Nov. 27, 1956 M. ENISON 2,771,708

VENTRILOQUIST'S DOLL

Filed Oct. 28, 1953 4 Sheets-Sheet 1

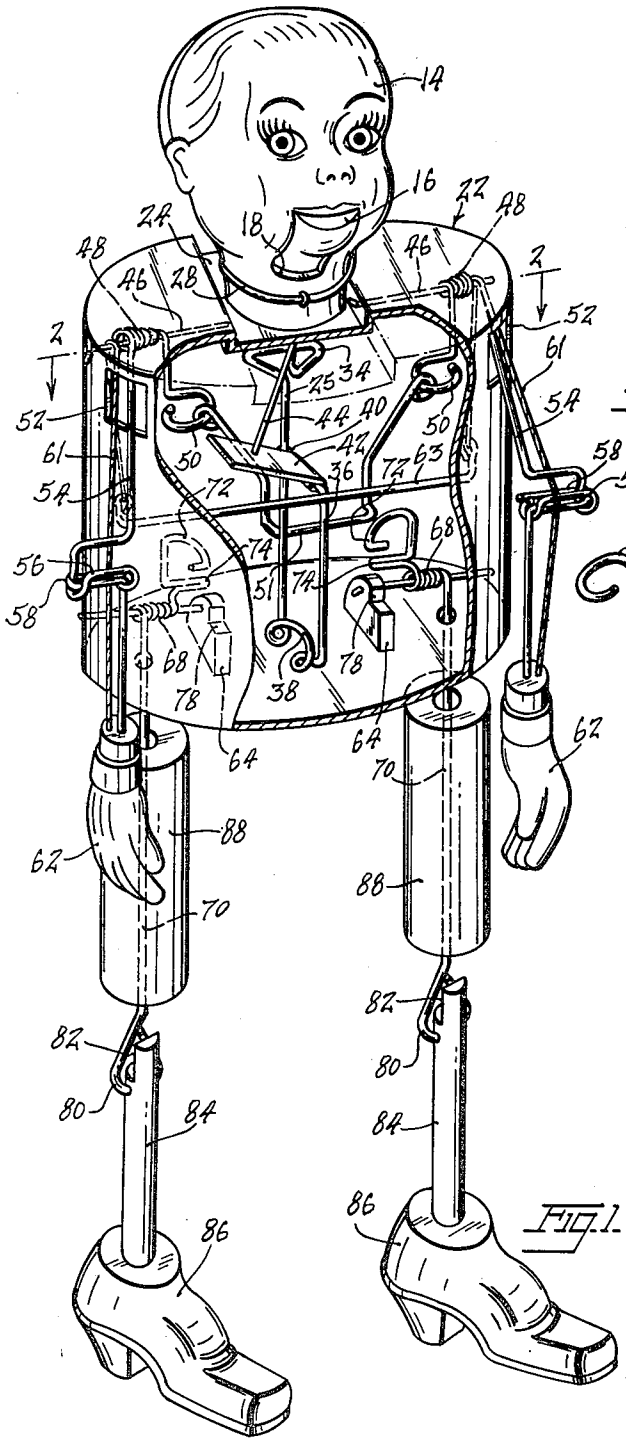

Fig. 1.

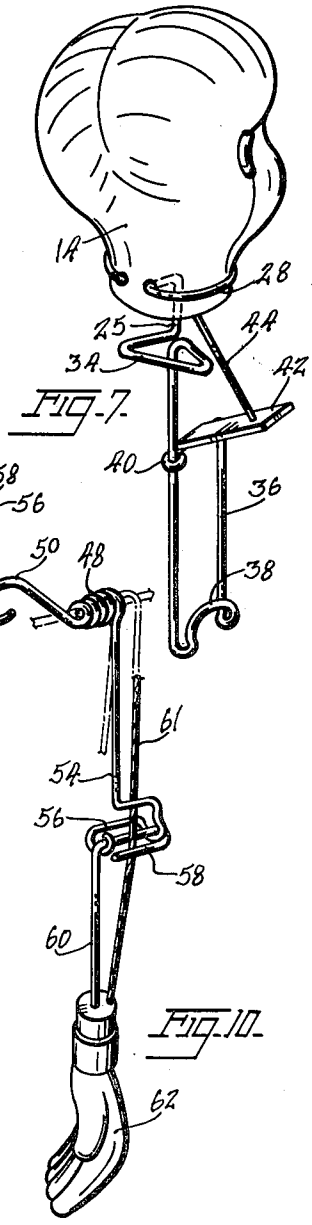

Fig. 7.

