

C. L. PARENT.

Improvement in Lay-Figures, Dolls, &c.

No. 130,068.

Patented July 30, 1872.

Fig: 1

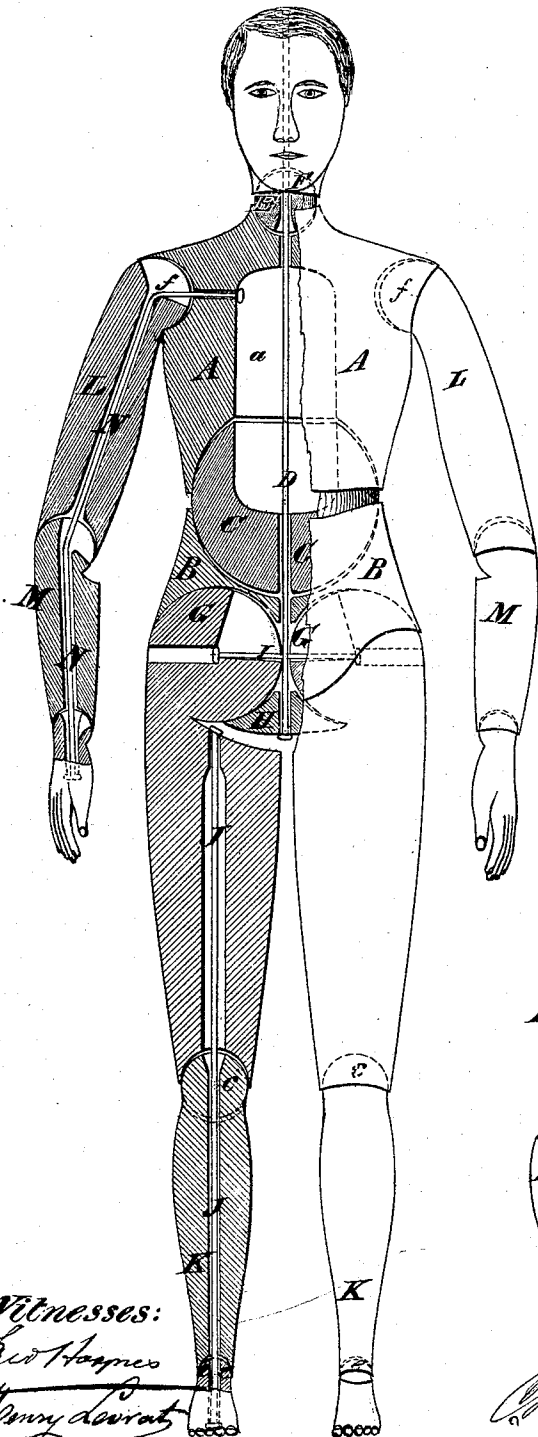


Fig: 2

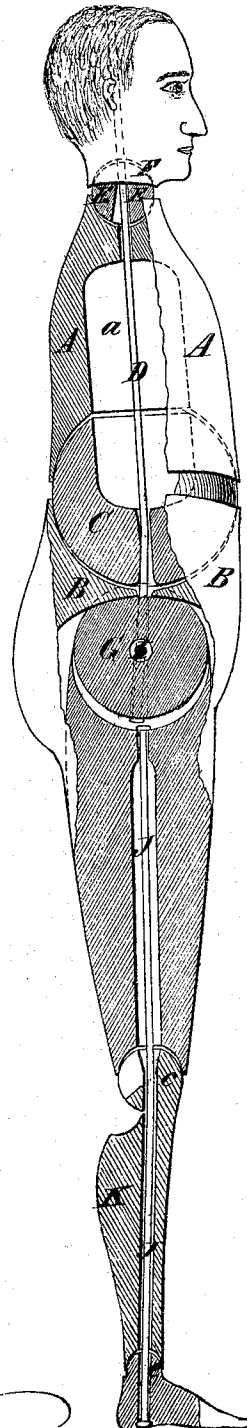


Fig: 3



Witnesses:

Geo. H. Hayes

Henry A. Bryant

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UNITED STATES PATENT OFFICE.

CHARLES LOUIS PARENT, OF HAVRE, FRANCE.

IMPROVEMENT IN LAY FIGURES, DOLLS, &c.

Specification forming part of Letters Patent No. 130,068, dated July 30, 1872.

