Nov. 11, 1958 W. K. WALSS 2,859,554

WALKING DOLL

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Fig. 1.

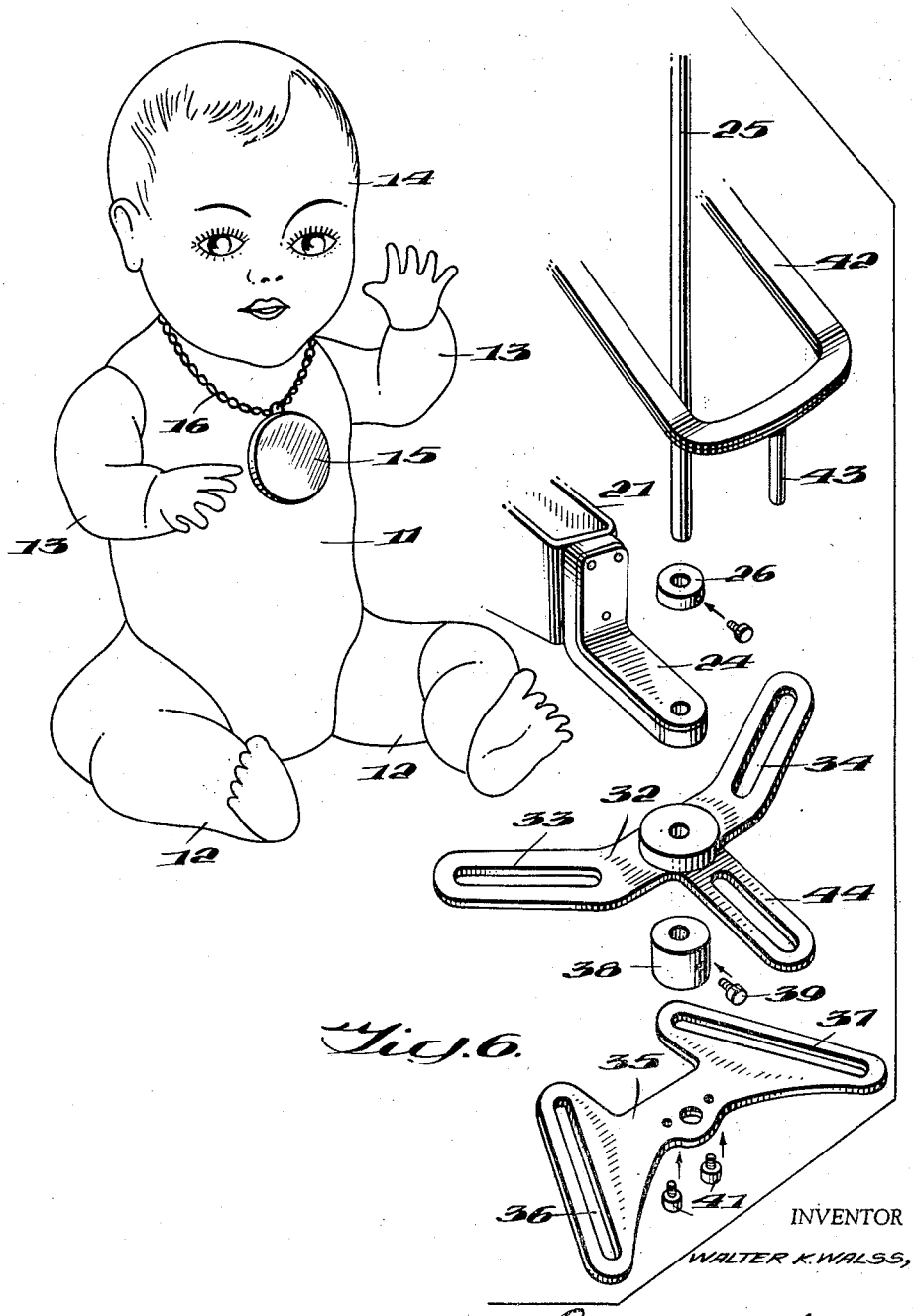


Fig. 6.

