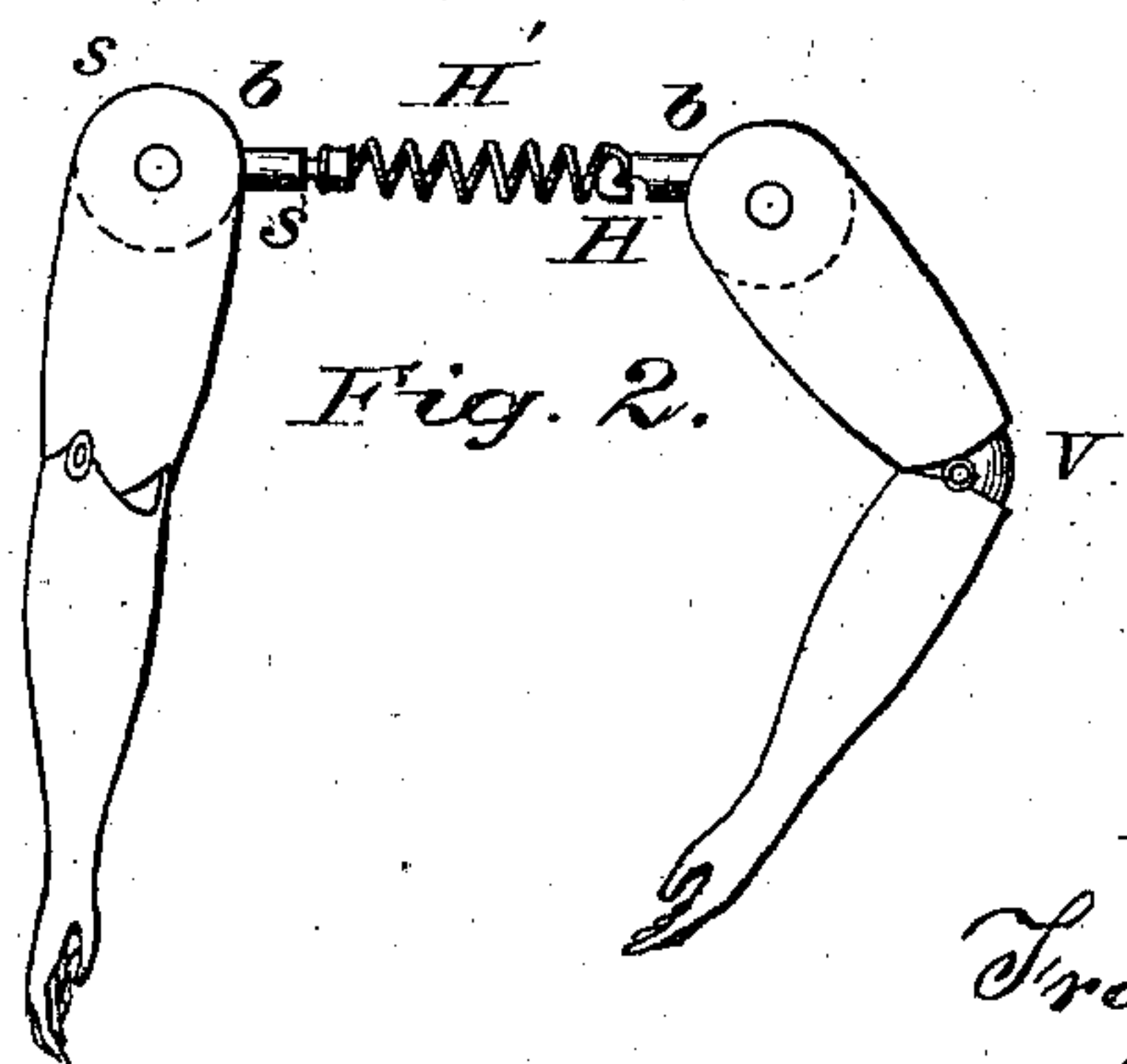
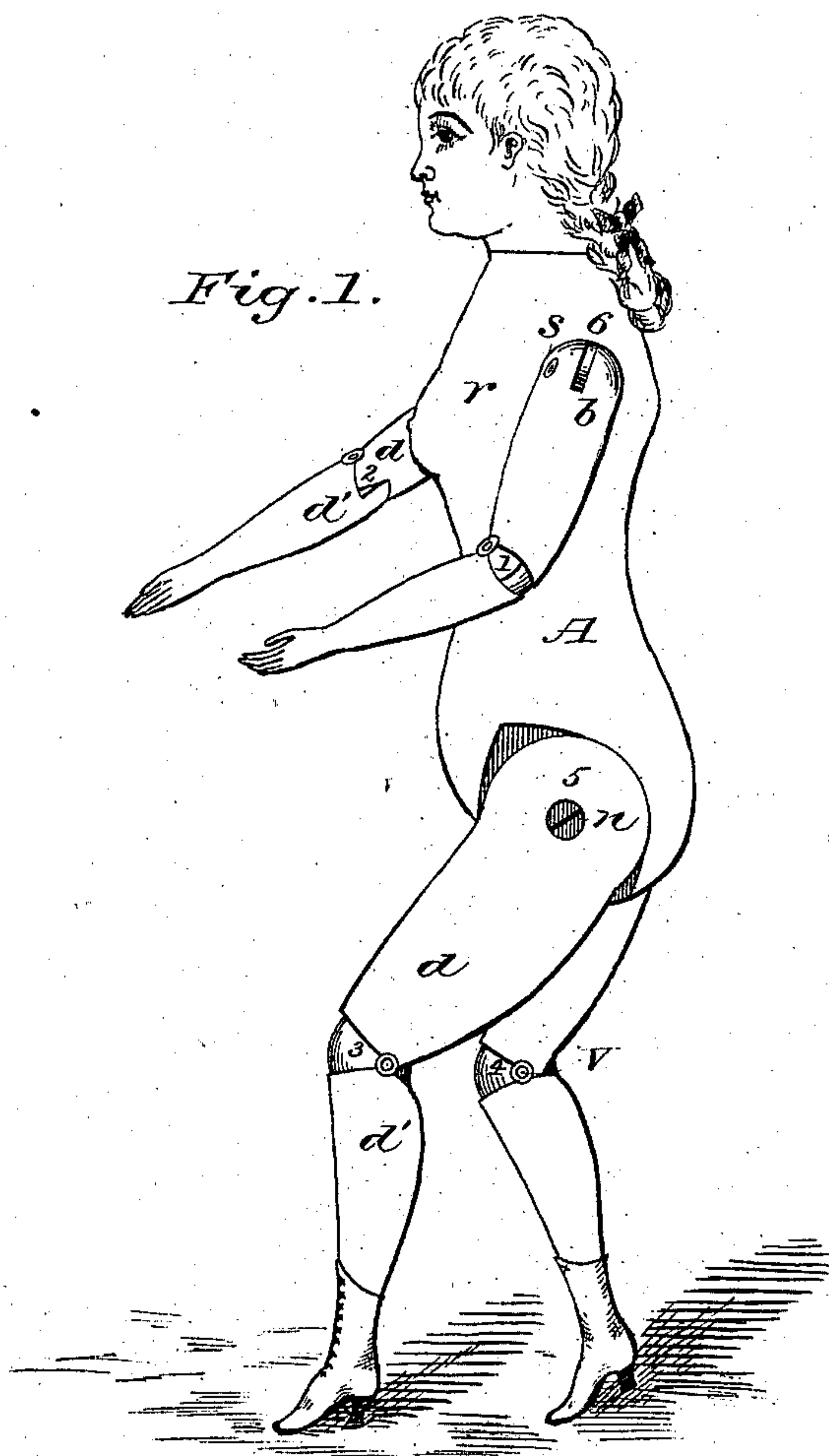


