, to help support the boom 19 in connection with the anchoring of the lower ends of the bars 21 to the body 12 and bottom 15 thereof adjacent the extension 20 or front end of the body. Obviously, the device may be used by a child, for loading and unloading small logs or other articles in piles, or for efficiently shoveling or digging sand, dirt, snow or the like or small stones, or gravel and raising and dumping the same to either side in piles, thus providing an amusing, instructive and useful mechanical toy operated entirely manually by the child operator reposed on the seat of the body.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

I claim:

1. A toy swinging crane including a body, a boom supported by the body, a pick-up device suspended on the boom and including hinged sections, operating levers on the body operatively connected to the pick-up device for raising and lowering the pick-up device and for opening and closing the same, the operative connections between the levers and the pick-up device including cables having ends connected to the levers and movably connected to the boom and upper portions of the levers, said cables further being movably mounted over the free end of the boom and movably connected to the hinged sections of the pick-up device, links connecting said hinged sections, said cables being fixedly connected to the upper ends of the links, and a seat on the body adapted to support the operator in position to straddle the body and operate said levers.

2. In a toy crane, a body, a seat mounted on said body, an inclined boom carried by and extending forwardly and upwardly from the front of said body, pulleys mounted on the upper end of said boom, a pick-up device having two relatively movable parts whereby the pick-up device may be opened and closed, hoisting and opening and closing cables for said pick-up device passing over said pulleys, and operating hand levers for said cables carried by the body and arranged in front of said seat for actuation by an occupant of the latter.

3. In a toy crane, a body, an inclined boom fixed to and extending forwardly and upwardly from the front of the body, a seat mounted on the rear portion of the body, a pick-up device having two relatively movable parts whereby the pick-up device may be opened and closed, and means operable by the occupant of said seat for manually raising and lowering and opening and

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closing said pick-up device, said last named means including hoisting and opening and closing cables for said pick-up device guided over the upper end of said boom, and operating hand levers for said cables carried by the body and arranged in front of said seat for actuation by an occupant of the latter.

IRA LANDREE.

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