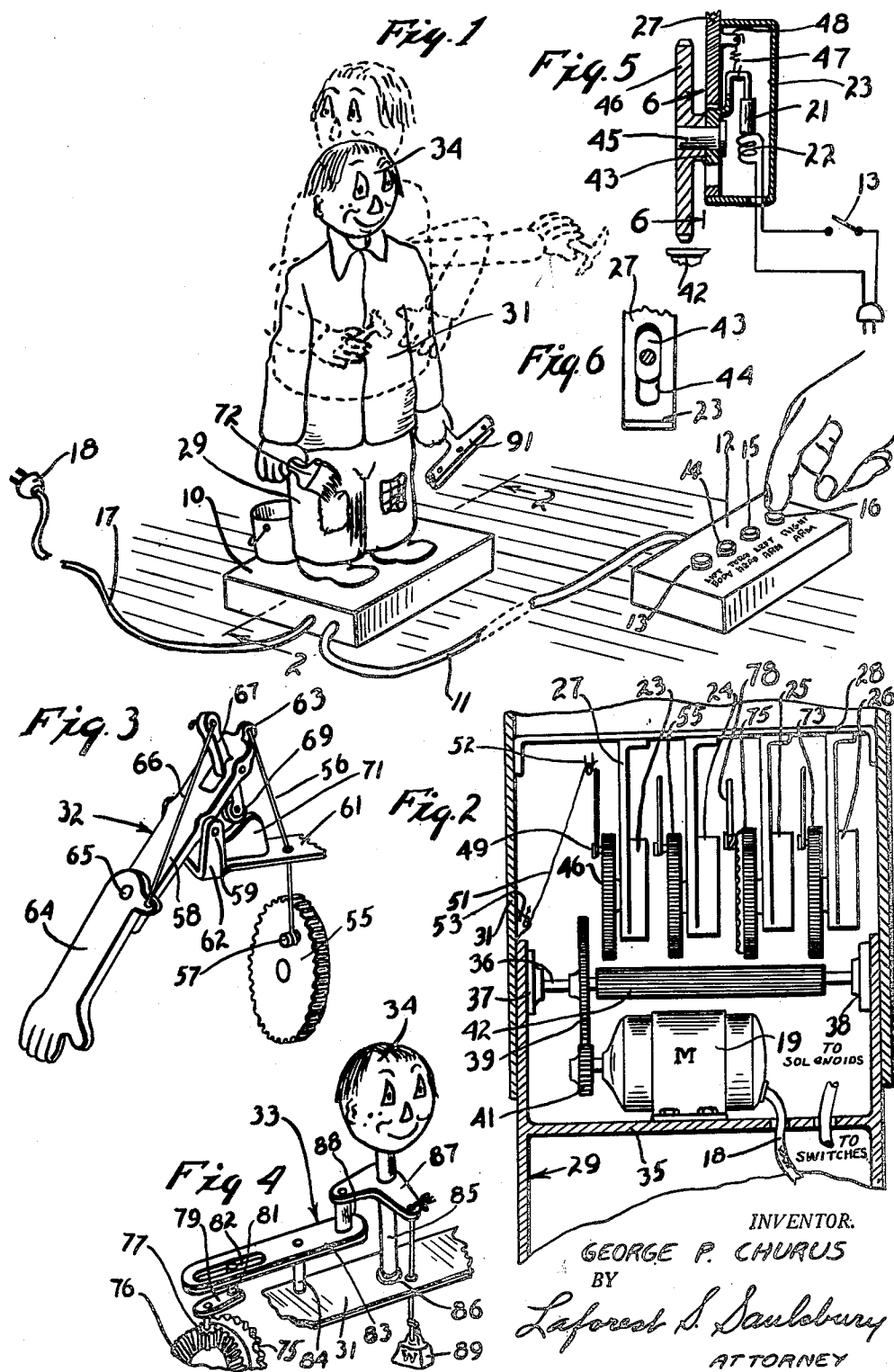


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MOVABLE MECHANICAL FIGURE

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MOVABLE MECHANICAL FIGURE

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1 Claim. (Cl. 46-120)

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This invention relates to a movable mechanical figure.

