Nov. 22, 1960 J. F. WARD 2,961,103

TOY CRANE

Filed June 12, 1958 4 Sheets-Sheet 1

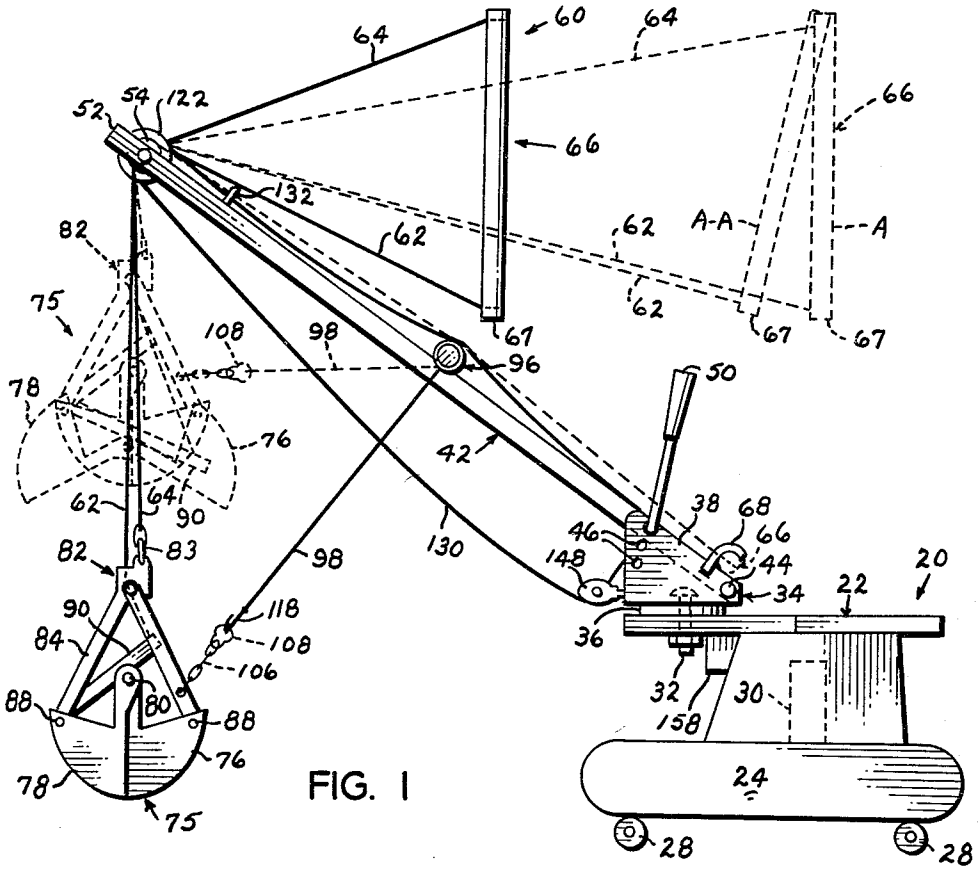


FIG. 1

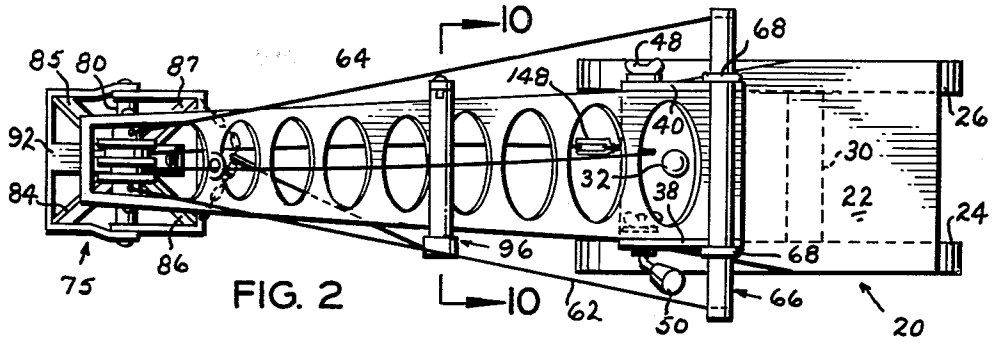


FIG. 2

JOSEPH F. WARD
INVENTOR.

