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(54) **SELF-SUPPORTING PUPPET**

**Related U.S. Application Data**

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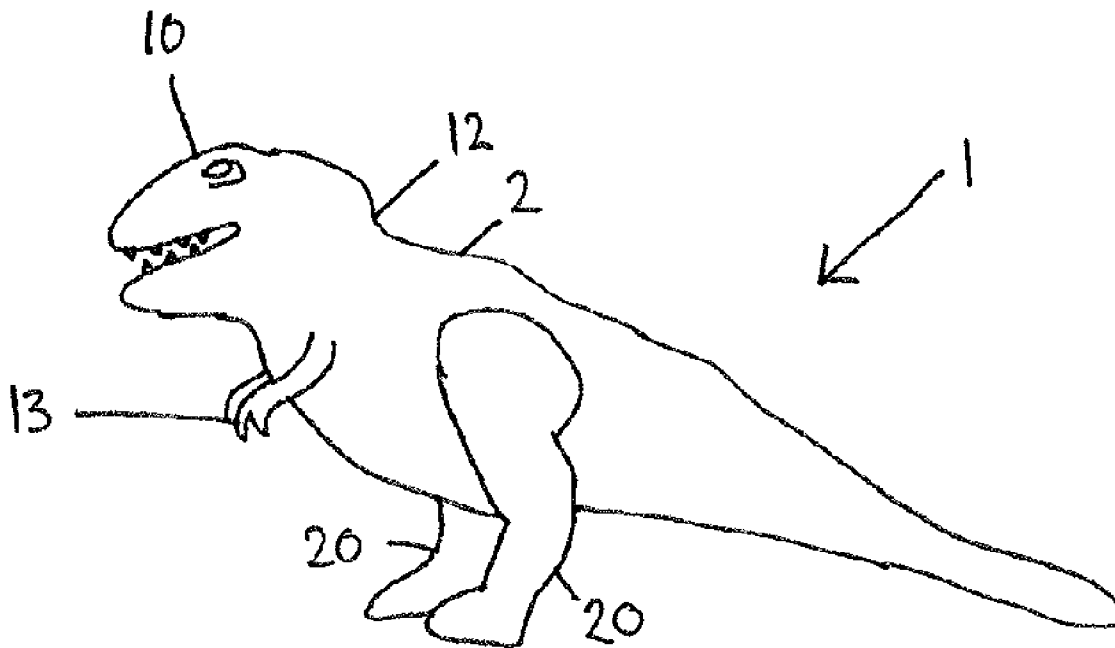
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(57) **ABSTRACT**

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The instant invention relates to hand-manipulated puppets. In particular, the present invention relates to a self-supporting hand manipulated puppet adapted to serve as a rest or support for the forearm of the puppeteer.

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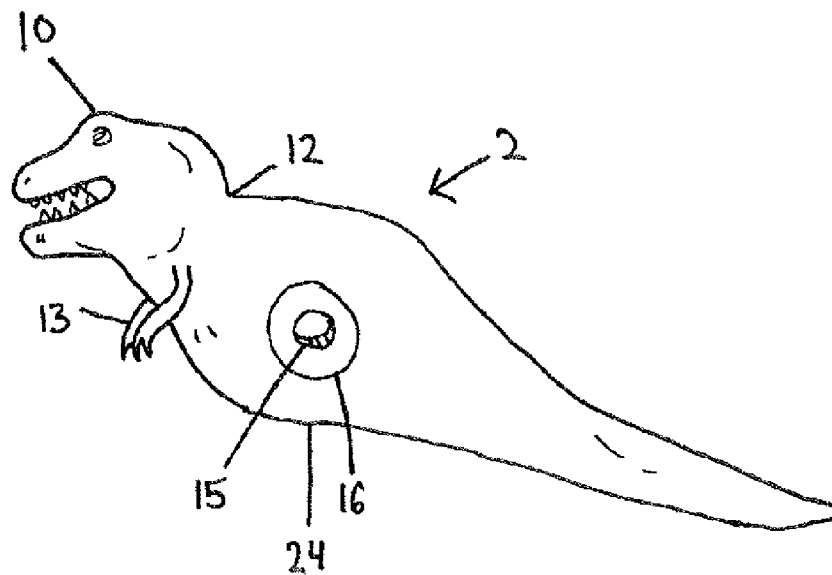


