Aug. 16, 1932. D. S. WILLIAMS 1,872,544

TOY

Filed Sept. 22, 1930 3 Sheets-Sheet 1

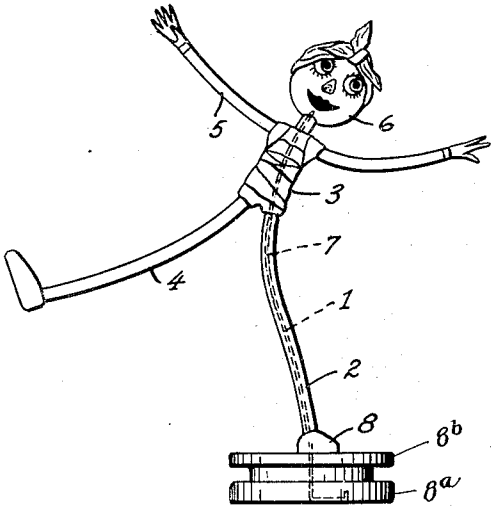


Fig. 1.

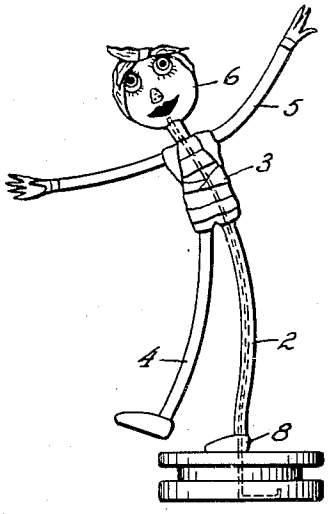


Fig. 2.

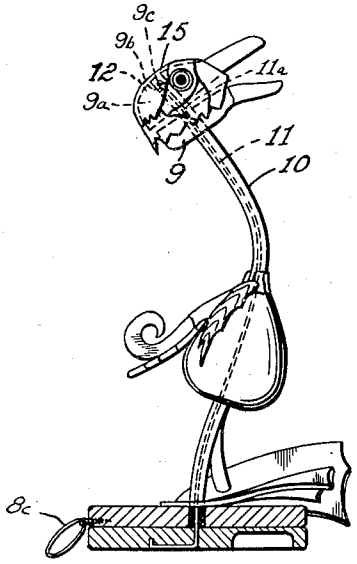


Fig. 3.

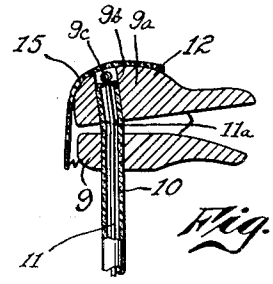
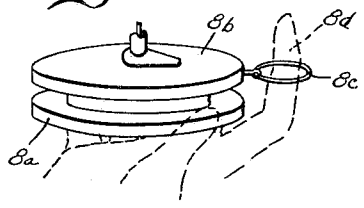


Fig. 4.

Fig. 5.



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Fig. 6.

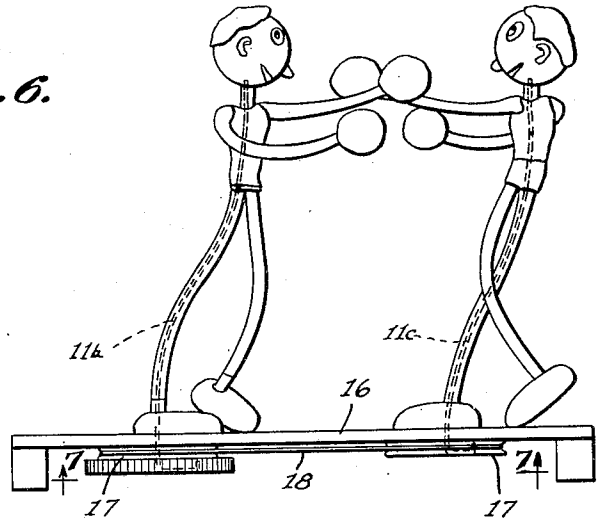


Fig. 7.

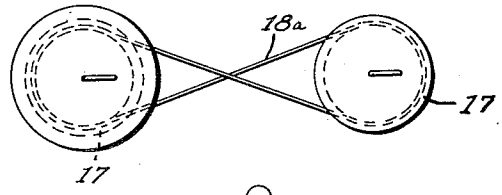


Fig. 8.

