April 6, 1926. 1,579,602

P. ESSER

FIGURE TOY

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Fig. 1.

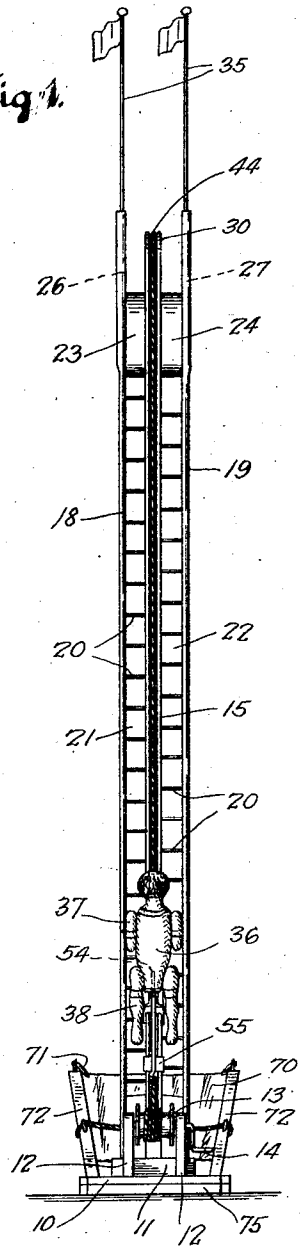
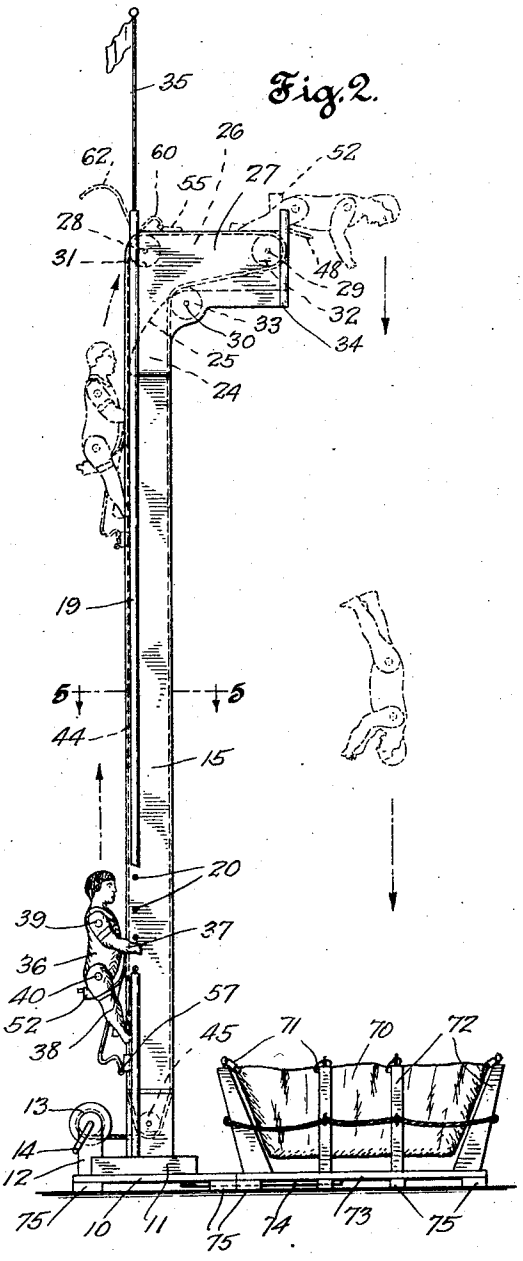


Fig. 2.



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FIGURE TOY

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Fig. 3.

