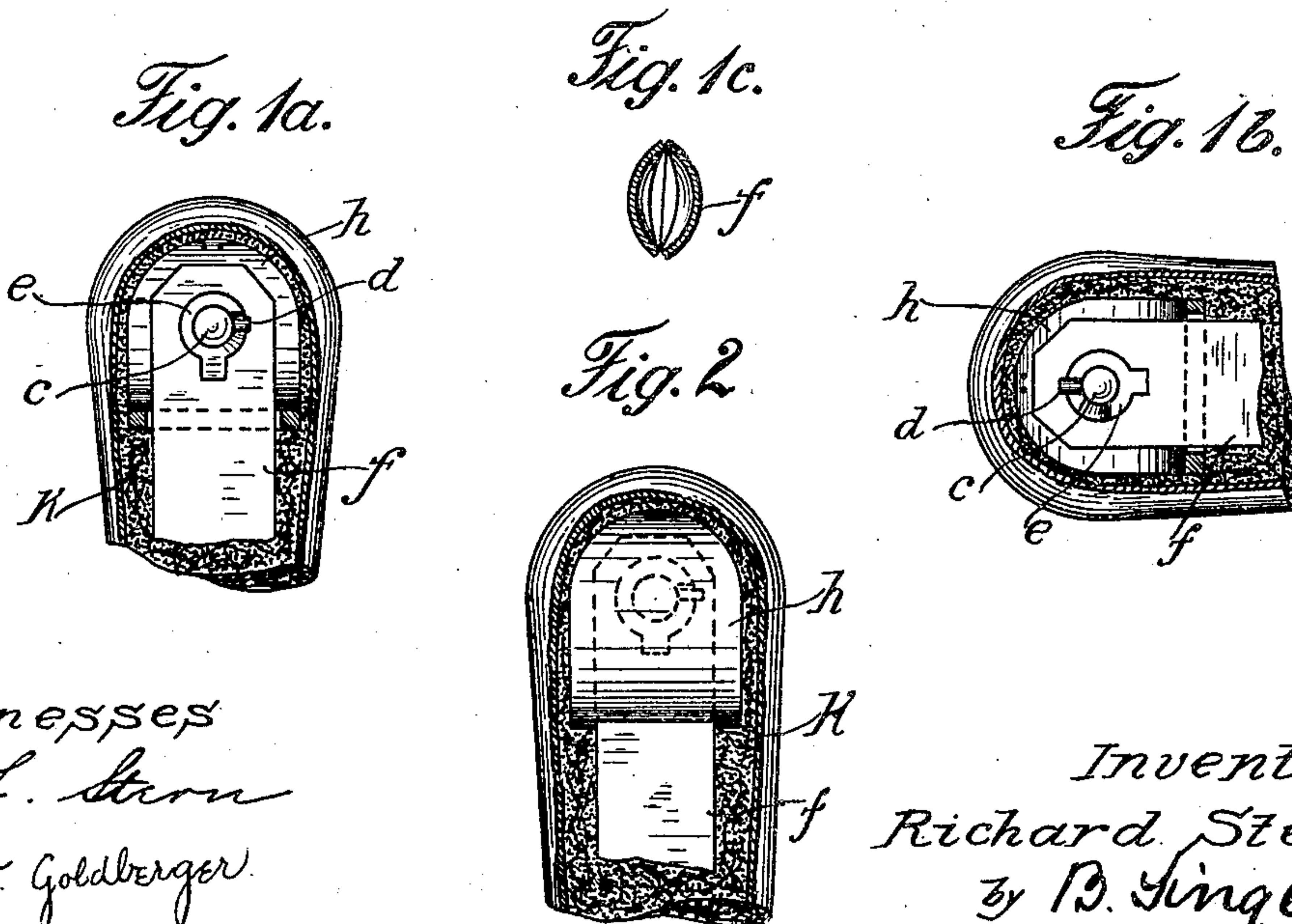
