April 27, 1926. 1,582,153

L. S. YOUNG

MECHANICALLY OPERATED FIGURE TOY

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Fig. 1.

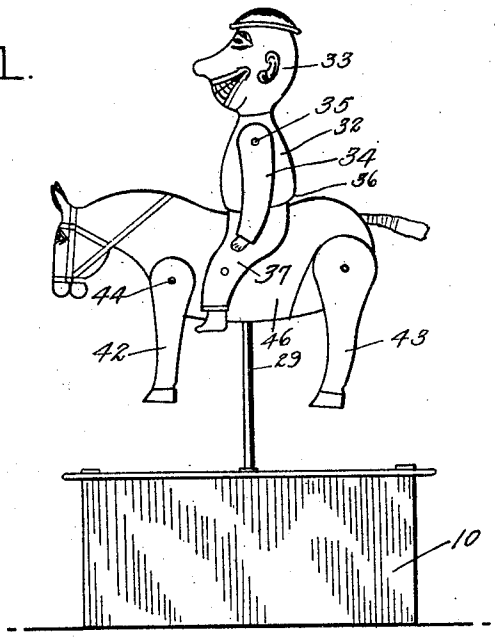
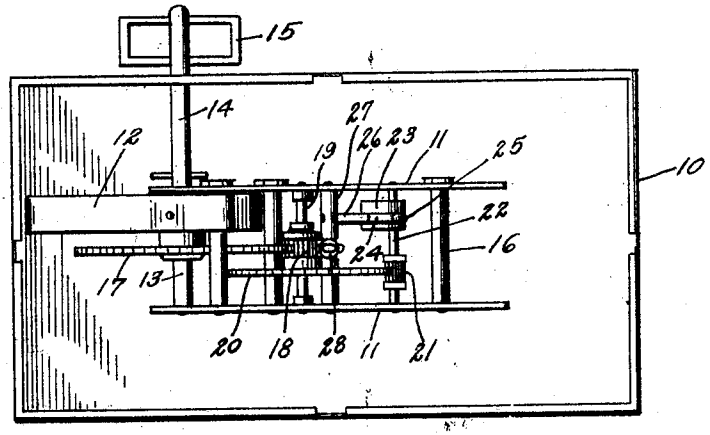


Fig. 2.



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Fig. 3.

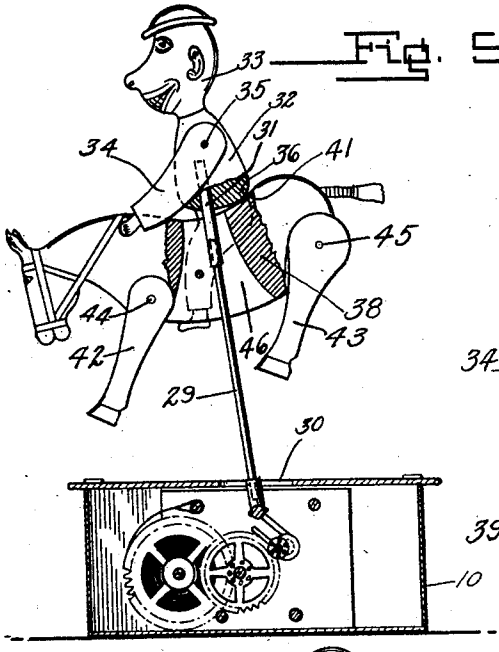


Fig. 5.

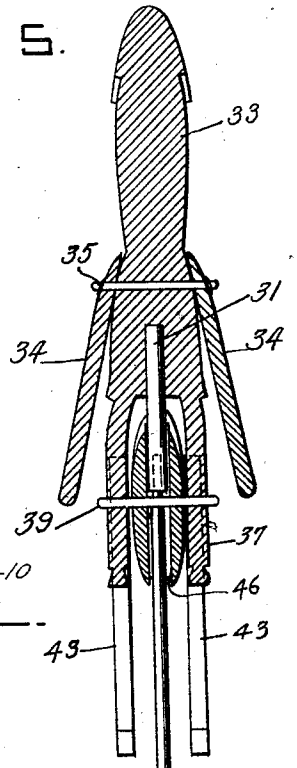
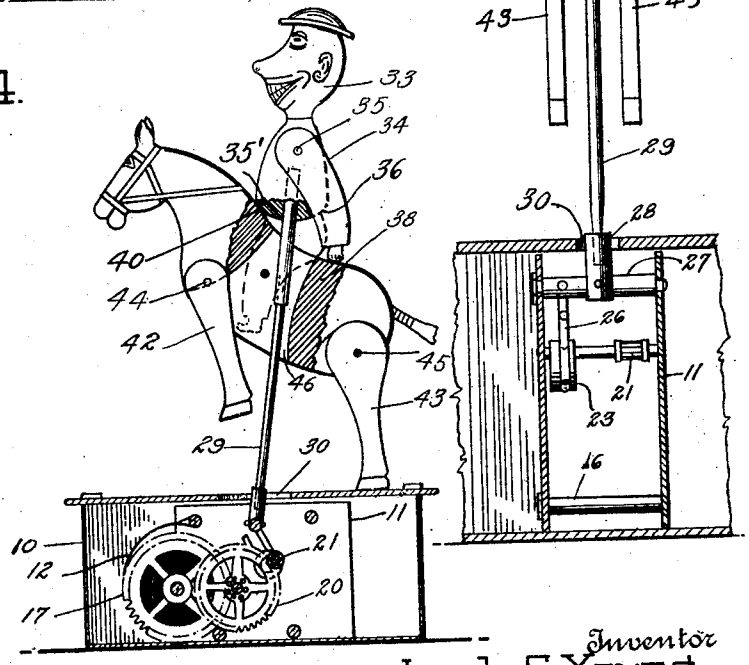


