

(No Model.)

F. B. SCHULTZ.
DOLL.

No. 504,627.

Patented Sept. 5, 1893.

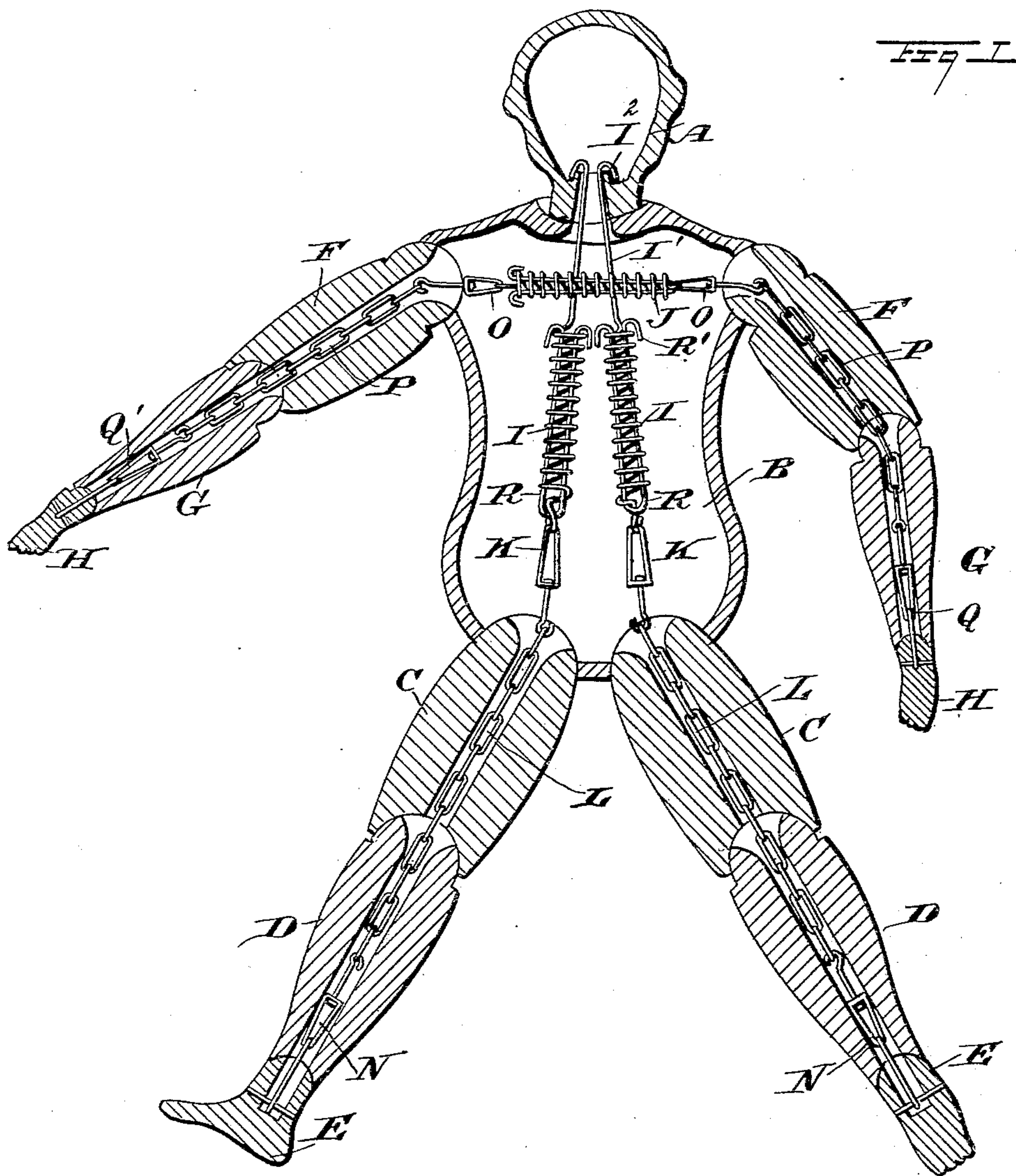
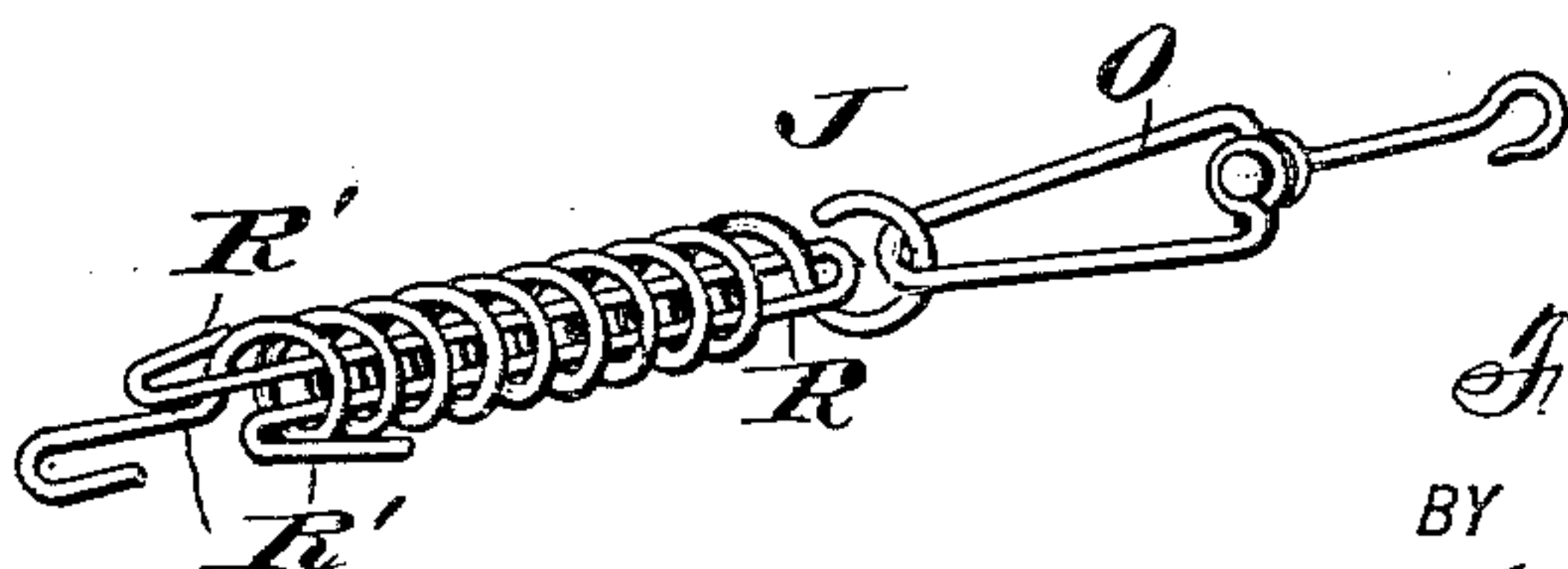


