

Feb. 26, 1935.

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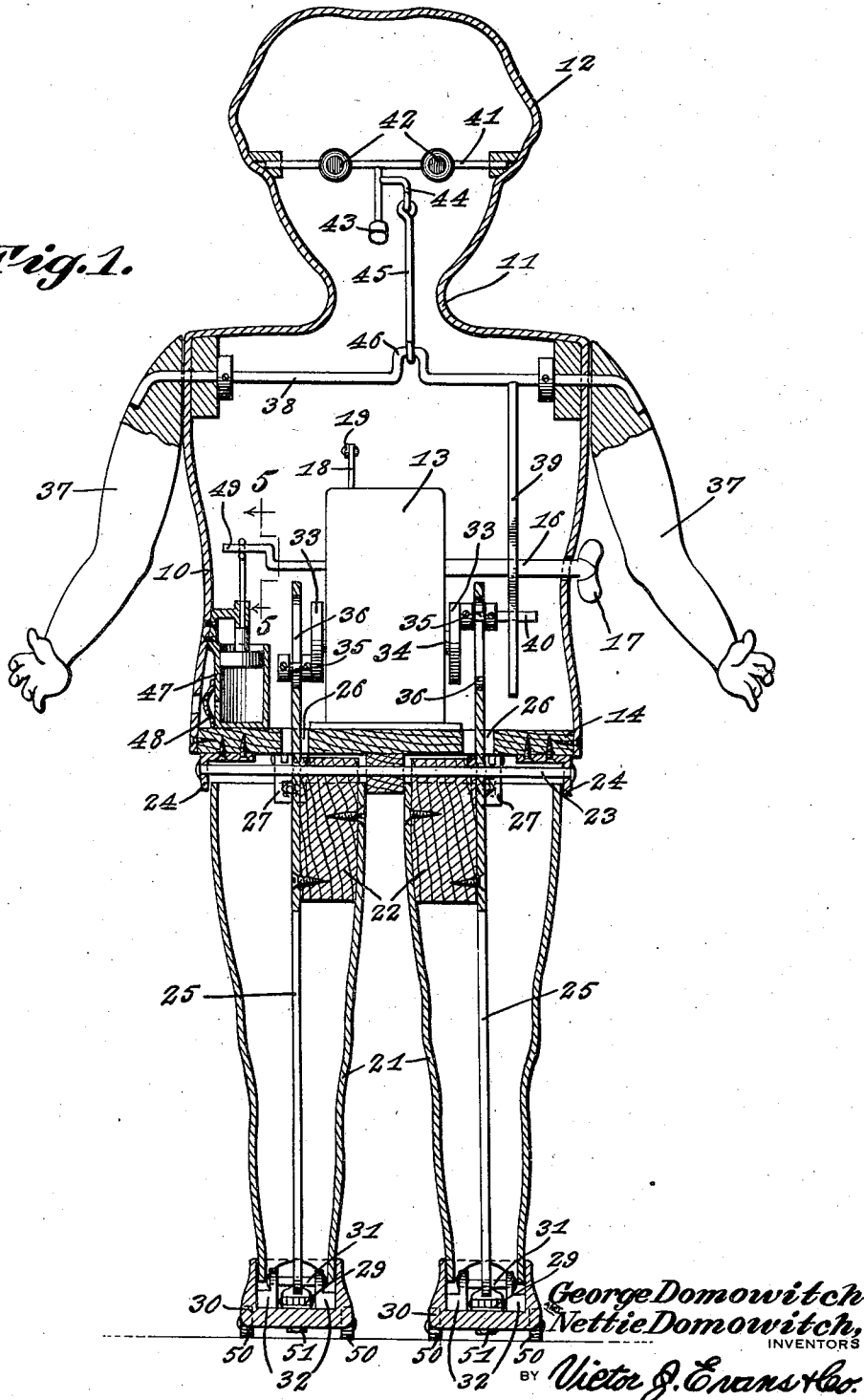
1,992,477

MECHANICAL WALKING DOLL

Filed May 2, 1934

3 Sheets-Sheet 1

Fig. 1.



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3 Sheets-Sheet 2

Fig. 2.