FIG. 2

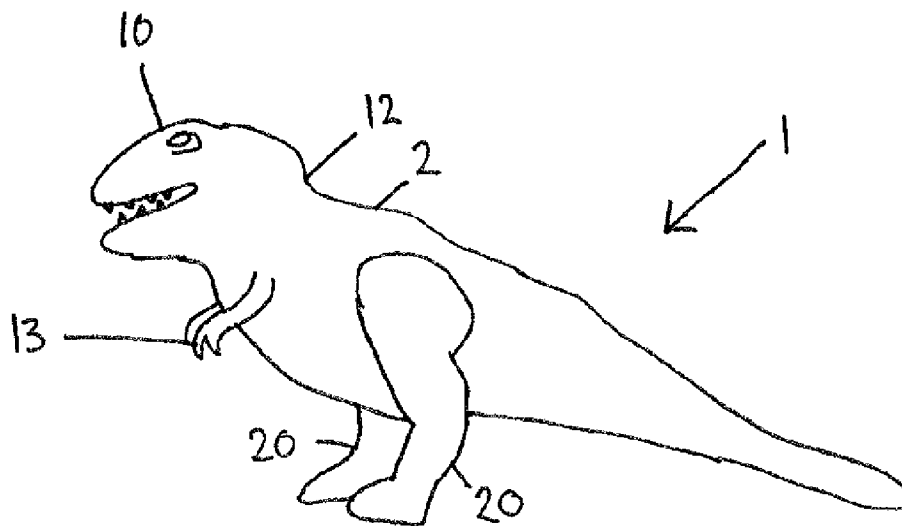


FIG. 1

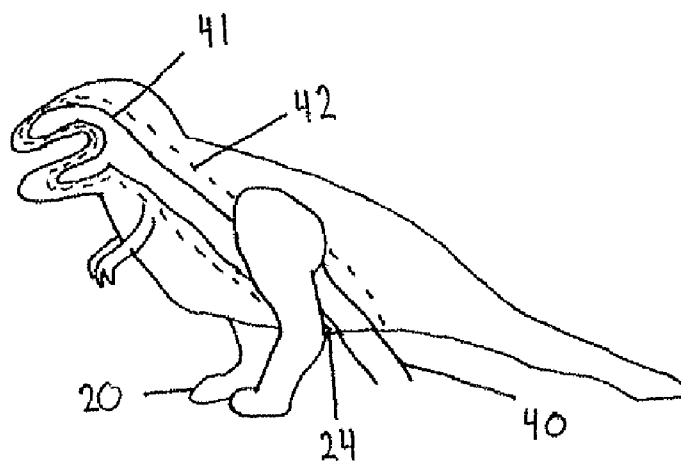


FIG. 4

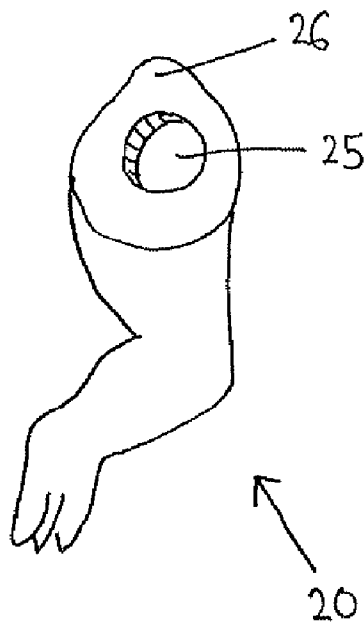


FIG. 3

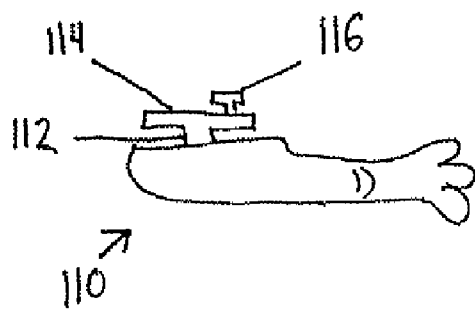


FIG. 6

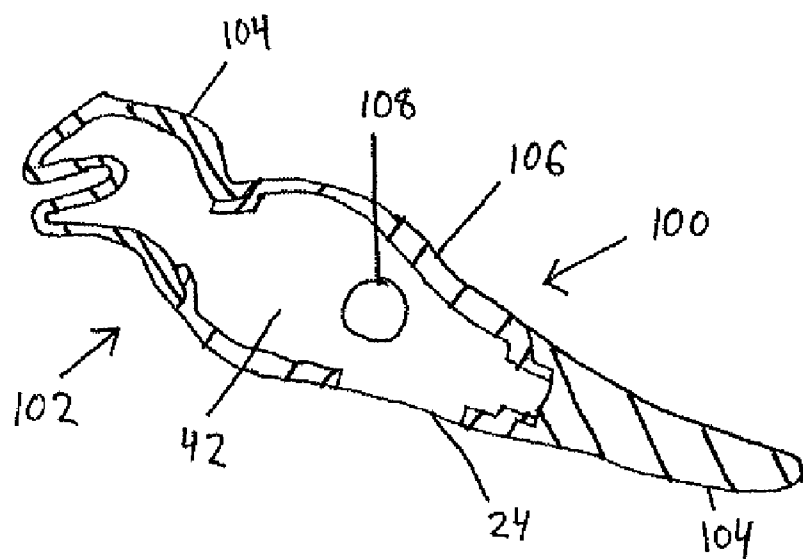


FIG. 5

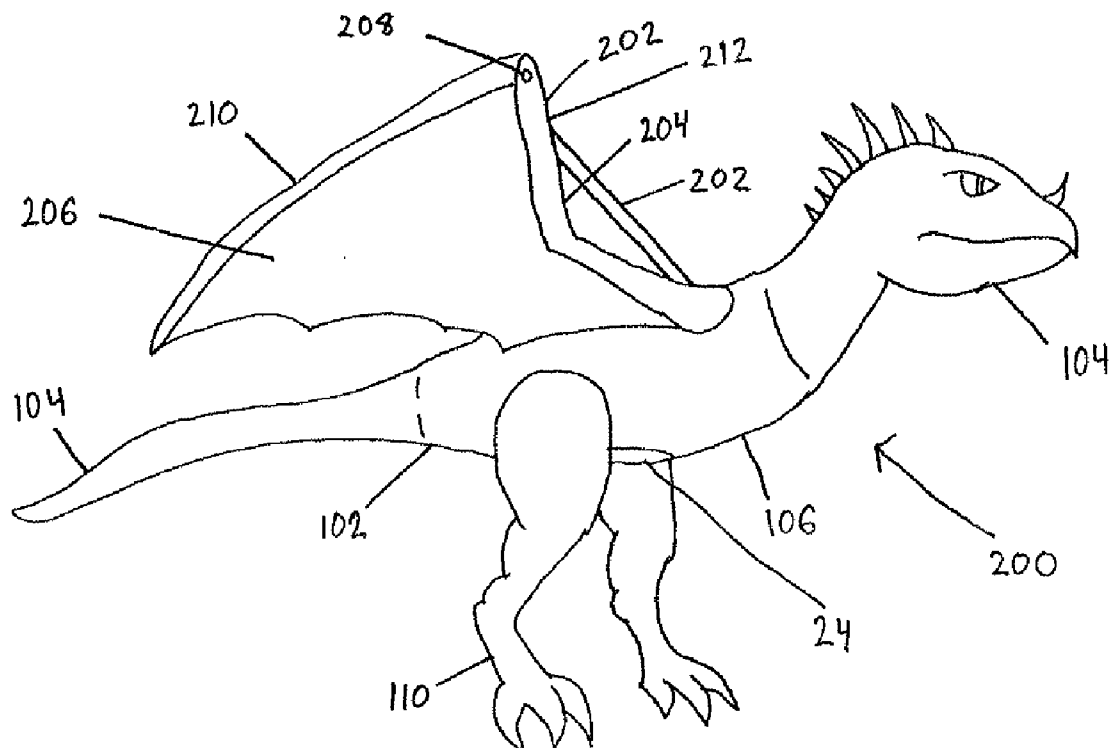


FIG. 8

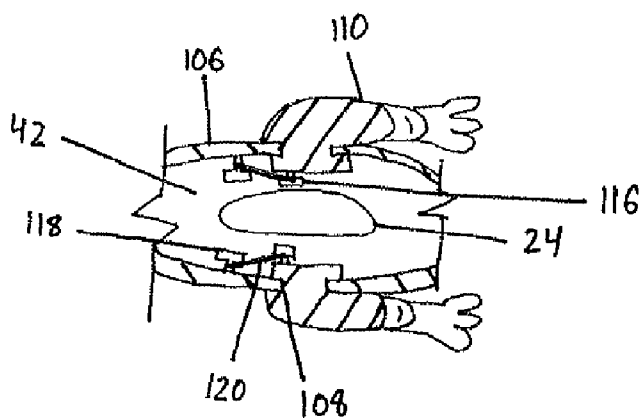


FIG. 7

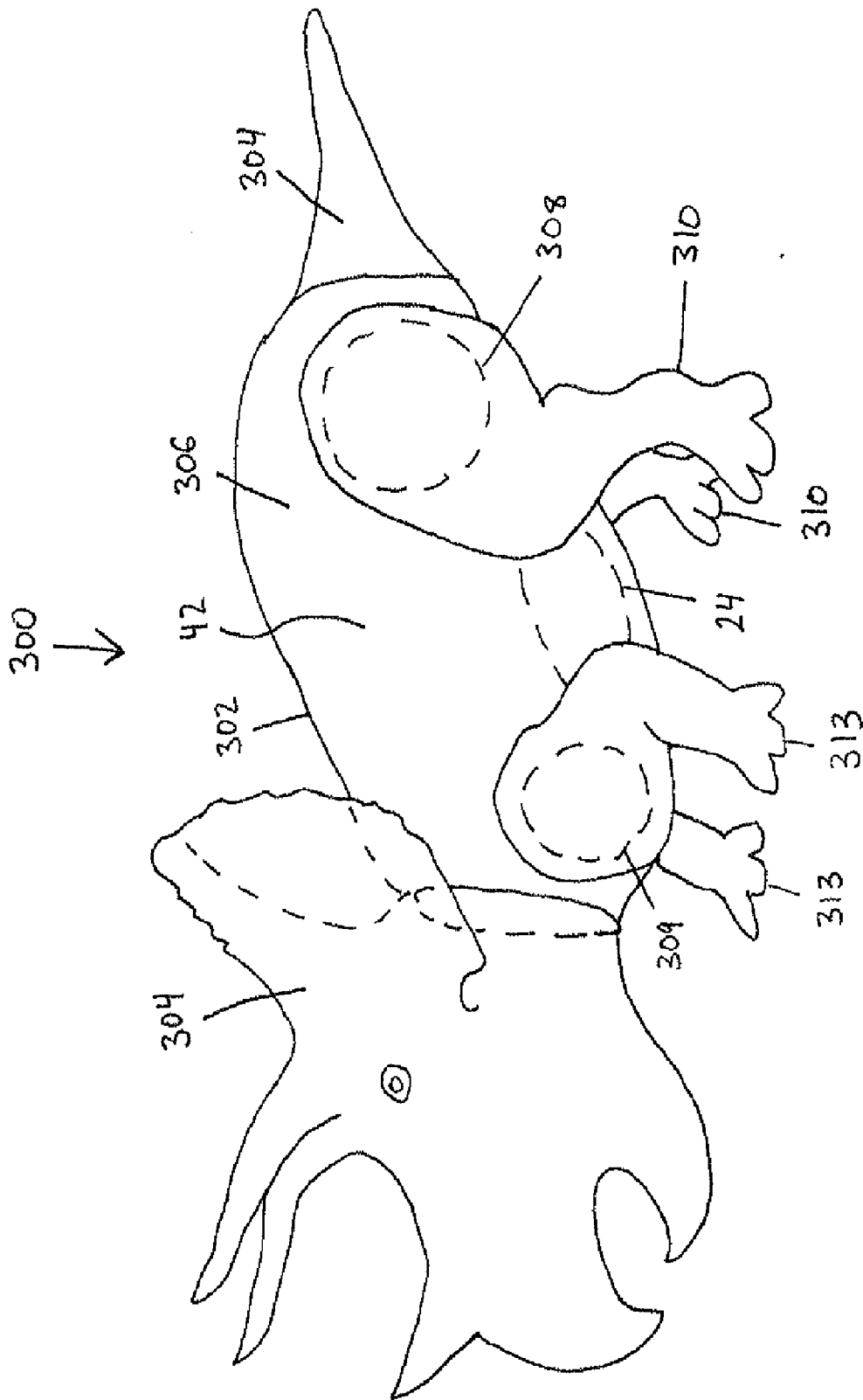


FIG. 9

**SELF-SUPPORTING PUPPET**

**[0001]** This continuation-in-part application claims priority from U.S. patent application Ser. No. 11/972,598 entitled ANIMAL PUPPET, to Maddi, Michael S., filed Jan. 10, 2008, hereby incorporated by reference.