F. D. MARTIN.  
Dolls.

No. 214,830.

Patented April 29, 1879.



Witnesses:

*James J. Thomley*

*Willie B. Magruder.*

Inventor.

*Frank D. Martin*  
By *James P. McLean*  
*att'y.*

# UNITED STATES PATENT OFFICE.

FRANK D. MARTIN, OF SPRINGFIELD, VERMONT.

## IMPROVEMENT IN DOLLS.

Specification forming part of Letters Patent No. **214,830**, dated April 29, 1879; application filed September 28, 1878.

*To all whom it may concern:*

Be it known that I, FRANK D. MARTIN, of Springfield, in the county of Windsor and State of Vermont, have invented certain novel and useful Improvements in the Construction of Children's Dolls; and I hereby declare in what manner the same is to be constructed, reference being had to the accompanying drawings, which are lettered to correspond with and form a part of the same.

To enable those skilled in the mechanic arts to construct the same, and the public to understand the nature thereof, I will describe it as follows, to wit:

Figure 1 represents a side elevation or view of a doll, A, made of wood or any other suitable material, and having my improvements therein, which consist in the introduction and use of the sections of socket-and-ball joints in the elbows, knees, or any other joints that may be necessary.

The upper part or top end of the arm 6, fitting into the socket of the shoulder *s*, is held in position by means of an elastic or spiral spring passing transversely through the top of the trunk *r* from shoulder to shoulder, and thus uniting the ball-tops of the arms, and holding the same firmly in the shoulder-sockets, so that the arms may be operated in any position. (See Fig. 2.)

The hip-joint is formed by first turning the upper end of the leg or thigh ball-shaped; then cut and remove one half of the globular part, so that it leaves a flat face to fit into a circular recess in the lower part of the body, having an internal circular flat surface to receive the corresponding flat surface of the ball-joint. The leg is secured to the body by means of a screw, *n*, or otherwise, that will allow the limb to move freely backward and forward.

The elbow and knee joints 1 2 3 4 are formed of half-sections of a ball or globe, one half of which forms a part of the upper section, *d*, of

the limb, and the other half of said ball constitutes a part of the lower section, *d'*, of the arm or leg, so arranged that the two flat faces of the sections of the ball-joints are secured together by rivets, or otherwise, passing through the several joints of the doll, and operating in separate concave alternate recesses opposite to each of the revolving half-globes, to hold the same in position when operating upon the rivets V.

The neck and waist of the doll may be jointed in a similar manner to the limbs, if thought best.

Fig. 2 shows the manner of uniting the arms by the application of an india-rubber or spiral spring, H', secured to the shank S and hook-shank H, which form a part of the disks *b b*, let into the top of the arms, as shown in dotted lines at *b*, also shown at *b*, Fig. 1.

Having described the individual parts of my improved invention, I will next state what I believe to be its novel properties, to wit: First constructing the joints in the form of a globe or ball; then dividing said globes into half-sections and fitting the same to corresponding sections in the other parts of the limb or body, so as to form a joint closely resembling the contour of the human joints.

What I claim as new, and desire to protect by Letters Patent of the United States, is—

A doll having its jointed portions formed with half-sections of a globe or ball pivoted together, and having concave recesses formed opposite said half-sections, all constructed and arranged in the manner and for the purpose set forth.

In testimony whereof I hereunto subscribe my name in the presence of two witnesses.

FRANK D. MARTIN.

Witnesses:

J. W. HASTINGS,  
SAML. W. PORTER.