

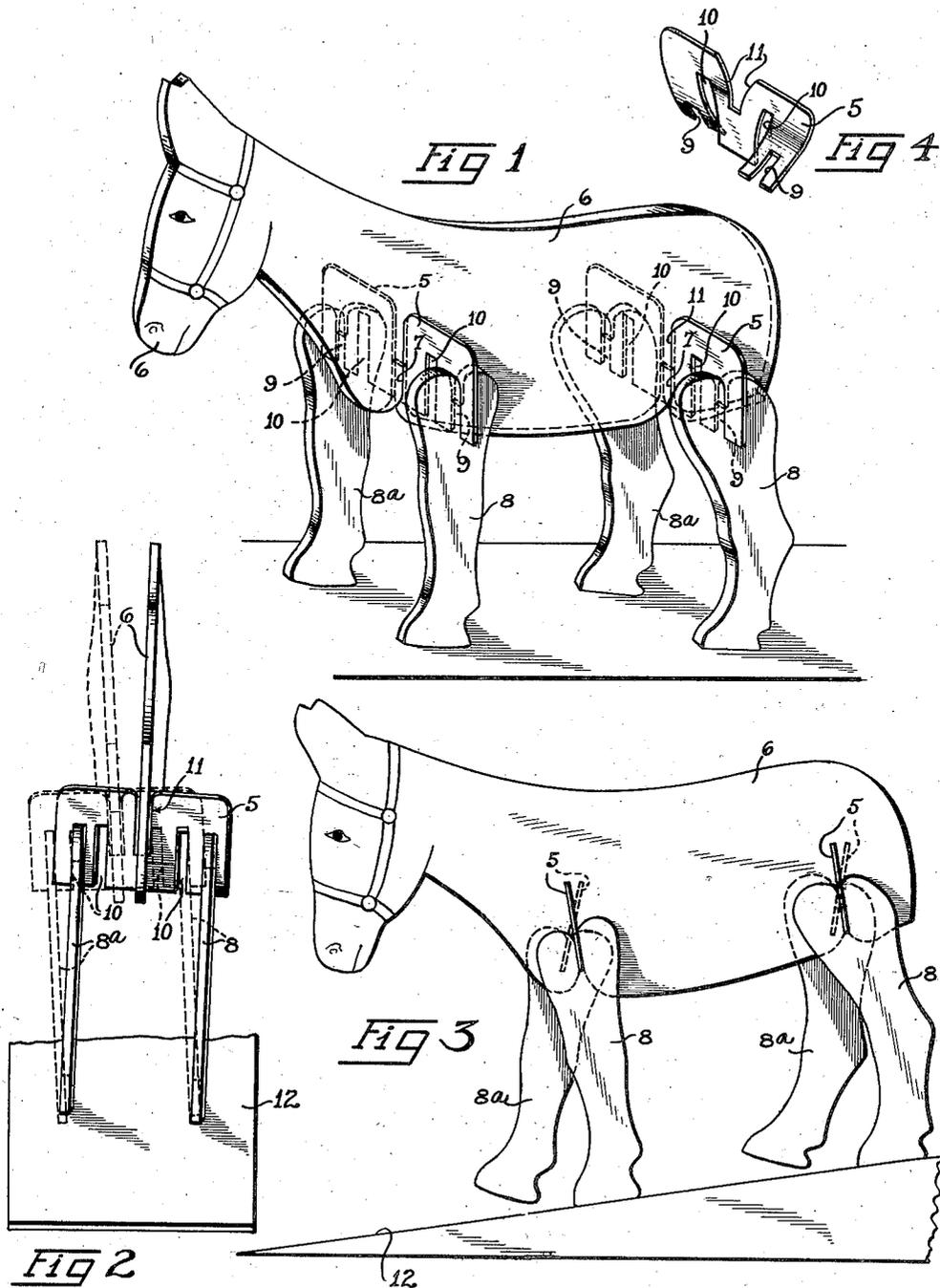
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WALKING TOY

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WALKING TOY

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Our invention relates to toys, and particularly to a toy designed to function by the force of gravity. It relates to a toy, which, after once given momentum, will automatically operate on a surface of slight declivity and provide an amusing toy with novel features.