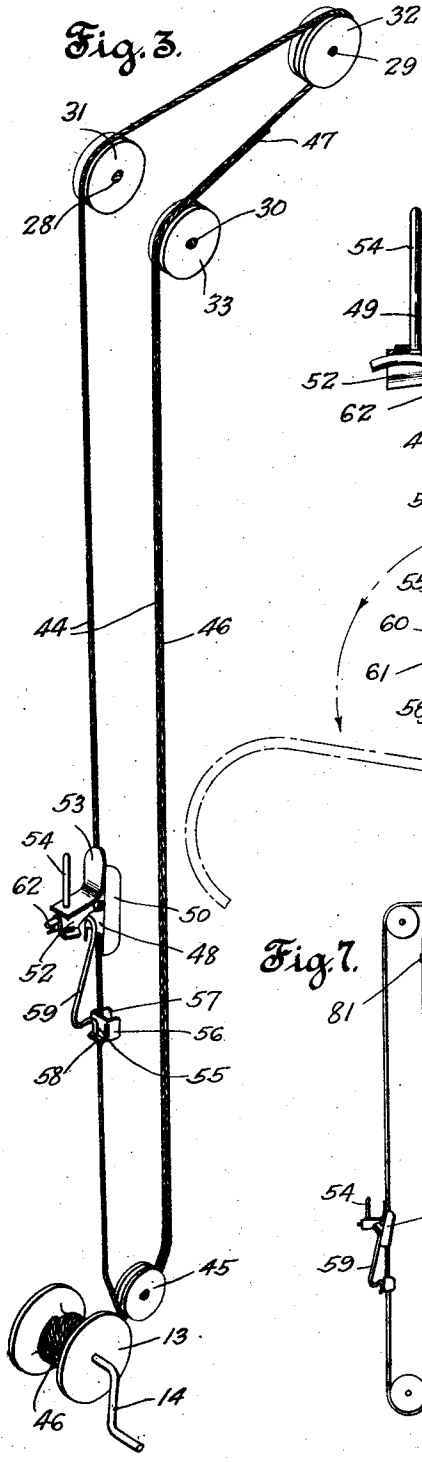


Fig. 4.

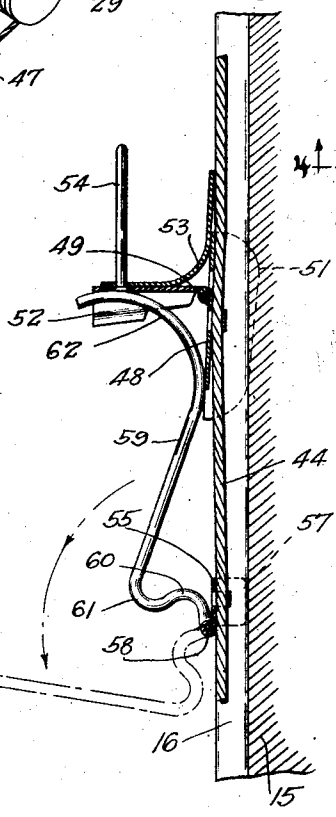


Fig. 5.

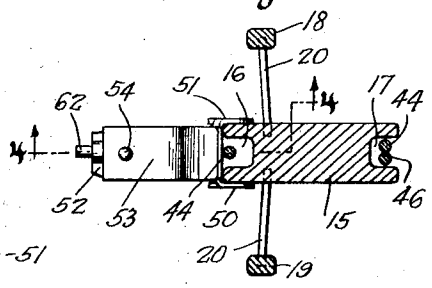


Fig. 6.

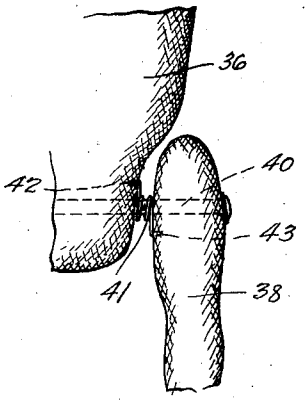
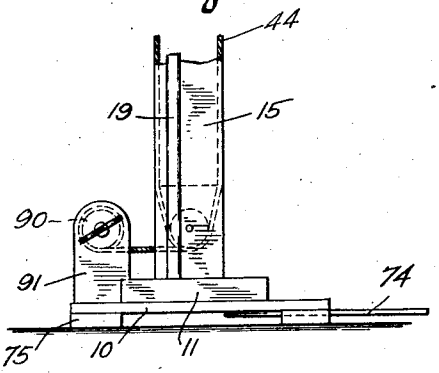


Fig. 7.

Fig. 8.



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UNITED STATES PATENT OFFICE.

PETER ESSER, OF CLIFTON, NEW JERSEY.

FIGURE TOY.

Application filed February 23, 1922. Serial No. 538,475.

To all whom it may concern:

Be it known that I, PETER ESSER, a citizen of the United States, residing in Clifton, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Figure Toys, of which the following is a specification.

The primary object of this invention is to provide a toy with means for simulating certain human movements that are novel and interesting alike to children and older persons.

Another object has been to provide a simple mechanical figure, representing a diver, with means whereby the figure is caused to mount a ladder attached to a vertical column.

A further object is the means provided for causing the climbing figure to be carried to the top of a column, from where it is projected into space in the manner of a high diver alighting in a tank.

These and other objects are attained by the novel combination and arrangement of parts hereinafter described and shown in the accompanying drawings, forming a material part of this disclosure and in which:—

Figure 1 is an end elevational view of a toy made in accordance with the invention.

