E. L. SMITH.

DOLL.

APPLICATION FILED OCT. 1, 1918.

1,308,816.

Patented July 8, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

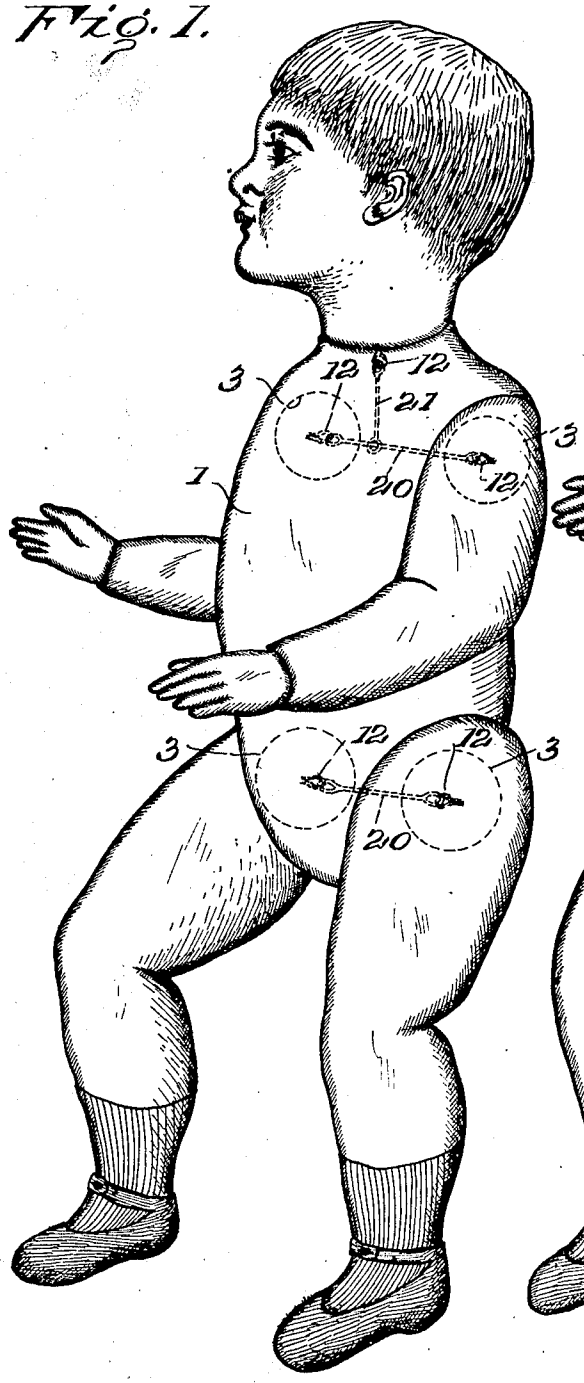


Fig. 2.

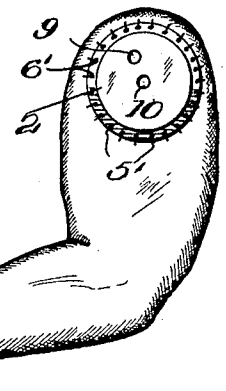
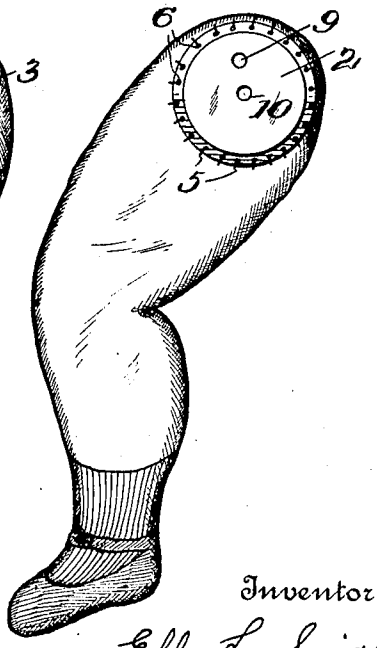


Fig. 3.



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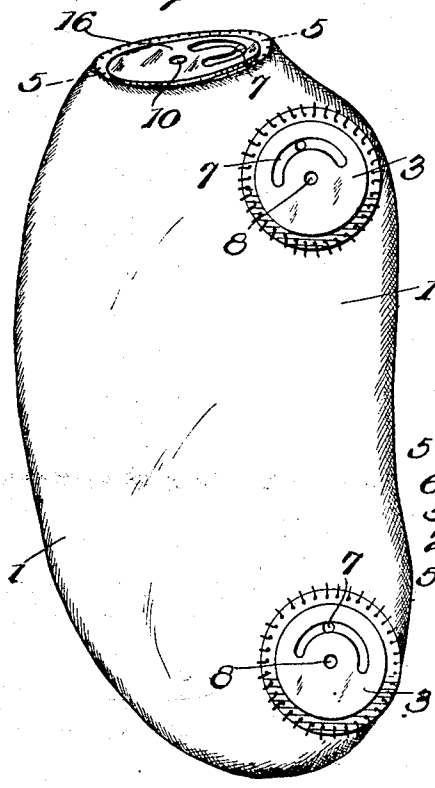
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2 SHEETS—SHEET 2.