Fig. 10.

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VENTRILOQUIST'S DOLL

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4 Sheets-Sheet 2

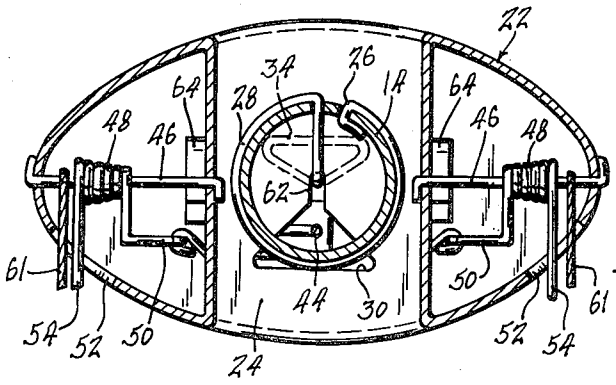

Fig. 2.

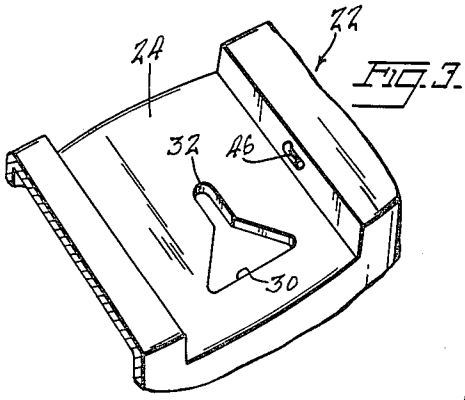

Fig. 3.

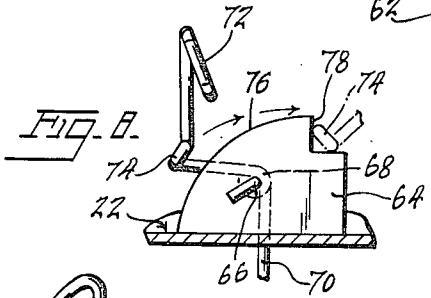

Fig. 8.

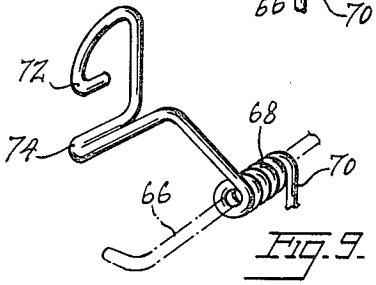

Fig. 9.

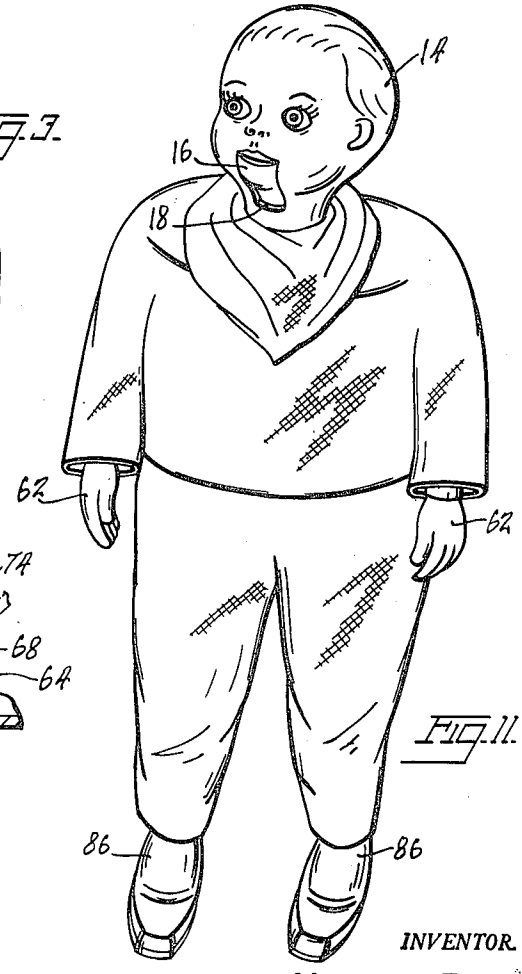

Fig. 11.