An object of our invention is to provide an interesting toy so designed as to present, when operating, a characteristic life-like appearance of quadruped animals in action without means other than gravity for motive power.

Another object of our invention is to provide, in a toy simulating an animal, means for attaching the legs of said animal to its body and having them operate first on one side and then on the other in a manner which adapts our construction to not only animals of the biped type but to many other types including the centipedes and millipedes. Obviously, this construction then can be adapted to produce many amusing forms of movements characterizing and caricaturing different animals.

Yet another object of our invention is in providing legs readily attachable and detachable to an interchangeable universal duplex hinge, which may be repositioned to different parts of the animal's body as a unit. Also, the legs and hinges are separately interchangeable thus producing a low manufacturing cost of a manifold variety of toys as well as other advantages herein mentioned.

A further object of our invention is to provide means, in a hinge connecting parts of a toy, for varying the flexibility of the connected parts with respect to each other by changing their relative positions.

Also an object is in providing a thin sheet of flexible material such as celluloid so cut as to form an effective and inexpensive hinge for joining in flexible relationship the several parts of the toy.

Another object of our invention is in providing a construction so arranged that it performs its functions effectively without the use and adjustment of artificial weights, which phase of the construction is again conducive to low cost of manufacture.

Still another object in our invention is in providing a novel hinge provided with means for distributing the contortion in the hinge between two parts of said hinge, and providing, by such means, a more sensitive hinge.

Still further objects of our invention are in providing a toy easy of assembly, simple yet effective in operation, economical to produce,

and convenient through its demountable parts to ship.

Other objects and advantages will be hereinafter pointed out, and for a further understanding of the characteristics and novel merits of our invention, reference may be had to the following drawing and specification:—

In the drawing:

Figure 1 is a perspective view of our invention with parts assembled.

Fig. 2 is a front elevational view delineating the device on an incline.

Fig. 3 is a side elevational view showing the toy in operation on an incline.

Fig. 4 is a perspective detail view of the hinge used in our invention.

In referring more specifically to the drawing, Fig. 1 shows our invention in its inactive or starting position, in which 5 is a hinge of comparatively thin, sheet, resilient material detachably supported in slits 7 of body 6, said body being of sheet material, or otherwise suitably constructed for attachment of said hinges. Hinges 5 are preferably in the form illustrated and provided on each side, extending upwardly from the bottom edge, with a relatively small and a relatively large groove 9 and 10 respectively. The hinges detachably support legs 8 and 8a which are suspended in flexible longitudinal oscillatory relation thereto, thus allowing a longitudinal reciprocating motion of said legs independent of each other. A centrally located groove 11 extends downwardly from the upper edge of hinge 5 and is somewhat wider than the body 6, which it receives, to prevent friction between edges 11 and body 6.

Fig. 2 shows two extreme positions of the toy in its transverse rocking movement. When a slight sidewise impetus is imparted to the toy it will continue to rock and be alternately supported momentarily by legs 8 and 8a as shown by the solid-line and dotted line figures. Furthermore, as the toy moves from one side to the other on incline 12 the tendency through its own weight is to travel downward, in which reaction the pair of legs 8, as shown in contact with support 12, direct the downward motion of the body 6 and the legs 8a to swing and pivot about the supporting legs 8. The converse occurs when the legs 8a are in contact with the support 12.

Fig. 3 shows the toy in operation down an incline 12, in which the two legs 8 are momentarily supporting the body 6 and functioning in tandem and substantially parallel relation,

while the two momentarily suspended legs 8a, functioning in the same relation, are in a sprung position on their hinges 5. The weight of the body 6 has caused all parts except the two contacting legs 8 to gravitate forward, thus resulting in the momentary flex backward of the adjoining section of the hinges 5 while at the same time the opposite section of the hinges 5 have served, in the gravitating action of the body 6, to bring the legs 8a forward. As soon as the body 6 rocks from the contacting position of the legs 8, the hinge sections supporting these legs spring forward, the body 6 gravitates further, and the hinge sections supporting the legs 8a then assume the backward flexing position.