Fig. 4.



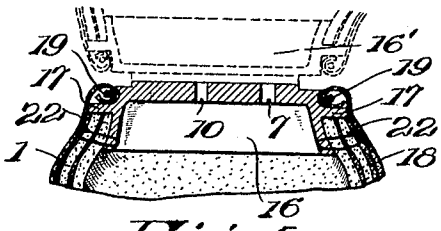


Fig. 5.

Fig. 6.

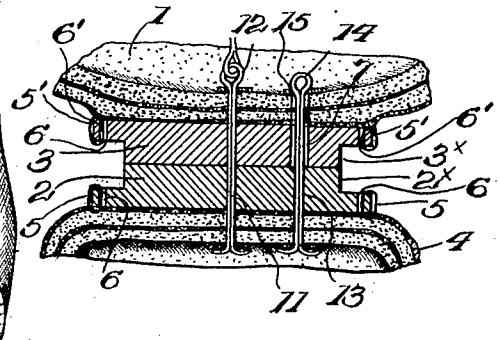
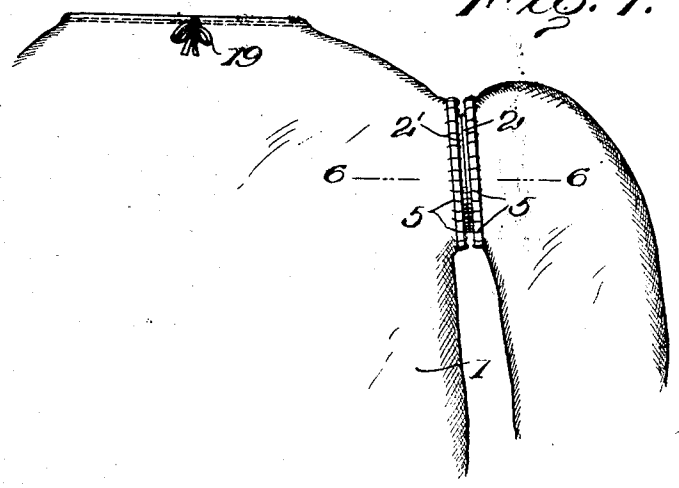


Fig. 7.



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UNITED STATES PATENT OFFICE.

ELLA LOUISE SMITH, OF ROANOKE, ALABAMA.

DOLL.

1,308,816. Specification of Letters Patent. Patented July 8, 1919.

Application filed October 1, 1918. Serial No. 256,404.

To all whom it may concern:

Be it known that I, ELLA LOUISE SMITH, a citizen of the United States, residing at Roanoke, in the county of Randolph and State of Alabama, have invented certain new and useful Improvements in Dolls, of which the following is a specification.

My invention relates to improvements in dolls, and it consists in the combinations, constructions and arrangements herein described and claimed.

An object of my invention is to provide a doll having joints for the limbs and the head, etc., which will permit the turning of these parts within limits, but which will prevent complete rotation of the parts, thereby obviating the possibility of turning the head, for instance, with its face to the rear of the body.

A further object of my invention is to provide metal wearing plates at the joints, these plates being so constructed and arranged as to bring metal against metal, thus obviating the danger of the wearing away of the fabric which is often the case with dolls having movable limbs and heads.

A further object of my invention is to provide a metal joint of simple construction which is relatively cheap to manufacture.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a perspective view of a doll constructed according to my invention;

Fig. 2 is a detailed view showing an arm provided with a metal wearing plate at the joint;

Fig. 3 is a view of a leg with a similar wearing plate;

Fig. 4 is a perspective view of the doll's body showing metal wearing plates at the joints;

Fig. 5 is a detailed sectional view of a portion of the body along the line 5—5 of Fig. 4;

Fig. 6 is a detailed sectional view of a portion of the arm and body at the joint along the line 6—6 of Fig. 7;

Fig. 7 is a front view of a portion of a doll provided with my improved joint.

Referring now to Fig. 4, I have shown therein a doll's trunk 1 which is preferably made hollow in the manner hereinafter described, and to which joint members are secured of the type mentioned above. It will be understood that while the body portion of the doll is preferably hollow and of a construction consisting of layers of fabric and plastic material, the joint may be used with dolls constructed of any suitable material.

In Fig. 4 I have shown three joints, one at the hip, one at the shoulder, and one at the neck. These joints have common features and a description of one will suffice for all. The joint is shown in detail in Fig. 6. It comprises two wearing plates 2 and 3 respectively, which have reduced portions $2^{\times}$ and $3^{\times}$ in contact with one another. The bearing plate 2 is preferably sewed to the arm portion 4 by stitches 5, and for this purpose holes 6 are provided near the outer edge of the plate 2, as shown in the drawing.