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VENTRILOQUIST'S DOLL

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4 Sheets-Sheet 3

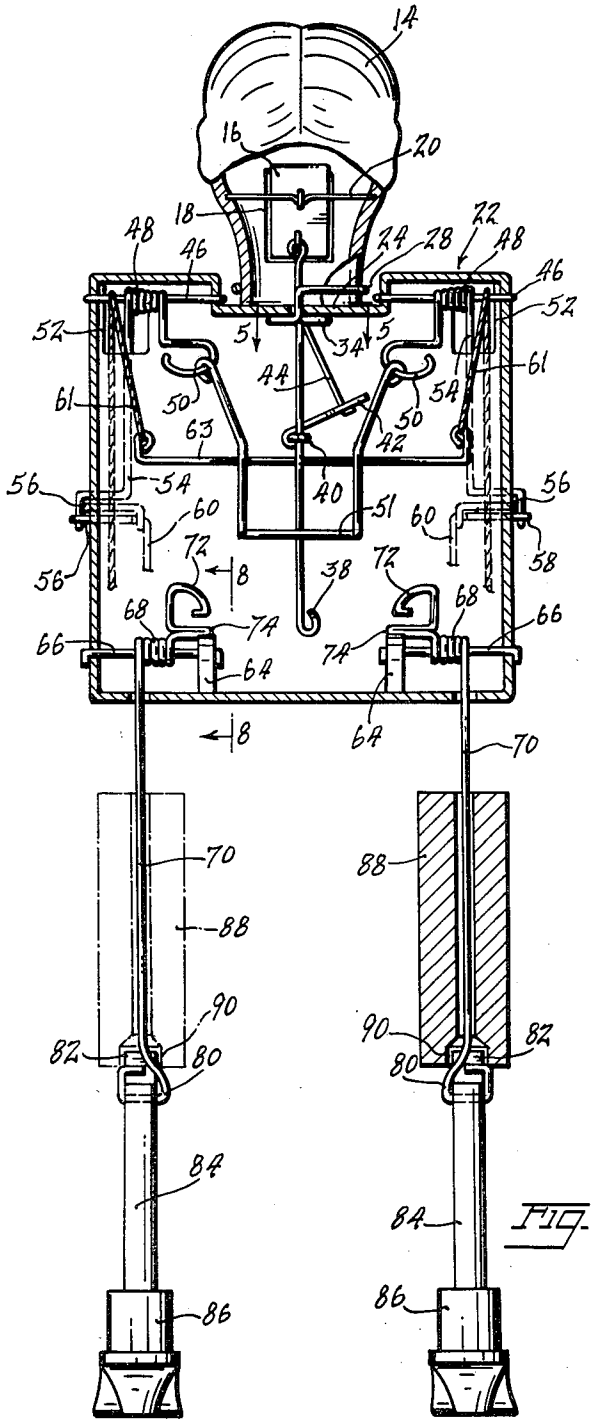

Fig. 4.

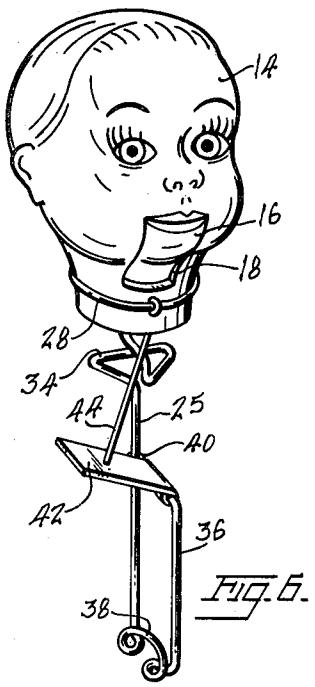

Fig. 6.

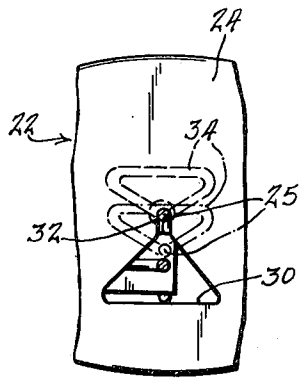

Fig. 5.

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VENTRILOQUIST'S DOLL

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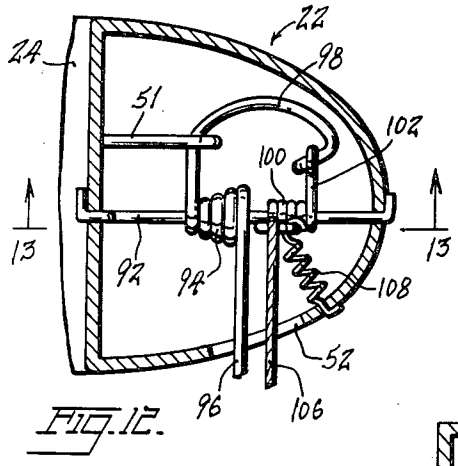

FIG. 12.