BY Loya J. Miller

ATTORNEY

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TOY CRANE

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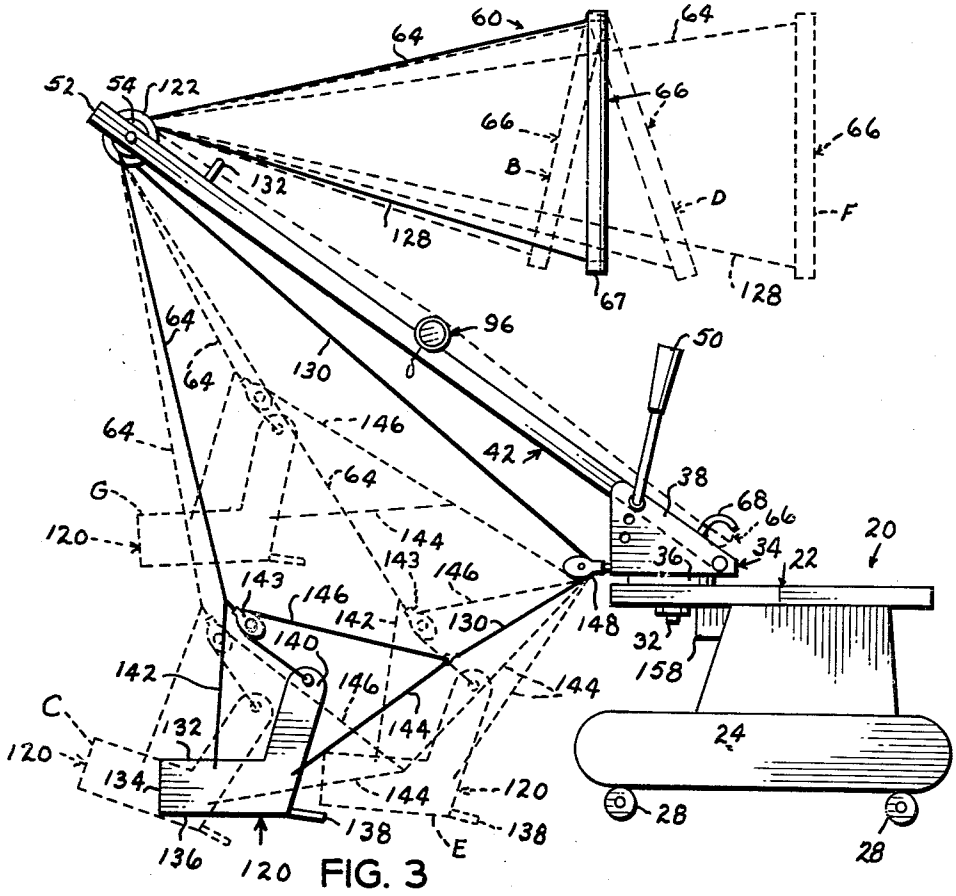


FIG. 3

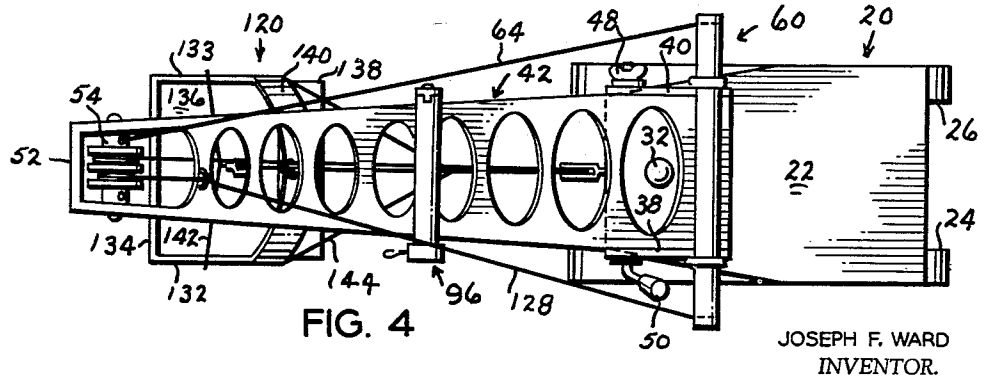


FIG. 4

JOSEPH F. WARD
INVENTOR.

BY Loyal J. Miller

ATTORNEY

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TOY CRANE

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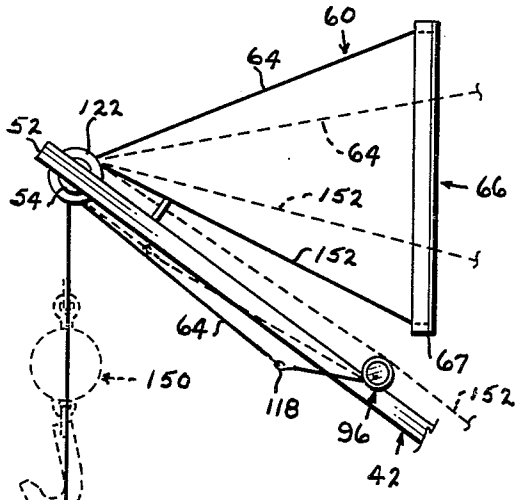


FIG. 5

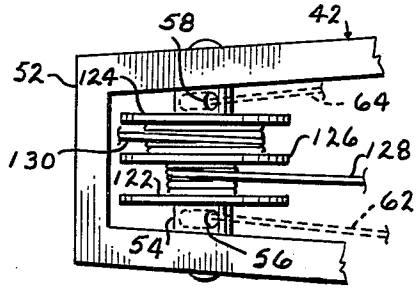
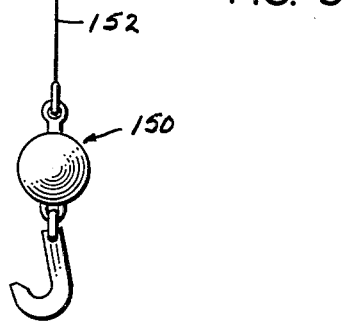


