Oct. 15, 1940. S. I. BERGER 2,218,065

TOY

Filed May 16, 1938 2 Sheets-Sheet 1

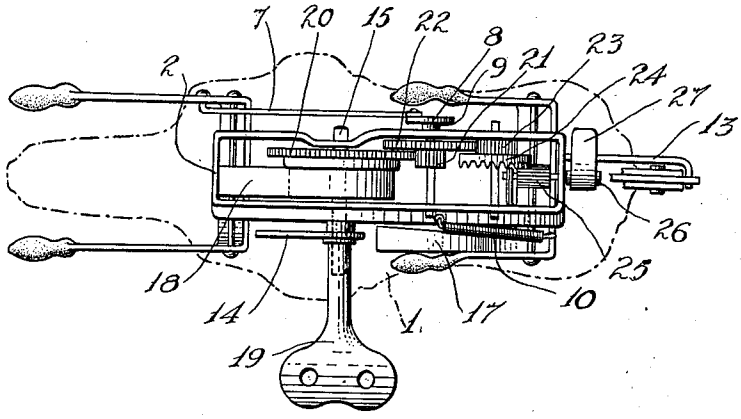


Fig. 1

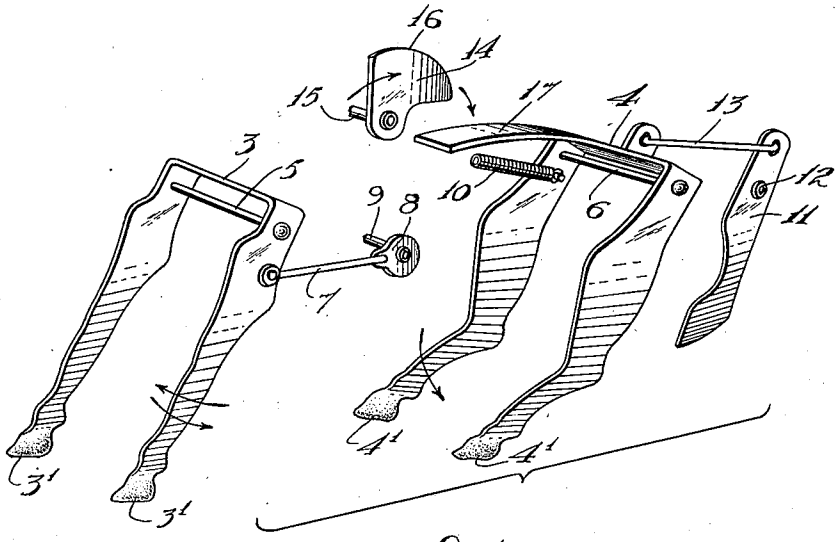


Fig. 2

INVENTOR
Samuel I. Berger
BY
ATTORNEY

Oct. 15, 1940. S. I. BERGER 2,218,065

TOY

Filed May 16, 1938 2 Sheets-Sheet 2

Fig. 3

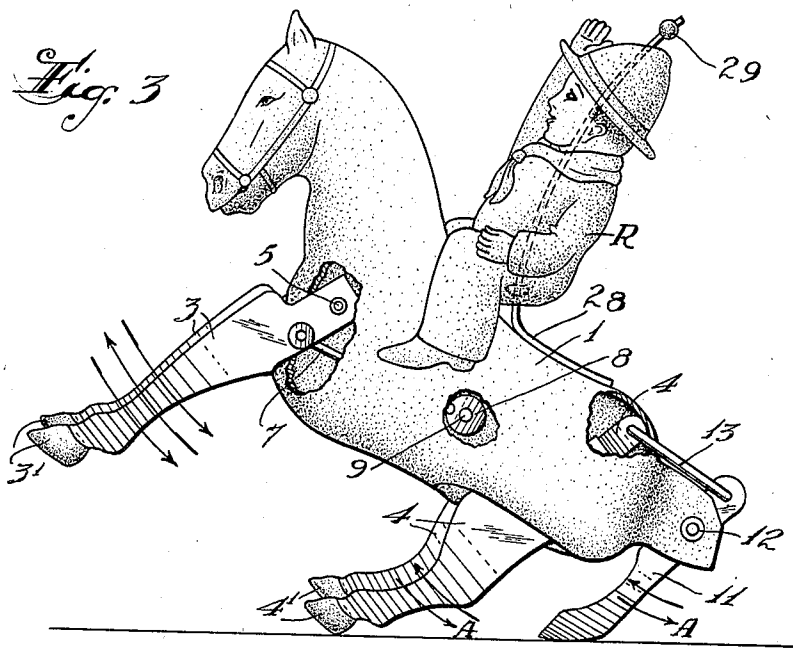
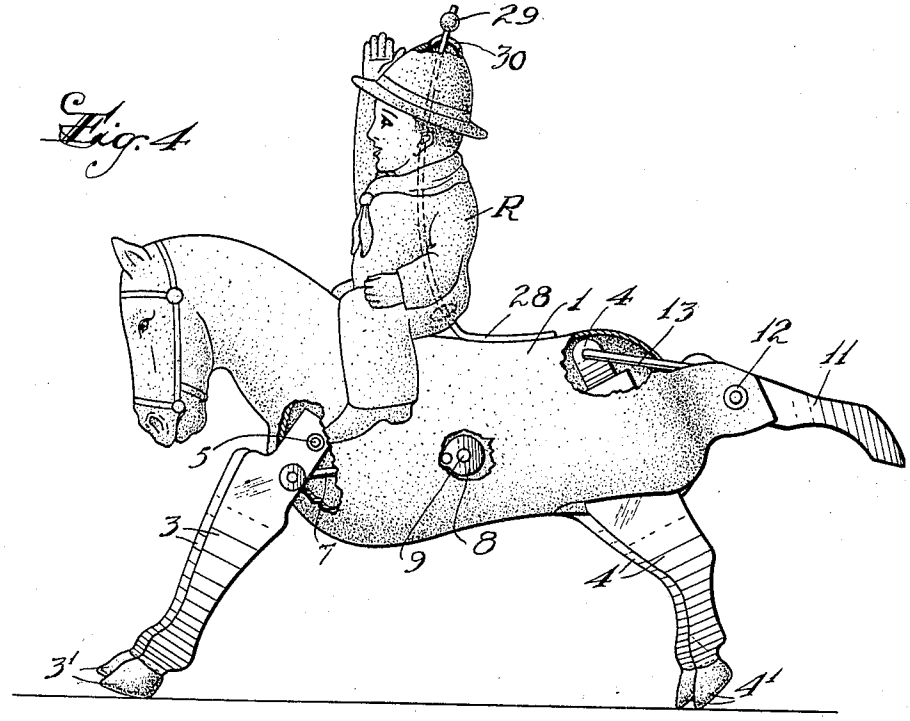


Fig. 4



INVENTOR
Samuel I. Berger
BY
ATTORNEY

Patented Oct. 15, 1940 2,218,065

UNITED STATES PATENT OFFICE

2,218,065

TOY

Samuel I. Berger, Newark, N. J.

Application May 16, 1938, Serial No. 208,130

6 Claims. (Cl. 46—127)

This invention relates to improvements in toys and more particularly to a toy designed to simulate the movements of an animal.

An object of my invention is to provide a toy which is so constructed that upon the actuation of its mechanism, it will reproduce the rearing, prancing, and other motions of an animal.

A further object of my invention is to provide a toy wherein the front legs are pivoted as a unit and are eccentrically connected to the actuating mechanism to provide a continuous, rocking motion, in faithful imitation of the prancing of an animal.

A further object of my invention is to provide a toy wherein the rear legs are pivoted as a unit and are intermittently actuated to provide intermittent rocking motion.

A further object of my invention is to provide the toy with a member, such as an element simulating a tail, movable in unison with the rear leg unit and adapted to provide leverage to lift the toy, on the order of a prancing rearing, animal.

A further object of my invention is to provide a toy of the character described which will provide a life-like optical reproduction of a spirited animal in motion, which will prove highly entertaining and educational.