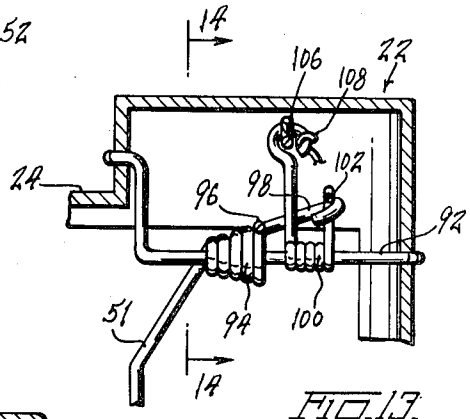

FIG. 13.

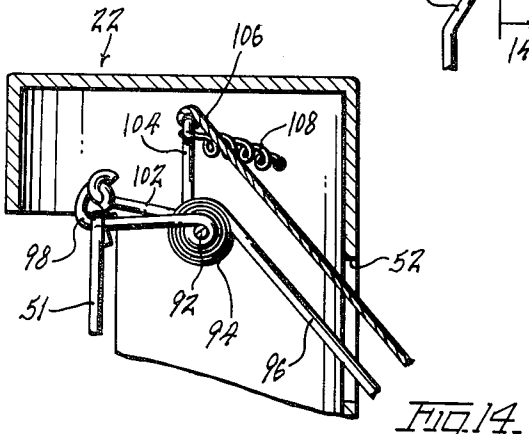

FIG. 14.

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VENTRILOQUIST'S DOLL

Morton Enison, New York, N. Y.

Application October 28, 1953, Serial No. 388,814

6 Claims. (Cl. 46—154)

This invention is a ventriloquist's doll having an improved set of controls for imparting lifelike movements thereto.

Heretofore, it has not always been possible to assure that desirably natural movements will be produced during the use of a ventriloquist's doll, and this has been due to the fact that while much attention has been paid to the matter of mouth movements, developments in the articulation of the arms and legs, and readily manipulable control devices therefor, have not kept pace.

One important object of the invention, in view of the above, is to form and locate a set of control devices for the limbs in such a way as to allow the user's hand, inserted in the open back of the doll's body, to effect particular arm and leg movements with greater ease, and with greater faithfulness and resemblance to real life movements, than has heretofore been the case.

In carrying out another important aim, it is proposed to provide a head mounting that will allow selective positioning of the head through rotation of the same, tilting in any direction, and up-and-down motions, with the mouthpiece control means remaining fully operable in each position to which the head is adjusted.

Another object is to allow locking of the knee joint for causing the doll to stand erect instead of being disposed in its more usual sitting position.

A further aim of the invention is to associate with the knee joint lock means a main leg lock that will aid in retention of the doll in an erect position.

Still another purpose is to form the several limbs and control devices from inexpensive, readily bent wire so shaped as to permit the arms and legs to be integrally formed with concealed extensions used as the control handles.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of a doll formed according to the invention, a portion of the hollow body being broken away to show the control devices.

Fig. 2 is a horizontal, transverse sectional view through the upper portion of the body, taken substantially on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary perspective view of the upper end of the body from which the head has been removed.

Fig. 4 is a vertical, longitudinal sectional view of the doll, looking in the direction of the front from the back thereof.

Fig. 5 is a detail sectional view showing the head mounting, taken substantially on line 5—5 of Fig. 4.

Fig. 6 is a front perspective view of the head assembly per se.

Fig. 7 is a fragmentary rear perspective view of the head assembly.

Fig. 8 is a detail sectional view on line 8—8 of Fig. 4 illustrating the leg lock, the full lines showing the unlocked position and the dotted lines showing the locked position.

Fig. 9 is a perspective view of the leg control device per se.

Fig. 10 is a perspective view of one of the arm assemblies per se.

Fig. 11 is a perspective view of the doll as it appears when clothed and ready for use.

Fig. 12 is a fragmentary sectional view substantially on the same cutting plane as Figure 2, showing a modified arm control assembly.

Fig. 13 is a sectional view taken substantially on line 13—13 of Fig. 12.