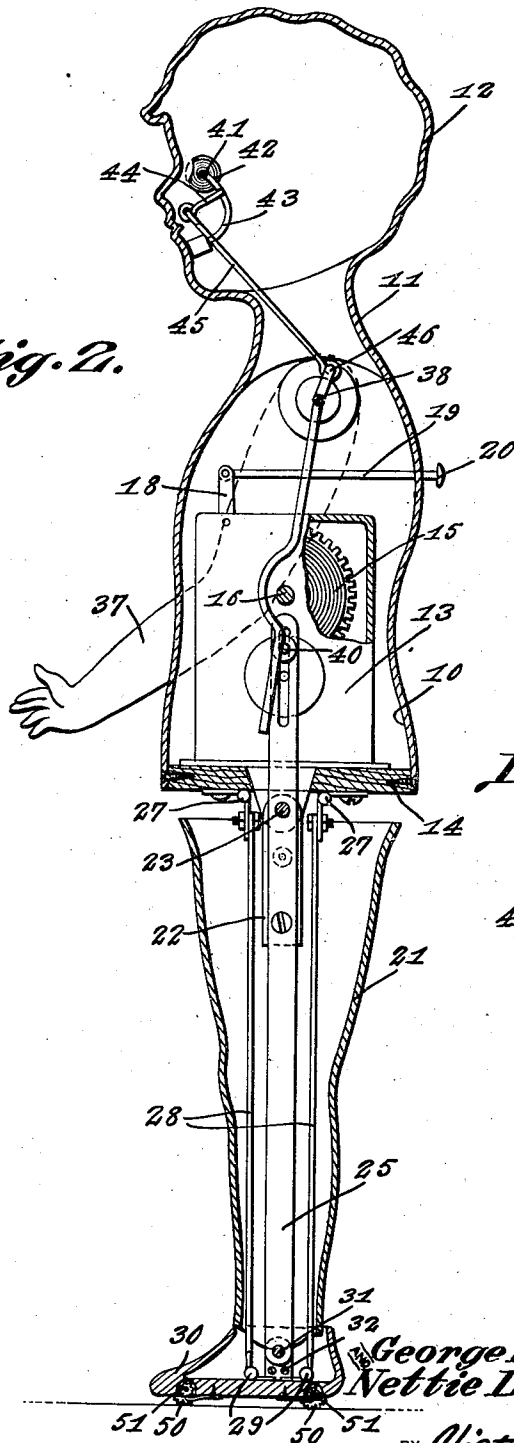
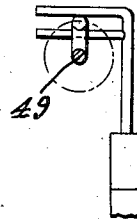


Fig. 5.



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3 Sheets-Sheet 3

Fig. 3.

