

July 31, 1956

H. P. CLEAVER

2,756,540

DOLL WITH REMOVABLE HEAD

Filed May 7, 1954

FIG. 1

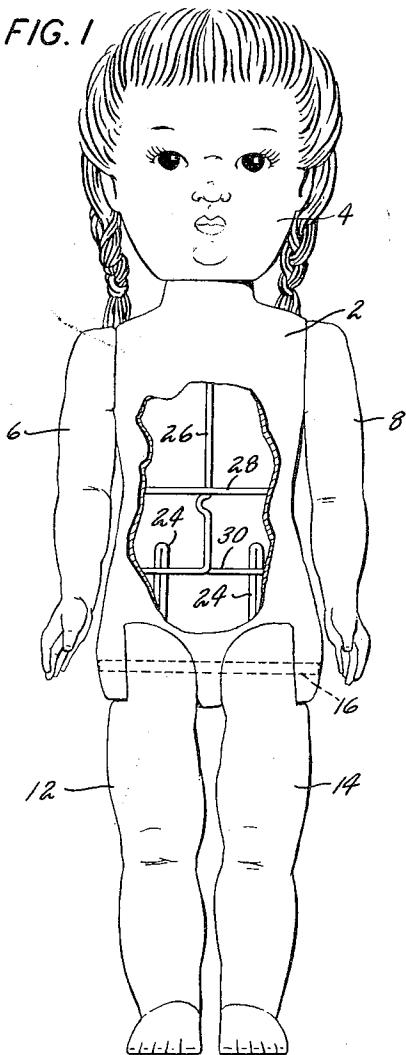


FIG. 2

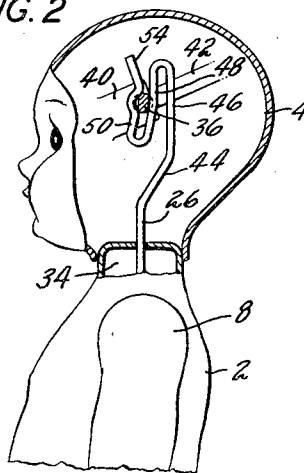


FIG. 3

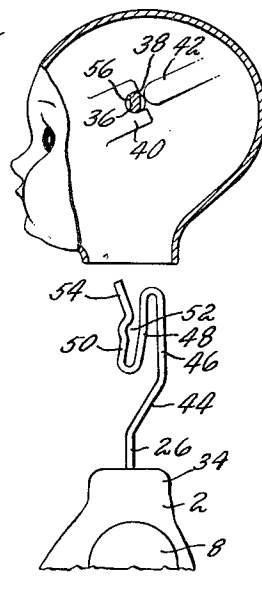


FIG. 4

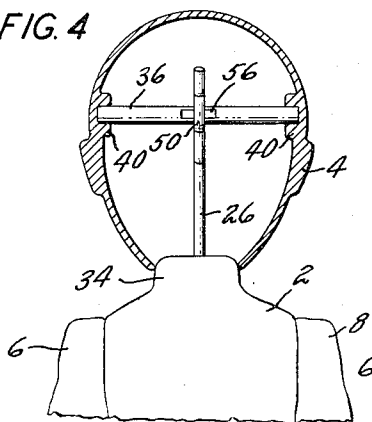
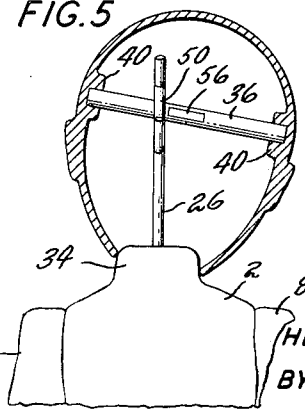


FIG. 5



INVENTOR
HENRY PAUL CLEAVER
BY *S. Jay Teller*
ATTORNEY

1

2,756,540

DOLL WITH REMOVABLE HEAD

Henry Paul Cleaver, West Hartford, Conn., assignor to Vogue Dolls, Incorporated, Medford, Mass., a corporation of Massachusetts

Application May 7, 1954, Serial No. 428,301

7 Claims. (Cl. 46-164)

This invention relates to dolls and more particularly to the construction for attaching the heads of dolls to the bodies.

It is often desirable to be able to remove the head of a doll attached to a given body and to substitute therefor a head of an entirely different character or having certain different characteristics. For example, it may be desirable to detach from the body of a doll a head having hair of one kind or color and to attach to the body, in place thereof, a head having hair of a different kind or color.

One object of the present invention is to provide dolls with an improved mechanism for securing the head of a doll to the body which will enable the head to be quickly and easily attached to the body and detached from the body.

Another object of the invention is to produce an improved mechanism for attaching the heads of dolls to the bodies, by means of which a head on a given body may be detached and another head may be attached to the body in place thereof quickly and easily and by relatively simple operations.