**BACKGROUND OF THE INVENTION**

**[0002]** 1. Field of the Invention

**[0003]** The instant invention relates to hand-manipulated puppets. In particular, the present invention relates to a self-supporting hand manipulated puppet adapted to serve as a rest or support for the forearm of the puppeteer.

**[0004]** 2. Background of the Related Art

**[0005]** Hand-manipulated puppets which simulate animals or other living creatures are well known in the art. Examples of prior patents which disclose such puppets include U.S. Pat. No. 2,795,896 issued on Jun. 18, 1957 to Snyder, U.S. Pat. No. 4,244,142 issued on Jan. 13, 1981 to Crawford, and U.S. Pat. No. 5,080,626 issued Jan. 14, 1992 to the present inventor Maddi.

**[0006]** It is well known in the art that the use of hand-manipulated puppets may cause fatigue in the forearm of the puppeteer. This fatigue results from the effort of supporting the weight of the puppet and the weight of the puppeteer's forearm. Of the cited prior patents, only Maddi discloses a self-supporting hand manipulated puppet adapted to serve as a rest or support for the forearm of the puppeteer.

**[0007]** In Maddi, the hand manipulated puppet includes an inverted U-shaped member comprising two spaced apart legs, an upper arch, and a third upper leg connected in spanning relation between the legs. The two spaced apart legs of the member extend into the puppet's legs, causing the member to serve as endoskeletal support for the puppet. The third upper leg is positioned to support the puppeteer's forearm while the puppet is in use.