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WALKING DOLL

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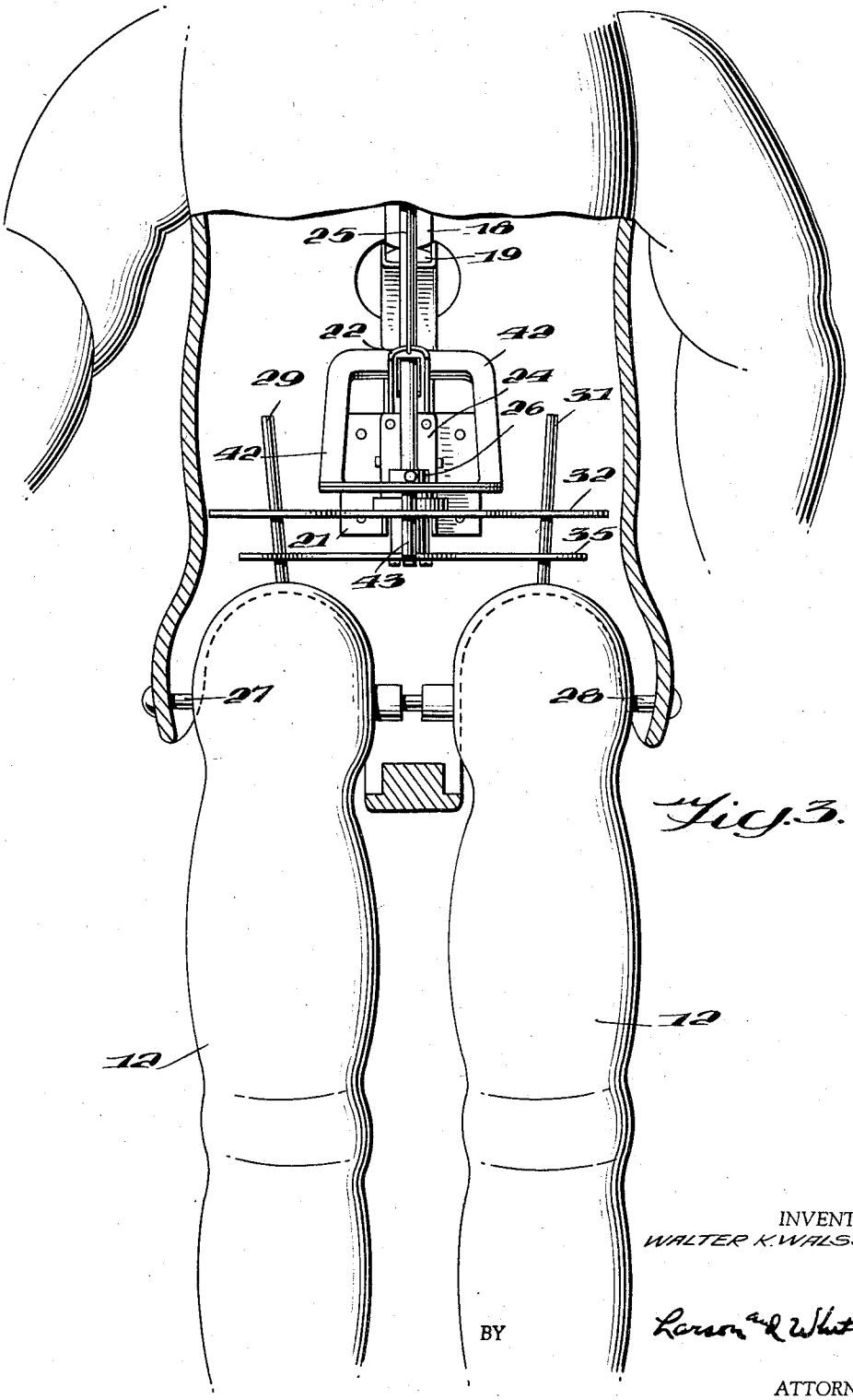


Fig. 3.