The invention is shown in this application as applied to a walking doll of the type in which the walking mechanism comprises a relatively slender shaft or wire extending longitudinally of the body and devices connecting the shaft with the legs for causing rotary movements in opposite directions or oscillating movements of the shaft about the axis thereof as walking movements are imparted to the legs. Another object of the invention is to produce an improved construction for dolls of this type by which the head may be attached to the upper end of the oscillating shaft so that it will be turned in opposite directions as walking movements are imparted to the legs and which enables the head to be quickly and easily attached to the shaft and detached from the shaft.

With the above and other objects in view the invention comprises the novel and improved features, constructions and combination of parts hereinafter described and particularly pointed out in the claims, the advantages of which will be readily understood and appreciated by those skilled in the art.

The invention will be clearly understood from the accompanying drawing illustrating a doll construction embodying the invention in its preferred form and the following detailed description of the construction therein shown.

In the drawing:

Fig. 1 is a view in front elevation illustrating a doll construction embodying the present invention, with a portion of the front wall of the body broken away to show certain parts of the mechanism inside the same.

Fig. 2 is a view partly in side elevation and partly in vertical section illustrating the upper portion of the body and the head of a doll embodying the invention.

Fig. 3 is a view similar to Fig. 2, but showing the head detached from the body.

Fig. 4 is a view partly in front elevation and partly

2

in vertical section illustrating the upper portion of the body and the head of the doll shown in Figs. 2 and 3, and

Fig. 5 is a view similar to Fig. 4 illustrating the head in a different position.

The construction of the doll shown in Fig. 1 and the construction of the doll shown in Figs. 2 to 5 inclusive are the same. The doll in Fig. 1, however, is shown as provided with a wig attached to the head and in Figs. 2 to 5 inclusive the wig is not shown.

The invention is illustrated in this application as embodied in a doll which, except as hereinafter described, has substantially the same construction as the doll illustrated and described in applicant's pending application, Serial No. 361,197, filed June 12, 1953, upon which Patent No. 2,687,594, dated August 31, 1954, has been granted.

The doll comprises a body indicated at 2, a head 4 shaped to fit the upper portion of the body and pivotally movable with relation to the body to turn about a substantially vertical axis. The doll is provided with arms 6 and 8 having ball and socket connections with the body and the arms are connected with each other and held in their sockets by suitable tension elements.

The doll is provided with legs 12 and 14 which are connected with the body for pivotal movement about a transverse horizontal axis. The legs are pivoted to the body of the doll by means of pivot pin 16 passing through aligned transverse apertures in the upper portions of the respective legs and through apertures in the lower portions of the body.

The body, head, arms and legs of the doll are preferably of hollow construction and are preferably molded from plastic material.

The walking mechanism of the doll comprises two similar yokes, one for each leg of the doll pivotally mounted on the pivot pin 16. Each of the yokes is connected with the corresponding leg of the doll for pivotal movement in unison with the leg about said pivot pin. Each yoke has a projection 24 extending upwardly from the lower part of the yoke. These projections are connected together by a cooperating mechanism, presently to be described, to produce and control the relative movements of the legs in the walking operation.

Mounted within the hollow body of the doll is a mechanism for interconnecting the yokes for pivotal movements in opposite directions about the pivot pin 16, the doll legs 12 and 14 normally moving about said pin with the respective yokes. This mechanism comprises a rod or shaft 26 having an upright portion extending longitudinally through the body and mounted in the body for limited rotative movements in opposite directions about its own axis, that is, mounted for oscillating movements. The portion of the rod or shaft 26 engages rotatively in a guide or bearing formed by an opening in the neck of the doll. The upright portion of the shaft also engages rotatively in an opening in a plate 28 secured in the body of the doll about midway of its length which also forms a bearing for the rod. The said shaft 26 is preferably formed of wire and the lower portion thereof is bent to form a loop 30 extending transversely on opposite sides of the upright portion of the shaft in which engage loosely the projections 24 of the yokes.

The head is connected with the upper end of the shaft 26 and is turned in opposite directions with the turning movements of the shaft produced by the walking movements of the doll.

The walking action of the doll is conventional. During the walking action, the legs 12 and 14 are swung in opposite directions about the pivot pin 16 and the yokes respectively are swung about the pivot pin therewith. The movements of the yokes cause the rotation of the loop 30

3

and the wire 26 in opposite directions about the axis of the wire.

The doll construction above briefly described is substantially the same as that fully illustrated and described in applicant's said Patent No. 2,687,594 to which reference may be had for a full and complete description of the same.

The head 4 of the doll is fitted to the body 2 by forming the head with an opening in which is fitted loosely the neck 34 as shown in Fig. 2 so that the head may be rotated about a vertical axis and may be inclined laterally with relation to the body. The head is secured to the body by attaching the same to the upper end of the shaft 26. The mechanism for attaching the head to the upper end of the shaft 26 is constructed and arranged to enable the head to be quickly and easily applied to the body and attached to the shaft and to be quickly and easily detached from the shaft and removed from the body.