FIG. 11



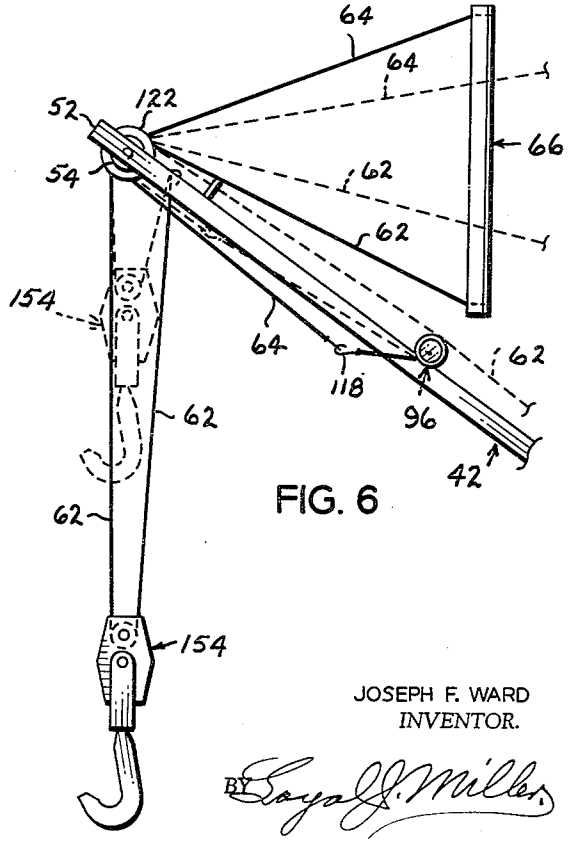


FIG. 6

JOSEPH F. WARD
INVENTOR.

BY Gaya J. Miller

ATTORNEY

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TOY CRANE

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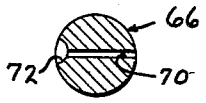


FIG. 12

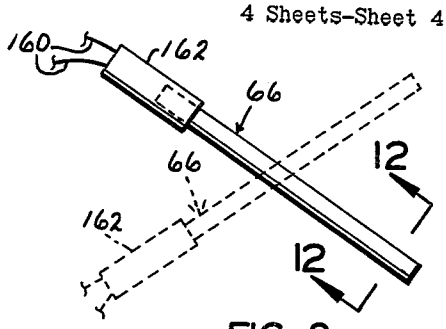


FIG. 8

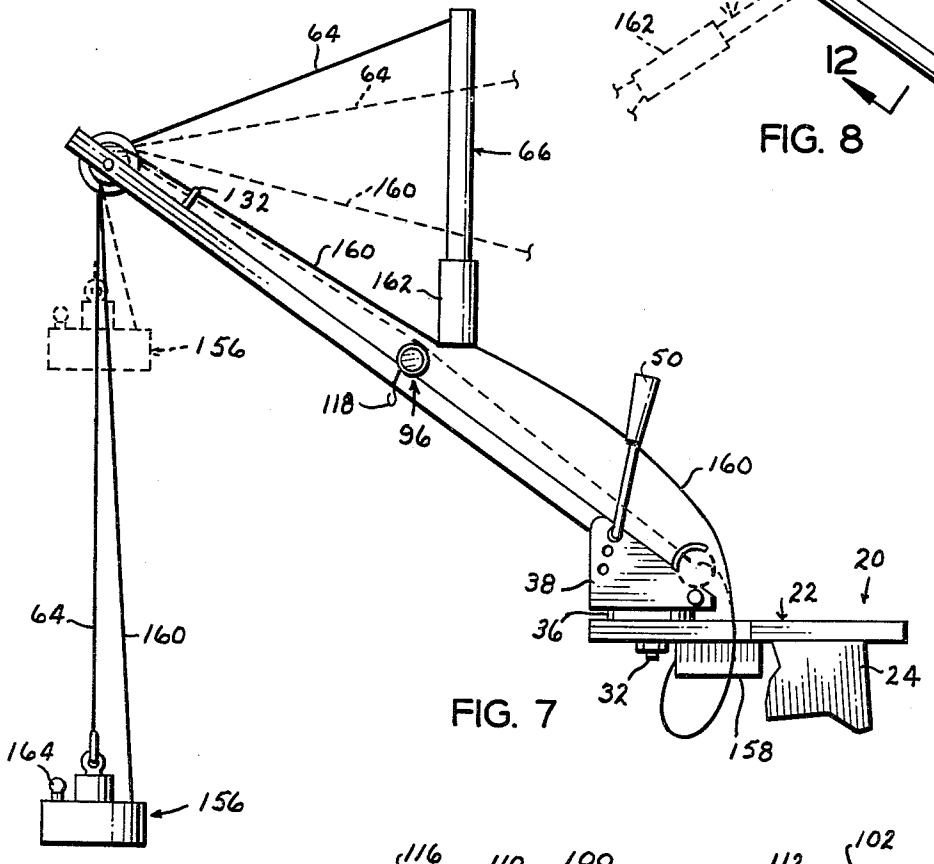


FIG. 7

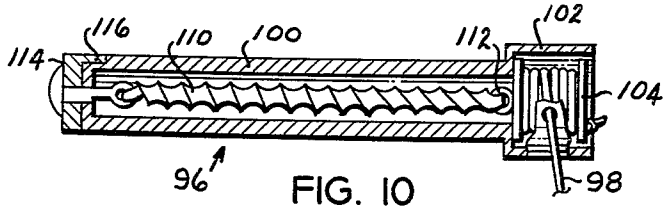


FIG. 10

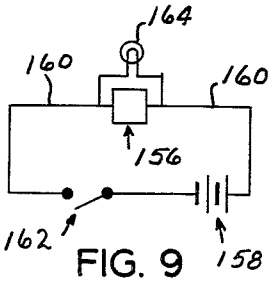


FIG. 9

JOSEPH F. WARD
INVENTOR.