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Fig. 2.

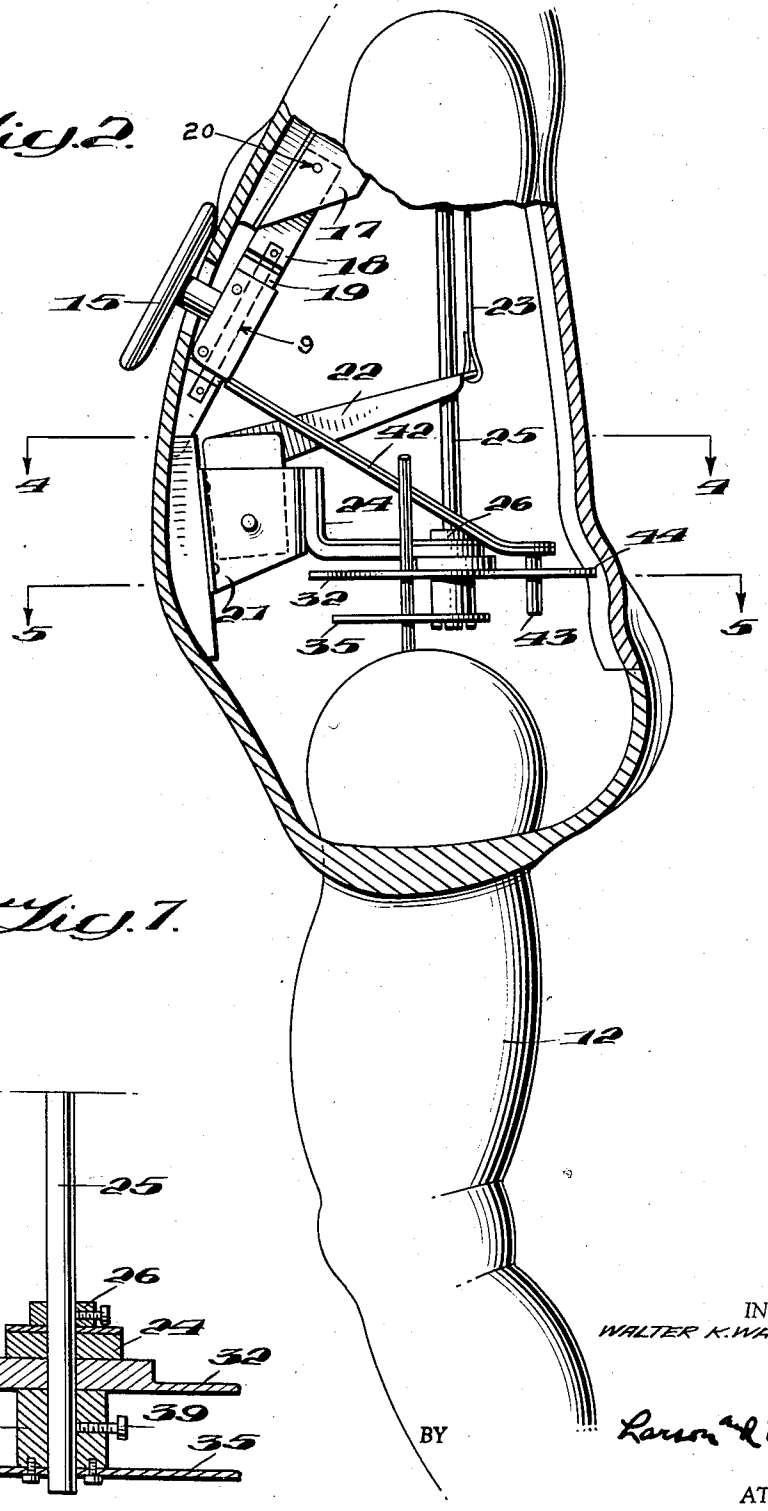


Fig. 7.