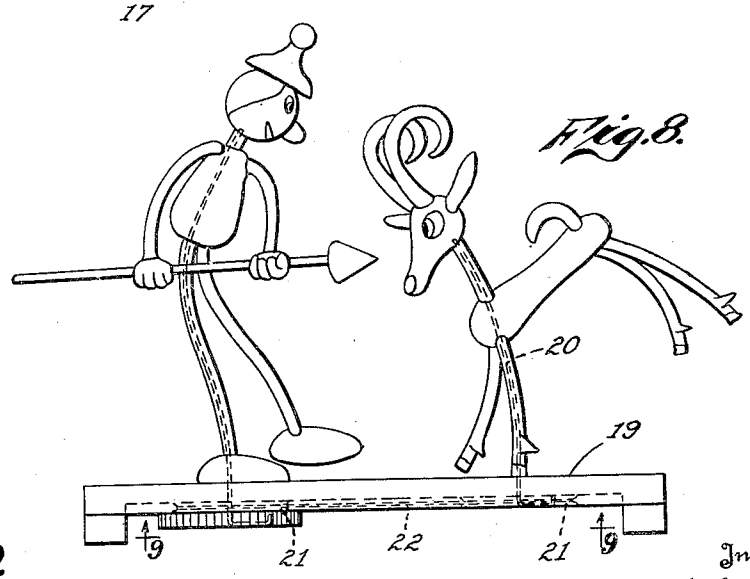
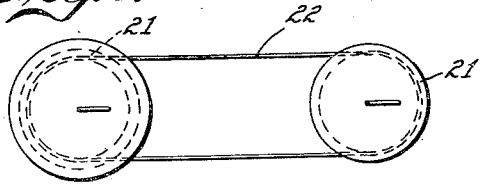


Fig. 9.



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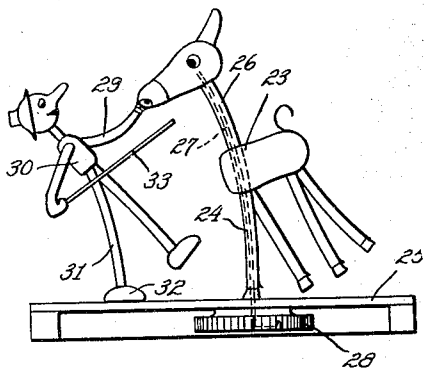


Fig. 10.

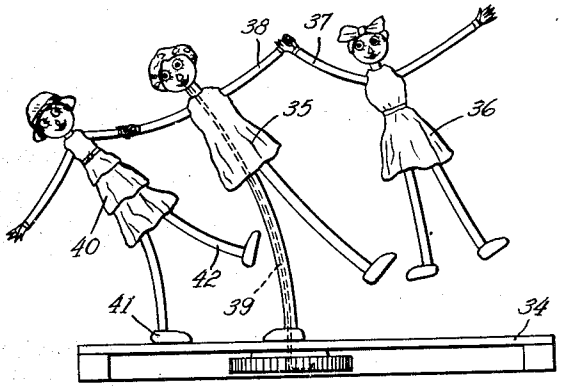


Fig. 11.

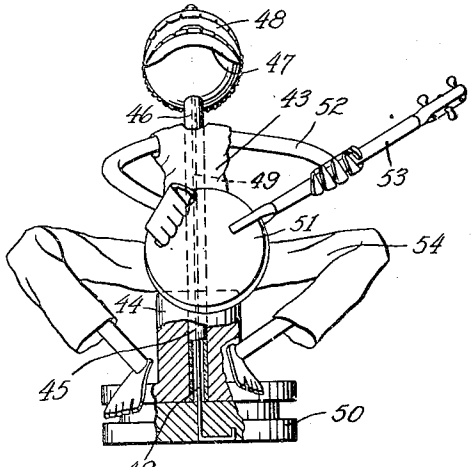


Fig. 12.

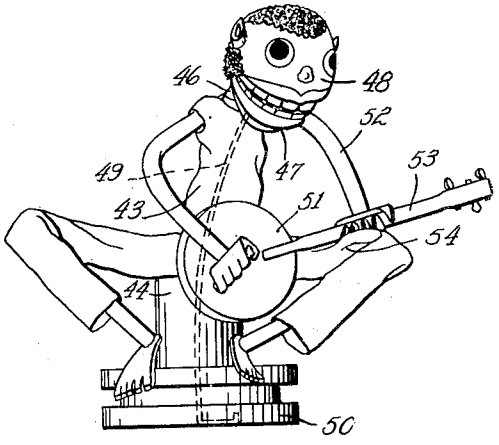


Fig. 13.