BY Joyal J. Miller

ATTORNEY

United States Patent Office

2,961,103

Patented Nov. 22, 1960

2,961,103

TOY CRANE

Joseph F. Ward, 733 NW. 67th, Oklahoma City, Okla.

Filed June 12, 1958, Ser. No. 741,698

12 Claims. (Cl. 212—44)

The present invention relates to toys which simulate material handling machinery such as excavators and the like.

The prior art reveals a number of such toy devices but each of these devices are primarily a one purpose unit. For example, one such device might be a steam shovel or power shovel while another might represent a crane or the like. None of the devices as disclosed in the prior art, to the best of my knowledge, make provisions for, nor disclose the use of, a multiplicity of attachments controlled by a boom equipped unit.

It is therefore the principal object of the present invention to provide a control unit comprising a base portion which in turn supports a pivoting boom.

Another important object is to provide a boom unit having control means carried by the boom which may be removably connected separately to individual toy construction implements.

An additional object is to provide a toy boom or crane in which the control means carried thereby includes flexible elements entrained over the free end of the boom which are readily maneuverable by the juvenile operator.

A further object is to provide a device of this class in which the implement control means includes a wand-like element transversely carried by the boom which may be operated by one hand of the operator in controlling the movement or operation of the attached implement, thus leaving the other hand of the operator free to direct pivoting movement of the boom.

Still another object is to provide a device of this class which includes a seat supported in a mobile manner whereby the operator may move the device across its supporting surface while seated thereon.

Yet another object is to provide a pivoting boom of this class including control means capable of being removably connected to a toy clamshell, drag-line bucket, electromagnet, traveling blocks, a J-hook or the like, in selective sequence for operating the same.

Still another object is to provide a novel tag-line or take-up device carried by the boom and connected with a toy clamshell which prevents rotation and undue swinging movement of the clamshell when supported by the boom.

Still another object is to provide an educational type toy whereby juvenile operators may learn to operate a number of implements by remote-control means.

The present invention accomplishes these and other objects by providing a pair of upright supports, bridged by a horizontal base forming a seat. A plate is journaled on the upper surface of the forward end of the seat by a vertical kingpin. An upwardly and forwardly inclined boom is pivotally connected to the upper surface of the plate for rotation therewith. The free end of the boom is provided with an axle having guide slots which journal drums over which flexible elements are entrained or wound to provide control means as for operating selected implements. The control means includes a wand transversely carried by the boom.

The invention further includes a toy clamshell, drag-line bucket, electromagnet, traveling block and J-hook, selectively connectable individually to the control means of the boom.

Other objects will be apparent from the following description when taken in conjunction with the accompanying four sheets of drawings, wherein:

Figure 1 is a side elevational view of the device connected to a clamshell and illustrating, in dotted lines, a raised and opened position of the clamshell, a portion of the control means being rotated to a top plan view position to show the action thereof;

Figure 2 is a top plan view of the device as seen in Fig. 1;

Figure 3 is a view similar to Fig. 1 but illustrating the connection with and the operations of a drag-line bucket, such operating positions being illustrated by dotted lines;

Figure 4 is a top plan view of the device as seen in Fig. 3;

Figure 5 is a fragmentary side elevational view of the free end portion of the boom, illustrating the control means thereof connected with a J-hook;

Figure 6 is a view similar to Fig. 5, illustrating the boom control means connected with a traveling block;

Figure 7 is a fragmentary side elevational view, illustrating the control means connected with an electromagnet and showing, in dotted lines, the lifted position of the electromagnet;

Figure 8 is a side elevational view of the control wand equipped with a mercury switch and illustrating, in dotted lines, the position of the wand for actuating the switch;

Figure 9 is a wiring diagram of the electromagnet means;

Figure 10 is a vertical cross-sectional view taken substantially along line 10—10 of Fig. 2;

Figure 11 is a fragmentary top plan view of the free end of the boom; and,

Figure 12 is a vertical cross-sectional view taken substantially along line 12—12 of Fig. 8.

Like characters of reference designate like parts in those figures of the drawings in which they occur.

In the drawings:

Control unit

Referring more particularly to Figs. 1 and 2 the invention simulates the construction and operation of a boom carrying track propelled power unit, indicated generally by the numeral 20. The unit 20 includes a horizontal base or seat 22 which bridges and is supported by parallel upright supports 24 and 26. As shown in Fig. 1 the lower portion of each of the supports 24 and 26 are preferably formed with rounded forward and rearward end portions to simulate an endless track configuration. Obviously the track components may be painted on the outer side of each of the supports 24 and 26 if desired. The supports 24 and 26 are each provided with casters or wheels 28 for moving the unit 20 in a mobile manner. A brace member 30 extending between and connected with the supports 24 and 26 adds rigidity to the unit. The seat 22 extends forwardly of the upper ends of the supports 24 and 26 and is provided with a vertically disposed kingpin 32. The kingpin 32 journals a plate member 34 spaced above the upper surface of the seat 22 by a bearing 36. Opposing sides of the plate 34 are turned upwardly to form a pair of parallel uprights 38 and 40. A boom 42 has the base end portion thereof transversely spanning the distance between the uprights 38 and 40 and is pivotally connected therebetween by a transverse hinge-pin or axle 44. The uprights 38 and 40 are each provided with a plurality of aligned apertures 46 for receiving bolt and screw means 48 carried by the boom for adjustably positioning the boom vertically so that the latter extends for-

wardly and upwardly from the plate **34**. Thus, it may be seen that the boom **42** is free to pivot or rotate with the plate **34** through a 360° arc. A handle **50** is connected to one of the screws **48** and projects upwardly therefrom to enable the operator to manually guide or move the boom **42**.

