June 29, 1943. M. HIRSCH 2,323,040

ARTICULATED JOINTS FOR DOLLS OR SIMILAR TOYS

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Fig. 1

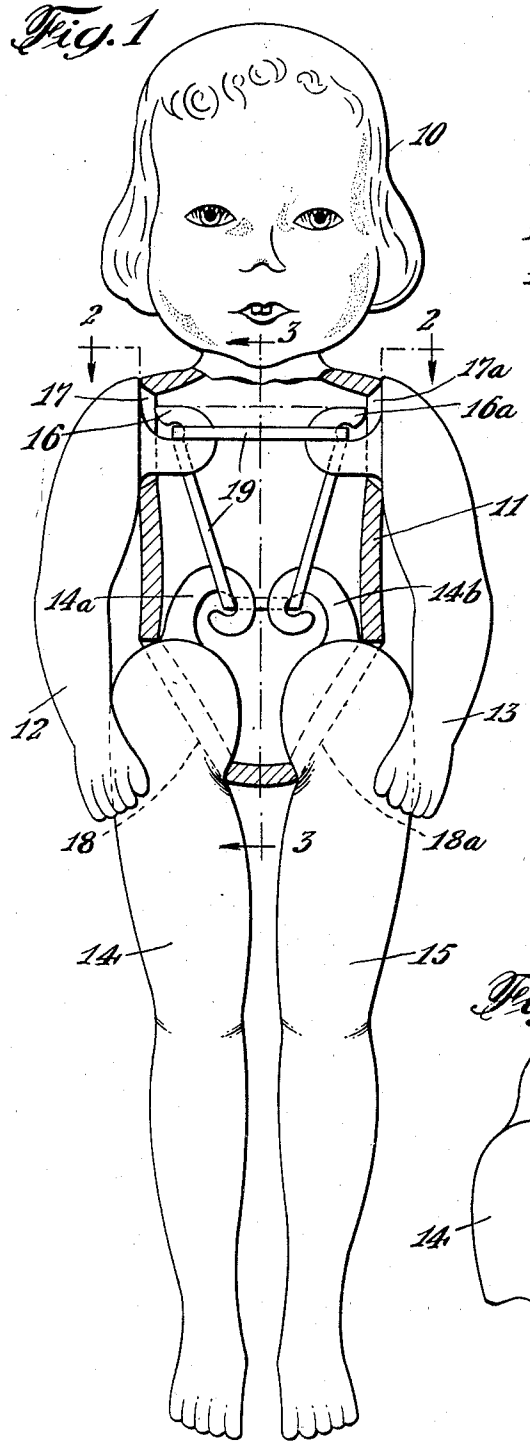


Fig. 2

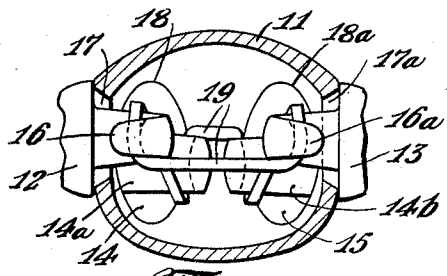


Fig. 3

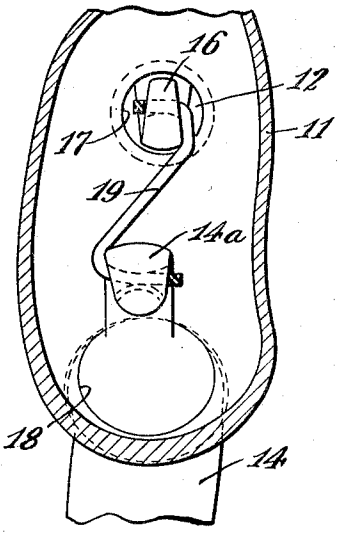


Fig. 11

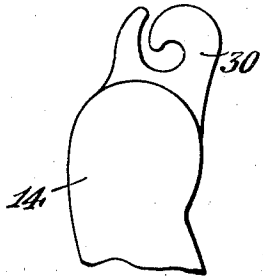
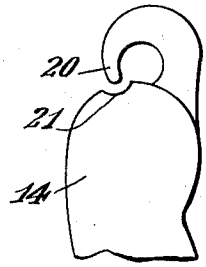