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UNITED STATES PATENT OFFICE

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TOY

Application filed September 22, 1930. Serial No. 483,397.

This invention relates to an animated toy. The general object of the invention is to produce an inexpensive toy simulating an animal or animals, and which can be operated by simple means to execute amusing movements.

As applied to a toy including more than one animal, my object is to provide means for producing amusing correlated movements; also to provide for varying the time relation of the correlated movements of two figures.

One of my objects is to produce a toy of this kind that will sway its body, or move parts of its body, and execute ludicrous contortions.

In practicing the invention I utilize two juxtaposed elongated members, the relative rotation of which causes the body of the toy to assume different positions. One of my objects is to provide means for utilizing this rotary movement to effect specific movements, for example, movements of the head, jaw or other parts of the figure.

A further object of the invention is to construct such a toy so that it can be readily operated by one hand.

Further objects of the invention will appear hereinafter.

The invention consists of the novel parts and combination of parts to be described hereinafter, all of which contribute to produce an amusing toy.

A preferred embodiment of the invention is described in the following specification, while the broad scope of the invention is pointed out in the appended claims.

In the drawings:

Fig. 1 is a front elevation of a toy embodying my invention, and representing a dancing figure.

Fig. 2 is a similar view showing the same toy in another pose or dancing position.

Fig. 3 is a side elevation and partial section illustrating an embod ment of the invention as applied to a caricature of a duck.

Fig. 4 is a longitudinal section through the head of the duck shown in Fig. 3, and illustrating details of the means for moving the animal's head or bill.

Fig. 5 is a perspective illustrating how the toy may be operated by one hand.

Fig. 6 is a side elevation illustrating the invention as applied to two opposed figures representing boxers.

Fig. 7 is a bottom plan of a driving connection between the two figures shown in Fig. 6 and illustrates a modified form of drive.

Fig. 8 is a side elevation showing another embodiment which is a caricature of a goat and a man in combat.

Fig. 9 is a plan illustrating a driving connection that may be employed between the two figures shown in Fig. 8. This is the preferred form of drive.

Fig. 10 is a side elevation illustrating another embodiment of the invention in which two figures are mounted upon a base and in which the movement of one of the figures is imparted to the other.

Fig. 11 is a side elevation illustrating another embodiment of the invention in which a figure mounted for movement on a base in accordance with my invention, may operate to lift another connected figure from the base. Fig. 11 also illustrates in addition to this, the same idea that is embodied in Fig. 10.

Fig. 12 is a front elevation partially broken away and partially shown in section, illustrating another embodiment of the invention in which the invention may be employed to effect movements of a seated figure.

Fig. 13 is a front elevation of the same figure illustrated in Fig. 12 but illustrating the same in another pose, that is to say, is showing the figure in another position which results from the rotation of the bent resilient member that passes up through the body of the figure.

In practicing the invention I provide two elongated members held in juxtaposition. One of these members is preferably in the form of a pliable tube that assumes the position and contour of the other member which controls it. The controlling member is preferably a relatively stiff member or wire. This wire is preferably resilient and provided with bends so that it serves to support the figure or figures, the parts of which are attached to the tube. When a relative rotation of the

wire and tube takes place the body will bend as it assumes the new position of the bends. These movements develop movements of parts such as arms or legs of the figure or may produce concerted movements in connected figures.

Obviously the invention can be applied to any kind of an animated figure, or combination of figures with very ludicrous effects. A few such applications will now be described by way of example.

In Figs. 1 and 2, 1 represents a resilient elongated member, that is, a wire. This wire is received within a flexible or pliable tube of rubber or similar material, the lower portion of which constitutes one of the legs of the animated figure. For example, a dancer whose body 3 is formed by wrapping tape around the tube 2 and a similar tube 4 that constitutes the other leg of the little figure. Similar tubes 5 may be secured to the body to form the arms, the ends being cut to form the fingers. The tube 2 may extend through the body to carry the head 6. The wire 1 is formed with one or more bends such as the bend 7. When a relative rotation of the tube and wire takes place, the figure will sway and bend as in dancing. The leg 4 being free, swings around in the air in imitation of the dancer's kick. The effect is surprisingly lifelike and ludicrous. The figure is preferably mounted so as to facilitate giving it this rotation. For this purpose the wire 1 is secured in a rotatable handwheel or head 8*a* located centrally below a base 8*b* to which the foot 8 of the leg 2 is rigidly secured. The wire passes loosely up through a hole in the base so that it acts as a pivot for the hand wheel.