Specification describing Improvements in Articulated Artists' Puppets, Dolls, and other figures of men, and also of animals, the invention of CHARLES LOUIS PARENT, of Havre, in the Republic of France.

This invention consists in the combination with ball-and-socket joints of elastic or elastically-applied tendons, whereby the limbs and other component parts of an articulated figure are secured together in such manner that they may be turned to any natural position, and will remain so, and are therefore fitted for artists' figures as well as for children's toys.

In the accompanying drawing, Figure 1 is a partly-sectional front view of a puppet made according to my invention. Fig. 2 is an irregular side section of the same, and Fig. 3 is a detail view of the ball of one of the ball-and-socket joints.

Similar letters of reference indicate corresponding parts in the several figures.

The trunk of the figure is composed of two parts, A and B, the latter constituting the hips and the former the chest and adjacent parts of the trunk. The two are united by a ball, C, fitting partly in a socket in each, and an elastic tendon, D, passing through the three. The part A has in its interior a cavity, *a*. In the upper part of the aforesaid part A there is a circular socket, which receives the lower portion of a ball, E, fitting partly within it and partly within the lower part of the head F of the figure, and forming the neck of the latter. Balls G G, on the upper ends of the thigh-joints of the figure, fit within sockets in the piece B of the trunk, and have fitted to their under side a piece, H. The tendon D, before mentioned, is made of rubber or elastic material, and is knotted or otherwise enlarged at one end, and passed vertically through the head, through the part A, ball C, and part B, down between the thigh-balls G G, and through the piece H, and is then stretched, and on the under side of the latter piece is knotted. By its elasticity it then holds the parts united by it against each other, and so preserves their joints.

The balls G G on the thighs are held laterally by a single elastic tendon, I, threaded through them, and knotted or otherwise enlarged at the ends. Immediately under the

balls G G the thighs are recessed to receive the piece H, and also to facilitate the insertion of tendons J J, which secure the limbs of the legs together. K is the lower limb of the leg. It has formed on its upper end a ball, *c*, which fits in a cavity in the lower end of the thigh and forms the knee-joint. In the lower end of the limb K is a cavity, which receives a ball or semicircular convex projection, *e*, on the foot, and thus the ankle-joint is formed. The tendons J J, which are first knotted or otherwise enlarged at the ends, are threaded through the thighs, lower limbs, or calves, and through the feet vertically, and are stretched and knotted, and by their elasticity then hold them all in contact, and thereby preserve their joints. Each of the arms is formed in two parts, L and M, the former of which has formed on its upper end a ball, *f*, which fits within a cavity or socket in the side of the part A of the trunk, and forms the shoulder-joint. In the lower end of the limb L there is a cavity for the reception of a ball formed on the upper end of a limb, M, thus constituting the elbow-joint. In the lower end of the latter limb M there is a socket or cavity, which receives a ball on the upper or inner end of the hand, and constitutes the wrist-joint. Elastic tendons N N, inserted through the cavity *a* in the part A of the trunk, pass through said part to the shoulder-joints, thence through both limbs of the arms and into the hands, and are stretched and then secured at the ends. By securing the limbs of the arms in contact, and the latter in contiguity, with the trunk, the whole are secured together. The sockets of all the joints are represented as being eccentric to the balls, and the latter are slotted, as shown at *s* in Fig. 3, in the direction in which the greatest flexure is desired, so as to permit of their movement without stretching the tendons, and producing a tendency to draw them back to a straight position. Below or in rear of each ball of the knee and elbow joints there is a notch, shown particularly in Fig. 3, to permit the operation of the joint in the proper direction without interfering with the socket.

The advantages of my puppet over those in common use are, that it possesses a much more graceful appearance, is very durable, and when adjusted to any position will re-

main so, there being no more strain on the tendons when the limbs are bent than when straight. This last-named advantage is of vital importance when the puppet is designed for artists' use. The tendons, instead of being elastic themselves, may be made of catgut or other suitable material, and may have applied to their ends springs made of metal or other material.

Figures of animals may be constructed on the same principle.

Claim.

The combination, with the ball-and-socket joints, of the elastic or elastically-applied tendons, to operate substantially as shown and described, and for the purpose herein set forth.

C. L. PARENT.

Witnesses:

FRED. HAYNES,
HENRY LEVRAT.