June 4, 1940. F. L. CAIRO 2,203,128

CUTOUT FIGURE OR OBJECT

Filed July 28, 1936

FIG 1

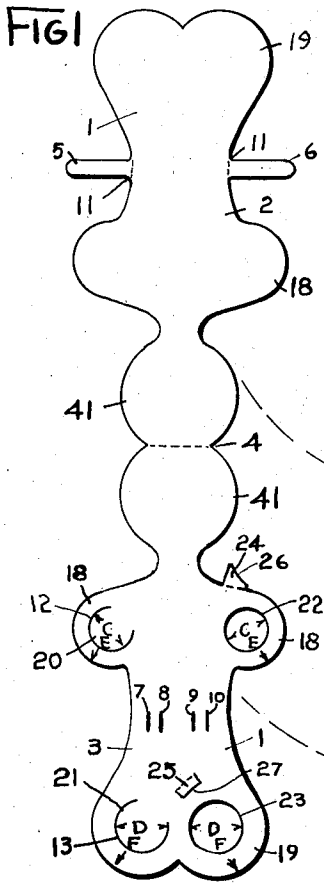


FIG 2

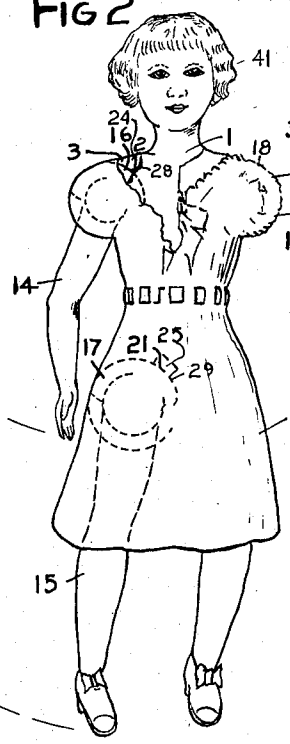


FIG 3

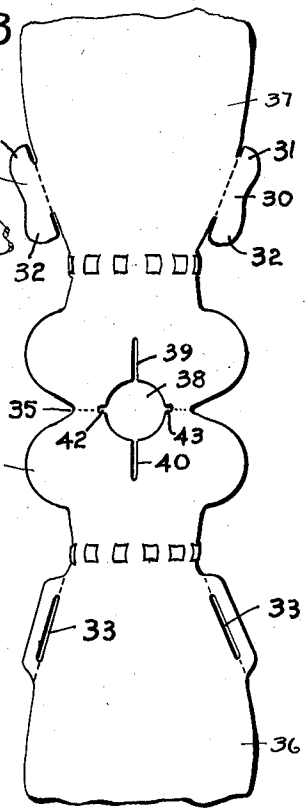


FIG 4

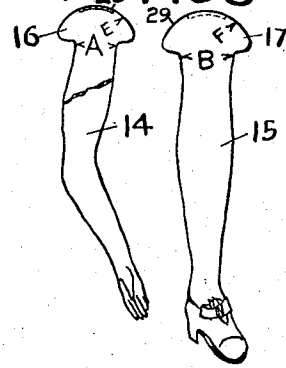


FIG 5

FIG 6

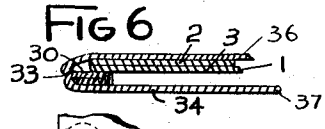


FIG 7

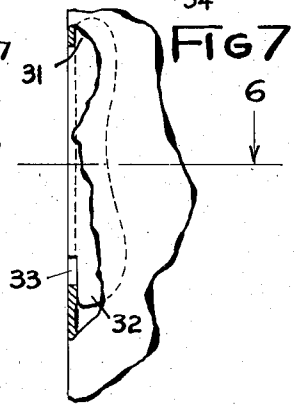


FIG 8

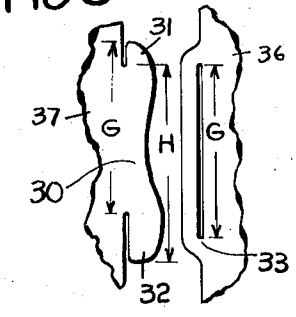


FIG 9

INVENTOR.
FRANCES L. CAIRO
BY
PAUL A. TALBOT.
ATTORNEYS.