Fig. 14 is a sectional view taken substantially on line 14—14 of Fig. 13.

The reference numeral 14 has been applied to a head of hollow formation, having a depending, hollow neck formed integrally therewith. A mouthpiece 16, mounted for up and down swinging movement in a vertically elongated mouthpiece opening 18, is pivotally supported on a horizontal pivot pin 20 (Fig. 4), the ends of which are engaged in transversely aligned openings of the head 14.

The doll's body 22 is preferably of elliptical section (Fig. 2), and is almost fully open at its back. The body 22 has a flat, closed lower end wall, and is constant in cross-sectional area from the lower end wall to a location adjacent its upper end. At its upper end, the body 22 has an upper end wall formed with a depressed head shelf 24 located midway between the opposite sides of the body.

A head control member 25 is formed from a single length of wire material the upper end 26 of which is engaged in an opening formed in the rear of the side wall of the neck (Fig. 2), and bent inwardly to secure the same in the neck. The portion 28 of the control member, located adjacent the upper end 26, is then extended through almost the entire circumference of the neck to rigidly secure the head to the control member. Adjacent the opening of the neck that receives upper end 26, the length of wire material used in forming the head control member is extended into the neck through a second small neck opening and is extended radially and inwardly of the neck to the center thereof. At this location, the length of wire material is bent downwardly, and extends vertically through a triangular, large aperture 30 of the head shelf 24, into the body 22.

In communication with aperture 30 is a slot 32 extending toward the rear edge of the head shelf. The slot 32 is adapted to receive the vertically extending portion of the head control member, and said member can thus be selectively positioned, within or outside the slot, as desired.

Immediately after being extended downwardly through the aperture 30, the head control member is formed with a generally triangular loop 34 smaller than the triangular aperture.

Normally, loop 34 underlies the head shelf in contact therewith, the lower end of the neck meanwhile engaging against the upper surface of the head shelf. This permits the head to remain erect under normal conditions while still being capable of being turned from side to side. If, however, one desires to impart an up and down movement to the head, or desires to tilt the head forwardly, rearwardly, or to one side or the other, the head control member is moved forwardly out of its normal position within the slot 32, thereby disposing the loop 34 below the large aperture 30. A certain freedom of movement not previously possible is now obtained, due to the fact that the major part of loop 34 is not now engaged against the

underside of the head shelf. Tilting of the head, and the other movements mentioned, thereby becomes possible.

By rotating the head through 180 degrees with the head control member out of the slot, the triangular loop can be aligned with the larger triangular aperture **30** to permit complete removal of the head. This allows repairs on the head to be made conveniently, and even allows substitution of a completely different head without disturbing the remaining portion of the doll. Various heads and garments, selectively combined upon the same body and set of control devices, increase measurably the versatility of the doll and allow employment of a number of different characters by the ventriloquist without incurrence of the substantial expense that would ordinarily be involved.

Within the center area of the body **22**, the vertically extending length of wire material used in forming the head control member **25** has its lower end portion bent into the shape of a vertically elongated, generally rectangular, finger-receiving loop or eye **36** provided with an upwardly turned lower bight portion **38** that increases the bearing surface of the finger during manipulation of the head control member. The eye **36** also has a horizontally extending upper bight portion the terminal of which is bent about the intermediate part of the head control member to complete the formation of said member shown at **40**.

A mouthpiece operating device is carried by the head control member and is movable either independently of or in combination with the same. This includes a vertically swingable plate **42** one end of which is integrally formed with a hinge sleeve through which extends the upper bight portion of the eye **36**. The plate **42** is depressible by one's finger for effecting swinging of the mouthpiece to an open position, and to accomplish this, there is connected to the plate the lower end of a link **44**, the upper end portion of which is projected upwardly through aperture **30** into the neck of the doll's head. There the upper end of the link is connected to the mouthpiece, as best shown in Fig. 4, and control of the mouthpiece thus becomes possible. The mouthpiece is normally held in closed position by a spring, not shown, this being a conventional means of holding the mouthpiece closed and of shifting it to its closed position each time the plate **42** is momentarily depressed and released during the simulation of the mouth movements of a talking person.

Of course, the operation of the mouthpiece control means is easily accomplished regardless of the position of the head, due to the mounting of said means directly upon the head control member **25**.

