

J. A. H. ELLIS.
Doll-Joints.

No. 139,130.

Patented May 20, 1873.

Fig. 1.

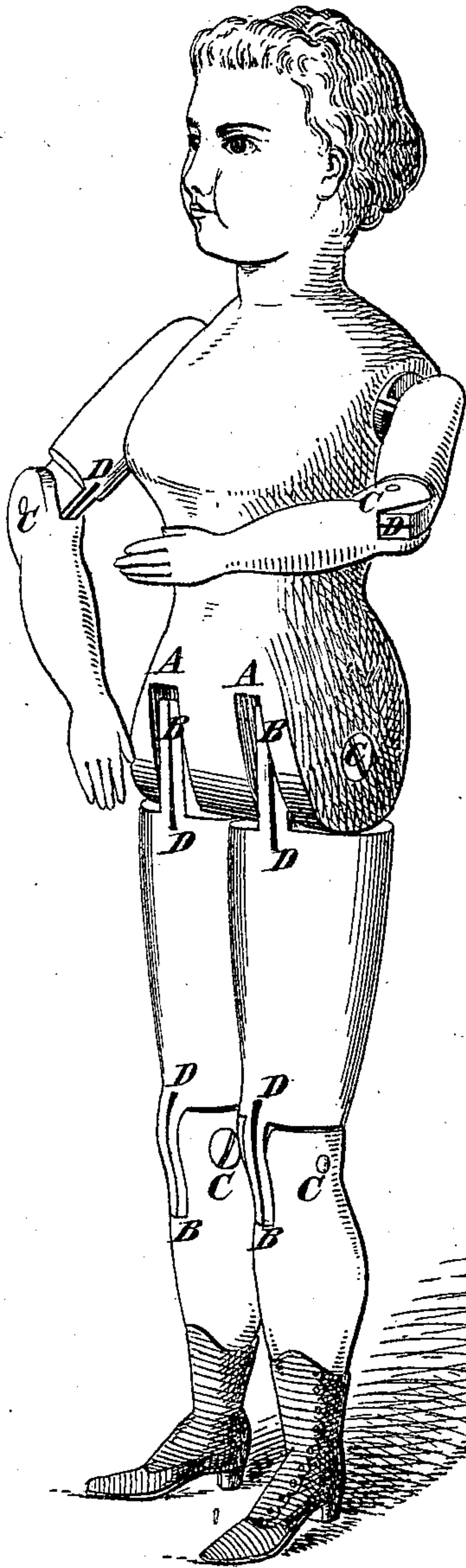


Fig. 3.