Fig. 12



INVENTOR.
Mano Hirsch
BY Louis Casper
ATTORNEY

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ARTICULATED JOINTS FOR DOLLS OR SIMILAR TOYS

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Fig. 4

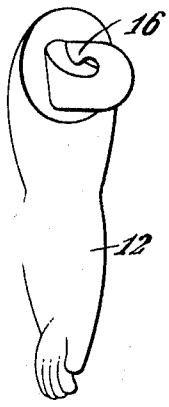


Fig. 6

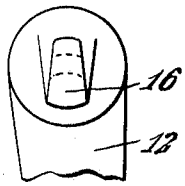


Fig. 5

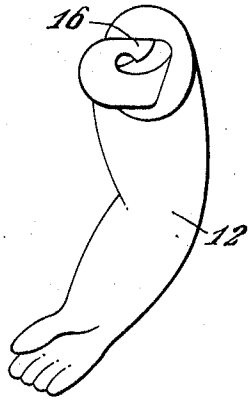


Fig. 7

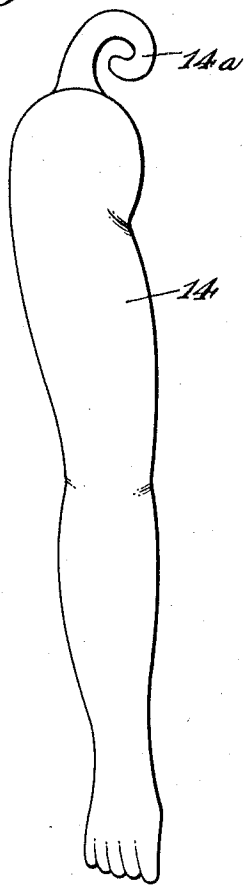


Fig. 8

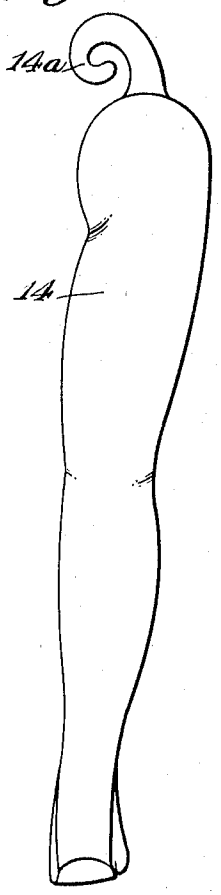


Fig. 9

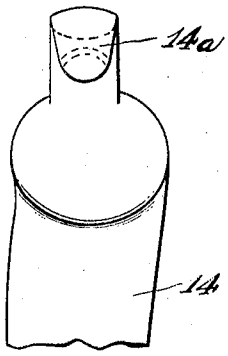
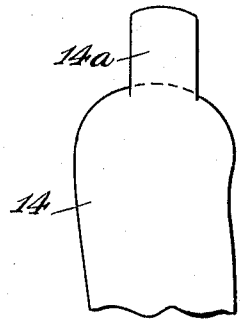


Fig. 10



INVENTOR.
Mano Hirsch
BY Louis Casper
ATTORNEY

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UNITED STATES PATENT OFFICE

2,323,040

ARTICULATED JOINT FOR DOLLS OR SIMILAR TOYS

Mano Hirsch, Brooklyn, N. Y.

Application November 2, 1942, Serial No. 464,282

2 Claims. (Cl. 46—161)

My invention relates to toy figures such as dolls, toy animals and the like and more particularly that of jointed toy figures, said figures made up of a compressed composite material, the base thereof consisting of cemented sawdust or like material having a woody base.

The invention has for its object to provide novel construction in toys having articulate limb members said members being molded and made up of said compressed composite material and said limb members made separate and independent of the toy body proper. The end portions of said members are conformed in a manner to enable them to become movably attached to said toy body without recourse to nails, metal hooks or similar metal fastenings ordinarily required to be attached to said limb members.

A further object of the invention is to provide a toy having detachable limb members said members attached to the body of said toy by means of a single endless band of resilient material such as a rubber band, or an endless coiled spring within the body of said toy whereby said limb members may be interconnected through the medium of said endless band, said interconnection retained by a novel hook arrangement at the terminal portion of each of said members, said portions thereof being insertable into the body proper of said toy doll.

Each limb member of the toy is molded into one piece, said member including in said molding the hook arrangement portion thereof, said latter portion having a curvilinear contour. The latter shaping enables the secure holding of the endless band within the inner curved fold of the hook arrangement aforesaid.

Other more specific objects of my invention will appear as the description thereof proceeds.

In further description of my invention reference may be had to the accompanying drawings in which—

Fig. 1 shows a front elevation of a doll partly shown in section.

Fig. 2 is a section of the doll taken on the line 2—2 of Fig. 1, showing the hooking and securing arrangement for joining the arms of the doll to the body thereof.

Fig. 3 is a section taken on a line 3—3 of Fig. 1.

Fig. 4 is a detached view of the doll's left arm as shown in Fig. 1, said arm showing the hook arrangement at the upper portion thereof.

Fig. 5 is another view of the doll's arm as shown in Fig. 4.

Fig. 6 is a broken sectional view of the doll's arm, said view showing a direct frontal view of the hook arrangement proper.

Fig. 7 shows a detached view of the leg of the doll as shown in Fig. 1, said leg showing the hook arrangement at the upper portion thereof.

Fig. 8 is a rear view of the leg shown in Fig. 7.

Fig. 9 is a fragmentary view of the doll's leg showing a side view of the upper portion thereof.

Fig. 10 is a similar view of the doll's leg as shown in Fig. 9, said view being an inner side view thereof.

Fig. 11 is a fragmentary view of the doll's limb member showing a modified shaping of the hook or securing means of said member to the body of the doll.

Fig. 12 is a fragmentary view of the doll's limb member showing another modification of the hook arrangement.