The free end portion **52** of the boom is provided with a transverse pin or axle **54**. Apertures **56** and **58** are formed through the axle **54** for the purposes which will presently be apparent (Fig. 11). Control means **60**, carried by the boom, and comprising a pair of flexible elements **62** and **64**, such as soft laid cable or suitable cord, are entrained over the boom axle **54** through the respective apertures **56** and **58**. The axis of each of the apertures **56** and **58** is similarly arcuately curved so that these apertures may function as a pulley or sheave in permitting the flexible elements **62** and **64** to slidably engage the walls thereof. Obviously sheaves may be used in lieu of such slots or apertures if desired. One end of the element **62** is connected to one end **67** of a wand-like control rod **66** while one end of the other element **64** is connected to the opposing end of the wand. The wand **66** and flexible elements **62** and **64** comprise the basic portion of the control means for operating various implements as hereinafter described in detail. The wand **66** is normally disposed transversely of the longitudinal axis of the bom. A pair of inverted J-hooks **68** opening toward the seat **22** and carried by the boom adjacent the base end store or retain the wand therein and maintain any implement connected to the opposite ends of the flexible elements **62** and **64** in an elevated position as hereinafter described. As is illustrated clearly in Fig. 12 each of the ends of the wand **66** is alignedly slotted inward from the outer surface thereof perpendicular with respect to the longitudinal axis of the wand as at **70** for removably receiving the elements **62** and **64** therein. The wand is further provided with an arcuate recess **72** at one end of each of the slots **70** and spaced inwardly from the free end of the wand in co-operating relation so that a knot may be formed adjacent the end of each respective element **62** and **64** and be nested and held therein during operative movement of the wand.

Clamshell bucket

Operation of the boom **42** and control means **60** can best be understood in connection with the operation of a clamshell bucket **75** as seen in Figs. 1 and 2. The clamshell bucket **75** simulates a conventional clamshell bucket and comprises a pair of bucket halves **76** and **78** hingedly connected together in co-operating relation by a transverse hinge-pin **80**. A four legged A-frame structure **82** has one end of the legs **84—85** and **86—87** thereof pivotally connected to the respective remote corners of the bucket halves as at **88**. The upwardly disposed ends of the two legs **84—85** are rigidly connected while the upper ends of the legs **86—87** are pivotally connected to the apex formed by the legs **84—85**. The end of the flexible element **64** depending from the free end of the boom is connected to a link **83** secured to the juncture or apex of the A-frame structure **82**. Thus, as an examination of Fig. 1 will reveal, the legs **84—85** and **86—87** support the bucket **75** outwardly of its center of gravity and when the bucket is supported by the element or line **64** the bucket will, in response to gravitational attraction, assume an open position as exemplified by the dotted line position of Fig. 1. The clamshell bucket closing means includes a closing lever **90** rigidly connected at one end to the bucket half **78**, as at **92**, and rigidly connected intermediate its ends to the hinge-pin **80**. The closing lever is disposed above the hinge-pin **80** and projects therebeyond into the plane formed by the pair of legs **86—87**. The free end of the closing lever is connected to the end of the flexible element **62** depending from the free end of the boom. Thus, it may be seen that the clamshell bucket **75** is entirely supported

by either or both of the lines **62** or **64** and that the bucket may be selectively raised or lowered as desired by manual movement of the wand longitudinally of the boom.

The solid line position of Fig. 1 illustrates the clamshell bucket in lowered and closed or loaded position. The wand **66** and connecting lines **62** and **64** have been raised and rotated substantially 90° with respect to their normal position, in Fig. 1, to more clearly illustrate the relative position of the wand in controlling the clamshell bucket. Thus, the loaded clamshell bucket **75** is raised to the desired height below the free end **52** of the boom by manually moving the wand **66** toward the position indicated by dotted lines at A. The boom **42** may be simultaneously moved or pivoted about the kingpin **32** during such lifting of the bucket **75** by manually directing such pivoting movement by means of the handle **50**, as may be desired, in transferring material from one position to another by means of the bucket. When the bucket **75** is lifted to the desired height it is emptied or dumped by simply moving the wand end **67**, holding the line **62**, toward the free end of the boom to the dotted line position A—A which releases the tension on the line **62** thus causing the line **64** to support the bucket and permits the bucket to open as explained hereinabove. Thereafter the bucket is closed by simply moving the wand end **67** toward the dotted line position A.