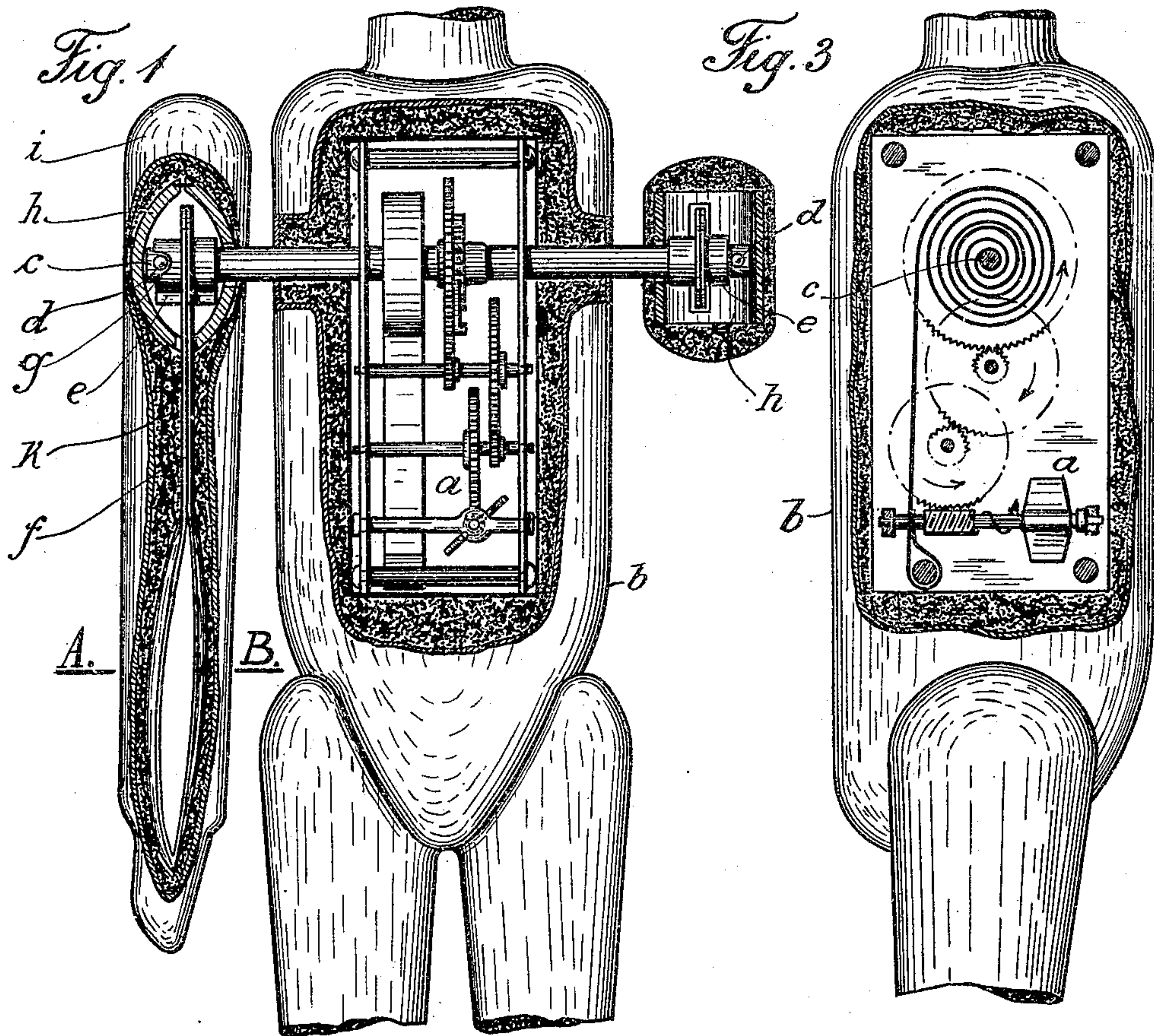