Referring to the drawings, and more particularly to Fig. 1, the toy doll as shown includes a head 10 and a body 11, the interior of the latter being hollow. Movably attached to the body 11 is the left arm 12, right arm 13, left leg 14 and right leg 15.

Each of the arms 12 and 13 are provided with hook arrangements 16 and 16*a* respectively, said hook arrangements being an integral part and formed in the same mold that form the respective arms aforesaid.

Similarly the leg portions of the doll are provided with a hook arrangement 14 and 14*b* respectively as shown, and said arrangement is molded into said leg portions.

The arms 12 and 13 fit into socket openings 17 and 17*a* of the body 11. Likewise the legs 14 and 15 fit into socket openings 18 and 18*a* of said body 11.

A rubber band or similar resilient band 19 is affixed into the inner hook portions of the hook arrangements 16 and 16*a* and is then extended downward to the inner arcuate recess hook portion of the hook arrangement 14*b* to the inner portion of the hook arrangement 14*a* as shown in Fig. 1.

In this manner, the arms 12 and 13 and the legs 14 and 15 are held resiliently to the body 11 of the doll.

Whether the arms or legs are moved in an up or down position, they will not become detached or disconnected by reason of the securing means due to the curvilinear contour of the inner portion of the hook arrangement as shown, but will remain in whatever positions to which the arms or legs have been placed by the person handling the toy. It will be understood

that the endless band 19 is dimensioned so as to be placed under a tension when connected with the respective members so that said arm and leg members are attached into place upon the body 11 in a manner to permit them to be adjusted relative to said body in a life-like manner to different life-like and natural positions.

It has been stated that the toy, especially the detachable members thereof, is preferably made up of a compressed composite material having a sawdust or like woody base. Such material is exceedingly tough and highly resistant to wear and rough treatment. Moreover the hook arrangement portions of said detachable members of the toy are necessarily structurally formed of less bulk of material as compared with the arm and leg member portions of the mold thereof. Said hook arrangements, however, are likewise tough and resistant and will not break or bend under the stress and knockabout treatment given a toy of this character.

In Fig. 1 is shown the hook 16 and 16*a* comprising the hook arrangement of the arms 12 and 13 respectively. In the same figure there will be noted a modified configuration of the hook arrangement as exemplified in the limb members 14 and 15 having hook portions 14*a* and 14*b*.

A further modification of the hook arrangement can be seen in Fig. 11. Said arrangement comprises an arcuate hook portion forming an inner recess at one side of said hook arrangement.

A channel is formed by the arcuate hook portion 30 at one side and a peninsulate projection at the opposite side thereof. The projection as stated is integral to and forms a part of the limb member 14 which is also the case of the hook portion 30.

Another modification of the hook arrangement is shown in Fig. 12 in which is seen a depression or bight 21 on the upper portion of the limb member 14. Above said depression 20, the tip end of the hook 20 is pointed downward toward said depression, and the endless band passing beyond the depression is prevented from retracting from its set position by the rising portion of the limb 14 at the right of said bight 21 and the curved tip of the hook 20. The advantage of the arrangement such as described is apparent in the fact that the endless band 19 due to its resilient cross-section in the assembly of the top is enabled to slip by the space afforded between the hook 20 and the bight 21, after which said band is then held under tension when all the limb members of the toy are interconnected and in position with respect to the body of said toy. Said endless band is then held under tension and in position against the inner curvilinear contour of each of the hooks in the hooking arrangements included in said toy.

It will readily be seen that with the structure of the limb members as described there is enabled the simple and economical manufacture of a non-metallic toy, made of a hard tough composition as described, extremely easy of assembly requiring a minimum number of manual operations involved in such assembly; and withall producing a toy of unusual durability and utility as well as a satisfactory commercial article.

It is obvious that various changes may be resorted to in the form, construction and arrangement of the several parts without departing from the spirit and scope of my invention; for instance, animals may be constructed in a similar manner having detachable limb members, and hence, I do not intend to be limited to the details herein shown and described except as they may be included in the claims—

Now having described my invention what I claim is:

1. In an articulate toy comprising a hollow body, an endless band contained inside said body, limb members insertable in said body, said limb members having attachment means integral therewith and attachable to said endless band; said attachment means comprising an arcuate hook forming an inner recess at one side of said attachment means and a channel opening at the opposite side of said inner recess, said channel opening being formed by said arcuate hook on one side of said inner recess and a peninsulate projection at the opposite side.

2. In an articulate toy made of tough composite material, said material moulded into a hollow body, a plurality of limb members movably attached to said body, said limb members likewise moulded of said composite material, hook arrangement means integral with said members; each of said limb members fitted in a socket aperture in said hollow body, said hook arrangement means projecting into said hollow body, an endless band of resilient material disposed inside said hollow body, said band attached to and held in position by the hook arrangement means integral with each of said limb members, whereby said members are enabled to be attached to and held in assembled relation to said body and movable thereon; said hook arrangement means including an arcuate hook portion forming an inner recess at one side of said hook arrangement and a channel opening at the opposite side of said inner recess, said channel formed by said hook portion on one side and a peninsulate projection at the opposite side, said peninsulate projection and said hook portion being integral with the limb member portion aforesaid.

MANO HIRSCH.