**[0008]** The puppet design disclosed in Maddi addresses the problem of puppeteer fatigue, but contains several substantial limitations. Construction of the puppet disclosed in Maddi is relatively expensive and is difficult to mass produce. The puppet must be molded in multiple sections and the sections formed around the endoskeletal member. In addition, Maddi's incorporation of a rigid endoskeletal member results in a puppet with rigid, immovable legs. Inclusion of immovable legs detracts from the realism of the puppet. A need exists for a less expensive means of constructing a self-supporting puppet suitable for mass production that is capable of supporting the forearm of a puppeteer and includes moveable legs.

**SUMMARY OF THE INVENTION**

**[0009]** The present invention overcomes the problems associated with the present state of the art of constructing a self-supporting hand/forearm puppet. The body of the puppet includes a lower opening providing access to a cavity capable of receiving the hand and forearm of a puppeteer. The puppet uses a first material for at least a portion of the body of the puppet and a second material for the legs of the puppet. The first material is capable of being manually manipulated by a puppeteer. The second material is of sufficient density and stiffness to support the weight of the puppet and the puppeteer's

forearm. The legs of the puppet are attached to the body such that the legs are capable of rotational movement about the body of the puppet.

**[0010]** In one embodiment, the present invention is a hand-manipulated puppet, the puppet comprising a body, the body having a cavity with a lower opening, the body composed at least in part of a first material; at least two legs coupled to the body, the at least two legs composed of a second material; wherein the cavity receives the hand and forearm of a puppeteer incident to manipulating the puppet, wherein the first material is capable of being manually manipulated by the puppeteer, and wherein the second material has a greater density than the first material and the second material is of sufficient density and stiffness to support the weight of the puppet and the puppeteer's forearm.

**[0011]** In a further embodiment, the present invention is a hand-manipulated puppet, the puppet comprising a body, the body having a cavity with a lower opening, the body having at least one first section composed of a first material and a second section composed of a second material; two spaced apart legs coupled to the second section body, the legs composed of a second material and capable of rotational movement; wherein the cavity receives the hand and forearm of a puppeteer incident to manipulating the puppet, wherein the first material is capable of being manually manipulated by the puppeteer, and wherein the second material is of sufficient density and stiffness to support the weight of the puppet and the puppeteer's forearm.

**[0012]** Further objects, features, and advantages of the present invention, and a better understanding thereof will be made readily apparent when reading the detailed description of the preferred embodiments herein below, as well as by reference to the accompanying drawings.

**BRIEF DESCRIPTION OF THE DRAWINGS**

**[0013]** FIG. 1 depicts a side view of a first embodiment of the puppet;

**[0014]** FIG. 2 is a side view of the body of a first embodiment of the puppet;

**[0015]** FIG. 3 is a perspective view of a leg of a first embodiment of the puppet;

**[0016]** FIG. 4 is a side view of the puppet illustrating the internal cavity and puppeteer's hand and forearm in phantom perspective;

**[0017]** FIG. 5 depicts a lengthwise cross-sectional view of the body of a second embodiment of the puppet;

**[0018]** FIG. 6 depicts a front view of a leg of a second embodiment of the puppet;

**[0019]** FIG. 7 depicts a top cross-sectional view of a second embodiment of the puppet;

**[0020]** FIG. 8 depicts a side view of a third embodiment of the puppet; and

**[0021]** FIG. 9 is a pictorial view of a four-legged embodiment of the puppet.

**DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

**[0022]** The present invention relates to the construction of a self-supporting hand-manipulated puppet of the type that uses the hand and forearm to manipulate the puppet. The puppet includes a body having a cavity therein and at least two legs. The hand and forearm of a puppeteer enter the cavity through a lower opening located at least in part between the at

least two legs. By manufacturing the body of a first material having a selected density and manufacturing the legs of a second material having a higher density, the higher density of the legs can act to provide support for the puppeteer's forearm as it rests against the bottom portion of the cavity in the puppet.

**[0023]** While this invention is susceptible of embodiment in many different forms, there is shown in the drawings and will herein be described in detail specific embodiments, with the understanding that the present disclosure of such embodiments is to be considered as an example of the principles and not intended to limit the invention to the specific embodiments shown and described. For example, drawings herein depict a puppet of a two-legged dinosaur. The present invention contemplates puppets of four-legged animals, which may include four weight-bearing legs or may include two weight-bearing legs and two non-weight-bearing legs. The present invention contemplates puppets of birds, fish, plants, or any other known organism, as well as fantastical creatures such as dragons. In these alternative embodiments, the at least two legs of the puppet may represent wings, fins, vines, tentacles, arms, or other body parts.