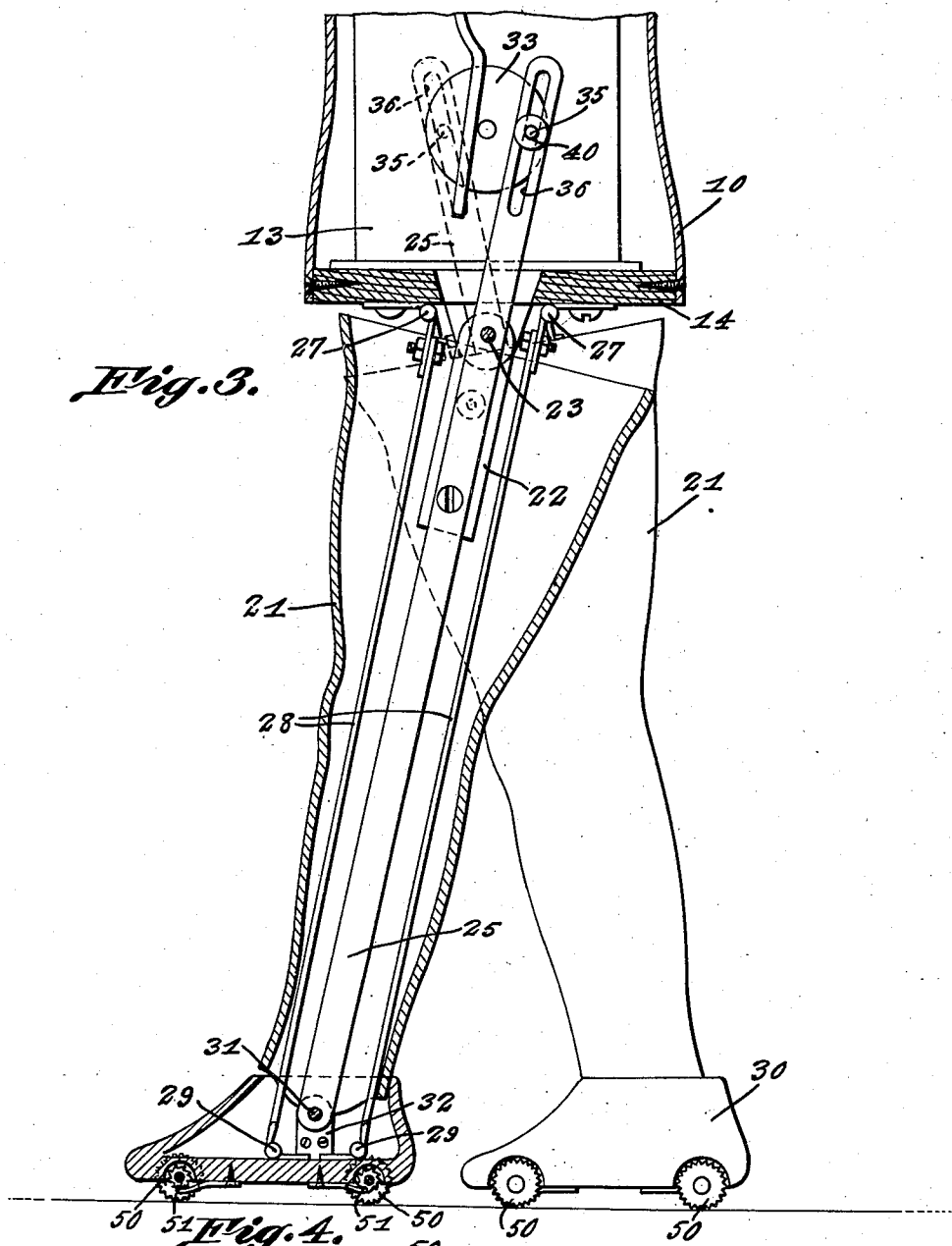
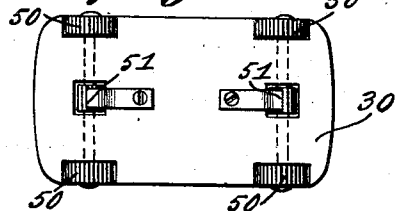


Fig. 4.



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MECHANICAL WALKING DOLL

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Application May 2, 1934, Serial No. 723,581

1 Claim. (Cl. 46—40)

The invention relates to a mechanical toy and more particularly to a mechanical walking and speaking doll.

The primary object of the invention is the provision of a toy of this character, wherein the same, in this instance, is imitative of a doll, and through a spring motor motion is imparted to the legs and feet of the image, so that these will operate for the walking of the doll and simultaneously therewith motion will be given to the arms and the eyes of the doll to render the latter animated and, additionally, sound will be created imitative of talking or crying.

Another object of the invention is the provision of a toy of this character, wherein the construction thereof is novel in form and its feet carry rollers, these frictionally held against rotation in one direction and being free for rotation in the other direction, namely, in the direction of the advancement of the doll when mechanically walking and thus assuring a steady and positive tread.

A further object of the invention is the provision of a mechanical toy of this character which is comparatively simple in its construction, thoroughly reliable and effective in its operation, neat, attractive in appearance, rendered animated, strong, durable, and inexpensive to manufacture.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention, and pointed out in the claim hereunto appended.

In the accompanying drawings:

Figure 1 is a vertical sectional view through the mechanical toy constructed in accordance with the invention.

Figure 2 is a vertical transverse sectional view thereof.

Figure 3 is a fragmentary sectional view similar to Figure 2 showing the toy in walking position.

Figure 4 is a bottom plan view of one foot of the toy.