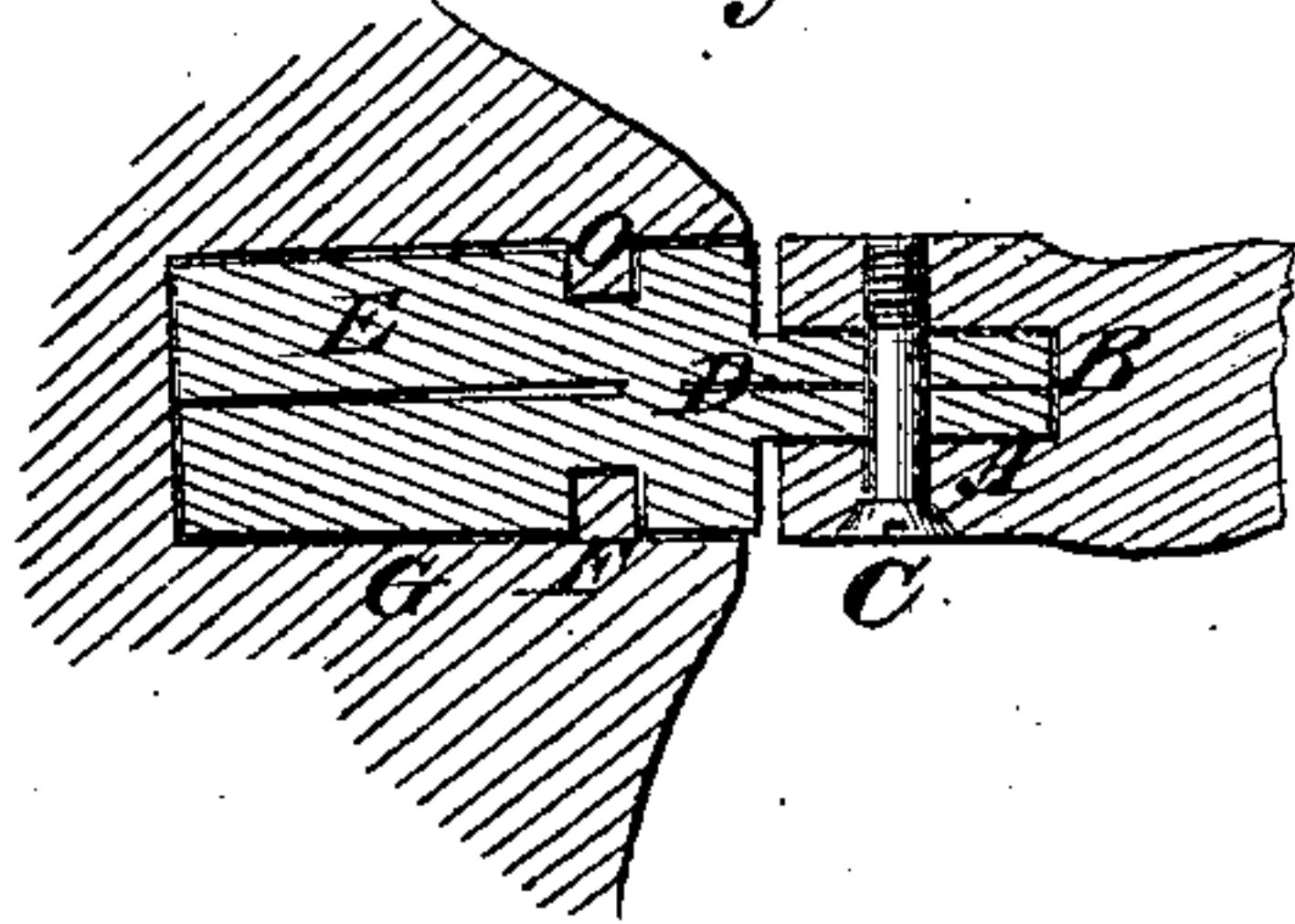


Fig. 4.

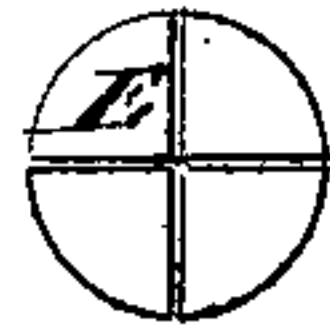
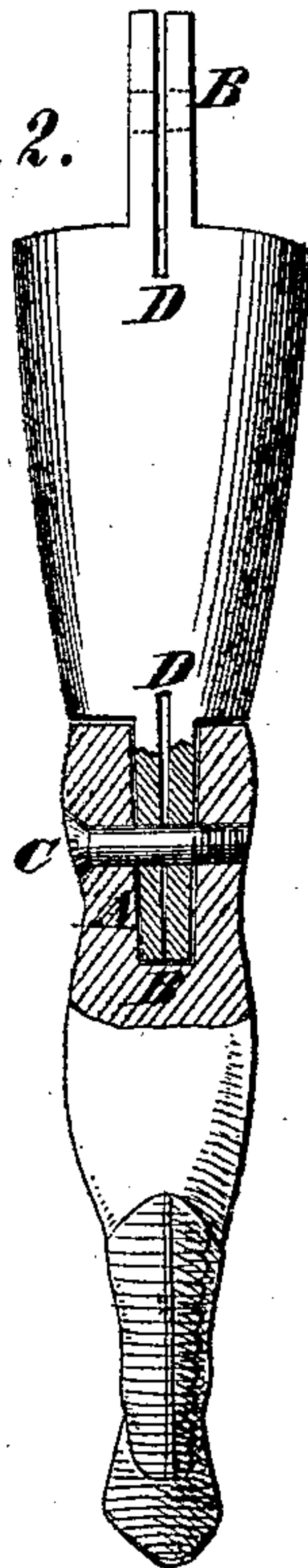


Fig. 2.



Witnesses:
Gustave Dietrich
Sedgwick

Inventor:
J. A. H. Ellis
PER *Munn & Co.*
Attorneys.

UNITED STATES PATENT OFFICE.

JOEL A. H. ELLIS, OF SPRINGFIELD, VERMONT, ASSIGNOR TO THE "CO-OPERATIVE MANUFACTURING COMPANY," OF SAME PLACE.

IMPROVEMENT IN DOLL-JOINTS.

Specification forming part of Letters Patent No. **139,130**, dated May 20, 1873; application filed February 21, 1873.

To all whom it may concern:

Be it known that I, JOEL A. H. ELLIS, of Springfield, in the county of Windsor and State of Vermont, have invented new Improved Doll-Joints, of which the following is a specification:

This invention relates to the manufacture of dolls, and to the class of dolls which are usually made of wood, with joints for the legs and arms; and it consists in the manner of forming the joints and securing the requisite friction thereto.

In the accompanying drawing, Figure 1 represents a doll-body with the joints constructed according to my invention. Fig. 2 is a leg detached, giving a front view of the joint. Fig. 3 represents the mode of connecting the arms with the shoulders. Fig. 4 is an end view of the arm-pivot.

Similar letters of reference indicate corresponding parts.

In the manufacture of dolls it is important to secure sufficient friction at the joints of the limbs to hold the limbs and body in any desired position, so that the doll may stand erect or in an inclined position, or be supported on its head by the arms.

This friction I obtain by means of a slot, A, and tenon B, fastened together by the pivot-pin C. The tenon B is divided by a saw-kerf, D. The double tenon is designed to fit the

slot a little full, and the double tenon be sprung together slightly, when the tenon enters the slot, thus producing the requisite friction, and preventing any binding or looseness by the shrinking and swelling of the wood at any time. E is the shoulder-piece, which is cut or slit at right angles, as seen in Fig. 4, and fitted into a round socket, G, having a groove, F, to receive a pin, so that the arm will be securely held, while it will freely revolve. The socket is a little smaller at the back end, so that the shoulder-piece is compressed, as represented, which secures at this point the required degree of friction. The arm is attached to the shoulder-piece in the manner already described.

The tendency of the two parts of the tenon to spread when compressed in the slot is constant, and compensates for wear, and affords the necessary friction.

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

A doll-joint constructed and formed substantially as shown and described—that is, with the slot A and tenon B, the latter having the saw-kerf D, as set forth.

JOEL A. H. ELLIS.

Witnesses:

ALBERT BROWN,
ADIN H. WHITMORE.