**[0024]** The terms "a" or "an", as used herein, are defined as one as or more than one. The term "plurality", as used herein, is defined as two or more than two. The term "another", as used herein, is defined as at least a second or more. The terms "including" and/or "having," as used herein, are defined as comprising (i.e., open language). The term "coupled," as used herein, is defined as connected, although not necessarily directly, and not necessarily mechanically.

**[0025]** Reference throughout this document to "one embodiment", "certain embodiments," "and an embodiment" or similar terms means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, the appearances of such phrases or in various places throughout this specification are not necessarily all referring to the same embodiment. Furthermore, the particular features, structures, or characteristics may be combined in any suitable manner in one or more embodiments without limitation.

**[0026]** The term "or" as used herein is to be interpreted as an inclusive or meaning any one or any combination. Therefore, "A, B or C" means any of the following: A; B; C; A and B; A and C; B and C; A, B and C. An exception to this definition will occur only when a combination of elements, functions, steps or acts are in some way inherently mutually exclusive.

**[0027]** The term "manipulate" as used herein is to be interpreted as actions performed by a puppeteer which provide a puppet with lifelike movements. Manipulation of a puppet generally involves the puppeteer using the hand and/or forearm inserted within the cavity of the puppet to transiently deform the puppet's features in such a manner as to provide the appearance that the puppet is chewing, talking, looking about, or performing other lifelike movements.

**[0028]** A self-supporting hand-manipulated puppet of the type contemplated by the present invention is the type of puppet which generally simulates an animal. Typical animals have two spaced apart legs or four spaced apart legs. The present invention contemplates both but includes at least two spaced apart weight-bearing legs that support the weight of a forearm during use of the puppet. The type of puppet contemplated is one where the hand and forearm are inserted through

a lower opening into the cavity of the puppet during use. The puppeteer's hand would typically manipulate the mouth of the puppet and the forearm would manipulate the body and from time to time rest its weight against the bottom portion of the cavity, over the weight bearing spaced apart legs of the puppet. In one embodiment of the present invention the animal is a dinosaur which, while it may have 4 legs, typical walks on just two legs. The two walking legs are the intended weight-bearing legs. Similarly other animals would have two legs designated as weight-bearing, so that animals with four legs would, for example, have their rear legs as the weight-bearing legs.

**[0029]** As used herein the term "body" refers to the entire puppet except for the weight-bearing legs. In a first embodiment, the body is made of a cast polymer foam of the flexible type. These are usually foams that have a percentage of flexibility agents introduced to produce a flexible polymer. In a preferred version of this first embodiment, the flexible polymer foam is a flexible polyurethane foam. Commercially available flexible poly urethane foams are available, such as the FlexFoam-IT!<sup>TM</sup> series of products from Smooth-On, Inc. of Easton, Pa. The products are manufactured from a 4,4 methylene bis(phenylisocyanate)-type urethane foam and is mixed from two different formulations to give cast densities of between 3 lb/ft<sup>3</sup> to 25 lb/ft<sup>3</sup>. The art of casting with polymeric foams such as urethane foams is well know and both the body production, leg production and the attachment to each other is well known in the art.

**[0030]** The density of the given polymer relates to the flexibility of the puppet. The body and especially the mouth of the puppet is manipulated to make the puppet appear life-like. The choice of polymer is such that the body is made of a first flexible polymeric foam. In the example above in one embodiment the selected polymeric foam would be in the about 10 lb/ft<sup>3</sup> or less density to give the right flexibility. In another embodiment the density is from about 5 lb/ft<sup>3</sup> or less.

**[0031]** The weight-bearing legs of this first embodiment of the present invention are made of a cast second flexible polymeric foam that is of a higher density than the first flexible polymeric foam. The second can be the same or different foam but in one embodiment the foam is a flexible polyurethane foam. In another embodiment the second foam has a cast density of from about 10 lb/ft<sup>3</sup> and above.

**[0032]** The legs of the puppet are preferably attached to opposing sides of the puppet rather than underneath. This configuration of spaced apart supporting legs is less likely to suffer from separating, splitting or the like from the body as would be the case for attachment underneath the body of the puppet. This positioning of the legs on the body can be clearly seen in FIG. 1. In this first embodiment, the legs are attached to the body at about the level of the internal cavity or higher.

**[0033]** FIG. 1 is a side view of a first embodiment of the puppet 1. In this first embodiment the animal is a dinosaur, which has a body 2 and walks on two legs 20. This puppet 1 has a head 10 and short neck 12. The front legs 13 of the puppet 1 are not weight-bearing legs.