Fig. 4.



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UNITED STATES PATENT OFFICE.

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MECHANICALLY-OPERATED FIGURE TOY.

Application filed August 27, 1925. Serial No. 52,890.

To all whom it may concern:

Be it known that LENLY S. YOUNG, subject of the King of Great Britain, residing at Dorchester, in the county of Suffolk and State of Massachusetts, has invented certain new and useful Improvements in Mechanically-Operated Figure Toys, of which the following is a specification.

The present invention relates to toys, and particularly to a toy of the mechanical type.

An object of the present invention is to provide a toy simulating a horse and rider, and to so construct the toy that when operated the horse and rider will have relative movements giving a galloping action to the parts and produce at the end of each stroke an independent quick movement of the horse to produce a natural change in the movements of the animal.

Another object of the invention is to produce the above results with a structure embodying but few parts so constructed and connected together as to produce a strong and durable toy capable of operation by a small spring motor or the like.

A further object of the invention is to provide a toy of this character wherein both the horse and rider may be mounted upon a single stem or arm and operated by a short back and forth oscillation or reciprocation of the arm.

The invention still further aims to provide a horse and rider peculiarly connected together, and to provide the rider with freely swinging arms adapted to move in a direction which presents an appearance of urging the horse to go, the connections between the parts being such as to properly time the impulse imposed on the arms to produce the desired forward swinging action.

The above and various other objects and advantages of this invention will in part be described in, and in part be understood from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawings, wherein:

Fig. 1 is a side elevation of a toy constructed according to the present invention and in a position of rest.

Fig. 2 is an enlarged detail top plan view of the motor casing, with the top and stem removed.

Fig. 3 is a vertical longitudinal section taken through the toy, the horse and rider being shown in a forward position.

Fig. 4 is a similar view showing the horse and rider in a rearmost position, and

Fig. 5 is an enlarged transverse section taken through the toy, the motor casing being broken away.

Referring to the drawings 10 designates a casing or platform of any approved size and construction for housing a motor frame 11 which is shown in the present instance as of the spring type. The frame 11 carries a flat coil spring 12 which is mounted on a shaft 13 and adapted to be placed under tension by winding by means of a key 14 or the like which may project through the side of the casing 10 and provided with a handle or thumb piece 15. The motor frame 11 is provided with a number of cross braces 16 for strengthening the frame and holding the side portions thereof in properly spaced relation. The spring shaft 13 is provided with a large gear wheel 17 which meshes with a pinion 18 carried on a shaft 19 mounted in the frame 11. This shaft 19 is provided with a second smaller gear wheel 20 which in turn meshes with a second pinion 21 on a second cross shaft 22. The shaft 22 carries an eccentric 23 having a peripheral groove 24 therein in which is freely fitted a loop or ring 25 carried on the end of a rocker arm 26 projecting from a rocker shaft 27 mounted in the frame 11.

The rocker shaft 27 is provided with an upstanding rocker socket 28 into which may be removably fitted an upstanding stem 29 extending upwardly through a slot 30 in the top of the casing 10.

The stem 29 may be made in any desired number of sections or may be in one piece, the present illustration showing an upper socket stem section 31 which is secured in the lower end of the body 32 of the rider. The body 32 may be of any desired configuration simulating a man or the like and provided upon its upper end with a head 33 and having at opposite sides arms 34 freely mounted to swing upon a cross pin 35 extending through the shoulder portion of the body as best shown in Fig. 5.

The lower end of the body is relatively flat and broad from front to rear to provide

corner or shoulder portions 35′ and 36 for a purpose which will presently appear. The body 32 is further provided, at opposite sides, with a pair of depending spaced apart legs 37 which are curved downwardly and forwardly of the transverse plane of the stem 29.

