

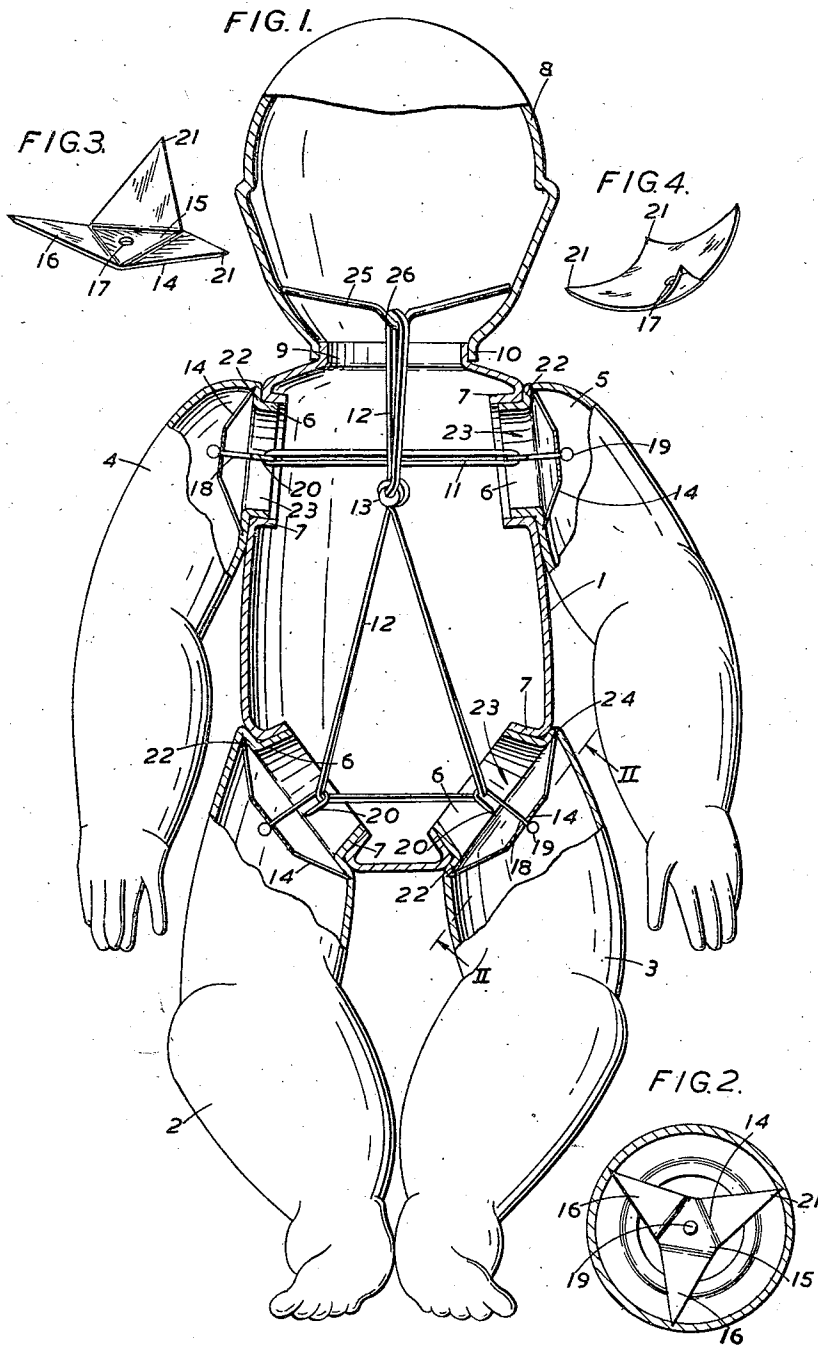
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JOINTED DOLL

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JOINTED DOLL

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1 Claim. (Cl. 46—173)

1

This invention relates to and concerns the manufacture of dolls and other model figures or puppets in human, animal or like forms (all hereinafter referred to, unless the context otherwise admits, in the term "doll"), and has particular reference to a doll of the kind having a hollow body provided with a hollow member or members, such as a head and/or limbs (included henceforth in the general term "limb") attached or each attached to the body by means of a resilient element, arranged within the doll, so as to be movable or capable of swivelling relatively to the body.

