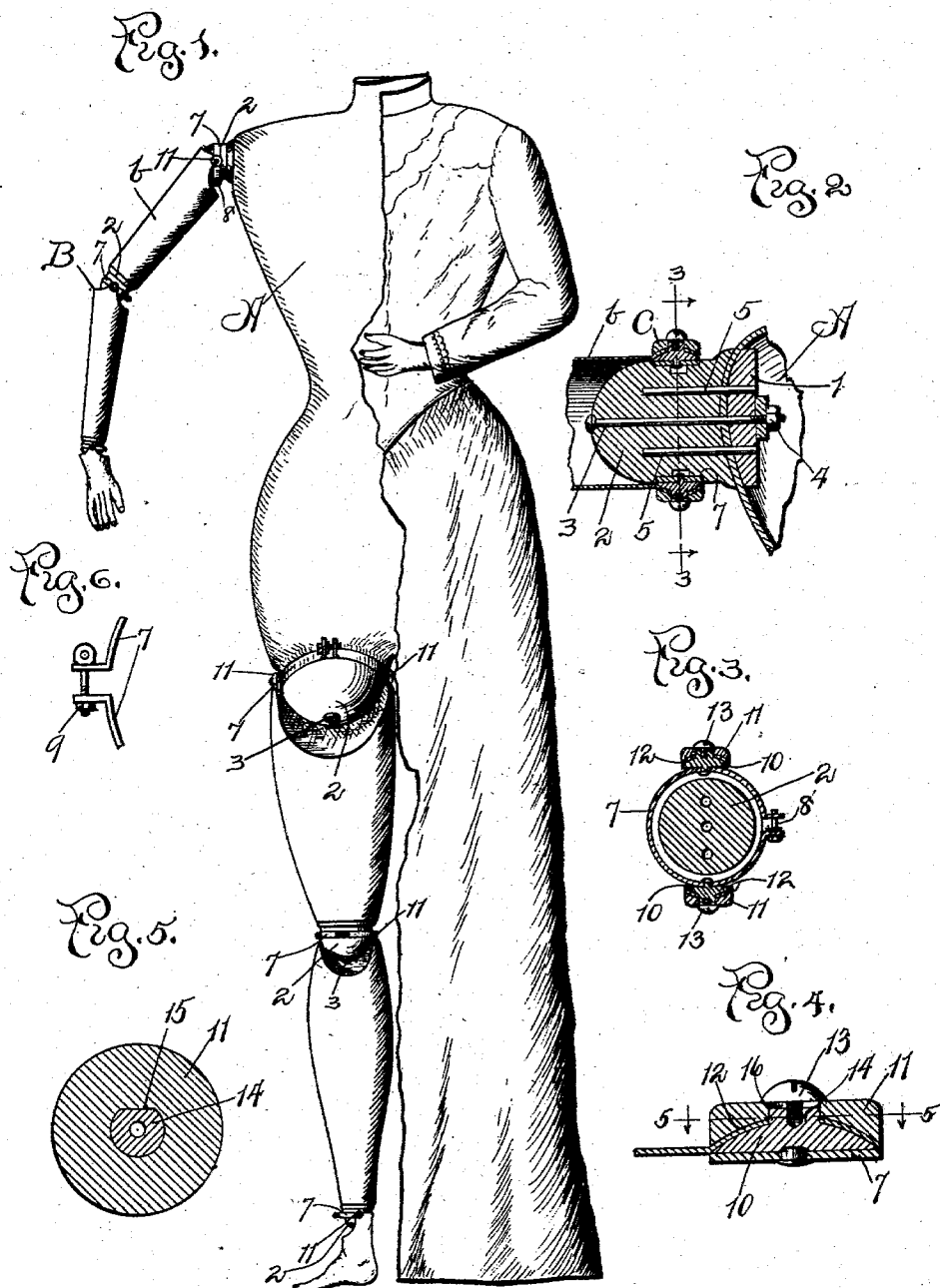


No. 634,503.

Patented Oct. 10, 1899.

C. B. MORROW.
JOINTED FIGURE.
 (Application filed Feb. 27, 1899.)

(No Model.)



Witnesses
 J. S. Keir
 John S. Thompson

Inventor
 Charles B. Morrow,
 by A. Miller Belfield,
 Att'y.

UNITED STATES PATENT OFFICE.

