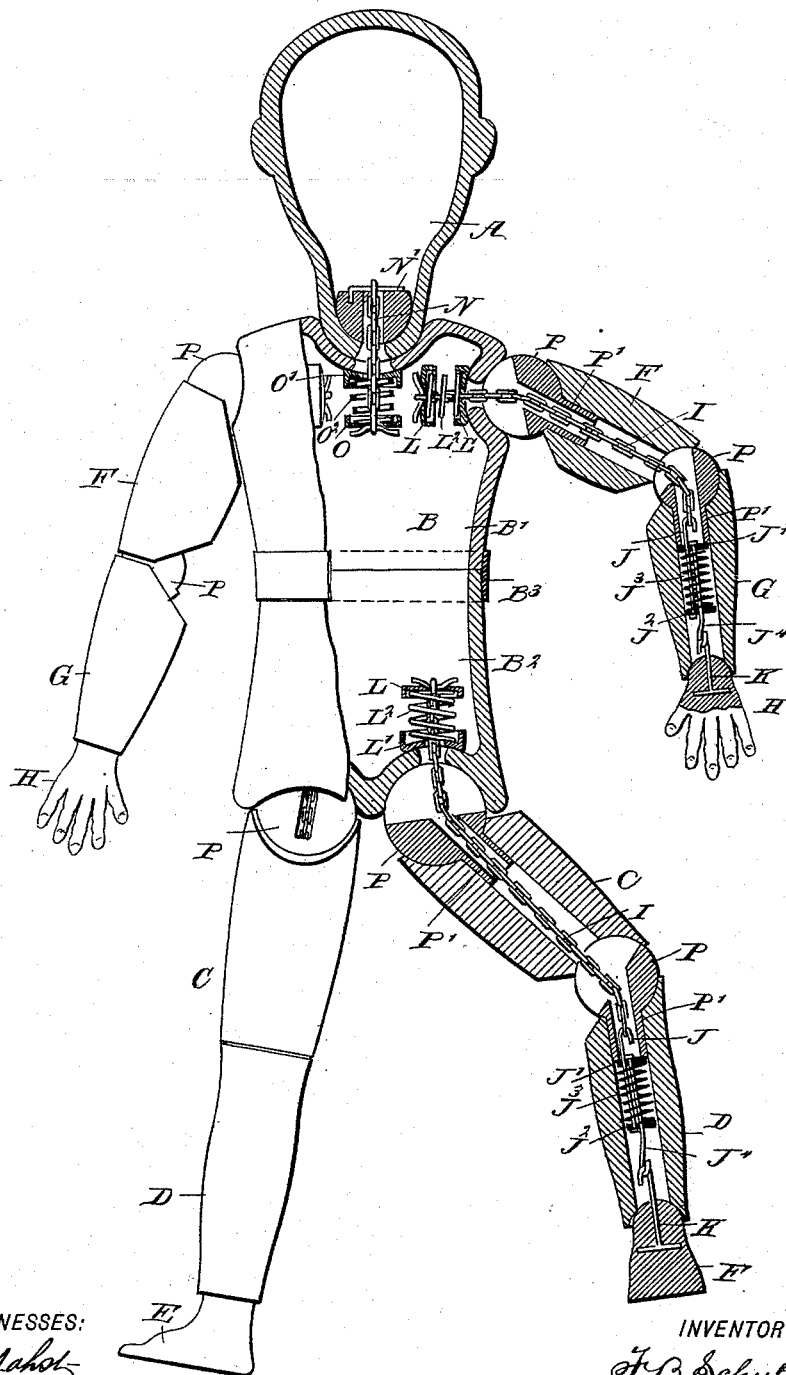


(No Model.)

F. B. SCHULTZ.  
DOLL.

No. 526,667.

Patented Sept. 25, 1894.



**WITNESSES:**

Paul Jakob  
C. Sedgwick

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# UNITED STATES PATENT OFFICE.

FREDERICK B. SCHULTZ, OF NEW YORK, N. Y.

## DOLL.

SPECIFICATION forming part of Letters Patent No. 526,667, dated September 25, 1894.

Application filed October 4, 1893. Serial No. 487,154. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK B. SCHULTZ, of New York city, in the county and State of New York, have invented a new and Improved Doll, of which the following is a full, clear, and exact description.

The invention relates to jointed dolls, such as shown and described in the Letters Patent of the United States, No. 504,627, granted to me September 5, 1893.

The object of the present invention is to provide a new and improved jointed doll in which the articulated members can be readily turned without danger of breaking or dislocating the jointed parts.

The invention consists of certain parts and details, and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawing, forming a part of this specification, in which the figure represents a sectional side elevation of the improvement.

The improved doll is provided with the usual head A, the body B, the thigh part C of the leg, the lower limbs D, the feet E, the shoulder parts F, the fore-arms G and the hands H. The several parts enumerated are joined to each other by ball and socket joints, as plainly illustrated in the drawing, so that the several parts can be readily moved in any desired direction, or turned in their sockets.