Fig 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

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DOLL.

SPECIFICATION forming part of Letters Patent No. 504,627, dated September 5, 1893.

Application filed September 23, 1892. Serial No. 446,666. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK B. SCHULTZ, of the city, 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 object of the invention is to provide a new and improved jointed doll, which is simple and durable in construction, and arranged to permit of turning the several parts without danger of disconnecting or breaking the jointing devices.

The invention consists of springs arranged in the body of the doll and connected by swivels with chains for holding the parts together.

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

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a sectional side elevation of the improvement; and Fig. 2 is a perspective view of one of the springs and its swivel.

The doll is provided with the usual head A, the body B, the thigh parts C of the leg, the lower limbs D, the feet E, the shoulder parts F, the fore-arms G and the hand H. The several parts enumerated are jointed with each other by the usual ball and socket joint, as illustrated in Fig. 1, so that the several parts can be readily moved in any desired direction or turned in their sockets.

In order to hold the several parts, in position, I provide the following device: In the body B are arranged two springs I; one for holding each leg in place on the body, and also to hold the head A, in position. A third spring J is employed for holding the arms in place. Each spring I coiled in the usual manner, is provided on its upper end with an extension arm I' formed with a hook I² engaging a projection in the head A, so as to hold the latter to the neck of the body B. The lower end of each spring I is connected with a swivel K connected with a chain L, which extends longitudinally through apertures in the leg parts C and D, the lower end of the chain being provided with a second swivel

N connected with the foot E. It will be seen that by this arrangement either part of the leg can be turned around, many times, without any danger of breaking the jointing devices, as the swivels K and N will readily permit the turning of the parts without twisting or otherwise injuring the chain L and the spring I. The spring J for the arms is connected at both ends with swivels O, each connected with a chain P extending longitudinally through the respective arm parts to carry at its outer end, a swivel Q connected with the respective hand H. It will be seen that the arm parts can be turned or moved to any desired position without danger of breaking any of the devices as the swivels O and Q permit of turning the arm parts without twisting the chain P or spring J.

In order to limit the opening of the springs I and J, I provide each of the said springs with a doubled-up rod R connected at its middle with one end of the respective spring, the said doubled-up rod passing through the coils of the spring and the outer ends of each rod are formed with hooks R' adapted to engage the outermost coils so as to limit the opening or expanding movement of the spring. When the springs I and J are in their normal position, the hooks R' are a suitable distance apart from the last coil in the respective spring but when the springs are drawn outward or opened then the hooks finally engage the coil and prevent a further opening of that spring. Thus, by limiting the uncoiling or opening of the springs, the latter are not liable to be broken by undue tension of the same when pulling any of the leg or arm parts. By this device the tension of the spring is not impaired even by considerable use so that the spring will last much longer and always retain its full elasticity.

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

1. The combination with the hollow body having an articulated member, of a spring within the body and a swivel connected at one end to the spring and at its other end to the said member, substantially as set forth.
2. The combination with the hollow body having two opposed articulated members, of

a spring within the body and swivels connected with the ends of said springs and with said members, substantially as set forth.

3. A doll provided with springs, and a limiting device arranged on each spring and serving to limit the expansion of the spring, substantially as shown and described.

4. The combination with the hollow body and the head having an internal annular shoulder around its neck opening, of spring retracted hooks engaging said shoulder from within the hollow body, substantially as set forth.

5. In a doll, the combination with a spring held in the doll body, a swivel connected with one end of the said spring, a chain connected with the said swivel, a second swivel on the other end of the chain and connected with one of the movable parts of the doll, and a rod having hooks and held on the said spring to limit the opening of the same, substantially as shown and described.

6. The combination with the hollow body and a member composed of articulated sections of a spring within the body a swivel secured to the outer section of said member, a second swivel secured to the spring and a

flexible connection extending through the said member and connecting the two swivels, substantially as set forth.

7. The combination with the hollow body and the arms formed of articulated sections of a transverse spiral spring within the body and provided at its ends with swivels connected to the outer members of the arms, and flexible connections extending through said arms and connecting the said swivels, substantially as set forth.

8. The combination with the hollow body, the head having the internal annular flange around its neck opening and the legs formed of articulated sections, of the longitudinally extending springs within the body and provided at their upper ends with hooks engaging said flange and at their lower ends with swivels, swivels connected with the foot members and flexible connections extending through the legs and connecting said swivels, substantially as set forth.

FREDERICK B. SCHULTZ.

Witnesses:

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