Figure 5 is a detail sectional view on the line 5—5 of Figure 1 looking in the direction of the arrows.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, the mechanical toy, in this instance, is representative of an image alike to a doll and comprises a hollow

body portion 10 formed with the neck 11 and head 12 which are also hollow. Within the hollow body 10 may be fitted any known clockwork or spring mechanism constituting a spring motor 13, its casing being supported upon a foundation piece 14 fitted within the lower end of the body 10 and made secure thereto in any suitable manner. The motor 13 comprises essentially a main spring 15, a winding shaft 16 therefor, the latter being extended without the body and carrying at its outer end a winding key 17 for the winding of the main spring. The motor is provided with a control lever 18 operated from a throw rod 19 extended without the body 10 and terminating at the outside in a hand knob 20, the lever being adapted to stop and start the motor at the will of the user of the toy.

Connected with the body 10 are the hollow leg units 21, these having arranged therein at their upper ends anchoring blocks 22, the units 21 being swingingly joined to the body 10 through a pivot 23 carried in bearings 24 in the foundation piece 14 and passed through stride arms 25 fixed to the anchoring blocks 22 and interiorly of the said units 21. These stride arms 25 extend upwardly through clearances 26 in the foundation piece 14 to within the hollow body 10.

Forwardly and rearwardly with respect to the stride arms 25 and secured to the foundation piece 14 for the body 10 are the hinges 27, these being secured to swinging connecting bars 28 which are also attached to hinges 29 mounted in hollow feet 30. The stride arms 25 at their lower ends are connected through ankle pivots 31 with bearings 32 fitted within said feet 30. Thus it will be seen that on motion being imparted to the stride arms 25, the leg units 21 will be swung and also ankle action will be had at the feet 30, these being simultaneously moved with the leg units for walking strides of the toy. The motor 13 drives a pair of disks 33, these being carried by a driven shaft 34 of the motor mechanism. These disks 33 support eccentric wrist pins 35 operative in elongated slots 36 formed in the upper ends of the stride arms 25, the eccentric wrist pins being reversely arranged with relation to each other, so that when the motor is operated one leg unit 21 will be advanced in stride fashion and the other moved rearwardly in stride action, thereby imparting to the toy walking activity.

At opposite sides of the body 10 are the arm units or pieces 37, these being supported on a rocker shaft 38 suitably journaled within the body 10 at the shoulder area thereof. This shaft

38 is formed with an actuator extension 39 in the path 40 of one of the wrist pins 35, so that oscillatory motion will be imparted to the arm units or pieces 37 when the motor is active, to simulate arm swing of a person when walking.

5 Suitably journaled within the head 12 is an eyeball arbor 41 carrying the eyeballs 42, these being visible through eye openings in the face of the head, the arbor being formed with a suspended weight 43, and through the coupling 44
10 with a loose link 45 connection is had with a crank 46 in the shaft 38. Thus it will be seen that when the shaft 38 is rocked, motion will be imparted to the eyeballs 42 for the shifting thereof, with a resultant animated appearance to the
15 image.

Arranged within the body 10 is an air pump 47 operating a sounding device 48 regulated for imitating the speaking voice or crying sound, the
20 pump being operated from a crank 49 actuated from the motor 13, so that when the motor is operated the image will emit sounds imitative of talking or crying.

Journalled at the toe and heel of each foot 30
25 are peripherally serrated rollers 50, these being thread rollers and controlled by spring ratchet mechanism 51 so that the said rollers 50 will turn counterclockwise but will be locked against clockwise movement. Thus when stride action in an
30 advanced direction is had with the leg units the said rollers move counterclockwise but will be re-

tarded against clockwise movement on the rearward stride motion, thus causing the toy to walk forwardly, as should be clearly apparent, and eliminating any backward walking of the toy.

What is claimed is:

5 A toy of the kind described comprising a body, a motor fitted within the body, leg units swingingly connected with the body, feet having pivotal connection with the leg units, spaced bars pivoted to the body and feet fore and aft of the
10 pivotal connections therebetween for imparting positive ankle movement to said feet by reverse swinging thereof to the swing of the leg units, means operated by the motor for imparting stride
15 movements to the leg units and ankle action to the feet, arm units swingingly supported on the body, means for imparting swing to the arm units on the operation of the motor, a head on
20 said body, shifting eyeballs arranged within the head, connections between the said eyeballs and the arm units for imparting shifting motion to the eyeballs on movement of the arm units, a
25 manual control for said motor, a sound emitting device within the body and actuated by said motor, rollers on the feet at the toe and heel portions thereof, and ratchet mechanism controlling the
rollers for permitting free movement on advance stride of the leg units and preventing reverse
movement of said rollers.

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