In a doll of this kind the or each limb is connected to a resilient element such as a length of indiarubber, a spring, or the equivalent which is adapted to exert an inward pull on the limb, so as to maintain it in position, and to exercise a measure of control over the limb to prevent it from being moved or turned too freely or easily. In order to position the limb or limbs properly in relation to the body of the doll, in some dolls of the kind set forth the inner end of this limb is furnished with a spigot portion which is arranged to seat in a socket in the doll body.

The present invention concerns the attachment of the hollow limbs to the appropriate resilient element of the doll, and has for its principal object to provide improved anchor means for this purpose of a particularly simple and efficient character as will be hereinafter described.

According to the invention the or each limb, or at least one of the limbs is connected to the associated resilient element through the medium of an anchor member, this anchor member being formed to provide one or more surfaces or points adapted to press upon or grip an opposing surface, and being arranged in the limb so that relative movement between this limb and the body of the doll, in a direction to separate the same, results in an increased pressure or grip by the anchor member on the limb.

The expression "anchor member" herein used in the following description and in the appended claim is used in a generic sense to include a plate, spider or like part.

The invention further includes a doll of the kind set forth in which the, each, or at least one, limb is connected to a yieldable element through the medium of an anchor member in the form of a plate, spider or like part having spikes, prongs, teeth or the like outstanding therefrom, said anchor member being located in position within the inner end of the limb by reason of its spikes or the like engaging or embedding into the material of the adjacent part of said limb.

Regarded from another aspect, the invention comprises a doll including at least one limb which is secured to the remainder of the figure through the medium of an anchor member, said anchor member having a gapped outer peripheral bound-

2

ary which is capable of being passed through the open inner end of the limb by virtue of the gap or gaps in said member, and this anchor member, when established in its effective position, being arranged to subtend this inner end of the limb with its outer peripheral parts applied against or anchored in a shouldered part provided in said limb adjacent its inner end.

In the manufacture of a doll according to the invention, the anchor member is inserted in the relevant limb through the open inner end of the latter prior to the assembly of the limb on the body of the doll, and is thereafter engaged with the resilient element.

Although the outer end of the resilient element may be attached directly to the anchor member, it will usually be preferred to attach to the latter a length of wire or equivalent to which in turn the resilient element is connected. Thus, for example, a spiked, pronged or equivalently formed anchor may be provided with a central hole through which a piece of wire is passed, the said wire having a retaining looped formation or a head at one end arranged to bear upon the back of the plate and being hooked at the other end to engage the resilient element.

The anchor member may be of any appropriate form. In a convenient embodiment of the invention the member is of dished form with radiating spikes or prongs, the said member, when located in position, having its concavity facing the opening in the hollow movable limb and with the pointed ends of the forwardly extending spikes or prongs embedded in the surrounding material.

The invention is illustrated by way of example in the accompanying drawings, in which:

Figure 1 is an elevational view of a doll, partly in longitudinal section, indicating a preferred form of limb attachment means in accordance with the invention.

Figure 2 is a section on II—II of Figure 1.

Figure 3 is a perspective view of an individual anchor plate as used in Figures 1 and 2.

Figure 4 illustrates a modified form of anchor member.

The doll illustrated in Figure 1 comprises a torso or body 1, legs 2 and 3, and arms 4 and 5, all these members being hollow and formed from any appropriate substance included in the generic term "plastic," or from plastic china clay or any other suitable material.

Each of the limbs 2, 3, 4 and 5 is formed at its inner open end with a circular hollow neck or spigot 6 which is accommodated in a correspondingly dimensioned and shaped socket 7 in the body 1, so as to be capable of swivelling movement within the socket as well as limited axial movement relatively to the latter.

It will be observed, furthermore, that the head 8 is also mounted on the body or torso 1 by means of a spigot and socket joint, the spigot 9 in this

case being provided on the body 1 at the neck part, and the socket 10 in the lower part of the head 8.

The limbs 2, 3, 4 and 5 and the head 8 are retained in assembly with the body 1 by means of resilient elements, in this instance in the form of lengths of elastic material such as rubber. Advantageously strands or bands of relatively thick rubber, e. g. of $\frac{1}{4}$ inch square section, are employed. In the illustrated example one endless rubber band 11 is used mutually to connect the arms 4 and 5, and two endless rubber bands 12 interlooped at 13 are provided between the head 8 and the legs 2 and 3, one band being attached to the legs 2 and 3, and the other being secured to the head 8.