In the accompanying drawings, in which is shown one of the various possible embodiments of the several features of the invention, and wherein like reference numerals indicate like parts:

Fig. 1 is a bottom plan view of a toy embodying my invention, showing the actuating mechanism in detail,

Fig. 2 is a fragmentary perspective view of the front-leg unit and its eccentric actuating mechanism and the rear leg unit and its intermittent actuating mechanism, showing the tail member and its connection with the rear-leg unit,

Fig. 3 is a side elevational view of a toy embodying my invention, the toy being shown in its "seated" position,

Fig. 4 is a similar view of the toy in its "action" or "horizontal" position.

The toy 1 of my invention is provided with a casing 2 which contains the toy actuating mechanism and in which the front leg unit 3 and rear leg unit 4 are pivotally secured, by pivot pins 5, 6, respectively, or in any other desired manner. The unit 3 is eccentrically connected by means of a rod 7 to a member 8 eccentrically fixed to shaft 9, the latter being constantly rotated when the actuating mechanism is in operation, to rock the unit 3 back and forth in simulation of the action of a spirited animal. The unit 4 is normally urged to the position indicated in Fig. 3, in immediate proximity to the underside of the body of the toy, to simultate the position of an animal's rear legs in the "seated" position, by a spring 10 secured, at opposite ends, to the unit 4 and casing 2. The tail member 11 is pivoted at 12 to the body 1 and is connected to the unit 4 by the rod 13; by this arrangement the tail 11 and unit 4 will move in unison, as will be apparent from an inspection of Fig. 2.

The toy is provided with means adapted to engage the unit 4 for intermittently moving said unit and the tail a counter-clockwise direction, as indicated by the arrows in Fig. 2, thus raising the toy gradually to the horizontal position, simulating a rearing, prancing animal. Any suitable means adapted to attain this end may be used. In Fig. 2 there is shown a cam 14 fixed to a shaft 15, the latter being constantly rotated when the actuating mechanism is in operation. As will be apparent from Fig. 2, the unit 4 and tail 11 will be gradually moved counter-clockwise upon the engagement of cam surface 16 with the bar 17 fixed to the unit 4; the unit 4 and tail 11 will be held in the counter-clockwise position during the contact of cam surface 16 with bar 17; when the continued rotation of cam 14 carries cam surface 16 out of engagement with the bar 17, uniit 4 and tail 11 will be moved in a clockwise direction to the position shown in Fig. 3 by the spring 10.

It is within the contemplation of this invention to use any other means for intermittently actuating unit 4 and tail 11 in a counter-clockwise direction; the particular arrangement above described and shown in the drawings is merely for the purpose of illustrating a convenient form.

In using the toy, the toy is placed on a horizontal surface, as indicated in Fig. 3, and its actuating mechanism is set in motion, causing shafts 9 and 15 to rotate. Shaft 9, through the action of eccentric 8 and reciprocating rod 7, causes the unit 3 to rock as indicated in Figs. 2 and 4 and as indicated by the arrows in Fig. 3. Shaft 15 rotates cam 14, causing cam surface 16 to engage bar 17 of unit 4, moving the latter gradually upwardly. As the unit 4 moves gradually upwardly, the rod 13 connecting the unit 4 with the tail 11 moves the latter in unison with the unit 4; as the tail 11 moves in a counter-clockwise direction, it acts as a lever to gradually raise the toy, as indicated by the arrows A in Fig. 3. As the unit 4 moves gradually in a counter-clockwise direction, the rod 13 connect-

ing the unit 4 with tail 11 moves the latter in unison with the unit 4.

The legs of unit 4 and the tail 11 constitute a three-point support on which the toy is balanced as shown in Fig. 3. As the tail 11 continues to move in a counter-clockwise direction, with unit 4, the toy rises on unit 4 in simulation of a rearing horse, until unit 4 and tail 11 are at their most extreme rearward positions, when the toy will be overbalanced and will come down abruptly on the front unit 3, maintaining that position until the cam 14 is rotated out of engagement with the bar 17, when, due to the action of spring 10, the unit 4 and tail 11 will be drawn in a clockwise direction and cause the toy to resume its "seated" position shown in Fig. 3.