The companion plate 3 has similar holes 6′ by means of which the stitches 5′ may secure this plate to the body portion 1. The plate 3, which is fastened to the body portion, is provided with an arc shaped slot 7 and also with an opening 8 concentric therewith. The plate 2 is provided with a pair of openings 9 and 10, the former in registration with the slot 7, and the latter in registration with the opening 8. A staple 11 is passed through the opening 10 and the registering opening 8 and is clenched in the manner shown in the drawing. The eye 12 of the staple forms a securing means for the arm and, as will be noted, the staple forms a pivot about which the arm may turn, there being plenty of play to prevent binding. A second staple 13 is passed through the registering slot 7 and opening 9 and the ends are clenched as shown in Fig. 6. The head 14 of this staple, however, projects slightly beyond the inner wall of the body portion 1 so as to permit the staple to swing through the arc shaped slot 7 and through a similar arc shaped slot 15 in the trunk 1. It is obvious that the relative movements of the wearing members 2 and 3 are limited by the

travel of the staple 13 in the slots 7 and 15, and that when the ends of the slots are reached the movement of the arm will be stopped. The slots 7 and 15 are so disposed as to prevent the entire rotation of the arm. The reduced portions $2^{\times}$ and $3^{\times}$ bring metal against metal so that no part of the fabric is worn during the movement of the arm. In Fig. 6, which shows the relative positions of the parts of the joint, the members 2 and 3 are shown in exaggerated dimensions, but this is for the purpose of illustration. Also in Fig. 7 these parts are exaggerated. In practice, the reduced portions $2^{\times}$ and $3^{\times}$ would be only thick enough to separate the rows of stitches 5.

The arrangement for the head and neck is slightly different. In this instance it is not desirable to have the stitching show. Instead, therefore, of providing a flat plate similar to the plate 3, I provide a dish shaped plate 16 having a central opening 10 and an arc shaped slot 7. Plate 16 is provided with a flange 17 arranged to form a shoulder. The body portion of the plate is inserted in the upper part of the trunk 1 and an outer fabric covering 18 is brought up and looped around a resilient retaining band or cord 19. In lieu of the resilient cord I may use wire or any other suitable rigid flexible retaining means.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. The limbs of the doll are attached before the head is secured in position, and also before the plate 16 is secured to the body. In order to hold the limbs firmly in position, I provide transverse retaining wires 20 whose ends are looped into the eyes of the staples which form the pivots as shown at 12 in Fig. 1. A retaining member 21 has its end looped around the wire 20 connecting the shoulder joints, the upper end of the wire 21 being secured to the pivot staple 12 at the neck joint. The plate 16 is now placed in position and sewed to the body portion 1 by stitches 22 (see Fig. 5). The plate 16′, shown in dotted lines in Fig. 5, is now secured to the plate 16 by staples in the manner already described in connection with the joint shown in Fig. 6, and then the plate 16′ is fitted into the head and the outer coverings similar to that shown at 18 in Fig. 5, are looped around the flexible retaining member 19 on both the body and the head, and these retaining members are drawn up tight and tied, or otherwise secured, as shown in Fig. 7.

A doll thus formed has its joints securely fastened together and at the same time, the limbs and head are prevented from turning clear around and thus from assuming unnatural positions. Moreover, the rotation of these parts does not wear away the fabric or the material of which the doll is composed because of the fact that the material is spaced apart at the joints by the metal plates.

While I have disclosed a doll, and have referred to a doll in the following claims, it will be understood that the joints herein described are equally applicable to toy figures, such as those of animals. Furthermore, these features would be equally applicable to animals or dolls having natural or artificial wigs or hair, instead of painted hair, and having other forms of eyes than painted eyes, such as buttons and the like, without departing from the spirit of the invention. It will be understood, furthermore, that the term doll is designed to include any toy figure.

I claim:

1. In a doll construction, a body portion having an arc shaped slot, a metal joint member secured to the body portion and having an arc shaped slot arranged to register with the first named arc shaped slot, a limb portion, a metal joint member secured to said limb portion and arranged to bear on the first named joint member, a common pivot pin for said joint members, and a stop member carried by said limb and arranged to extend through said registering arc shaped slots.

2. In a doll construction, a body portion, a metal joint member secured to said body portion, a limb portion a metal joint member carried by said limb portion, each of said joint members having forwardly extending wearing parts adapted to be brought into engagement, and to space the limb from the body portion, one of said joint members being provided with an arc shaped slot, the other joint member being provided with a stop pin arranged to enter the slot, and a common pivot pin for said joint members.

3. In a doll construction, a body portion, a metal joint member comprising a circular plate having a forwardly extending reduced wearing portion, means for securing the plate to the body, said body and said plate having registering arc shaped slots, a limb portion, a circular plate secured to said limb portion and having a forwardly extending reduced portion arranged to engage the reduced portion of the other wearing plate, and a pivot pin extending through said limb and body portion and through said plate.

4. In a doll construction, a body portion, a limb portion, metal plates disposed between said limb and body portions for spacing the latter apart, a pivot pin extending through said plates, and means for

limiting the relative movements of the metal plates.

5. In a doll construction, a body portion, limb portions, metal plates disposed between said limb portions and said body portions for spacing them apart, pivot pins extending through said plates and connections between the pivot pins on opposite sides of the body, and means for limiting the relative movement of the metal plate.

In testimony whereof I affix my signature.

ELLA LOUISE SMITH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."