Reference should now be had to Fig. 2, wherein is shown the arm suspension of the doll. Extending from each side wall of the head shelf to the adjacent side of the doll's body is a horizontal hinge pin **46** of wire material, the ends of which are bent laterally to provide an inexpensive connection of said pin to the body. Rotatable on each hinge pin is a tapered or flared series of closed convolutions **48**, formed in a length of wire, these defining a hinge sleeve. Integral with the smaller end of the series of convolutions is a downwardly extending control member the lower terminus of which is shaped into a loop-like handle **50**. The length of wire material, at the other end of the convolutions, is bent outwardly so as to extend through an arm-receiving opening **52** of the body **22**, the opening **52** being of substantial size so as to assure the desired freedom of movement of the arm during use of the doll.

Exteriorly of the body, the length of wire is bent downwardly to provide an upper arm member **54**. The upper arm member **54**, at its lower end, has a laterally offset part bent into a return direction to provide a horizontally disposed hinge **56** having horizontally spaced eye portions receiving the laterally extended upper end **58** of a forearm member **60**. As shown in Fig. 1, and also in Figs. 4 and 10, the upper end **58** of the forearm member is bent upon itself in a direction to insure that it will not become accidentally detached from the hinge to which it is pivotally connected. At its lower end, the forearm member is embedded in a molded hand **62**.

By reason of this arrangement, each arm of the doll is connected to the body in a manner simulating with a high degree of faithfulness the articulation of a real arm to a human body. At its upper end, the doll's arm is hinged for swinging of the arm within a vertical plane toward and away from the body, and at the elbow the arm is hinged again for swinging of the forearm within a vertical plane, relative to the upper arm.

The use of a flared series of convolutions **48** imparts a desirable looseness to the connection of the arm to the body, and permits rocking of the arm not only in a back-to-forth and front-to-back direction, but also in a sidewise direction.

Although the handles **50** can be separately manipulated for the purpose of moving on arm independently of the other, it is also possible to move the arms jointly, and to this end, a bail **51** of U shape has outwardly bent, hook-like ends engageable over the handles **50**. The bail extends downwardly within the body, and has a laterally offset bight portion against which a downward pressure may be exerted by one's finger to effect joint swinging movement of the arms.

Means is incorporated in the arm control device for swinging the forearm relative to the upper arm. This includes a cord **61** connected at one end to the hand **62** and threaded loosely, intermediate its ends, through the elbow hinge. The cord, after being threaded through the elbow hinge, is extended through the opening **52** of the body, and is trained over the hinge pin **46**. Thereafter, the cord is extended downwardly within the body adjacent the arm control handle **50**.

If desired, each of the two cords can be allowed to depend freely within the body, without being connected to one another or to their associated arm control handles. Alternatively, and as shown in Figs. 1 and 4, the ends of the cords can be connected within the body to eyes formed upon opposite ends of an elongated, horizontally disposed control bar **63** extending within the body in front of the head control member **25**. One can therefore exert downward pressure upon the midlength part of the control bar to cause both forearm members **60** to swing upwardly upon the elbow hinges, it being understood that the cords would be connected to the hands **62** at such locations as to be adapted to pull upwardly thereupon for the purpose of imparting a corresponding upward swinging motion to the forearm members. A pressure exerted against the backs of the arm control handles **50**, in the direction of the front wall of the body, would of course be adapted to swing the upper arm portions forwardly from the body about the axes of the hinge pins **46**.

The leg mountings and their associated control devices will now be described, and as will be noted from Fig. 1, each leg assembly includes an upwardly extending, plate-like bracket or bearing member **64**, mounted upon the lower end wall of the body **22**. A pivot pin **66** has one end engaged in an opening of the bearing member **64**, and its other end engaged in an opening in the adjacent side wall of the body **22**. Loosely rotatable on the pivot pin is a hinge sleeve **68** defined by a series of closed convolutions formed in a length of wire, and integral with one end of the hinge sleeve is an upper leg member **70** projecting downwardly through an opening formed in the lower end wall of the body.

The length of wire used in forming the upper leg member, at that end thereof extended from the opposite end of the hinge sleeve, is formed into an upwardly projecting leg control handle **72** of loop-like configuration, disposed below the arm control handle **50**. This can be swung forwardly and rearwardly within the body to produce swinging motion of the upper leg member **70**.

Intermediate the handle **72** and the hinge sleeve, there is formed in the length of wire a locking finger **74**. The

locking finger 74, in the illustrated example of the invention, is formed by folding the length of wire material upon itself, to provide longitudinally contacting portions cooperating to define the laterally projecting locking finger (Fig. 9).

