March 26, 1957 H. ZIMMERMAN 2,786,303

ANIMATED TOY TURTLES

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Fig. 1

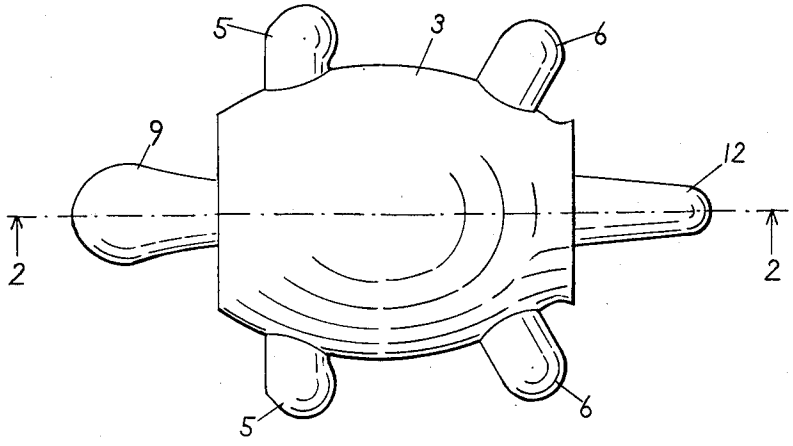


Fig. 2

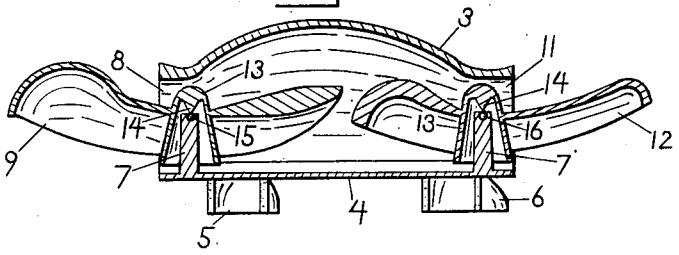
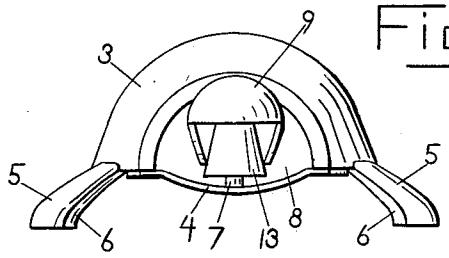


Fig. 3



INVENTOR:
Harry Zimmerman
BY Maurice Block
Attorney

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ANIMATED TOY TURTLES

Harry Zimmerman, New York, N. Y.

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3 Claims. (Cl. 46—123)

My invention relates to toys simulating turtles or other living beings which have members or body parts connected movably with a trunk in such a manner that these members move under the impact of vibrations or air currents.

Objects of my invention are to facilitate the manufacture of such a toy, to form the toy so that it requires only a few parts which can be easily moulded from plastic material and which can be easily assembled, preferably by one simple connecting operation, to avoid the use of metal parts, hinge pintles or axles, bores for the same and their cumbersome calibration and assemblage, and thereby to provide a toy of the mentioned type which can be inexpensively produced in large quantities.

Other objects are to improve the movability of the toy members so that they will easily move and oscillate without substantial friction in any direction about a central position of equilibrium, and so that the slightest air current or vibration will be sufficient for causing such movements, to make possible turning movements in a horizontal and in every vertical direction and, in addition, small horizontal and vertical straight movements and any combination of all these movements, and thereby to enhance the seemingly spontaneous movability of the toy body.

Further objects are to attain both the manufacture-facilitating and the movability-improving objects by a single simple expedient, a particular suspension of the members, to provide a stationary stem in the interior of a hollow trunk which supports a member by contacting a single point of said member, this point being positioned a little over the center of gravity of the member whereby this point forms a pivot about which the member can turn or oscillate in every direction, to provide the member with a downward extending, pointed projection the point of which constitutes this pivot, to provide the supporting upper stem end with a horizontal surface, and thereby to make possible small horizontal shifting movements and vertical "dancing" oscillations of the member.

Still other objects are to surround the pivot and the stem by a bell- or thimble-shaped portion of the member, thereby to conceal the suspension, to protect the same from dirt and injury, to facilitate a sufficiently low position of the member's center of gravity, to provide a large surface for the impact of horizontal air currents, and to prevent excessive movements of the member and dislocation of the pivot point out of the supporting surface.

Still further objects are to assemble the toy simply by connecting the bottom wall of the trunk to its top wall, and to arrange the bell-shaped member portion so that, in assembled condition, the member is secured to the trunk in proper position relatively to the supporting stem.

Still other objects and advantages will appear from the following description of an exemplifying embodiment of my invention, from the appended claims and from the accompanying drawing in which:

Fig. 1 shows a top view of an illustrative embodiment of my invention.