It is an object of the present invention to provide a figure mechanism having movable parts wherein the body of the figure can be extended upwardly by a remote control switch accessible to the operator, the arms can be caused to move with the implements therein in elevated and inwardly bent directions as if carrying out the operations of cleaning a window.

It is another object of the present invention to provide a remote control mechanism adapted to cause, by selection, movements of a water brush in a manner to effect the cleaning of a window surface with water and with the brush and a wiping element operable with other parts of the device to finally rid the window surface of water, and wherein movement can be effected to the various parts to cause the operation to take place at different levels and wherein the arms which carry the brush and wiping tool are of articulated construction which are automatically bent to give a transverse wiping movement as the lifting of the arm is effected.

Other objects of the present invention are to provide a mechanism for effecting movement of the arms, the elevation of supporting parts and the movement of a head, which is of simple construction, inexpensive to manufacture, easy to control and operate, of pleasing appearance and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a perspective view of the doll and the control mechanism embodying the features of the present invention.

Fig. 2 is a sectional view taken on line 2-2 of Fig. 1.

Fig. 3 is a perspective view of the arm mechanism.

Fig. 4 is a perspective view of the head operating mechanism.

Fig. 5 is a sectional view of one of the magnet operated gear adjusting devices.

Fig. 6 is a vertical sectional view taken on line 6-6 of Fig. 5.

Referring now to the figures, 10 represents a base from which there extends a cable 11 having a plurality of wires and connected with a control box 12 having different switches 13, 14, 15 and 16 thereon.

Also extending from the base 10 is a cable 17 connected with a plug 18 which can be inserted in a wall receptacle for receiving electric current

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for the purpose of operating an electric motor 19. The electric motor 19 is preferably of the reversible type and the switches 13, 14, 15 and 16 are so constructed as to turn on the electric current for different solenoids, Fig. 5, to energize coil 22 serving to cause the downward displacement of magnet core 21. This solenoid arrangement is provided in each of several boxes 23, 24, 25 and 26. Each box is carried on a bracket 27 depending from a transverse bracket 28. Slidable upon a leg member 29 is a movable part 31 forming the upper body of the figure and carrying arm mechanism 32, shown in Fig. 3, and a head operating mechanism 33 connected to the head 34 of the figure, Fig. 4. The motor 19 is supported on the leg part 29 and more particularly on a transverse portion 35 thereof. Above the motor is a rotatable shaft 36 mounted in bearing brackets 37 and 38 carried on the leg part 29. This shaft carries large gear 39 meshing with a pinion 41 on the motor shaft to be driven by the same. Said shaft 36 also carries an elongated gear 42 above which are located the various boxes 23, 24, 25 and 26.

Associated with each of the boxes and slidable in the brackets 27 associated therewith is a slide 43 operable in an elongated slot 44 of the bracket 27, Fig. 6. On the slide is a stub shaft 45 carrying a large gear 46. This gear may rotate with respect to the slide upon being lowered for engagement with the elongated gear 42. This gear 46 is lowered by the energization of the magnet coil 22, Fig. 5, and against the action of a tension spring 47 connected to a lug 48 on the bracket 27 and lying within the box. As the gear 46 engages the gear 42, an arm 49 on the gear will be moved to a lowered position and will pull cord 51 downwardly through a lug 52 and through its connection with a lug 53 on the upper movable body 31 will cause the movable body 31 to be elevated or lifted. This operation will be effected by merely pressing the button 13 of the control box 12. Upon releasing the switch button 13, the body 31 will fall by gravity and come to rest in its lowered position.

The box 24 contains similar mechanism, just described and as shown in Fig. 5, and when its gear 55 is lowered and engages with gear 42, a cable 56 connected to a pin 57 on the gear 55 will be pulled downwardly to cause an upper arm part 58 of the arm mechanism to swing on a pivot pin 59 carried on a bracket 61 and more particularly on an upstanding projection 62 thereof. This cable 56 is connected to the arm part 58, as indicated at 63.