CHARLES B. MORROW, OF CHICAGO, ILLINOIS, ASSIGNOR TO S. HEINEMAN & CO., OF SAME PLACE.

JOINTED FIGURE.

SPECIFICATION forming part of Letters Patent No. 634,503, dated October 10, 1899.

Application filed February 27, 1899. Serial No. 706,926. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. MORROW, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Jointed Figures, of which the following is a specification.

My invention relates to figures, such as the human form, adapted for displaying dress goods or other wearing-apparel and constructed with limbs so jointed as to permit them to be swung and bent in substantial correspondence with the natural movements thereof.

Prominent objects of my invention are to provide a simple, practical, and efficient construction of joint for such figures, to arrange for the easy and quick attachment of the same to and detachment from the figure, to avoid having to weaken the figure in order to prepare for the attachment of the limbs thereto, to arrange for the automatic retention of the limbs in whatever position they may be placed, and to accomplish the above results in an inexpensive and efficient manner.

To the attainment of the foregoing and other desirable ends, my invention consists in matters hereinafter set forth.

In the accompanying drawings, Figure 1 is a view of a partially-draped figure having joints embodying my invention. Fig. 2 is a vertical section of the shoulder-joint of said figure on a larger scale and with the arm thereof swung ninety degrees from the position occupied by it in Fig. 1. Fig. 3 is a vertical section taken on line 3-3 in Fig. 2. Fig. 4 is a reproduction of the upper portion of Fig. 3 on an enlarged scale. Fig. 5 is a section taken on line 5-5 in Fig. 4, and Fig. 6 is a plan view of a modified form of a fastening device shown in Fig. 3.

In the drawings I have shown a human form or figure A made of papier-mâché or like material and having its limbs provided with joints constructed in accordance with my invention. The right-hand side of the figure is undraped in order to clearly show the construction of these joints, which serve both to connect the limbs to the body part and the different sections or parts thereof to one another and to permit a relative bending and

swinging movement between the parts so connected. I have shown in the drawings, Figs. 2, 3, and 4, the construction of the shoulder-joint of the form and will describe this construction. It will serve to illustrate the principles underlying the construction of the other joints. In this shoulder-joint, as will be best seen by reference to Fig. 2, a block or disk 1 or the like adapted to serve as an anchor or backing is arranged within the bust of the form, while a cylindrical block 2 or the like adapted to serve as a support for the arm is arranged outside of the form and opposite the anchor 1 and secured firmly but detachably to the latter. A simple and convenient arrangement for securing the support 2 to the anchor 1 comprises a long bolt 3, extended through them and also through a suitable aperture formed in the material of the form, which is confined between them, and a nut 4, fitted on the end of the bolt 3. A relative rotary movement between the anchor 1 and support 2 is further prevented by a couple of pins 5 5, secured in the latter and extended through the material of the form and into the anchor 1, in which they can be easily inserted and withdrawn. It will be seen that by this arrangement the support 2 can be readily and quickly attached to and detached from the form or figure and when so attached will be firm and rigid with the same and incapable of any kind of movement with reference thereto.

The support 2 is provided with a rotary connection to which the upper portion *b* of the arm B can be attached. A simple form of rotary connection is the one shown, which consists in a circular band 7, arranged to work in an annular groove or guide formed in the support 2. The ends of the band 7 are secured together by any suitable device, such as a screw 8, Fig. 3, extended through a flange formed on one end of the band and engaging threads formed in a similar flange formed on the other end, or a screw 8^a, Fig. 6, pivotally connected with one end of the band and arranged to swing downwardly into a slot formed in a flange on the other end thereof, so that a nut 9 on its end can engage and draw against said flange. In either arrangement the friction of the band 7 against the support 2 can be adjusted to any desired degree by prop-

erly adjusting the screw 8 in the one case and the nut 9 in the other.