Fig. 2 shows a cross-section taken along the line 2—2 in Fig. 1.

Fig. 3 shows a front view of the same embodiment.

The toy shown in the drawing simulates a turtle having a hollow trunk formed by a top wall **3** and a bottom wall **4** which are connected in any suitable manner. This trunk is supported by feet **5** and **6** which may be moulded with the top wall **3** in one piece. Two stems or posts **7** rise in the interior of the trunk from the bottom wall **4** toward the top wall **3** and may be affixed to or molded in one piece with the bottom wall. The upper ends of these stems have preferably even horizontal surfaces and are spaced from the top wall.

The trunk **3—4** has a front opening **8** through which a member **9** extends and a rear opening **11** through which a member **12** extends. The outside of the trunk positioned portion of the member **9** simulates the head and neck of the turtle. The outer portion of the member **12** simulates the tail. Each of these members has a central portion **13** shaped like a bell or a thimble. This central portion is positioned in the trunk near the opening through which the respective member extends and surrounds one of the stems **7** co-axially. A further portion of each member extends from the central portion **13** inward and counterbalances the outer portion of the member.

The inside of each portion **13** is provided with a conical projection **14** which extends from the top of this member portion down and terminates in a point contacting the upper end surface of the respective stem **7**. The stem supports the member at this point. The member is free from any other contact, passing with ample clearance through the respective trunk opening and being spaced from all other parts of the trunk and from all points of the stem except the point of supporting contact. The member **9** has a center of gravity **15** indicated by a small circle in Fig. 2 which is positioned vertically under the point of the projection **14** of this member. The member **12** has a similarly indicated center of gravity **16** similarly positioned under the projection **14** of this member.

This structure allows turning movement of each member about its point of contact with the respective stem **7** in horizontal direction and in any vertical direction. Due to the position of the center of gravity under the point of support, these movements have the character of pendulous oscillations. Preferably, the distance between the center of gravity and the point of support is very small whereby the effective length of the pendulum constituted by the member is very short, the oscillations will be very quick and seemingly vivid, the equilibrium of the member, though stable, is almost indifferent and minute impacts suffice to cause oscillations of the member.

The structure further allows small hops or "dancing" movements of the member in vertical direction which may or may not be accompanied by little horizontal steps whereby the member can move in any possible direction. Excessive vertical movements of the member are prevented by the top wall **3** from which the top of the member portion **13** has only a small distance. Excessive lateral movement is prevented by the stem surrounded by the bell-shaped member portion **13** so that the tip of the projection **14** cannot move laterally beyond the upper end surface of the stem.

The top wall **3** with the feet **5** and **6**, the bottom wall **4** with the stems **7** and the members **9** and **12** are four parts which can be easily and inexpensively moulded of plastic material and which can be conveniently and quickly assembled in the following manner: The bell-shaped portions **13** of the members are placed on the stems **7**. Then, the bottom wall **4** is affixed to the top wall **3**. This simple operation secures the permanent and proper assemblage of the toy because, in the thus assembled condition,

the member portions **13** are caught between the top wall and the stems and cannot escape by any movement of the members or of the entire toy.

I desire it understood that my invention is not confined to the particular embodiment shown and described, the same being merely illustrative, and that my invention may be carried out in other ways within the scope of the appended claims without departing from the spirit of my invention as it is obvious that the particular embodiment shown and described is only one of the many that may be employed to attain the objects of my invention.

Having described the nature of my invention, what I claim and desire to protect by Letters Patent is:

1. A toy simulating a living body and comprising a hollow trunk having an opening and a top wall; a stem connected to said trunk extending in said trunk toward said top wall and having an upper end spaced from the same; and a member extending through said opening, having a bell-shaped portion surrounding said stem, and having a projection in said portion contacting said stem at a single point, said member being completely spaced from said trunk and said stem except at said point, and having a center of gravity positioned vertically under said point, one of said contacting elements having an even horizontal surface contacted by the other element whereby said point of contact is movable laterally.

2. A toy simulating a living body and comprising a hollow trunk having an opening, a bottom and a top wall; a stem connected to said trunk bottom extending in said trunk toward said top wall and having an upper end spaced from the same; and a member extending through

said opening, having a bell-shaped portion surrounding said stem, and having a projection in said portion contacting said stem at a single point, said member being completely spaced from said trunk and said stem except at said point, and having a center of gravity positioned vertically under said point, one of said contacting elements having an even horizontal surface contacted by the other element whereby said point of contact is movable laterally.

3. A toy simulating a living body and comprising an element forming a hollow trunk having an opening, and another element extending through said opening and having an outer portion simulating an outer body member, one of said elements having a portion with a bell-like cavity and having a projection extending vertically from the bottom of said cavity, the other element having a vertically extending stem reaching into said cavity whereby said portion encompasses said stem, said projection and stem having ends contacting each other, one of said ends having an even horizontal surface.

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