While, in our invention, the legs 8 are so attached by hinge 5 to body 6 as to be freely oscillatable in one plane independent of each other, in the operation of the toy, the legs collaborate in tandem pairs and in substantially parallel relation, the pairs alternating from one side to the other in their action as the body and legs as a unit oscillate transversely.

When the toy is set upon an inclined surface and given a slight transverse rocking motion, as it is momentarily flexibly supported by two legs, as shown in Fig. 2, the body and opposite pair of legs of the toy lunge downwardly and forward radially about a fulcrum point provided by the pair of supporting legs, at a rate depending upon the magnitude of the downward and forward corresponding vector diagrams (not shown). Besides the declivity of the surface 12 the position of the center of gravity of the toy is a governing factor in the reaction of the toy.

When the rocking motion places one pair of legs in contact with the incline 12 the opposite pair of legs then suspended springs forward by virtue of the tension in the hinges. Concurrently, due to the downward and forward proclivity of its weight acting about a fulcrum point provided by the pair of supporting legs 8, the toy swings downward and forward. As the other pair of legs come in contact with the incline the opposite pair of legs are suspended and free to oscillate longitudinally; and, the phase just described repeats itself until the toy reaches the end of the incline.

We claim:

1. A toy comprising a body, a plurality of legs, and a plurality of resilient hinges of flat thin flexible material, said hinges being provided with cut-out portions for slidably and detachably mounting said body and legs on said hinges.

2. A toy comprising a body, four legs, and resilient hinges of flat thin sheet flexible material, said hinges being provided with cut-out portions for slidably and detachably mounting said body and legs on said hinges, said hinges being provided with other cut-out portions for increasing the flexibility of said hinges.

3. A toy comprising a body, four legs and resilient hinges of thin sheet flexible material, said body and legs being provided with slits at their lower and upper extremities respectively for attachment to said hinges, said hinges being provided with cut-out portions for slidably and detachably mounting said body and legs to said hinges, said hinges being provided with other cut-out portions for increasing the flexibility of said hinges.

4. A toy comprising a body and four legs of thin sheet material, and resilient hinges of flat relatively thin sheet flexible material disposed in a substantially upright and transverse position with respect to said body for flexibly connecting said legs to said body to allow independent movement of said legs with respect to said body in a direction parallel to said body.

5. A toy comprising a body, four legs and two resilient hinges, each of said hinges having means for connecting two of said legs in spaced relation to each other and in flexible relation to said body.

6. A toy comprising a body simulating that of an animal, a plurality of legs, a plurality of resilient hinges of flat thin sheet flexible material disposed in a substantially upright and transverse position with respect to said body, each hinge connecting a pair of said legs to said body.

7. A toy comprising a body simulating that of an animal, a plurality of legs, and a plurality of interchangeable flexible hinges connecting said legs in pairs to said body, each hinge connecting a pair of said legs to said body, and each leg being movable independently of the other legs.

8. A toy comprising a body, a plurality of non-resilient legs, and a flat sheet flexible hinge connecting a pair of said legs in spaced relation with respect to each other to said body.

9. A toy comprising a body simulating that of an animal, a plurality of legs, a plurality of resilient hinges of flat thin sheet flexible material disposed in a substantially upright and transverse position with respect to the body, said hinges being provided with a means for connecting said legs in pairs in spaced relation with respect to each other to said body.

10. A toy comprising a body, a plurality of legs, and a single resilient hinge provided with means for connecting said legs to said body in spaced relation with respect to each other and in flexible relation to said body.

11. An animated toy comprising a body, detachable legs therefor, and resilient strips provided with slotted off-set portions connecting the legs to the body in a manner to support the latter between the legs and propel the toy with a walking movement over an inclined surface.

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