In the caricatured duck illustrated in Fig. 3, the device is constructed so that the duck will apparently move its jaw or bill. In order to accomplish this, the lower jaw 9 of the duck is rigidly secured to the upper end of the flexible or pliable tube 10 that forms the neck and one leg of the bird.

The upper end of the wire 11 extends into the cranium portion 12 of the head and this portion is bent to form an obtuse angle 11*a* near the meeting faces of the cranium portion and jaw portion of the head. The tube 10 that forms the neck of the duck passes up through the jaw 9 and is secured to the jaw; this tube extends further into the cranium portion 9*a* to which it is rigidly secured by glue or any other suitable means. The end of the wire has a swivel connection in the cranium portion preferably formed by mounting a small metal washer 9*b* on the upper end of the tube. This washer has a central opening through which the wire or stem 11 passes. If desired the projecting end of the wire may be bent to form a head 9*c* to assist in retaining the cranium portion in place.

With this construction it will be evident that when the wire 11 is rotated, a relative rocking movement between the two portions of the head will take place. When the figure represents a duck, this imitates the quacking of the duck.

The gap between the upper and lower portions of the head may be concealed by a skull cap 15. With this construction the twisting of the wire in the tube causes the bill and cranium to have a relative rocking movement as though the duck were quacking.

Very amusing effects will also result from mounting two figures embodying the invention, opposite to each other, as in Figs. 6 and 8, for example. In the case of the two boxers of Fig. 6, there is a connection between the twisting wires 11*b* and 11*c* under a common base 16. This connection may comprise belt wheels 17 carrying the wires and connected by a belt 18. If desired this belt may be crossed as indicated at 18*a* (Fig. 7) thereby causing greater variations in the timed relation of the movements. These variations are preferably obtained by making the two pulleys 17 of different diameters.

In Fig. 8 the figures are mounted on a common base 19. The bent wire 20 in one leg of the goat, when rotated, causes him to butt at the man who is caused to rock back and forth with his javelin presented in a menacing position in the goat's face.

If desired the pulleys 21 of the man and goat may be connected by a regular open belt 22.

The invention may be embodied in a construction involving the use of two figures, one of which is moved by the rotation of the bent wire, and the movement of this figure is imparted to a connected figure supported alongside of the figure carrying the wire. This is illustrated in Fig. 10 in which 23 represents a caricature of a four legged animal having one flexible tubular leg 24 attached to the upper side of a base 25, said tubular leg 24 having an integral tubular extension 26 forming the neck of the animal.

Within this flexible tube a curved or bent wire 27 is mounted which extends down into a rotatable wheel or pulley 28 below the base, and to which the wire is fixed. The nose of the animal is attached to the end of an arm 29 extending from a small caricature of a man represented by the figure 30 having one leg 31 with its foot 32 glued to the upper side of the base. If desired, the other arm of the figure of the man can support a small stick 33. The effect of rotating the wire 27 in this figure is very ludicrous, resulting in the animal pulling the man forward as though the animal were rearing back. The movement of the flexible figure of the man will cause vibrations and movements of the stick 33 which will increase the amusing ef-

fect. The figure of the man preferably has one leg unconnected to the base.

In Fig. 11, the same principle is embodied as that illustrated in Fig. 10, but in addition, another figure may be employed on the other side of the main figure, which can be lifted off the base 34 as the main figure 35 rocks toward the left, as viewed in Fig. 11. In other words, the figure 36 at the right has a relatively rigid arm 37, the hand of which is connected to the hand of a relatively rigid arm 38 on that side of the main figure 35.

When the resilient wire 39 is rotated, the figure 35 will rock to and fro and will alternately lift the figure 36 off of the base and let the figure 36 down again onto the base. As the figure 35 rocks to and fro, the other figure 40 on its other side will be rocked to and fro, being secured at one foot 41 on the base. The unsecured leg 42 of this figure will rock to and fro in the air.