When the clamshell bucket **75** is supported by only the lines **62** and **64** the bucket will have a tendency to swing and rotate thus tangling or twisting the lines. In order to prevent such rotation and to effect better control of the bucket a tag-line mechanism **96** carried by the boom has the tag-line **98** thereof connected with the bucket **75**. The tag-line mechanism **96** includes a cylindrical hollow housing **100** transversely carried by the boom **42** intermediate its ends. One end portion of the housing **100** is circumferentially enlarged as at **102** for receiving a spool or drum **104** around which is wound the flexible tag-line element **98**. The tag-line **98** has one end connected to the drum **102** and its opposite end extended through a suitable aperture in the housing **102** and connected to a chain **106** extending between and connected to the legs **86** and **87** of the bucket. The chain **106** is equipped with a clevis-like loop **108** which may be selectively positioned along the chain on any link thereof and connected with the hook **118** on the free end of the tag-line so that the bucket **75** may be positioned or aligned with the boom as desired. The tag-line is kept wound on the drum **104** by means of a resilient member, a rubber band **110**, in this instance, but which may be a spring or the like. The member **110** is connected at one end to an eye **112** axially secured to the drum **104** and is secured at its opposite end to the stem of a manually rotatable cap **114** keyed to the housing **100** by a key **116**. Thus the tension on the tag-line **98** tending to wind the latter on the drum **104**, may be adjusted by manually moving the cap **114** axially outward from the housing **100** to disengage the key **116** and then rotating the cap **114** to tighten or loosen the member **110** and then repositioning the cap to maintain such adjustment. It seems obvious that the tag-line connected to the chain **106** will prevent rotation of the clamshell **75** relative to the boom and control means and that the tag-line will be unwound off of the drum **104** by lowering the clamshell **75** and be rewound on the drum, as the clamshell is raised, by the resilience of the member **110**. When the tag-line **98** is released from its connection with the chain **106**, the member **110** rotates the drum **104** and winds the tag-line thereon until the link or hook **118** contacts the periphery of the housing **102**.

The clamshell bucket **75** is disconnected from the boom **42** and control means by disconnecting the tag-line hook **118** from the chain loop **108**, disconnecting the element **64** from the link **83** and removing the ele-

ment 62 from the slot 70 in the wand end 67. The element 62 remains connected to the clamshell control lever 90 and is withdrawn through the slot 56 in the boom axle 54. The boom 42 is now free of any connection with the clamshell 75 and may be connected to another implement such as a drag-line bucket 120 (Figs. 3 and 4).

Referring again to Fig. 11 it may be seen that a pair of drums 122 and 124 secured together by a common flange 126 are axially journaled by the boom axle 54. A pair of flexible elements or lines 128 and 130 have one end portion secured to and wound on the respective drums 122 and 124. Diametrically the line receiving portion of the drum 124 is substantially twice that of the drum 122 for the purposes which will presently be apparent. The line 128 is wound on the drum 122 so that its free end is disposed above the boom and extends toward the seat 22 through a guide or eye 132 carried by the boom. The line 130 is wound on the drum 124 so that its free end depends from the free end of the boom. When these lines 128 and 130 are not in use, as for example when using the clamshell bucket 75, the free ends of the lines are connected together through the rearward end portion of the boom.

Drag-line bucket

The upwardly open drag-line bucket 120 is substantially rectangular in general configuration having sides 132—133 and a rear wall 134 connected to a bottom 136 terminating in a scraper element 138 at the forwardly open end of the bucket. A pair of upstanding projections 140 carried by the upper forward end portions of the sides 132—133 are arcuately curved upward and inward to form a juncture above the forward end of the bucket. A chain or flexible equalizer element 142 is connected to the sides 132—133 rearwardly of the center of gravity of the bucket. A pulley 143 is connected to the element 142 medially its ends. A loading line 144 is connected to the leading edges of the sides 132—133 above the bottom 136. A bucket leveling line 146 is connected at one end to the loading line 144 medially its ends and is entrained over the pulley 143 and connected at its opposite end to the juncture of the projections 140.

The drag-line bucket is connected to the boom and control means by attaching the depending end of the element 64 to the equalizer element 142 at its juncture with the pulley 143. The free end of the line 128 on the pulley 122 is connected to the wand end 67. The free end of the line 130 is threaded through a pulley 148 connected to the forward edge of the plate 34 and then connected to the loading line 144 at its juncture with the leveling line 146. Thus, manual movement of the wand 66 toward and away from the free end of the boom lowers and raises the drag-line bucket 120. The solid lines of Fig. 3 indicate the drag-line bucket 120 and wand 66 when the bucket has been lowered to contact a quantity of loose material, not shown, but which it is desired to be loaded into the bucket. The wand end 67 is moved toward the free end of the boom, as indicated by the dotted line position B, which releases the tension on the line 128 permitting the line 130 to unwind off of the large diameter drum 124 and position the drag-line bucket 120 in the position indicated by the dotted lines C wherein the rearward end of the bucket is elevated and the scraper element 138 is contacting the material to be loaded. Manually moving the wand end 67 rearwardly to the position shown by the dotted lines D drags the drag-line bucket 120 toward the operator and unit 20, as indicated by the dotted lines E, thus filling the bucket. Thereafter movement of the wand toward the dotted lines position F raises the filled bucket to the upper dotted line position G. The boom may be rotated by the handle 50, as disclosed hereinabove for the clam-shell bucket operation, and the drag-line bucket dumped by simply releasing the tension on the line 128 by moving the wand end 67 toward the boom end 52 which permits the open forward end of the bucket to be lowered by gravity. The drag-line bucket 120 is disconnected from the boom and controls by reversing the above described connecting procedure.

J-hook

The boom may be connected to a J-hook 150, or the like, by connecting the depending free end of the flexible element 64 to the hook 118 on the tag-line (Fig. 5). A line 152 connected to the J-hook 150 is threaded through the slot 56 in the boom axle 54 and connected with the wand end 67. Movement of the wand toward and away from the boom end 52 raises and lowers the J-hook 150 while the tag-line 98 maintains a tension on the element 64 to prevent the same becoming entangled on the boom or other parts.

