

Feb. 23, 1937.

T. A. SMITH

2,071,905

TOY DERRICK

Filed March 30, 1936

4 Sheets-Sheet 2

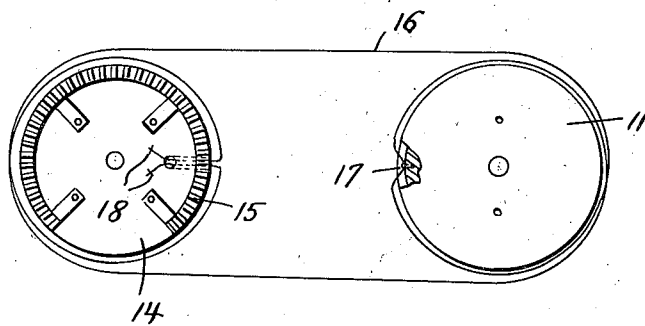
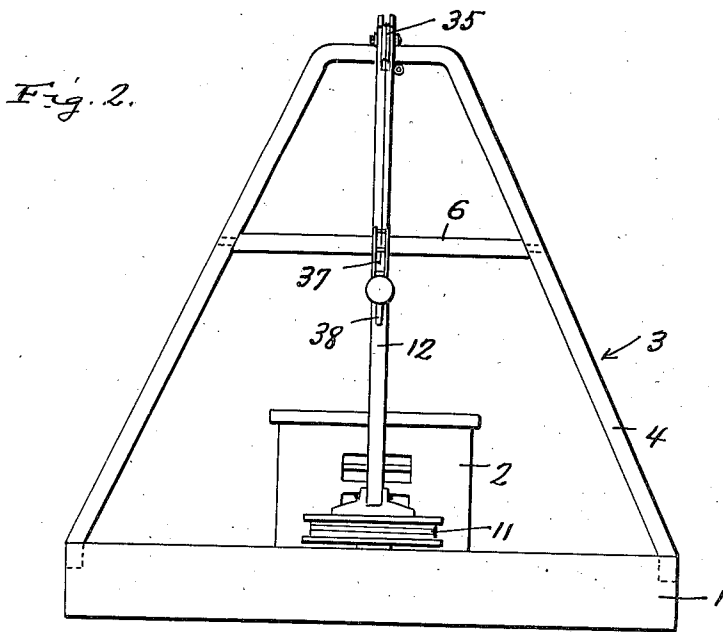


Fig. 5.

Inventor

Thomas A. Smith

By *Clarence W. Brien* and
Hyman Berman Attorneys

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Fig. 3.

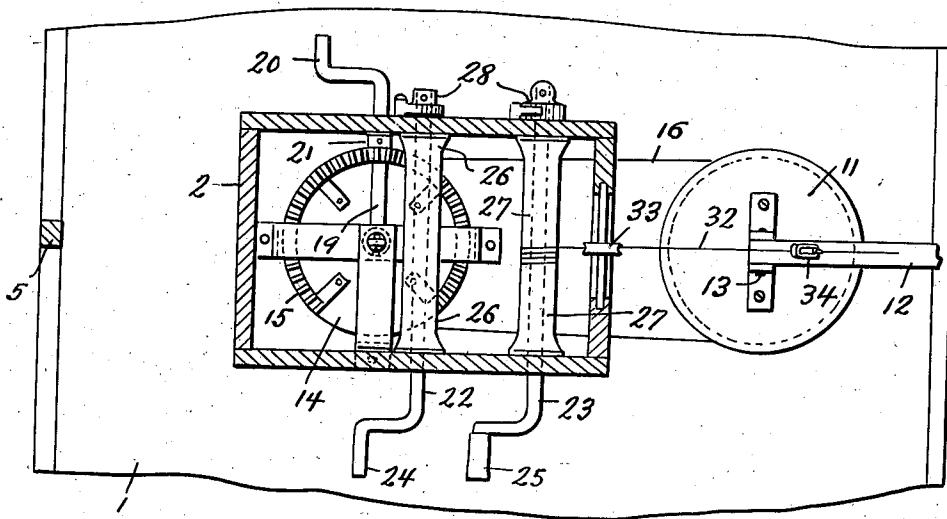
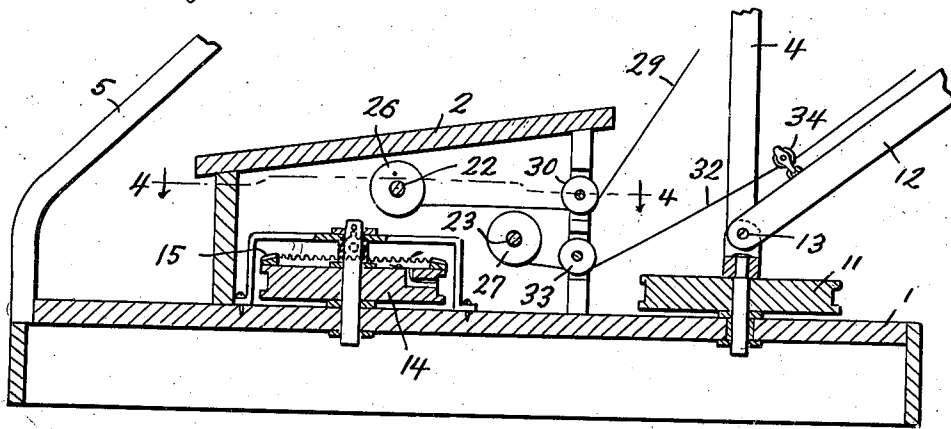


Fig. 4.