Freely fitting between the legs 37 of the rider is an elongated body 38 shaped to the configuration of an animal, such as a horse or donkey as shown, and the body 38 is freely pivoted upon a transverse pin 39 carried across and through the legs 37. The back or upper portion of the animal body 38 is spaced a short distance below the lower end of the rider body 32 so that the animal body may freely rock on its pin 39 between the legs 37. The back of the animal body 38 is arched downwardly in the manner of the natural object and the shoulder portion 40 of the animal body is adapted to contact with the lower front shoulder 35 of the rider body. The hip portion 41 of the animal body 38 is adapted to contact with the back lower shoulder 36 of the rider body 32.

The animal body 38 is provided with front legs 42 and rear legs 43 which are mounted to swing freely upon cross pins 44 and 45 respectively and which are secured through the front and rear portions of the animal body 38. The stem 29 and its upper section 31 extend vertically through a downwardly flaring slot 46 formed in the animal body 38 intermediate its ends as shown in Figs. 3, 4 and 5.

In operation, when the spring motor is wound it operates the train of gears and rotates the eccentric 23 which causes the loop 25 and its arm 26 to swing up and down and rock the shaft 27. The shaft 27 swings the stem 29 back and forth so as to carry therewith the rider and the animal. When the stem 29 swings forwardly into the position shown in Fig. 3 and stops, the momentum imparted to the animal body 38 swings the same to raise the rear end of the animal upwardly, causing the same to strike with considerable force against the rear shoulder 36 of the rider and thereupon effects a rebound action to swing the animal body 38 in a reverse direction, throwing the head or forward end upwardly as the stem 29 swings backwardly. By the time the stem 29 reaches the end of its backward stroke the front or shoulder portion 40 of the animal body 38 strikes the front shoulder 35 of the rider body 32 and consequently effects a rebound action on the animal body 38 to swing it in a reverse direction with its head or forward end swinging downwardly. The pivot pin 39 extends through the intermediate portion of the animal body 38, or through the point of equilibrium so that the animal body is practically counterbalanced upon the pin 39. This suspension or pivoting of the body permits the same to have a free swinging action in both directions, particularly under the rebound action of the impact between the forward and rear portions of the bodies 32 and 38.

As the legs 42 and 43 of the animal 38 are freely hinged, they are permitted to swing forwardly and backwardly under the impulse of the reciprocating stem 29. It will also be noted that should the toy come to rest in a backward position as shown in Fig. 4, the rear legs 43 come to rest on top of the casing or platform 10.

The freely swinging arms 34 of the rider body 32 are swung back and forth by the reciprocating action of the toy to simulate a natural movement of the rider in urging the animal to greater speed.

It is of course understood that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of the invention, without departing from the spirit thereof, and such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:

1. A toy comprising a casing, a motor in the casing, a rocker shaft mounted in the casing operated by the motor, a stem on the shaft and extending upwardly through the casing, a rider body mounted on the stem, an animal body pivotally mounted on the rider body, arms pivotally carried by said rider body, and legs pivotally mounted on said animal body and adapted for free swinging movement therewith.

2. A toy comprising a casing, a motor in the casing, a rocker shaft mounted in the casing operated by the motor, a stem secured to the shaft and extending upwardly through the casing, a rider body carried by the stem, and an animal body pivotally secured to said rider body for swinging movement with respect thereto.

3. A toy comprising a casing, a motor in the casing, a rocker shaft connected to said motor, a stem secured to said shaft and extending upwardly through the casing, a rider body having rigid spaced apart legs, said rider body being mounted on said stem, an animal body pivoted on said rider body and between the legs thereof for swinging movement with respect to the rider body.

4. A toy comprising a casing, a motor in the casing, rocking means connected to said motor, a rider body carried by said rocking means, said rider body having depending rigid spaced legs, an animal body pivoted to said depending legs and mounted therebetween, arms pivoted to said rider body, and legs pivoted to said animal body.

5. A toy comprising a casing, a motor mounted in the casing, a rocker shaft mounted in the casing and connected to the

motor for operation thereby, a stem mounted on the rocker shaft and extending upwardly through the casing, a rider body mounted on the upper end of the stem to swing therewith, said rider body having spaced depending rigid legs, an animal body pivoted intermediate its ends upon and between said rigid legs and spaced below the rider body to permit free swinging of the animal body, said rider body being relatively thick at its lower end to engage the forward and rear back portions of the animal body when swung in opposite directions at the ends of the front and rear strokes of the stem, pivoted arms carried by the rider body, and pivoted legs mounted upon the forward and rear end portions of the animal body.

LENLY S. YOUNG.