In Figs. 12 and 13 I illustrate another embodiment of the invention which enables a seated figure to sway to and fro on a base or support. In these figures, 43 represents a caricature body of a banjo player seated on a base or stump 44. A flexible tube 45 is fixed in the base and extends upwardly through the body and beyond the upper end of the body so as to form the neck 46 for the banjo player. The upper end of the neck 46 should be mounted in the head of the figure in the manner indicated in Fig. 4 so as to produce relative movements between the lower jaw 47 and the cranium portion 48 of the head as the body sways to and fro.

The flexible tube 45 envelopes a resilient stem or wire 49, the lower end of which is secured in a hand wheel or pulley 50 for rotating it. In Fig. 12 this wire is represented as though it were substantially straight. It is not straight, however, but in Fig. 12 the bend is in a plane at right angles to the plane of projection of the figure.

In Fig. 13 the dotted lines at 49 indicate the position of this wire which will give the banjo player the pose indicated in Fig. 13. The bend in the wire in the head is preferably arranged so that when the figure is in the position shown in Fig. 12, the bent tip of the wire extends toward the rear. This will cause the head to open its mouth wide as though the banjo player were singing loudly. The banjo 51 may be attached to the hand of the left arm 52 of the figure so that the shank 53 of the banjo extends in a natural position across above the left leg 54 of the figure. On account of the rocking and swaying movements of the body when the wire 49 is rotated, the figure will apparently move the banjo about as he "plays and sings."

In the construction of a dancing figure such as shown in Figs. 1 and 2, a very natural effect can be attained if the wire is bent in such a way that the upper end of the wire is always in line with, but crosses, the axis of rotation of the pulley or wheel 8*a*. This will make the figure dance in a natural way and in all of its poses it will apparently be in a position of equilibrium.

In Fig. 5 I illustrate means which may be used, if desired, to enable the rotation of toys of this kind to be effected with one hand. This improvement is particularly useful on single toys of the type illustrated in Figs. 1 and 3.

For this purpose I provide one of the relatively rotatable parts of the base with means for holding it fixed. For example, I may provide the upper base member 8*b* with a small ring 8*c* into which one of the fingers 8*d* of the operating hand can be introduced. This finger is preferably the forefinger of the hand, leaving the largest finger and thumb free for effecting the rotation of the wheel or pulley 8*a*.

It is understood that the embodiments of the invention described herein are only a few of the many embodiments this invention may take, and I do not wish to be limited in the practice of the invention, nor in the claims, to the particular embodiments set forth.

I claim:

1. In a device of the kind described, the combination of an elongated upright member, a second elongated upright member juxtaposed with the first member, one of said members being relatively stiff and having bends, a base carrying the same, the other of said members being relatively pliable, a figure representing an animal's body supported on the relatively pliable member, and means for enabling a rotation of one of said members relative to the other to take place on their longitudinal axes and thereby cause relative movements in the parts of said body.

2. In an animated toy, the combination of a pair of longitudinally juxtaposed upright elongated members, one of said members being resilient and having bends and the other of said members consisting of a tube telescoped over the first named member so as to assume the shape of the resilient member, means for effecting rotation of the first-named member relatively to the other on its longitudinal axis, said tubular member representing the leg of a body of an animal supported on said tubular member and having another leg unattached and free to move as the said relative rotation occurs.

3. In a toy of the kind described, the combination of an upright flexible tube, a bent wire within the tube, a base supporting the wire at its lower end, a figure simulating an animal carried on the tube, and means for effecting relative rotation of the wire and the tube on their axes and thereby causing relative movements of the parts of said body as it adapts itself to the bends in the wire.

4. In a toy of the kind described, the com-

bination of an upright flexible tube, a bent wire within the tube, a figure simulating an animal fixed on the tube, and means for effecting rotation of the wire relative to the tube and thereby causing relative movements of the parts of said body as it adapts itself to the bends in the wire, said tube having a base at its lower end for supporting it, and said wire having means associated with the base for effecting the said relative rotation.

5. In a toy of the kind described, the combination of an upright flexible tube representing an animal's leg, a resilient bent wire within the tube, a figure simulating an animal's body carried on the tube, means for supporting the tube at its lower end, and means for effecting rotation of the wire on its own longitudinal axis relatively to the tube to cause relative movements of the parts of the said body as it adapts itself to the bends in the wire.