Traveling block

Similarly with the J-hook 150 and line 152 removed and the element 64 connected to the tag-line 98, the element 62, threaded through the slot 56, may be threaded through the sheave of a traveling block 154 and connected, at its free end, to the end 52 of the boom (Fig. 6). Manual movement of the wand 66 then moves the traveling block vertically for raising and lowering objects connected thereto.

Electromagnet

Another novel feature of the invention is the operation of the electromagnet 156 (Figs. 7, 8 and 9). The electromagnet is cylindrical in configuration and includes a coil, not shown, connected to a source of electrical energy such as a battery 158, secured to the bottom surface of the seat 22, by wires 160 and a mercury switch 162 carried by the wand end 67. The free end of the element 64 is connected to the electromagnet 156 for raising and lowering the latter as the wand is moved. When the electromagnet 156 is positioned on a metallic object, not shown, the wand end 67 is lowered, as exemplified by the solid and dotted line positions of Fig. 8, thus closing the switch 162 and energizing the magnet. Manual movement of the wand 66 toward the seat 22 then raises the electromagnet 156 and its attached article. A pilot lamp 164 burns when the current is on thus visibly signalling when the electromagnet is energized. Obviously an audible signal, such as a buzzer or bell, not shown, may be used in place of, or in combination with the lamp 164.

It seems obvious that a novel control toy has been provided which simulates conventional construction equipment and that the implements removably connected to the control unit are simple and as easily operated as the control unit itself and therefore accomplish all of the objects set forth.

Obviously the invention is susceptible to some change or alteration without defeating its practicability, and I therefore do not wish to be confined to the preferred embodiment shown in the drawings and described herein, further than I am limited by the scope of the appended claims.

I claim:

1. A toy crane, comprising: a horizontal base; spaced-apart supports bridged by said base and supporting the latter above the surface of the earth for forming a seat; a kingpin carried vertically by the forward end portion of said base; a plate journaled by said kingpin adjacent the upper surface of said base; spaced-apart uprights carried by said plate; a horizontal axle extending between said uprights adjacent the surface of said plate; an upwardly inclined boom having one end spanning the distance between said uprights and pivotally carried by said horizontal axle, said boom being adjustably connected intermediate its ends to said uprights for selected vertical positions; and control means carried by the free

end of said boom for connection with and operating load hurdling means, said control means comprising a control wand removably carried transversely by said boom and a pair of flexible elements entrained over the free end of said boom and having their ends adjacent the fixed end of said boom connected to the respective opposing ends of said control wand whereby manual movement of said control wand longitudinally of said boom raises and lowers the free ends of said flexible elements and whereby manual movement of one end only of said wand operates a load handling means.

2. Structure as specified in claim 1, in which the load handling means includes a toy clamshell bucket comprising, a pair of upwardly open bucket halves hingedly connected together co-operatively at the opposing ends of a hinge-pin for dipping loose material, a four legged open A-frame structure having the apex thereof connected to the free end of one said flexible element and having the depending ends of the legs of the A-frame pivotally connected to the respective remote upper edges of said bucket halves, a closing lever rigidly connected at one end to one said bucket half between its connection with the legs of said A-frame, said closing lever rigidly connected intermediate its ends to the hinge-pin and projecting therebeyond and connected with the free end of the other said flexible element.

3. Structure as specified in claim 1 in which the load handling means includes an electromagnet connected to the free end of one of said flexible control elements carried by one end of said wand for raising and lowering said electromagnet as the wand is moved along said boom; a source of electrical energy carried by said base; gravity actuated switch means connected to the end of said wand opposite the electromagnet connected end; and electric wiring connecting said electrical source with said electromagnet through said gravity switch means.

4. A toy crane including: a horizontal base member; spaced-apart supports bridged by said base and supporting the latter above the surface of the earth for forming a seat; a kingpin carried vertically by the forward end portion of said base member; a plate journaled by said kingpin adjacent the upper surface of said base member; spaced-apart uprights carried by said plate; a horizontal axle extending between said uprights adjacent the surface of said plate; an upwardly inclined boom having one end spanning the distance between said uprights and pivotally carried by said horizontal axle, said boom adjustably connected intermediate its ends to said uprights for selected vertical positions; control means carried by the free end of said boom for connection with and operating load handling means, said control means comprising a control wand removably carried transversely by said boom and a pair of flexible elements entrained over the free end of said boom and having their ends adjacent the fixed end of said boom connected to the respective opposing ends of said control wand whereby manual movement of said control wand longitudinally of said boom raises and lowers the ends of said flexible elements opposite said wand; and tag-line means comprising a housing, a spool journaled by said housing, a tag-line element having one end portion wound on said spool and having its opposite end extended toward and connected with the load handling means and resilient means connecting said spool to said housing tending to rotate said spool and winding said tag-line element thereon.

5. Structure as specified in claim 4, in which the load handling means includes a toy clamshell bucket comprising, a pair of upwardly open bucket halves hingedly connected together co-operatively by a hinge-pin extending transversely between opposing sides of said bucket halves, leg members pivotally connected to each respective bucket half, said legs converging upwardly and inwardly and connected together adjacent their upper ends, the free end of one said flexible element being connected to the interconnected ends of said legs for raising and lowering said clamshell bucket responsive to movement of said wand, a bucket closing lever rigidly connected at one end to the outer upper edge of one said bucket half and rigidly connected intermediate its ends to said transverse hinge-pin and projecting therebeyond, said control lever having its free end connected to the free end of the other of said flexible elements connected to said wand.