Each of the limbs is retained assembled on the body 1 by the respective rubber band through the medium of an anchor member 14, which is shown in more detail in Figures 2 and 3. This particular member has a central portion 15 with three triangular arms 16 radiating therefrom. The member is cut, stamped or pressed from a sheet of spring steel, e. g. of 22G thickness, and the apices of the triangular arms 16 are sharply pointed so as to form spikes, prongs or teeth 21 which are equiangularly spaced. Moreover, the member is of dished or concave form, the arms 16 being inclined to the plane of the central portion 15. The latter is provided with a central perforation 17 through which is passed a connector comprising a length of wire 18 headed at 19 to prevent complete withdrawal from the member, and formed at 20 with a hook which is engaged in the respective loop of rubber 11 and 12. The lengths of these rubber bands are of such measures that, when the parts are assembled and interconnected, as illustrated in Figure 1, the pull on the various anchor members provides sufficient friction between the parts of the spigot-socket joints 6, 7 to control the rotary adjustment or swivelling of the limbs relatively to body 1.

The members 14 may be regarded as of dished disc form with portions cut away to leave the outer points or spikes 21 thereof separated by gaps. Such gapping of the periphery of the plate enables it to be inserted into the appropriate limb. Thus, as will be observed from Figure 1, the spigot 6 of each limb is adjoined by an enlarged portion of the limb forming a shoulder 22 which at least partly surrounds the open inner end 23 of the limb and which has its inner surface meeting that of the adjacent portion of the limb at an angle, as for example at 24. The width of the limb at this shoulder part is approximately equal to, and preferably very slightly smaller than, the overall span of the anchor member.

Hence, when, in the course of assembly of the doll, the individual limbs are to be attached to the body, a member 14 will be inserted through the open end 23 of the limb concerned with one of its points 21 in the limb, and then twisted so as to slip it past the wall of the socket 6 by virtue of the gapped part or parts of the plate. When adjusted again, within the limb, the member 14 is brought into a position as shown in Figure 1 with its width subtending the end 23.

The hooked end 20 is then engaged over the appropriate rubber loop and this causes a pull to be exerted on the anchor member 14 towards the body 1 of the doll. With the length and thickness of the rubber band suitably determined, this will result in an anchoring of the anchor member by means of a three-point mounting against the shoulder 22 in the angle as aforesaid,

so as to preclude rotation of the anchor member relatively to its limb and impart the required resistance to turning of the spigot 6 in socket 7. Any movement tending to separate the limb from the doll increases the gripping effect of the spikes 21 in the wall of the limb.

If the doll is made with its internal surfaces at any rate of a comparatively soft material, e. g. siliceous materials such as earthenware or plaster of Paris, the spikes 21 of a dished anchor member will dig into or embed in this material thus further enhancing the gripping effect of the anchor member 14. In addition, the desired gripping effect is increased by the inclined arrangement of the arms 16 of the member 14, and the dished form of the latter, when arranged, as shown with its concavity facing the end 23, also improves the rigidity of the plate.

It will be appreciated that other forms of anchor member could be employed, and for instance a spider or like member having more than three spikes 21, e. g. four as in Figure 4, or of curved dished form, also as illustrated in this figure, are suitable. Furthermore the size of the plates will vary according to requirements. If desired the anchor member may be of flat form.

In the form of doll illustrated the head 8 is retained by means of a cross bar or wire 25 which is notched at 26 to receive the upper loop of the rubber band 12. The outer ends of the bar or wire 25 bear against the interior of the side walls of the head 8 so that this bar or wire is retained by a wedging effect.

What we claim then is:

A doll of the character wherein at least one hollow limb is connected to a resilient element within the torso through the medium of a resilient anchor member, said anchor member including a central portion and a plurality of spaced apart triangular prongs extending outwardly from the central portion and being inclined to the plane of the central portion, the resiliency of the anchor member and the gaps between the prongs allowing the anchor member to be passed through the open inner end of the limb, the said anchor member being located within the inner end of the limb and being adapted to subtend the inner end of the limb with the prongs imbedding in the limb adjacent its inner end thus, fixedly securing the anchor member to the limb, and means to connect the anchor member to the resilient element.

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