

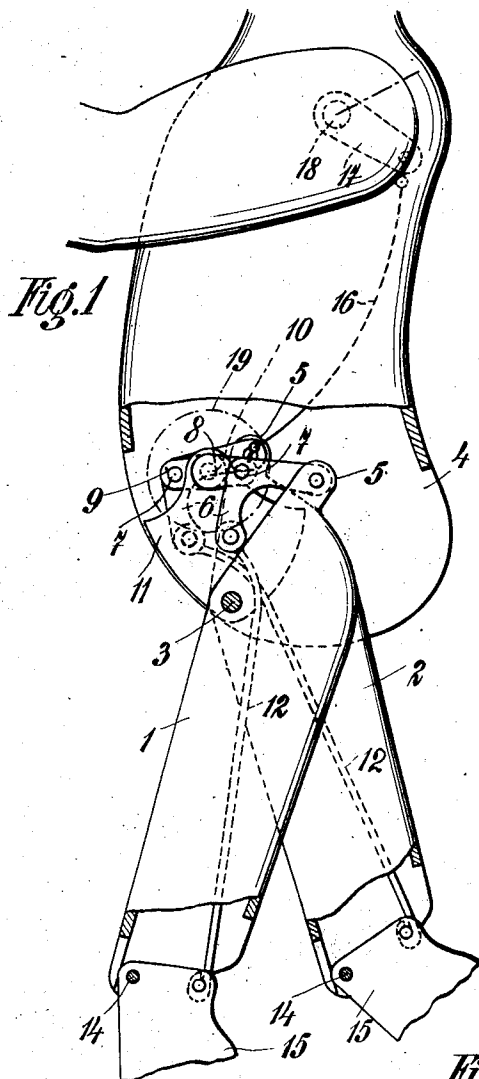
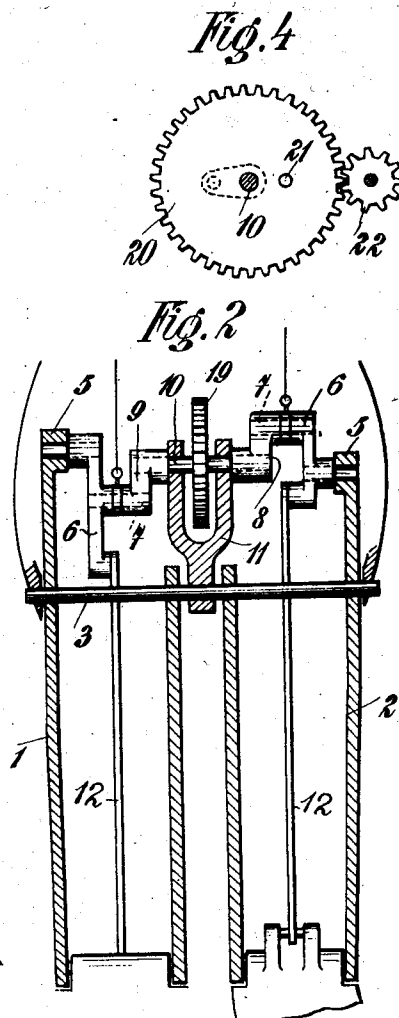
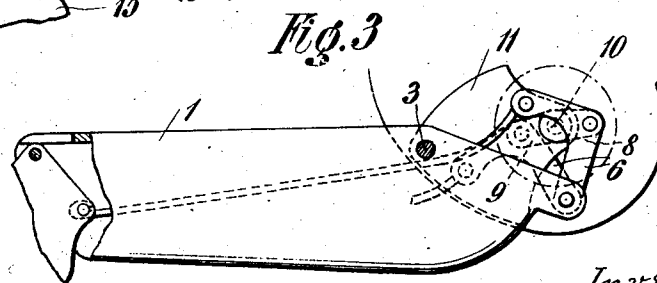
Nov. 22, 1927.

1,649,910

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WALKING TOY

Original Filed Feb. 5, 1926



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WALKING TOY.

Application filed February 5, 1926, Serial No. 86,228, and in Austria October 26, 1925. Renewed October 15, 1927.

This invention relates to a toy of the kind fitted with mechanically interconnected legs adapted, when guided along a support, to perform natural walking movements.