Inventor

Thomas A. Smith

By *Albion A. O'Brien* and
Hyman Berman Attorneys

Feb. 23, 1937.

T. A. SMITH

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TOY DERRICK

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Fig. 6.

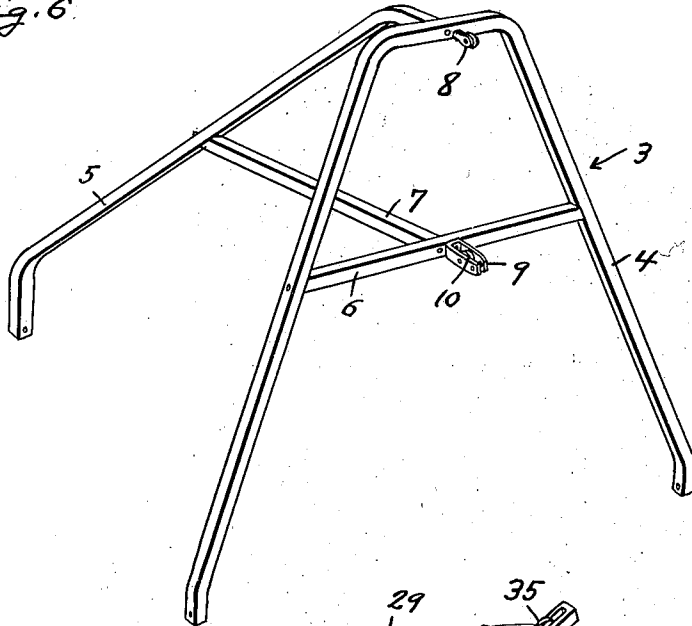
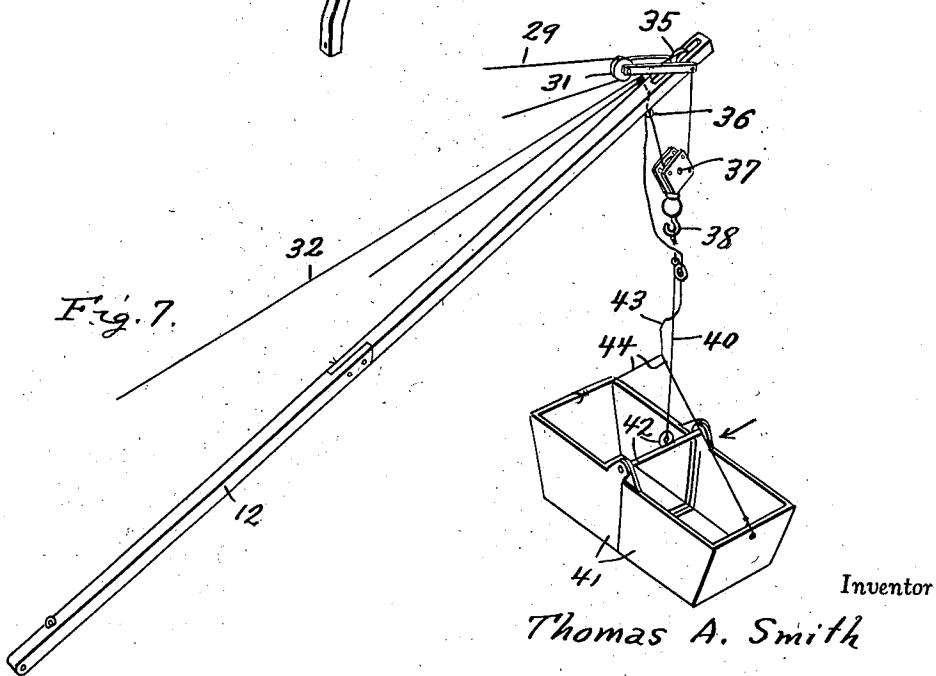


Fig. 7.



Inventor

Thomas A. Smith

By *Clarence W. Brion* and
Harman Berman Attorney:

UNITED STATES PATENT OFFICE

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TOY DERRICK

Thomas A. Smith, Bradley Beach, N. J.