Figure 2 is a side elevational view of the same, showing by dotted lines, various positions of the movable figure.

Figure 3 is a perspective view showing the lay of the operating cord.

Figure 4 is a partial sectional view taken on line 4—4 of Figure 5.

Figure 5 is a sectional view taken on the line 5—5 of Figure 2.

Figure 6 is a fragmentary detail view of the moving figure elements.

Figure 7 is a side view showing a modification of the operating means.

Figure 8 is a fragmentary view showing another modification of the operating means.

Referring to the drawings, the numeral 10 designates a rectangular platform, having attached a block 11 and upright elements 12, between which is a winding drum 13 manually rotated by a crank 14 mounted in the uprights and fixed to the drum.

Secured rigidly to the top of the block 11 is a vertical column 15, having grooves or cord channels 16 and 17 formed longitudinally at the front and rear, respectively. At a spaced distance from each side of the column 15, are upright bars 18 and 19, having their lower ends fixed in the block 11.

Drilled through the bars 18 and 19 are spaced holes in register with holes in the column 15, in a manner to receive and hold a plurality of wires 20, that when assembled form the rungs of the ladders 21 and 22 which, by referring to Fig. 5, will be seen to be inclined toward the front, the purpose being to cause the limbs of a climbing figure to be centered and forced inwardly, preventing the figure from turning sidewise on its supporting rung.

Referring to Figure 1, it will be seen that the rungs of the ladders are arranged in a staggered manner, the purpose of which will be seen as the disclosure proceeds.

Secured to the sides of the column 15, at the upper end are blocks 23 and 24, contoured on the inner edges as shown by the lotted lines 25.

Angularly shaped plates 26 and 27, of relatively thin material, are secured adjacent the outer sides of the blocks 23 and 24, and have grooved pulleys 31, 32 and 33 disposed between them rotatable on pins 28, 29 and 30 passing transversly through the grooves of and fixed in the bar 16.

On the outward extending portion of plates 26 and 27 are fixed tubular elements 34 adapted to receive ornamental objects, as the flag staff 35 shown removably engaged in the ends of the ladder sides 18 and 19.

The moving figure, simulating a diver, comprises a body 36 having arms 37 and legs 38 attached to the body by the pivots 39 and 40, and a central drilled hole extends longitudinally into the body receptive of a carrying pin 54.

Coiled springs 41 having tangential extending elements bent at right angles are interposed between the body and the limbs, the coils surrounding the pivot pins and the spring ends 42 and 43 entering the adjacent sides of the body and limb members at proper position and, as shown in Figure 6, causes the arms and legs to be drawn forward and upward in a manner adapted to engage with the rungs of the ladder.

As previously stated the ladder rungs are arranged in staggered order and as the diver is advanced upwardly, the arm and leg members, due to the action of the springs

41, automatically, alternately contact with the rungs, thus producing a perfect imitation of a person climbing a ladder.

The articulated figure is actuated by an endless cord 44 passing upwardly in the groove 16 of the column 15, over the grooved pulleys 31, 32 and 33, then downwardly in groove 17 and under the pulley 45, rotatably secured at the bottom of the column 15.

Another cord 46 is spliced to the cord 44, as shown at 47 of Figure 3, and passes over the pulley 33, then downward under the pulley 45 to the windlass drum 13. Thus it will be seen that as the cord is wound on the drum, the point 47 of splicing 47 will be carried downward, while a corresponding upward movement will be imparted to the outer cord 44.

Secured to the outer run of the cord 44, is a tranverse plate 48 having formed at the center a hinge element 49. Integral wings 50 and 51, bent at right angles to the plate 48, engage the sides of column 15, providing means for guiding and controlling the movement of the slide plate 48 vertically.

A spring element 52, is formed at its front end as an inverted U element and the opposite end forms the complementary member of the hinge 49.

An angularly bent spring 53, is secured to the upper side of element 52 by a vertically disposed carrying pin 54, the other end of the spring abutting against the upper face of the plate 48, in which position the tension of the spring urges the hinge elements into closed position.

Below the figure carrying elements just decribed and co-acting therewith, is a releasing device comprising a plate 55, having integral side wings 56 and 57 formed at right angles and adapted to slide vertically along the front edge of the column 15.

The lower side of the plate 55 is curled upward to form a hinge element 58, pivotally engaging a releasing latch 59 having formed at its lower end two reversely curved elements 60 and 61, the opposite end 62 having a single curve to engage within the spring elements 52 of the figure carrier, as shown in Fig. 4, in which position the sliding element 57 is secured permanently to the cord.