The upper portion *b* of the arm B is connected with the rotary band 7 by means of a hinge or pivotal connection, the form herein shown being considered a matter of special and specific improvement. The form of pivotal connection shown comprises a clamping or compression device C, in which an end portion of the metallic sheathing of which the limbs of the form are usually made can be clamped and held under compression. It conveniently comprises a base 10, Fig. 4, secured, as by riveting, to the rotary band 7; a cap 11, adapted to fit upon the base 10 and to hold the end portion 12 of the metallic sheathing of the arm between itself and the latter, and a screw 13 for forcing the cap 11 against the sheathing 12. The top of the base 10 is desirably made convex and the bottom of the cap 11 correspondingly concave. The base 10 and cap 11 are constructed so as to interlock with one another to prevent relative rotation between them when the latter is in position upon the former. As a practical arrangement the base 10 is provided with a stud 14, having a straight portion 15, Fig. 5, and the cap 11 is constructed with an aperture 16, adapted to receive the stud 14 and having a straight portion corresponding to the one on the stud. The sheathing 12 is of course perforated, so as to accommodate the stud 14. It will be seen that by such arrangement the sheathing 12 can be rotated between the cap 11 and base 10, with the stud 14 as a center, and when so rotated it will not loosen these members nor unscrew the screw 13, for the reason that the former are positively interlocked and the latter is not subject to its rotary movement. The amount of friction to which the sheathing is subjected can be made as great or as little as desired by adjusting the screw 13.

It will be seen by the construction thus set forth that the upper portion *b* of the arm B can be swung or rotated forward and back through the medium of the rotary connection formed by the band 7 and the support 2 and can also be bent or swung in or out in a side-wise direction through the medium of its pivotal or hinge connection with rotary band 7 and that it can be swung in either way alone or in both ways simultaneously and irrespective of its position. It will be further seen that both the rotary and pivotal connections can be made to operate with such an amount of friction as to cause the arm to remain in any position in which it may be placed.

With reference to the advantages of the construction of my improved joint it will be observed that the arm can be attached to the body without necessitating the cutting therein of an aperture practically as large as the arm itself and then gluing or cementing the support in such aperture at great expense and trouble and with the result that the body is greatly weakened, as has heretofore been

done, and also that the arm can be easily and quickly attached to the body by merely arranging the anchor 1 and support 2 in place and then screwing the bolt into the nut on the rear of the former and that it can be as easily detached by unscrewing such bolt. This allows the joints or the arm itself or parts of it to be readily removed for repairs or replaced, if broken, and so on. It will be further seen that all parts of the joint are fast and secured and in no danger of falling or being pulled apart, that all adjustments and dismemberments can be done by the use of a screw-driver alone, and that all parts to be adjusted are exposed and readily accessible.

It will be understood that the foregoing matter relative to the shoulder-joint is equally applicable to the other joints of the form.

Instead of arranging the anchor 1 within the trunk at the shoulder it is placed at any other desired point—as, for example, at the lower end of either of the portions of the arms or legs or at the lower ends of the trunk. The arrangement and advantages in each case are substantially those set forth in regard to the shoulder-joint.

What I claim is—

1. A figure provided with one or more joints comprising an anchor arranged within one of the connected members; a support arranged outside of the same; means for securing the two together; and rotary and pivotal connections with the support.
2. A figure provided with one or more joints comprising an anchor arranged within one of the connected members; a support arranged exterior to the same; a bolt extended between the anchor and support, and through the material between them; pins extended in a similar manner; a band arranged for rotation about the support; and a pivotal connection on the band comprising a base secured to the band and constructed with a locking-stud, a cap fitted upon the base and having an aperture adapted to receive said stud, and a screw for holding the cap and base together.
3. In a joint for figures, the combination of an anchor adapted for interior arrangement; a support adapted for exterior arrangement; and a bolt and pins, or like devices, for holding the anchor and support firmly and detachably together.
4. In a joint for figures, the combination with a support, of a rotary band surrounding the same and forming a rotary connection therewith; and a pivotal connection with said band, said connection comprising a couple of adjustable interlocking members, and means for adjusting the same toward and away from one another.
5. A joint for figures comprising an anchor adapted for interior arrangement; a support adapted for exterior arrangement; a bolt extended between the anchor and support; pins extended in a similar manner; a rotary band surrounding the support; and a pivotal con-

nection on the band comprising a base secured to the band, a cap fitting over the base and interlocking therewith, and a screw for adjusting the cap toward and away from the
5 base.

6. In a figure, the combination with a couple of its movable members, of a clamping or compression device on one of said members, and a portion of the material forming the

other adapted and arranged for engagement to within said clamping device.

Signed by me at Chicago, Illinois, this 20th day of February, 1899.

CHARLES B. MORROW.

Witnesses:

S. HEINEMAN,

A. MILLER BELFIELD.