The above described movements of the toy are repeated as long as the actuating mechanism is in operation.

Any suitable motive mechanism may be provided to rotate shafts 9 and 15. By way of example, I have shown in the drawings a spring actuated mechanism carried by the casing 2, the latter being secured in the toy body 1 in any desired or convenient manner. The spring actuated mechanism comprises a main spring 18 wound by key 19 on shaft 15 and actuating the gear wheel 20. Gear wheel 20 meshes with pinion 21 fixed to shaft 9, the shaft 9 having also fixed thereto gear 21 in mesh with pinion 23 of gear wheel 24, the latter meshing with pinion 25 of shaft 26 carrying the governor 27. Members 22—27 provide the governor mechanism. The governor 27 may be so weighted and positioned on its shaft 26 that the toy will be vibrated during the operation of the actuating mechanism so that the toy will tend to turn horizontally when in the position shown in Fig. 4. The extremities 3'—4' of units 3 and 4 are preferably widened as indicated in Fig. 1 to provide substantial support for the toy. The parts are preferably made of metal formed as indicated in the drawings; the dimensions and outline of the various parts may be altered as desired, within the scope of my invention.

The toy may be provided with a rider R preferably slidably arranged on a wire member 28 fixed to the toy. The free end 29 of wire member 28 preferably passes through a slot 30 in the top of rider R so that the rider will automatically shift its position as the toy is actuated as it rears and prances, enhancing the lifelike effect of the toy and contributing to the balancing of the toy in its rearing movements. The rider R may be hollow, as shown, or of any other desired construction. While I have shown, in the embodiment of the drawings, a toy in simulation of one animal, namely, a horse, my invention covers any toy structure wherein the mechanical features shown and described above are utilized. Any suitable stop means may be provided against which the rear leg unit 4 may abut when drawn in a clockwise direction by action of the spring 10.

While each of the leg units 3 and 4 comprises a pair of leg members preferably integrally secured together in spaced relation, the term "leg units" shall include any other arrangement of the leg members, severally or otherwise, within the scope of my invention.

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

1. A toy comprising a body member, front and rear leg units pivotally secured thereto, means carried by said body and engaging said units to move the latter in simulation of the movements of an animal, a wire secured to said body, and a toy rider slidably arranged on said wire.

2. A toy comprising a body member, front and rear leg units pivotally secured thereto, means carried by said body and engaging said units to move the latter in simulation of the movements of an animal, a supporting member secured to said body, and a toy rider slidably arranged on said supporting member.

3. A toy comprising a body member, a rear leg unit pivotally secured thereto, a tail member pivotally secured to said body member, the pivot points of said tail member and rear leg unit being in a common horizontal plane, said tail member and leg unit being extended above their pivot points, a member connecting the extending portions of said tail member and leg unit so that they will move in unison, and means carried by said body and engaging said unit to move the latter relatively to the body.

4. In a toy comprising a body member, a rear leg unit pivotally secured thereto, a cam member rotatably secured to said body member, a bar secured to said rear leg unit and movable therewith, said bar having a portion thereof interposed in the path of rotation of said cam member, and means carried by said body member for rotating said cam member to intermittently engage said bar to move said rear leg unit in simulation of animated movement.

5. In a toy comprising a body member, a rear leg unit pivotally secured thereto, a cam member rotatably secured to said body member, a bar secured to said rear leg unit and movable therewith, said bar having a portion thereof interposed in the path of rotation of said cam member, spring means engaging said body member and rear leg unit, normally urging the latter in a clockwise direction into immediate proximity with the underside of the body member, and means carried by said body member for rotating said cam member to intermittently engage said bar and thereby move said rear leg unit in a counter-clockwise direction in simulation of animated movement.

6. In a toy comprising a body member, a rear leg unit and tail member pivotally secured to said body member in spaced relation, means connecting said tail member with said rear leg unit, a bar secured to said rear leg unit and movable therewith, and means carried by said body member to intermittently engage said bar to move said rear leg unit and tail member in simulation of animated movement.

SAMUEL I. BERGER.