Reference should now be had to Fig. 8, wherein the means for releasably locking the leg control device against movement is shown. The bracket 64 has a curved surface 76 eccentric to the arc traversed by the locking finger 74 during its swinging movement about the pivot axis defined by the hinge pin 66. As a result, when the locking finger is in the full line position thereof shown in Fig. 8, it is unlocked and the handle 72 can be swung backwardly or forwardly to effect movements of the leg. When, however, the handle 72 is shifted forwardly to a substantial extent, the locking finger moves into contact with the surface 76. This causes the finger to engage the surface 76 with a continuously increasing amount of friction, during movement of the finger in the direction of the arrows in Fig. 8. The length of wire material, it should be noted, is of springable characteristics, to permit the finger to resiliently yield in an upward direction.

Ultimately, the finger will move off the surface 76 into an angular recess or locking notch 78, to the dotted line position shown in Fig. 8, thus to lock the upper leg member 70 against movement. At such time as it may be desired to unlock the upper leg member, one would merely grasp the handle 72 to rock the finger upwardly out of the notch 78, after which the finger would be shifted in a return direction, back to its full line position shown in Fig. 8.

At its lower end, the leg member 70 is formed with a loop 80 extending through an angular recess 82 formed in the upper end of a lower leg member 84. Member 84 is provided at its upper end with a transverse opening receiving the loop 80, thus to hinge member 84 to the member 70 to provide an articulated knee joint. At its lower end, the member 84 is embedded within a molded shoe or boot 86.

Means is incorporated in the leg assembly to lock the same at the knee joint, and to this end there is circumposed about the upper leg member a tubular weight 88 having an axial bore in which the upper leg member is loosely engaged. The bore is formed at its lower end with a counterbore 90 adapted for snug engagement of the reduced upper end of member 84 therein. Normally the weight is disposed as shown in Fig. 1. However, it can be shifted downwardly as in Figure 4 to overlap the knee joint, thus to lock the members 70 and 84 against relative swinging movement.

The tubular means 88 and lock means shown in Fig. 8 can be used independently of one another or in combination to rigidify the leg assemblies relative to the body of the device, thereby to cause the doll to stand erect rather than be disposed in its more conventional sitting position. The recesses 82 of the lower leg members will, of course, engage loops 80 to limit said members against forward swinging movement beyond a position in which they are aligned with the upper leg members, thereby to provide a more realistic simulation of the leg movements of a human.

In Fig. 11, the doll is shown as it appears when fully clothed and ready for use. All control devices will now, of course be concealed when the doll is viewed from the front, though the back of the clothing will be left open or with a slit to permit entry of one's hand.

In Figs. 12–14, there is shown a modified arm control assembly which incorporates a locking action in said assembly whereby the forearm and upper arm are interlocked for joint movement, with the upper arm swinging upwardly simultaneously with upward swinging movement of the forearm relative to the upper arm.

In this arrangement, there is provided a pivot pin 92 which may be used in place of the pivot pin 46 hereinbefore described, in the event there is insufficient clearance between said pin and the upper end wall of the body 22. The pin 92 has its outer end offset downwardly relative to the inner end thereof, as shown in Fig. 13. The ends of the pin can be clinched or otherwise secured in the walls of the body in any suitable manner, to insure that the pin will be fixedly positioned within the body.

Rotatable on the pin is a tapered sleeve 94 formed of a series of convolutions provided in a length of wire material, said sleeve being integral at one end with an upper arm member 96, that extends through arm opening 52 of the body 22. The other end of the sleeve is integral with a rearwardly extending open loop portion 98, that is normally disposed in a substantially horizontal plane.

A second sleeve, designated by the reference numeral 100 and formed from a series of closed convolutions of equal diameter, is integral at one end with a rearwardly extending lock member 102 terminating at its free end in a hook over which the loop portion 98 can be engaged in the manner shown in the drawing. At its other end the sleeve 100 is integral with an upwardly projecting extension 104 terminating at its upper, free end in an eye to which is connected a cord 106 analogous to cord 61, the cord 106 being extended through opening 52 of the body. A spring 108 is hooked at one end through the eye of the extension, and at its other end is connected to the front wall of the body.