As the diver is carried over the pulley 31, the spring 53 looses its tension, due to the tilting of the hinge plate 48, and the lower portion being brought into contact with the releasing latch 59, causes the upper curved end 62 to be forced from the spring element 52 and to assume the position shown by dotted lines in Fig. 4.

As the latch is released, the carrier is dropped by gravity onto the hinge element 48, and the diver, carried on the pin 54, assumes an upright position while moving along the horizontal top portion of the diving platform between pulleys 31 and 32.

As the carrier passes over the second pulley 32, the weight of the diver body 36 causes the hinge 49 to open, throwing forward the body into a horizontal position and the pin 54, on being further advanced, turns downward permitting the diver to drop head down in the manner of a diving body.

A flexible tank 70 is provided for catching the diver, the same being partially filled with water, and is supported by rings 71 fixed to its upper edge and to the ends of stakes 72 held by dowels engaged in a platform 73 adjacent the ladder plate form 10, and there removably held by dowel rods 74 passing through cleats 75 fixed to the undersides of the platforms 10 and 73.

Thus the diving figure, which is preferably made hollow of light material, when projected into the tank, rises and floats upon the surface of the water in the tank, carrying out the illusions of a diver, leaping from considerable height, in a manner closely approximating actual conditions.

The modification, shown in Figure 7, indicates a simple operating means, the double cord and the windlass being discarded, and a weight 80 adapted to engage a hook member 81, secured to the endless cord 82, provides means for operating by gravity.

Figure 8 shows a further modification in which the manually operated windlass is superseded by a spring motor 90 mounted in a housing 91 fixed to the base of the toy.

While certain preferred embodiments of this device have been shown and described, it will be understood that changes in the form, arrangements, proportions, sizes and details thereof may be made without departing from the scope of the invention as defined in the appended claims:

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a toy, the combination with a grooved column having an angularly extending arm, of pulleys in the grooves of said column, an endless cord trained about the pulleys, a secondary cord having one end spliced to the inner run of the endless cord, the other end engaging with the drum of a windlass, means whereby a figure carrier attached to the outer run of said cord is caused to move upward and outward on said arm as the secondary cord is wound on said drum and means for releasing an object on the figure carrier when at the end of said arm whereby it may fall in an inverted position.

2. In a toy, the combination with a vertical column having grooves arranged on opposite sides, pulleys in said grooves at the

upper end of the column, a single grooved pulley in the outer groove at the base of said column, an endless cord lying in said grooves and disposed about said pulleys, a carrier secured to the cord for raising an object to the top of said column, and releasable means suporting a portion of said carrier and adapted to be automatically released when the object is raised to its highest point.

3. In a toy, the combination with a grooved column having means within said grooves suited to maintain an endless cord in operable position, a figure carrier secured to said cord, said carrier comprising a hinged element having one leaf fixed at its vertical center to the outer run of the cord, and the other leaf formed into an inverted U shape adapted to engage the curved end of a locking lever hingedly engaged in a slide secured to said cord, a spring for maintaining said engagement, and a pin extending vertically upward from said U shaped element for supporting an articulated figure.

4. In a toy, the combination with a column, a base, a platform removably connected to said base, means associated with said column whereby a figure is caused to ascend to the top of the column and drop therefrom in the manner of a diver, said figure comprising a body having pivoted arms and legs, springs interposed between said body and the arms and legs, said springs constituting means whereby the arms and legs are normally held outward from the body, and means for causing the arms and legs to contact with the rungs of a ladder on said column when the figure ascends.

5. In a toy, the combination with a column having means for carrying a figure up to and over the top thereof, said means comprising pulleys, an endless cord disposed over the pulleys, a carrier secured to said cord, a pin extending upward from the carrier for supporting the figure, means for maintaining said pin and figure in upright position, a locking lever means for releasing said lever when said carrier passes over one of said pulleys, a spring for causing the hinged elements of the carrier to close after passing said pulley, allowing the figure to remain in upright position, and means whereby the weight of said figure causes the carrier pin to fall into a downward position when said carrier passes over another pulley thereby releasing said figure and permitting it to drop from the carrier.

6. In a toy, the combination with a column having ladder elements, of a figure simulating a diver, said figure being articulated, means for causing said figure to ascend said ladder step by step, means for maintaining the figure in upright position when ascending, means for releasing said figure upon reaching the top of said column; and a flexible water filled tank receptive of said figure when diving.

In testimony whereof I have signed my name to this application.

PETER ESSER.