Patented June 4, 1940 2,203,128

UNITED STATES PATENT OFFICE

2,203,128

CUTOUT FIGURE OR OBJECT

Frances L. Cairo, Brooklyn, N. Y.

Application July 28, 1936, Serial No. 92,963

4 Claims. (Cl. 46—157)

My invention relates to figures or toys cut out of flat stock and particularly to the manner of constructing the joints of the toys on paper or other material, and has among its objects to provide:

A figure or doll having movable arms and legs, the joints of which are made of the flat stock from which the object is cut.

A movable joint for paper dolls made by cutting the paper stock from which the doll is cut.

Swinging arms and legs for paper dolls produced by the shape of the cut and cutout.

Joints for locking the parts from which the flat figure is cut formed by the form of the cut eliminating the use of adhesives in securing the parts of cutout toys.

An instructive simple means of constructing toys cut out of flat stock and assembling them without adhesives.

Interlocking joints for securing the parts of toys constructed from cutout flat stock.

Cutout toys interesting, yet simple, because of the unique provisions for their assembly.

I accomplish these and other objects by the construction herein described and shown in the accompanying drawing forming a part hereof in which:

Figure 1 is cutout view of the body of the doll.

Figure 2 is an assembled view showing the application of the dress and other parts.

Figure 3 is a cutout view of one of the garments.

Figure 4 is a detail of an arm.

Figure 5 is a detail of a leg.

Figure 6 is a cross-section of one of the interlocking joints taken on line 6 of Figure 7.

Figures 7, 8 and 9 are fragmental details of an interlocking joint.

Similar reference characters refer to similar parts throughout the several views of the accompanying drawing and in the specification to follow.

By the use of the swinging arms and legs and the unique cutout parts permitting their motion and by the interlocking and other joints the numerous parts of children's toys are easily cut out by the child and the parts assembled without adhesives, all of which make the toy interesting and educational.

I have provided a body portion 1, having a front 2, hinged to the back 3, by bending the flat stock from which the body is cut out, at 4. The front and back in contour are similar. A pair of tongues 5 and 6 however, are formed at each side of the front of the body and the back is provided with the slits 7, 8, 9 and 10, so positioned as to receive the tongues after being bent on the lines 11 when the front and back are folded together. The tongues and slits also serve when the printed parts are assembled as a belt and also detachably secure the front and back together.

At the shoulders 18 and hips 19 of the body portion, I have provided the segmental cuts or slits 12 and 13 preferably on the back part 3 only. The radius of each slit is slightly greater in size than ½ the width of arm 14 or leg 15, which is inserted through each slit when the figure is assembled. Thus the width A or B is slightly less than the distance C or D as shown in Figures 1, 4 and 5. Each arm 14 and leg 15 is provided with the enlarged ends 16 and 17 each preferably cut to radius E or F which is the radius of the shoulder 18 or hip 19.

The slits 12 and 13 are shown as of length equal to 270 degrees permitting the arms or legs to swing about 90 degrees. The looseness of the parts forming the joints of the arms and legs permits a travel of about 100 degrees when 90 degrees of the otherwise circular slits is left uncut. This construction is particularly suited to figures having no front and back parts as the tabs 20 and 21 remain to keep the arms and legs in place and in a plane with the body portion 1.

By referring to Figure 1 of the drawing and particularly to the right side of the back portion 3, it will be seen that the tabs 20 are completely cut away thus substituting the apertures 22 and 23 for the slits 12 and 13, which permit the arms and legs to swing in an arc unlimited by tabs or slits. This construction is particularly adapted to figures having a back and front portion forming the body. The back portion being apertured while the front portion when secured in place presses against the enlarged ends 18 and 19 holding the parts to which they are formed in the same plane as the body portion.

When the arms 14 or legs 15 are inserted through the apertures 22 and 23 from the back of the figure, thus causing the parts 16 and 17 to be exposed on the outside of the back, that portion of the arms or legs marked A and B rest against the inside front part of the body holding the arms or legs in the same plane as the body portion.