By reason of this arrangement, the loop portion 98 can, at the option of the user, be engaged over the lock member 102, and as a result, depression of the bail 51 will cause both upper arms of the doll to be swung upwardly, with the forearms being simultaneously swung upwardly relative to the upper arms. This result is obtained by reason of the fact that depression of the bail will rotate sleeve 94, and will lower loop portion 98. The loop portion will in turn swing the lock member 102 downwardly, and this will rotate sleeve 100, swinging the extension 104 rearwardly to exert pull on the cord, against the opposing action of the spring 108. Spring 108 serves to return the parts to proper position against the body, and will insure that the upper arm will be held against the body even if the body is caused to lean forwardly from the waist. In some embodiments of the invention, the spring might be omitted, if desired.

The tapered, rockable sleeve 94 permits the loop portion 98 to be readily engaged with or disengaged from the lock member, the loose mounting and rocking motion of the sleeve being well adapted to facilitate said engagement or disengagement of the loop portion.

It is important to note that the entire construction makes considerable use of wires bent to shape to provide not only the legs and arms of the doll, but also the control devices used in effecting movements of the legs and arms. This simplifies the doll construction measurably and reduces the cost of manufacture to a considerable extent, as will be readily appreciated. At the same time, the doll has a variety of life-like movements of the head, arms and legs, which movements are easily brought about by the user, after a basic amount of dexterity is acquired.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A ventriloquist's doll comprising a body, arms and legs pivoted upon said body, said arms and legs all being formed from lengths of wire material having inner end portions disposed within the body and outer end portions projecting exteriorly of the body to define the limbs thereof, the inner end portions of the lengths of wire

material being shaped as control handles adapted to be engaged by the fingers of a hand inserted within the body, and means for automatically effecting joint movement of the arms including a U-shaped bail connected at its ends to said handles constituting the inner ends of said arms and depending within the body with its bight adapted for engagement by the finger of a user.

2. A ventriloquist's doll comprising a body, arms and legs pivoted upon said body, said arms and legs all being formed from lengths of wire material having inner end portions disposed within the body and outer end portions projecting exteriorly of the body to define the limbs thereof, the inner end portions of the lengths of wire material being shaped as control handles adapted to be engaged by the fingers of a hand inserted within the body, and means for automatically effecting joint movement of the arms including a U-shaped bail connected at its ends to said handles constituting the inner ends of said arms and depending within the body with its bight adapted for engagement by the finger of a user, said bail being formed from a single length of wire material and having hook-like formations at the free ends of its legs loosely engaged over the respective control handles.

3. A doll including a body, and legs movably connected thereto, said legs each including an upper leg member pivotally connected at its upper end to the body, and a lower leg member pivotally connected to the lower end of the upper leg member to provide a knee joint, said knee joint having means to limit the lower leg member against forward swinging movement beyond a position in which it is aligned with the upper leg member, each leg including a tubular member circumposed about the upper leg member thereof and shiftable longitudinally of the associated upper leg member to overlap the pivotal connection between the leg members, thereby to lock the leg members in said position of alignment thereof.

4. A doll including a body, upstanding bearing brackets therein, hinge pins carried by the bearing brackets, and a leg pivotally suspended from each hinge pin, each leg being formed of a length of wire having a series of convolutions intermediate its ends receiving the hinge pin, and having a handle extending from one end of the series of convolutions to permit manipulation of the leg relative to the body, said bearing bracket having a locking recess receiving said length of wire material on swinging of the handle to a predetermined position, thus to lock the leg against movement relative to the body.

5. A doll including a body, upstanding bearing brackets therein, hinge pins carried by the bearing brackets, and a leg pivotally suspended from each hinge pin, each leg being formed of a length of wire having a series of convolutions intermediate its ends receiving the hinge pin, and having a handle extending from one end of the series of convolutions to permit manipulation of the leg relative to the body, said bearing bracket having a locking recess receiving said length of wire material on swinging of the handle to a predetermined position, thus to lock the leg against movement relative to the body, the bracket having a curved surface eccentric to the axis defined by the pin, said length of wire material being folded on itself intermediate its ends, adjacent the handle thereof, to provide a laterally projecting finger engageable by said curved surface on swinging of the handle to said predetermined position, the locking recess of the bracket being formed at one end of said curved surface to receive said finger.

6. A ventriloquist's doll including a body, a head rotatably mounted thereon, means secured to the head extending into the body for rotating the head, a mouth piece movably mounted in the head, and mouthpiece operating means connected to the mouthpiece and movably mounted on the first-named means, said first-named means including a length of wire material shaped with a loop-like handle within the body, the second-named means including a plate hinged upon the handle and a link connected between the plate and mouthpiece.

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