6. In a toy of the kind described, the combination of an upright flexible tube, a resilient bent wire within the tube, a base supporting a wire at its lower end, means for supporting the flexible tube at its lower end, a figure simulating an animal carried on the tube, said wire extending beyond the upper end of the animal's body, a head for the animal having a part supported on the tube and having another part supported on the wire and said wire having a lateral bend located between the parts of said head and operating so that the rotation of the wire relative to the tube produces relative movements of the parts of the head.

7. In a toy of the kind described, the combination of a base, a relatively stiff bent wire supported by the base and extending upwardly, a rubber tube telescoped over the wire, having a lower portion simulating an animal's leg, a body representing an animal's body fixed to the tube above its leg portion, and means for effecting relative rotation of the tube and wire.

8. In a toy of the kind described, the combination of a base, a plurality of toys with bodies mounted on the base, a resilient bent wire corresponding to each toy extending up through the base and through the corresponding toy, each toy having its body mounted on its corresponding wire, a pulley corresponding to each wire for rotating the wire on its own longitudinal axis and secured to the same adjacent the base, and a belt connecting the pulleys.

9. In a toy of the kind described, the combination of a base, a plurality of toys with bodies mounted on the base, a resilient bent wire corresponding to each toy extending up through the base and through the corresponding toy, each toy having its body mounted on its corresponding wire, a pulley corresponding to each wire for rotating the wire on its own longitudinal axis and secured to the same adjacent the base, and a belt connecting the pulleys, said pulleys being of different diameters so as to cause variations in the movements of the bodies with relation to each other as the bent wires rotate with their pulleys.

10. In a toy of the kind described, a base, a figure representing a human being supported on the upper face of the base, a flexible resilient wire rotatably mounted in the base and passing up through the body of the figure, a second figure mounted on the base and having a member of its body connected to the first named figure by the hand of the first-named figure so that movements of the first figure are imparted to the second named figure, and means whereby the wire may be rotated adjacent the base.

11. In a toy of the kind described, a base, a figure representing a human being supported on the upper face of the base, a flexible resilient wire rotatably mounted in the base and passing up through the body of the figure, a second figure mounted on the base and having a member of its body connected to the first named figure by the hand of the first named figure so that movements of the first figure are imparted to the second named figure, and means whereby the wire may be rotated adjacent the base, a second figure representing a human being unconnected with the base and having a hand rigidly attached to the hand of the said body having the bent wire and operating so that when the bent wire is rotated the last named figure will be lifted off of the base by the figure carrying the wire.

12. A toy of the kind described having a base, a main figure having a leg supported on the base, a resilient bent wire passing up through the base and through the said leg, a second figure above the base connected with said body so that the movements of said body are imparted to the second figure, and means whereby the wire may be rotated on its longitudinal axis.

13. In a toy of the kind described a figure having a neck, a head mounted on the neck having a jaw portion and a cranium portion, a resilient member passing upwardly through the jaw and having a bent portion bent out of line with the axis of the resilient member and extending up into the cranium a swivel connection for the bent portion of the member in the cranium, and means whereby the resilient member may be rotated on its longitudinal axis to cause relative movement between the cranium and the jaw.

14. A toy of the kind described having a head with a jaw portion and a cranium portion, a flexible tube representing the neck of the figure passing up through the jaw portion and into the head portion, a resilient wire extending up through the tubular neck from below and extending into the cranium por-

tion, said wire having a bend above the jaw portion and having a swivel connection in the cranium portion whereby the rotation of said bent wire will effect relative movement of the two portions of the head.

15. In a toy of the kind described, a base comprising a pair of members, one of said members being rotatable relative to the other on a substantially vertical axis, a figure mounted on the base and representing an animal, means actuated by rotation of one of said members relative to the other to cause movements in the said figure, one of said members having a periphery enabling the same to be grasped in one's hand for rotation, and the other member having means for engaging one's finger to prevent its rotation.

16. In a toy of the kind described, a base comprising a pair of members, one of said members being rotatable relative to the other on a substantially vertical axis, a figure mounted on the base and representing an animal, means actuated by rotation of one of said members relative to the other to cause movements in the said figure, one of said members having a periphery enabling the same to be grasped in one's hand for rotation, and the other member having means for engaging one's finger to prevent its rotation, said last-named means consisting of a ring to receive a finger of the hand.

Signed at Los Angeles, Calif., this 17th day of September, 1930.

DAVIS S. WILLIAMS.