Application March 30, 1936, Serial No. 71,749

1 Claim. (Cl. 212-66)

The present invention relates to new and useful improvements in toy derricks and has for one of its important objects to provide, in a manner as hereinafter set forth, a device of this character embodying a pivotally and rotatably mounted boom, together with novel means for manually operating said boom.

Another very important object of the invention is to provide a toy of the aforementioned character comprising a novel form of bucket.

Other objects of the invention are to provide a toy derrick which will be comparatively simple in construction, strong, durable, compact, light in weight, instructive as well as amusing, and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views and wherein:—

Figure 1 is a view in side elevation of a toy derrick constructed in accordance with the present invention.

Figure 2 is a view in front elevation thereof.

Figure 3 is a view in vertical longitudinal section through the main portion of the device.

Figure 4 is a horizontal sectional view, taken substantially on the line 4-4 of Figure 3.

Figure 5 is a top plan view of a portion of the mechanism for rotating the boom.

Figure 6 is a detail view in perspective of the frame.

Figure 7 is a perspective view of the boom and the bucket.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a base 1 of any suitable material and dimensions, said base having mounted thereon a housing 2. Also mounted on the base 1 is a frame which is designated generally by the reference numeral 3. As illustrated to advantage in Figure 6 of the drawings, the frame 3 includes a substantially A-shaped member 4 and a brace 5. Extending between the brace 5 and the cross bar 6 of the member 4 is a strut 7. A pulley 8 is mounted on the upper portion of the member 4. Mounted on the cross bar 6 of the member 4 is a clevis 9 in which a pulley 10 is journaled.

Rotatably mounted on the base 1 forwardly of the housing 2 is a pulley 11 to which one end of a boom 12 is pivotally connected for swinging movement in a vertical plane, as at 13. Jour-

nalled in the housing 2 is a horizontal pulley 14 on top of which a ring gear 15 is fixed. A suitable belt 16 connects the pulley 11 to the pulley 14 for actuation thereby. As best seen in Figure 5 of the drawings, the belt 16 is wrapped around the pulley 7 and anchored thereto, as at 17. Then, the end portions of the belt 16 are wrapped around the pulley 14 and anchored thereto, as at 18. A shaft 19 is journaled in the housing 2 and terminates, at its outer end, in an operating crank 20. A gear 21 is fixed on the shaft 19 for driving the gear 15.

Also journaled transversely in the housing 2 are shafts 22 and 23 which are provided with operating cranks 24 and 25 respectively. Fixed on the shafts 22 and 23 are reels 26 and 27. The reels 26 and 27 are releasably secured against retrograde rotation by pawl and ratchet devices 28 at one end of the shafts 22 and 23.

A cable 29 is secured, at one end, to the reel 26 for winding thereon. Cable 29 extends under a guide pulley 30 in the front of the housing 2, then around the pulley 10, then over the pulley 8, around a pulley 31 on the free end portion of the boom 12 and has its other end anchored to the clevis or the like 9. A cable 32 has one end secured to the reel 27 for winding thereon. The cable 32 passes under a guide pulley 33 in the front of the housing 2, under a pulley 34 of the pivoted end portion of the boom 12, then over a pulley 35 on the free end portion of the boom 12 and has its other end anchored to said boom, as at 36. Mounted on the cable 32, between the pulley 35 and the anchored end 36 of said cable, is a pulley 37 from which a hook 38 depends.

The reference numeral 39 designates generally a bucket which is suspended from the hook 38 through the medium of a cable 40. The bucket 39 comprises complementary half sections 41 which are mounted for swinging movement on a rod 42. It will be observed that the suspension cable 40 is connected to the rod 42. An operating cable 43 is connected by branches 44 to the outer ends of the pivoted bucket sections 41.

It is thought that the operation of the device will be readily apparent from a consideration of the foregoing. To swing or rotate the boom 12, the hand crank 20 is operated for actuating the pulley 11 through the gears 21 and 15, the pulley 14 and the belt 16. To raise or lower the boom 12 the reel 26 is actuated for winding the cable 29 thereon or for unwinding said cable therefrom. To raise or lower the bucket 39, the reel 27 is actuated to wind or unwind the cable 32. It

will be noted that the bucket 39 is of the "grab" type, the sections or jaws 41 thereof being opened when the bucket is lowered into engagement with the material to be moved.

5 It is believed that the many advantages of a toy derrick constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

10 What is claimed is:—

15 A toy of the class described comprising a base,

a horizontal pulley rotatably mounted on said base, a boom mounted for swinging movement in a vertical plane on said pulley, a bucket suspended from the free end portion of said boom, another pulley mounted for rotation in a horizontal plane on the base, a drive belt connecting the first named pulley to the second named pulley for actuation thereby, said belt being attached at an intermediate portion to one of the pulleys and attached at its ends to the other pulley, a gear on the upper surface of the second-named pulley, a crank, and a pinion connecting the crank to the gear for operating said second-hand pulley. 5 10

THOMAS A. SMITH. 15