In order to hold the arms and legs in position I provide the following device: A chain, band or rope I, passes through the hollow parts forming the articulated members, to their outer ends, and the chain is connected with a hook on a rod J extending loosely through apertures in disks J' and J<sup>2</sup>, between which is arranged a coil spring J<sup>3</sup> coiled around the said rod J, and around a second rod J<sup>4</sup> likewise loosely mounted in the said disks but extending in an opposite direction to the rod J. The outer end of this rod J<sup>4</sup>, is connected by a hook with a hook on a rod K, secured in the uppermost part of the respective articulated member, that is either the hand H, or the foot E, as will be readily understood by reference to the drawing.

The inner end of each chain I, is connected with a disk L arranged in the body B and opposite which is arranged a second disk L',

seated on the inner surface of the body, and between the disks L and L', is arranged a coil spring L<sup>2</sup>, through which passes part of the chain I. Thus, the outer end of the spring practically has a bearing against the inner surface of the body, and each articulated member is connected with the body B and a yielding connection is made between the body and the chain, also between the chain and the articulated member.

The head A is connected by a chain N with the body, the upper end of the chain being held on a pin N' secured on a projection or lug held in the said head A. The lower end of the chain passes through an aperture in the body B, and is connected with a disk O opposite which is arranged a disk O', seated on the inner surface of the body, and between the disks is interposed a spring O<sup>2</sup>, so that a yielding connection is made by the said disks and spring, with the chain.

The ball P forming part of each ball and socket joint, is provided with a shank P', secured in the corresponding part of the articulated member, and this shank P' forms a stop for the disk J', in the fore-arm G or lower limb D, as will be readily understood by reference to the drawing. Formerly this ball P was made in one single piece with the respective part, but I prefer to form the ball with the hollow shank P' glued or otherwise fastened in the corresponding part of the articulated member.

The rod K previously mentioned, is formed at its lower end with a cross-piece or head, and the rod is cast or embedded directly in the hand or foot E, with the outer hooked end extending beyond the same so as to engage the hook of the rod J<sup>4</sup>.

Now, it will be seen, that by the especial construction described, the hand or foot can be conveniently turned in its socket, as the rod J<sup>4</sup> is free to turn in the disks J<sup>2</sup> and J', and when a pull is exerted on the hand H or foot E, then the head of the rod J<sup>4</sup> resting on the disk J', will draw the latter outward to compress the spring J<sup>3</sup>, as the disk J<sup>2</sup> is then held in place by the head of the rod J. A yielding and turning connection is thus had by the hand or foot with the chain.

When the pull is exerted on the fore-arm G, or the lower limb D, then the disk J' will

rest against the shank P', and the disk J<sup>2</sup> is moved upward to compress the spring J<sup>3</sup> as the head of the rod J draws the said disk upward. When a pull is exerted on the shoulder part F, or the thigh part C, then the spring I<sup>2</sup> is compressed owing to the pull of the chain I, exerted on the disk L.

Several parts of each articulated member can be conveniently turned, as the chain passes loosely through the said parts and remains at a stand-still while the part is turned. By this arrangement any part of any member can be readily turned or pulled, without disconnecting or dislocating the parts, and as soon as the part is released the springs draw the same back to their normal position.

In order to conveniently arrange the several parts of the yielding device in the body B, and to connect the articulated members with the body, I prefer to make the same in two parts B' and B<sup>2</sup>, divided transversely at or near the middle of the body, and connected with each other by a band B<sup>3</sup>, lapping the joined ends of the body portions B' and B<sup>2</sup>, as will be readily understood by reference to the figure. The band B<sup>3</sup> is preferably glued to the outside of the body portions so as to securely hold the same in place, after the several parts have been joined together as described.

It will be seen that an individual chain is used for each articulated member, and each chain is provided with yielding devices to permit of exerting pulls on the parts of the said members, and also to permit of turning the same in the manner described. It will further be seen that the spring J<sup>3</sup> acts in both directions, that is, can be compressed by pulling on the hand H, so that the disk J' moves against the spring and away from its socket P', and when the fore-arm G is pulled, the other disk J<sup>2</sup>, compresses the spring.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A doll, provided with a body and a tubular articulated member, a coil spring located within the member and connected with the outermost part thereof, a flexible connection between the body and the spring, and a ball forming part of the joint between two sections of the member, said ball being provided with a tubular shank that extends into one of the member sections adjacent to the spring to form a stop therefor, substantially as described.

2. A doll, provided with a body and an articulated member, whose outermost part is solid while the other sections are tubular, a coil spring held within the body, a disk seated on the inner surface of the body and adapted to be engaged by the outer end of the spring, another disk adapted for engagement with the inner end of the spring, a chain connected with the said inner disk and extending therefrom to the outermost tubular section of the articulated member, a coiled spring located in the said part of the member, disks held in contact with the respective ends of the spring, a ball forming part of the joint between the said outermost tubular section and the adjoining tubular section of the member, said ball being provided with a tubular shank that extends into the said outermost tubular section to form a stop for the inner end of the spring located therein, a rod whose inner end is connected with the said chain and whose outer end is connected with the disk at the outer end of the coiled spring in the member, another rod whose inner end is connected with the disk at the inner end of the said spring, and a third rod having a permanent connection with the outermost, solid part of the articulated member, and a detachable connection with the outer end of the said second rod, substantially as described.

FREDERICK B. SCHULTZ.

Witnesses:

THEO. G. HOSTER,  
C. SEDGWICK.