The arms 14 and legs 15 are prevented from becoming dislocated by the bearing tabs 24 and 25 which are preferably bent inwardly toward and against the inside front portion 2 of the

body when assembled and secured to the back portion 3.

The edges 26 and 27 of the tabs 24 and 25, rest against the segmental edges 28 and 29 of the enlarged ends 16 and 17 of the arms 14 and legs 15.

Garments and other parts are preferably prevented from becoming dislodged or separated by my interlocking joint illustrated in Figures 3, 6, 7, 8 and 9. This joint may be bent inwardly to conceal it as shown in Figure 6 in some of its applications and comprises the key 30 having a short projection 31 at one end and a relatively longer projection 32 at its opposite end. The longer projection is first entered into the slot 33 of the part being secured and moved lengthwise of the slot. The short projection is then inserted and the key then moved back lengthwise of the slot as far as it will go. The distance G from the end of the short projection to the point of juncture of the long projection, represents the length of the slot. The distance from the point of juncture of the short projection to end of the long projection H, being greater than the length G, prevents the withdrawal of the key 30 from the slot 33.

The arms and legs may each be constructed of a single piece of material printed to represent the front and back and folded back upon itself in the same manner as the body portion. The point where the material is bent and the front and back join is preferably at the upper part on the segmental edge 28 or 29.

The dress 34 shown in Figure 3 of the drawing is preferably bent at 35 to form a front part 36 and back part 37 and is provided with a cutout or aperture 38 at the neck having communicating slots 39 and 40 of sufficient length to permit the head 41 of the doll to pass therethrough. Short slots or notches 42 and 43 are provided to permit the dress to fit further down on the shoulders. A movement of 90 degrees of the body after inserting the head through the slot permits the front and back portion to be folded together and locks the body from withdrawal.

While I have shown and described the construction of my joints and interlocking device in detail as applied to a doll, it is obvious that the construction may be modified in many ways and my device applied to numerous figures, animals and other things so that I do not wish to be limited to the exact details as I may wish to depart therefrom within the scope of the appended claims which succinctly set forth my invention.

I claim:

1. In a joint for objects constructed of flat material, an apertured body, a swinging member of a width to freely work in the aperture of said body and having a segmental enlarged end preventing said member from being withdrawn from said body in one direction, tabs engaging the segmental edges of said enlarged end preventing the withdrawal of said swinging member in the opposite direction and permitting the free swinging movement of said swinging member whereby said swinging member is locked in position by said tabs and permitted to freely swing when so locked.

2. In a joint for objects constructed of flat material, an apertured body, a swinging member of a width to freely work in the aperture of said body and having a segmental enlarged end preventing said member from being withdrawn from said body in one direction, tabs engaging the segmental edges of said enlarged end preventing the withdrawal of said swinging member in the opposite direction and permitting the free swinging movement of said swinging member whereby said swinging member is locked in position by said tabs and permitted to freely swing when so locked, front and back parts constituting said apertured body, said parts being foldable on one another and means formed by the material of said body to secure the front to the back portion to hold said tabs in contact with the opposite inner surface of said body when folded back upon itself and to prevent the withdrawal of said swinging member.

3. In a doll having apertures for the limbs, limbs revolvable and insertable into said apertures and substantially the size in width to closely fit said apertures, said limbs having an enlarged end having a portion thereof in the shape of an arc the center of which is on the line joining said limbs with said ends and tabs positioned at substantially the same distance from the center of said aperture as the radius of said enlarged ends.

4. In a doll having apertures for the limbs, limbs revolvable and insertable into said apertures and substantially the size in width to closely fit said apertures, said limbs having an enlarged end having a portion thereof in the shape of an arc the center of which is on the line joining said limbs with said ends and tabs positioned at substantially the same distance from the center of said aperture as the radius of said enlarged ends, said tabs bearing against the enlarged ends and restricting the movement of said limbs to movement about the common axis of the apertures and enlarged ends.

FRANCES L. CAIRO.