The object of the invention is to simplify the mechanism generally and to enable it to be operated by means of a motor as well as to allow a doll to take up a sitting posture without constraint on the part of the mechanism, and the invention consists in the provision of an operating mechanism in the form of a crank shaft having two cranks arranged at an angle of 180° relative to each other, a bell-crank lever which is fulcrumed on each of the crank pins having one arm connected direct to a lever arm on the pivotally supported thigh of a leg, the other arm of the lever being connected by means of a rod to the leg proper.

The crank shaft may be fitted with a gear wheel for transmitting motion thereto from a motor. The shaft is mounted in a bracket which rocks about the same pivot as the legs and allows the thighs to be turned into horizontal position, and the cranks are connected by flexible elements to the pivotally arranged arms of the doll so as to transmit the motion to the arms as well.

Fig. 1 of the accompanying drawings represents a side view of the mechanism built into a doll,

Fig. 2, a section of the same at right angles to Fig. 1, and

Fig. 3, a view showing the position of the mechanism when the doll is seated.

Fig. 4 shows a modification of the crank mechanism.

The thighs 1 and 2 of the doll are pivotally supported on a shaft 3 held in the body 4 and are fitted with lever arms 5 which are connected each to an arm of a bell-crank lever 6, the opposite arm of the latter being connected by means of a rod 12 to the leg proper 15 which is pivoted at 14 to the thigh. The two bell-crank levers are fulcrumed to the crank pins 7 of cranks 8 and 9 which are keyed to a shaft 10 and set at an angle of 180° relative to each other. The crank shaft is supported by a forked bracket 11 which is mounted on the shaft 3 so that it can be rocked about the latter. Normally the legs maintain the bracket 11 in the position shown in Fig. 1. When the thighs are turned into horizontal position for seating the doll, the bracket follows the movement

about the shaft 3 and takes up the position shown in Fig. 3.

When the doll is held in the upright position, supported on the leg and pulled forwards, the arms 5 act on the crank shaft and cause one leg to be advanced when the other is retracted. In Fig. 1, for instance, the crank shaft will, after it has passed the dead centre position, be turned by the leg 1 in clock-wise direction so that while this leg is retracted, the leg 2 will be advanced. As the fulcrums of the bell-cranks descend and rise relative to the shaft 3, the legs will be alternately bent and straightened so that the advancing leg will be in a position to take up the load when the retracted leg has reached the end of its deflection, a proper walking movement being thus produced.

To enable the crank shaft to pass the dead centre positions easily, it may be fitted with a fly-wheel. This fly-wheel may take the form of a gear 19 whereby, in the case of a large doll, motion may be imparted to the crank shaft through the medium of a motor contained in the doll which will then be able to walk alone and unsupported. The fly-wheel may replace one of the cranks and is then provided with a crank pin 21, as shown in Fig. 4, to receive the bell-crank lever. The wheel 20 may be toothed for driving purposes and receive motion from a pinion 22.

The arms of the doll may be made to swing in conjunction with the legs for which purpose the cranks are connected by flexible elements 16 to levers 17 so as to swing the arms about pivots 18. The flexible connections 16 (cords or thin wires) allow the arms to be raised independently of the legs so that the doll can be led by one or both arms without interfering with the walking mechanism.

In order to save space, for instance, in the case of small toys, the rod 12 and the bell-cranks may be composed of wire members which are flattened at the ends for the formation of the eyelets.

I claim:

1. In a walking toy of the character described, a crank shaft having two cranks set at an angle of 180° to each other, bell-crank levers fulcrumed on the pins of said cranks, means for supporting the crank shaft, thighs pivoted to the body of the toy, a lever arm connecting each thigh with one

arm of each bell-crank lever, a leg proper pivoted to each thigh, and a rod connecting the opposite arm of each bell-crank lever with the leg proper so as to control the latter.

5 2. In a walking doll according to claim 1, crank shaft supporting means comprising a forked bracket arranged so that it can be rocked about the same pivot as the thigh and allow the doll to be seated.

10 3. A walking doll having the features claimed in claim 1, pivoted arms, levers for

swinging said arms, and flexible connections between said levers and the cranks for moving the arms.

4. The structure claimed in claim 1 and a 15 fly-wheel connected to the crank shaft, substantially as and for the purpose set forth.

5. The structure claimed in claim 1 and a gear wheel connected to the crank shaft for transmitting motion to the same.

JOHANN MIK.