Pivoted upon the arm part 58 is a hand or lower

arm part 64 pivoted as indicated at 65 and connected through a rod 66 to a lever 67 pivoted on the upper arm part 58 and having at its lower end a roller 69 adapted to engage with a cam 71 whereby to cause the lower arm 64 to be given a swinging movement about the pivot pin 65 and angled with respect to the arm part 58 so that a brush 72 carried by the arm 64 will be given a sweeping movement in the manner illustrated in Fig. 1 by the dotted lines. The operation will have been carried out by pressing button 16.

The other or left arm of the doll has a similar mechanism and will be operated by a gear 73 upon button 15 being depressed to operate magnet in box 26. This left arm will have upper and lower parts, a rod and a lever with a roller operable upon a cam of the same construction and operable in the same manner as just described in connection with the arm mechanism 32 of Fig. 3.

Associated with the magnetic box 25 is a gear 75, Figs. 2 and 4, adapted to engage with gear 42 and which has a bevel face gear 76 meshing with and adapted to rotate a small pinion 77 connected to a shaft which extends upwardly and carries a crank arm 79 on its upper end with a crank pin 81 which slides in an elongated slot 82 of a lever 83 pivoted to a post 84 on the upper body 31 of the doll.

The head 34 is supported on a post 85 on the structure 31. This post is flanged at its lower end, as indicated at 86, to support the head for rotation. On the post 85 is a bell crank 87 which is connected to a pin 88 on the lever 83.

As button 14 is depressed, gear 75 will be moved into engagement with elongated gear 42 and the head will swivel from side to side through the pivotal movement of the link 83. A weight 89 holds the post 85 and the head 34 in the upper structure 31. This turning movement of the head will be continuous so long as the button 14 is depressed. When the button is released, the spring 47 of the box 25 will cause the gear 75 to be lifted out of engagement with the elongated gear 42.

In the left arm mechanism, the lower part or hand thereof may carry a squeegee or wiping device 91, Fig. 1.

It should now be apparent that there has been provided a window wiping doll wherein motion is given to the upper structure to elevate the same relative to the lower supporting structure, the arms can be raised and drawn laterally to effect a wiping action, independently or together by depressing both operating buttons 15 and 16, also that the head 34 can be caused to turn upon the upper structure. This animates the doll completely and provides motions which could put the doll or the device to actual operation upon a window to effect the cleaning thereof. Likewise, the device could be made to be carried in the hand with button controls on the same and when extended out of the window and held against the face thereof, action could be had upon the window. Actual water could be extended to the brush 72 by means of a hose connection.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of

the present invention as defined by the appended claim.

What is claimed is:

In a movable figure, a base, a hollow leg member fixed on said base, a hollow body portion mounted for vertical slidable movement on said hollow leg member, an electric motor in said leg member, an elongated gear extending transversely across said leg member and journaled for rotation, a driving connection between said elongated gear and said motor, a head member mounted to swivel on said body portion, a pair of articulated arms carried by said body portion, each arm including an upper part pivoted to said body portion for vertical movement and a lower part pivoted to said upper part, a plurality of brackets secured in said body portion, a gear slidably mounted for vertical movement on each brackets, solenoid means associated with each bracket for selectively moving each of said last-mentioned gears into engagement with said elongated gear, switch means for individually energizing each solenoid, an offset pin carried by each of said slidably mounted gears, a flexible connection between one of said pins and the upper part of one arm, a flexible connection between another of said pins and the other of said upper arm parts, whereby rotation of each of said last-mentioned gears by said elongated gear will cause pivotal swinging of the upper part of its associated arm, a lever pivoted to each upper arm part, a cam carried by said body portion adjacent one end of each lever, a flexible connection between the other end of each lever and its associated lower arm part whereby pivotal movement of each upper arm part causes said one end of each lever to ride on its associated cam to pivotally swing its associated lower arm part in a plane transverse to the plane of movement of its upper arm part, a connection means including a pair of bevel gears and a bellcrank lever member movable by rotation of said bevel gears, forming a connection between another of said pins and said head to effect swivelling of said head upon rotation of the gear carrying said last-mentioned pin, and a flexible connection between another of said pins and said body portion effecting vertical reciprocating movement of said body portion on said leg member.

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