6. Structure as specified in claim 5 and a chain extending between and connected at its ends to the legs connected on one said bucket half, and a link element carried by said chain and connected to said tag-line, said link capable of engaging any one link of said chain.

7. Structure as specified in claim 4 and a pair of drums journaled by the free end portion of said boom on a transverse axis, one of said drums being greater diametrically than the other said drum; a flexible element wound on each of said pair of drums; a pulley carried by said plate forwardly of said seat; a drag-line bucket having connected upstanding projections on opposing sides of its forward open end and having the end of one of said flexible elements opposite the wand connected end secured to said drag-line bucket rearwardly of its center of gravity, the flexible element on the smaller of said drums having its free end portion entrained over said pulley and connected to the forward portion of said drag-line bucket, the flexible element on said larger drum having its free end connected to the end of said wand opposite its end connected to the rear of said drag-line bucket.

8. Structure as specified in claim 4 and a pair of interconnected drums journaled by the free end portion of said boom on a transverse axis, the line receiving portion of one of said drums being greater diametrically than the line receiving portion of the other said drum; a flexible element having one end secured to each respective drum and wound thereon; a pulley carried by said plate and projecting forwardly thereof; a forwardly and upwardly open dragline bucket having connected upstanding projections on opposing sides of its forward open end, said drag-line bucket having its rearward end portion connected to the free end of one of said flexible elements, the flexible element on the larger one of said drums being entrained over said pulley and connected to the forward portion of said dragline bucket, the flexible element of said smaller drum having its free end connected to the end of said wand opposite the first mentioned end.

9. Structure as specified in claim 4 and a pair of interconnected drums journaled by the free end portion of said boom on a transverse axis, said drums having unequal diameters; a flexible element having one end secured to each respective said drum and wound thereon; a first pulley carried by said plate and projecting forwardly thereof below said boom; a forwardly and upwardly open drag-line bucket having connected upstanding projections on opposing sides of its forward end; a flexible equalizer element connected to opposing sides of the rearward end portion of said drag-line bucket rearwardly of its center of gravity; a second pulley carried by said equalizer line medially its ends, the free end of one said flexible element being connected to said equalizer line adjacent said second pulley for forming a drag-line bucket pick-up line; a loading line connected to the opposing sides of the forward open end of said bucket, the free end of said flexible element on the larger of said drums being connected to said loading line intermediate its ends for dragging said bucket forwardly and filling the latter; a leveling line entrained over said second pulley and connected to the juncture of said upstanding projections and to said loading line, respectively, the flexible element on the smaller of said drums being connected to the end of said wand opposite its connection with said pick-up line.

10. A toy crane, comprising: a horizontal base; spaced supports bridged by said base and supporting the latter above the surface of the earth for forming a seat; a king-

pin carried vertically by the forward end portion of said base; a plate journaled by said kingpin adjacent the upper surface of said base; spaced-apart uprights carried by said plate; an upwardly inclined boom having one end connected to said uprights; and control means carried by said boom for connection with and operating load handling means, said control means comprising a control wand and a pair of flexible elements entrained over the free end of said boom and having their ends adjacent said base connected to the opposing ends of said control wand, said load handling means including a toy clam-shell bucket comprising, a pair of co-operating hingedly connected bucket halves, a four-legged A-frame structure having the apex thereof connected to the free end of one of said pair of flexible elements and having the depending ends of the legs of said A-frame pivotally connected to the respective corners of said bucket halves in off-set relation with respect to the center of gravity of each of said bucket halves, a closing lever rigidly connected at one end to one said bucket half between its connection with the legs of said A-frame, said closing lever rigidly connected intermediate its ends to the hinge-pin of said bucket halves and projecting therebeyond and connected with the free end of the other one of said pair of flexible elements.

11. A toy crane, comprising: an elongated upwardly inclined boom having a base end adapted for connection with a support; and control means carried by the upper end of said boom for connection with and operating load handling means, said control means comprising a control wand removably carried transversely by said boom and a pair of flexible elements entrained over the upper end of said boom and having their ends adjacent the base end of said boom connected to the respective opposing ends of said control wand whereby manual movement of

said control wand longitudinally of said boom raises and lowers the free ends of said flexible elements and whereby manual movement of one end only of said wand operates a load handling means.

12. A toy crane, comprising: an elongated upwardly inclined boom having a base end adapted for connection with a support; control means carried by the upper end of said boom for connection with and operating load handling means, said control means comprising a control wand removably carried transversely by said boom and a pair of flexible elements entrained over the upper end of said boom and having their ends adjacent the base end of said boom connected to the respective opposing ends of said control wand whereby manual movement of said control wand longitudinally of said boom raises and lowers the ends of said flexible elements opposite said wand; and tag-line means connected to said boom, said tag-line means comprising a housing, a spool journaled by said housing, a tag-line element having one end portion wound on said spool and having its opposite end extended toward and connected with the load handling means and resilient means connecting said spool to said housing tending to rotate said spool and winding said tag-line element thereon.

References Cited in the file of this patent

UNITED STATES PATENTS

1,404,254	Zahorsky	Jan. 24, 1922
2,071,905	Smith	Feb. 23, 1937
2,166,479	Ruddock	July 18, 1939
2,535,750	Mullins	Dec. 26, 1950
2,590,188	Landree	Mar. 25, 1952
2,698,691	Barnhart	Jan. 4, 1955
2,849,833	Mills	Sept. 2, 1958