R. STEIFF.
JOINT CONNECTION FOR MECHANICAL TOYS.
APPLICATION FILED DEC. 30, 1908.

934,025.

Patented Sept. 14, 1909.



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UNITED STATES PATENT OFFICE.

RICHARD STEIFF, OF GIENGEN, GERMANY.

JOINT CONNECTION FOR MECHANICAL TOYS.

934,025.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed December 30, 1908. Serial No. 469,998.

To all whom it may concern:

Be it known that I, RICHARD STEIFF, a subject of the King of Württemberg, and resident of 1 Mühlstrasse, of Giengen-at-the-Brenz, Germany, have invented new and useful Improvements in Joint Connections for Limbs of Mechanical Toys, of which the following is a specification.

This invention relates to joint connections for movable limbs of mechanical toys which are operated by a driving shaft connected with the ordinary type of a spring actuated motor, and are adaptable for use on all classes of toys in imitation of the human or animal form.

This joint connection of a limb with the operating mechanism enables it to be propelled in one direction and also to be moved in the opposite direction for the purpose of winding up the spring of the motor.

In the drawings, Figure 1 is a front elevation of a manikin with the front portion removed to disclose the interior. Fig. 1^a is a side elevation of the left shoulder, with a portion removed. Fig. 1^b is a similar view of the right shoulder. Fig. 1^c is a cross section of an arm on the line A B Fig. 1. Fig. 2 is a side elevation of the upper portion of an arm partly in section. Fig. 3 is a side elevation of a manikin partly in section.

With reference to the drawings *a* is the operating mechanism or spring motor in the toy manikin *b* of the usual method of construction and which provides the motive power for the driving shaft *c*. The shaft *c* projecting through each side of the toy *b* carries on each end a sleeve *e* and a pin *d*. On said sleeves *e* are journaled the arms *i* of the manikin. The arm *i* has a stuffing *k* in which is embedded longitudinally stiffening members composed of two narrow metal strips *f* of thin sheet metal and having one end attached to said sleeve *e* and toward the lower portion of the arm the free ends diverge as a means for strengthening or enlarging the fore arm of the limb. In the outer end of each sleeve *e* is a ratchet notch or recess *g*, which engages with the pin *d* and forms a one way clutch. Two strips *h* of flexible material preferably of leather or similar material arranged in oval form or loop provides a yielding packing between the stuffing in the limb *i* and the operating

parts on the end of the shaft *c* and the inner end of the sleeve *e* preventing the escape of the pin *d* from engagement with the sleeve *e* when the shaft *c* turns the limb *i*, yet permits the pin *d* to slide out of the ratchet notch or recess *g* when by means of the limb the shaft *c* is moved in the opposite direction to wind up the motor spring.

What I claim as my invention is:

1. The combination with a figure toy having a movable limb, of a motor for moving the limbs, a winding shaft for said motor having the limbs journaled thereon, and a one way clutch connected with the limb and shaft whereby on turning the limb in one direction the shaft may be wound.

2. The combination with a figure toy having a movable limb, of a motor for moving the limb, a winding shaft for said motor having the limbs journaled thereon, and means connecting said limb with said shaft and permitting free movement of said limb in one direction and serving to wind said motor upon movement of the limb in another direction.

3. The combination with a figure toy having a movable stuffed limb with stiffening members embedded in the stuffing, a motor for moving said limb, a winding shaft for said motor on which said limb is journaled, and a one way clutch connected with said stiffening member and shaft for permitting free movement of the limb in one direction and effecting rotation of the shaft when the limb is moved in another direction.

4. The combination with a figure toy having a movable stuffed limb provided with stiffening members embedded in the stuffing, a motor for moving said limb, a winding shaft for said motor on which said limb is journaled, a one way clutch between the stiffening members and the shaft for effecting winding movement of the shaft when the limb is moved in one direction and permitting free movement of the limb with respect to the shaft when the limb is moved in another direction, and means embedded in the stuffing and acted upon thereby for maintaining the members of the clutch in operative engagement.

5. The combination with a figure toy having a movable stuffed limb provided with stiffening members embedded therein, of a

motor for said toy for moving said limb, a winding shaft for said motor on which said limb is journaled, clutch members connecting said stiffening members with the shaft
5 and permitting free movement of the limb in one direction and serving to wind the shaft when the limb is moved in another direction, and a flexible member embedded in

and acted upon by the stuffing for maintaining said clutch members in engagement. 10

In witness whereof I have hereunto set my hand in the presence of two witnesses.

RICHARD STEIFF.

Witnesses:

FRIDA KLAIBER,
PAULINE KLAIBER.