The mechanism for attaching the head to the shaft 26 preferably comprises a rod 36 cylindrical in form and extending across the head from one side to the other thereof at a point above the vertical center of the head. This rod is fixed at its ends to the side walls of the head. In the construction shown each end of the rod rests in a recess 38 in a rib 40 formed on the corresponding side wall and is secured in said recess by a rib 42 also formed on the side wall.

The mechanism for attaching the head to the shaft 26 also comprises a spring clamp for releasably engaging the rod 36. The spring clamp is attached to the shaft and when the shaft is a wire said clamp is integral with the upper portion of the wire 26. The upper portion of said wire extending above the neck 34 of the doll is formed with an inclined portion 44 leading to an offset portion 46 which carries an upwardly facing or opening spring clamp formed in the wire. This spring clamp comprises the downwardly bent portion 48 of the wire connected with the offset portion 46 and the upwardly bent portion 50 of the wire connected with the portion 48 and extending in a general direction parallel with the portion 48 in spaced relation thereto, the portions 48 and 50 forming spring clamping jaws to receive the rod 36 between them, the central portion of the rod, longitudinally, being arranged to be engaged between the jaws to attach the head to the body.

The portion 50 of the wire constituting the shaft is bent to form a recess 52 in which the central portion of the rod 36 is normally located so as to attach the rod, and thereby the head of the doll, to the clamp and to the wire or shaft 26. The location of the central portion of the rod in this recess between the jaws locates the central point of the axis of the rod 36 substantially in alignment with the portion of the wire 26 extending through the neck of the doll. The upper end of the jaw 50, indicated at 54, is inclined outwardly to form a flaring opening between the clamping jaws leading to the clamping portions of the jaws for holding the rod 36.

The central portion, longitudinally, of the rod 36 is cut away at 56 so that, when said portion of the rod is engaged between the jaws of the spring clamp, in its normal position in the recess 52, as shown in Fig. 2, the rod will fit somewhat loosely between the jaws. The distances between the jaws above and below the recess when closed are less than the corresponding dimension of the central portion of the rod so as normally to prevent the displacement of the rod upwardly or downwardly from the position shown in Fig. 2. Also, the dimensions of the portions of the rod 36 on opposite sides of the central portion thereof are such that, when either of said portions may be engaged between the jaws of the clamp at the recess 52, the jaws will exert substantial pressure on the rod.

This spring clamp mechanism provides a simple and efficient structure by which the head is securely attached to the upper end of the wire 26 for turning movements in opposite directions with the wire as the wire is oscillated

4

during the walking movements of the doll, and at the same time provides a structure which enables the head quickly and easily to be attached to the wire and thereby to the body and to be quickly and easily detached from the wire and thereby from the body.

When the head and the body of the doll are attached together in their normal relations, the head is located with relation to the body and also with relation to the wire 26 and the spring clamp as shown in Fig. 2 with the rod 36 positioned between the jaws 48 and 50 of the clamp at the point at which the recess 52 is formed. With the rod in this position, the head is held securely but somewhat loosely by the clamp and turning movements in opposite directions will be imparted to the head by the turning movements of the wire. Because the relatively narrow central portion of the rod is held loosely by the clamp, the rod is allowed to slide longitudinally to a limited extent between the jaws of the clamp during the manipulation of the doll, thus allowing limited side movements of the head which add to the life-like appearance of the doll.

The head may be forced laterally in either direction into a position inclined to a greater degree to the normal than that allowed by the loose fitting of the central portion of the rod 36 in the spring clamp as shown in Fig. 5 by the relative manipulation of the body and the head. The movement of the head with relation to the spring clamp produced by this relative manipulation of the head and body will force the cylindrical portion of the rod at one side of the narrow central portion thereof between the jaws 48 and 50 and when the head and body of the doll are released after the manipulation, the head will be held in its laterally inclined position by the frictional grip of the jaws on the rod. The head may be restored to normal position by the reverse relative manipulation of head and body.

The mechanism shown in this application for attaching the head to the body of the doll not only constitutes an efficient and reliable structure for securing the head in movable relation to the body and for connecting the same with the walking mechanism so that it is moved in opposite directions as the doll is walked, but it is so constructed as to enable the head to be quickly and easily detached from the body and the same or another head to be quickly and easily attached to the body.

With the head and body connected in normal relation as shown in Fig. 2, the head may be detached from the body by grasping the head with one hand and the body with the other and forcing the head and the body relatively away from each other. This will result in forcing the rod 36 from between the jaws 48 and 50 of the spring clamp and the head and body may then be moved further relatively to disengage the spring clamp from within the head, as shown in Fig. 3, and thereby free the head entirely from the body.