**[0034]** FIG. 2 is a side view of the body 2 of the first embodiment of the present invention. In this first embodiment, the body 2 includes side leg attachment knobs 15 as a means of aligning and indicating where leg 20 attachment can occur. In this embodiment, each attachment knob 15 is a protruding cylinder designed to match a corresponding leg attachment depression 25 in the leg attachment area 26 of each leg 20. Attachment area 16 surrounding the attachment



knob 15 is a smooth area designed to facilitate attachment of the leg. The body 2 includes a lower opening 24 providing access to a cavity 42. The body 2 in this first embodiment is cast from FlexFoam-IT!™ X having a 10 lb/ft<sup>3</sup> cast density, however other densities as taught herein could be used when selecting the first flexible polymeric foam.

[0035] FIG. 3 is a perspective view of a leg 20 of the first embodiment of present invention. Leg attachment depression 25 corresponds to the attachment knob 15 of the body 2 and provides a means of coupling the leg 20 to the body 2. Using this means of attachment, the leg 20 is securely attached to the body 2 such that the leg 20 is capable of rotating about the attachment knob 15. The leg attachment area 26 is a smooth area which corresponds to the attachment area 16 of the body 2. In one embodiment the leg is made from FlexFoam-IT!™ 25 having a cast density of 25 lb/ft<sup>3</sup>. In this particular embodiment, the leg 20 is cast of a foam of a higher density than the foam used in the body 2.

[0036] FIG. 4 is a side view of the puppet 1 illustrating internal features in phantom perspective. The puppeteer's arm 40 and hand 41 are inserted through the lower opening 24 into the puppet cavity 42 incident to manipulating the head 10 and neck 12 of the puppet 1. When the forearm 40 rests and puts downward pressure on the puppet 1, the legs 20 provide support for resting the forearm 40.

[0037] In a preferred second embodiment, as shown in FIG. 5, the body 102 of the puppet 100 comprises a first section 104, a second section 106, and a cavity 42 capable of receiving a puppeteer's hand 41 and forearm 40. The two or more legs 110 are coupled to the second section 106 of the body 102. The legs 110 and second section 106 are composed of a second material of sufficient density to support the weight of the puppet and support the puppeteer's forearm 40 as it rests against the bottom portion of the cavity 42. The first section 104 is composed of a first material of lower density than the legs 110 and second section 106, and is capable of being manually manipulated by the puppeteer. It is preferable, but not required, for the legs 110 and second section 106 to be composed of the same second material. The legs 110 and second section 106 may be composed of thermoplastic elastomers of sufficient density and stiffness to support the weight of the puppet and the puppeteer's forearm. Preferably, the legs 110 and second section 106 are composed of polyvinyl chloride ("PVC") of sufficient density and stiffness to support the weight of the puppet and the puppeteer's forearm. The first section 104 may be composed of thermoplastic elastomers sufficiently flexible to be capable of manipulation by the puppeteer. Preferably, the first section 104 is composed of PVC of lower density and stiffness than the second section 106 and is capable of being manipulated by the puppeteer. The first section 104 and second section 106 of the body 102 are formed separately and are coupled together using means designed to give the appearance that the body 102 is a single piece. Preferably, the first section 104 and second section 106 are coupled together using an adhesive. The body 102 may include more than one first section 104, as shown in FIG. 5.

[0038] In this preferred second embodiment, the second section 106 includes openings 108 for each of the two or more legs 110. The openings 108 are generally circular and, if the puppet includes an even number of legs 20, located on opposing sides of the puppet 100. As shown in FIG. 6, each leg 110 includes an attachment knob 112, the attachment knob having a flange 114. The attachment knob 112 is inserted into the opening 108. The diameter of the flange 114 is larger than the

diameter of the opening 108, mechanically coupling the leg to the body, as shown in FIG. 7. Using this means of attachment, the leg 110 is securely attached to the body 102 such that the leg 110 is capable of rotating about the attachment knob 112.

[0039] In this preferred second embodiment, as shown in FIG. 7, the flange 114 includes a leg restriction knob 116 and the cavity 42 includes a body restriction knob 118. As the leg 110 rotates about the attachment knob 112, the distance between the body restriction knob 118 and leg restriction knob 116 varies. The body restriction knob 118 and leg restriction knob 116 are coupled by a restriction means 120, such as a rubber band. The restriction means 120 exerts a force drawing the body restriction knob 118 and leg restriction knob 116 closer together, causing the leg 110 to rotate. Preferably, the body restriction knob 118 and leg restriction knob 116 are positioned such that the restriction means 120 causes the leg 110 to naturally adopt a downward orientation.

[0040] In a third embodiment, as shown in FIG. 8, the puppet 200 resembles a dragon. The puppet 200 of the third embodiment is similar to the puppet 100 of the second embodiment, with the addition of at least one member 202 representing an extremity of the puppet 200. The member 202 is coupled to the second section 106 of the puppet 200. The member 202 may be coupled to the second section 106 such that the member 202 is capable of rotation, similar to the means by which the leg 110 is attached to the body 102. Alternatively, the member 202 may be fixedly coupled to the section 106 such that the member 202 is incapable of rotation. In this third embodiment, the at least one member 202 is two members 202 which represent the wings of the dragon puppet 200.

[0041] Each member 202 comprises a support 204 and a membrane 206. The support 204 is coupled to the body 102 and provides structural support for the member 202. In a preferred embodiment, the support 204 is composed of the same material as the legs 110 and/or second section 106 of the puppet 200. The membrane 206 extends between the support 204 and the body 102, as shown in FIG. 8, and represents the surface of the wing. The membrane 206 is composed of a pliable material, such as fabric.

[0042] In this third embodiment, the support 204 comprises a hinge 208 coupling an upper support 210 and a lower support 212. Rotation about the hinge 208 changes the angle between the upper support 210 and the lower support 212, providing the appearance that the puppet 200 is spreading and furling its wings. In this embodiment, the hinge 208 may be locked in an "open" position, where the angle between the upper support 210 and lower support 212 provides the appearance that the puppet 200 has spread its wings.

[0043] In a four-legged embodiment, as shown in FIG. 9, the body 302 of the puppet 300 comprises a first section 304, a second section 306, and a cavity 42 capable of receiving a puppeteer's hand and forearm (not shown). The hind legs 310 are coupled to the second section 306 of the body 302. The legs 310 and second section 306 are composed of a second material of sufficient density to support the weight of the puppet and support the puppeteer's forearm as it rests against the bottom portion of the cavity 42. The second section 306 includes openings 308 for each of the two or more legs 310. The openings 308 are generally circular and, if the puppet includes an even number of legs, are located on opposing sides of the puppet 300.

[0044] The first sections 304 are composed of a first material of lower density than the legs 310 and second section 306,

and is capable of being manually manipulated by the puppeteer. It is preferable, but not required, for the legs 310 and second section 306 to be composed of the same second material, as previously described. Front legs 313 may also be attached to the second section 306 through circular openings 309 in the same manner as the hind legs 310. The front legs 313 may be, but are not required to be, constructed to assist in bearing the weight of the puppet and the puppeteer's arm.

[0045] The foregoing detailed description is given primarily for clearness of understanding and no unnecessary limitations are to be understood therefrom. Modifications to the invention may be made by those skilled in the art upon reading this disclosure and without departing from the teaching of the invention and scope of the claims.

What is claimed is:

1. A hand-manipulated puppet, the puppet comprising:
  - a. a body, the body comprising:
    1. a first section composed of a first material;
    2. a second section composed of a second material;
    3. a cavity with a lower opening;
  - b. at least two legs coupled to the second section, the at least two legs composed of the second material;
 

wherein the cavity receives the hand and forearm of a puppeteer incident to manipulating the puppet, wherein the first material is capable of being manually manipulated by the puppeteer, and wherein the second material has a greater density than the first material and the second material is of sufficient density and stiffness to support the weight of the puppet and the puppeteer's forearm.
2. The hand-manipulated puppet of claim 1, wherein the at least two legs are coupled to the second section such that the legs are capable of rotational movement.
3. The hand-manipulated puppet of claim 2, further comprising means of restricting the rotation of the legs.
4. The hand-manipulated puppet of claim 1, wherein the first material and second material are thermoplastic elastomers.

5. The hand-manipulated puppet of claim 1, wherein the first material and second material are polyvinyl chloride.

6. The hand-manipulated puppet of claim 1, wherein the lower opening is located generally between the at least two legs.

7. The hand-manipulated puppet of claim 1, wherein the body includes more than one first section.

8. The hand-manipulated puppet of claim 1, further comprising at least one member coupled to said second section, the at least one member representing an extremity of the puppet.

9. The hand-manipulated puppet of claim 8, wherein the at least one member is composed at least in part of the second material.

10. The hand-manipulated puppet of claim 8, wherein the at least one member represents a wing of the puppet and comprises a support and a membrane.

11. The hand-manipulated puppet of claim 8, wherein the at least one member comprises a support, the support including a hinge coupling an upper support to a lower support.

12. A hand-manipulated puppet, the puppet comprising:

a body, the body having a cavity with a lower opening, the body having at least one first section composed of a first material and a second section composed of a second material;

two spaced apart legs coupled to the second section, the legs composed of a second material and capable of rotational movement;

wherein the cavity receives the hand and forearm of a puppeteer incident to manipulating the puppet, wherein the first material is capable of being manually manipulated by the puppeteer, and wherein the second material is capable of supporting the weight of the puppet and the puppeteer's forearm.

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