In applying a head to the body of the doll, the body may be grasped by one hand and the head by the other and the head and body may then be manipulated first to locate the same in the relative positions shown in Fig. 3 and then to insert the spring clamp attached to the wire 26 within the head and to engage the rod 36 in the flaring opening between the jaws 48 and 50 at the upper end of the spring clamp. The head and body are then forced relatively in opposite directions toward each other to locate the rod 36 in the position shown in Fig. 2 between the jaws of the clamp.

This construction for securing the head of the doll to the wire or rod 26 and thereby to the body thus enables the head of the doll to be quickly and easily removed from the body and another head to be quickly and easily attached in operating position.

The present doll construction has the further advantage that, in addition to enabling the head of a doll to be readily removed from the body and another head to be readily attached to the body, it also enables the head

5

of a doll to be initially assembled with the body and the head and body to be connected together initially with the exercise of very little skill and with the expenditure of a minimum amount of labor and time.

It is to be understood that, except as defined in the claims, the invention is not limited to the particular construction in which the invention is shown in this application as embodied but that this construction is merely illustrative of the invention and that the invention may be embodied in other forms within the scope of the claims.

Having explained the nature and object of the invention and having specifically described a construction embodying the invention in its preferred form, what is claimed is:

1. A doll comprising a body member, a head member mounted on the body member, means for detachably connecting the head member to the body member comprising a spring clamp carried by the body member and having relatively movable clamping jaws, and a rod extending across the head for engaging between the jaws of the clamp and arranged to be forced between the jaws and out of the jaws respectively to connect and disconnect the head and body members by the relative manipulation of said members.

2. A doll as claimed in claim 1 in which the spring clamp is formed on a wire carried by the body member and extending longitudinally of the body member into the head member, the wire being bent to form the spring clamping jaws.

3. A doll as claimed in claim 1 in which the portion of the rod normally engaging between the jaws of the clamp is made of less size than the size of the opening between the jaws of the clamp in which the rod is normally held when the jaws are closed to enable the rod to be held loosely by the clamp and the head of the doll to be inclined freely to a limited degree and in which the portions of the rod on opposite sides of the portion normally held by the clamp are of slightly greater size than the size of said opening so that the head may be forced laterally to a greater inclination than that allowed by the loose holding of the rod in the clamp and that the clamp will hold the head frictionally at the greater inclination.

4. A doll comprising a head, a body, a wire mounted in the body and extending from the body into the head and having a spring clamp supporting portion extending in one direction in the head, a second portion extending from the first portion in the opposite direction with relation to said first portion, a third portion extending from said second portion in the opposite direction with relation to said second portion, the last two portions forming spring clamping jaws, all of said portions being formed

6

by bends in the wire, and a rod secured at its ends to the side walls of the head, extending across the head and engaging between said jaws.

5. A doll comprising a head, a wire mounted in the body and extending into the head and having a spring clamp supporting portion extending upwardly in the head, a portion extending downwardly from said first portion, a third portion extending upwardly from said second portion, the last two portions forming spring clamping jaws, all of said portions being formed by bends in the wire, a rod secured at its ends to the side walls of the head and engaging between said jaws, one of said jaws having a recess to receive the rod.

6. A doll comprising a head, a wire mounted in the body and extending into the head and having a spring clamp supporting portion extending upwardly in the head, a portion extending downwardly from said first portion, a third portion extending upwardly from said second portion, the last two portions forming spring clamping jaws, all of said portions being formed by bends in the wire, a rod secured at its ends to the side walls of the head and engaging between said jaws, one of said jaws having a recess to receive the rod, the rod having the central portion thereof engaging between the jaws at the point at which the recess is formed reduced in size to fit loosely between the jaws to allow the head to incline freely laterally to a limited degree.

7. A doll comprising a head, a wire mounted in the body and extending into the head and having a spring clamp supporting portion extending upwardly in the head, a portion extending downwardly from said first portion, a third portion extending upwardly from said second portion, the last two portions forming spring clamping jaws, all of said portions being formed by bends in the wire, a rod secured at its ends to the side walls of the head and engaging between said jaws, one of said jaws having a recess to receive the rod, the rod having the central portion thereof engaging between the jaws at the point at which the recess is formed reduced in size to fit loosely between the jaws to allow the head to incline freely laterally to a limited degree and said rod having portions on opposite sides of the central portion of greater size than said central portion to fit closely between the jaws when the head is forced into a greater lateral inclination and thereby hold the head in position.

References Cited in the file of this patent

UNITED STATES PATENTS

1,270,781	Cabana	July 2, 1918
2,285,472	Tenenbaum	July 9, 1942
2,593,187	Riechelson	Apr. 15, 1952
2,733,547	Cohn	Feb. 7, 1956