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WALKING DOLL

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Fig. 4.

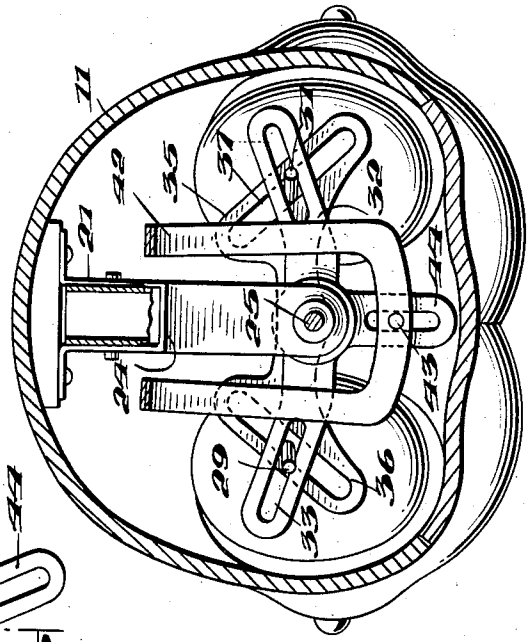


Fig. 6.

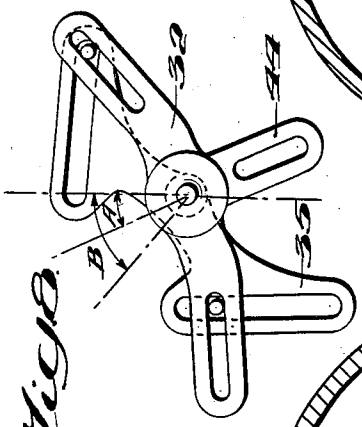
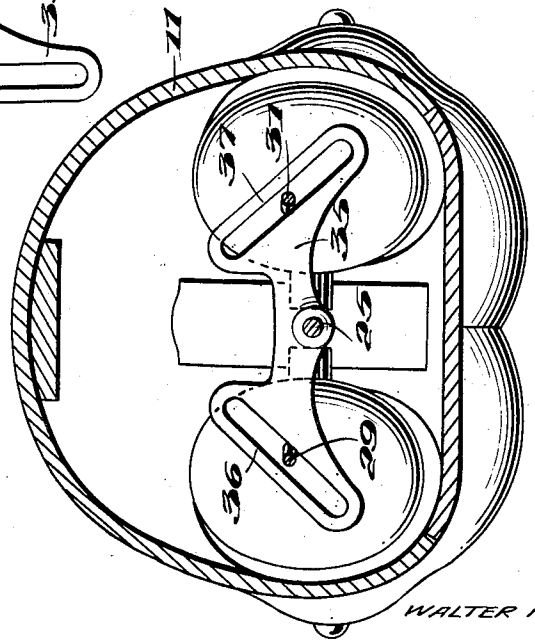


Fig. 5.



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2,859,554

WALKING DOLL

Walter K. Waiss, Kelly Corners, N. Y.

Application September 20, 1955, Serial No. 535,469

7 Claims. (Cl. 46—120)

The present invention relates to a walking doll and more particularly to a doll which is adapted to give a large head turning effect as the legs are moved. The present application is a continuation-in-part of my earlier application, Serial No. 489,064, filed February 18, 1955, for "Doll."

There have been dolls manufactured heretofore which are adapted to turn the head from side to side as the doll's legs are moved in a walking motion. Due to mechanical limitations which will be more fully described hereinafter, such head turning effect was quite limited and not entirely satisfactory. Furthermore, such prior art dolls were so constructed that the walking motion or leg movement was produced only as the doll's legs were moved across the floor. That is to say, there was no additional means provided whereby the doll's legs could be kicked in a wiggling motion when the doll was being held.

According to the present invention there is provided a doll in which the legs and head are so interconnected that a large head turning effect is produced as the doll's legs are moved. Furthermore, the present invention provides a means whereby the doll's legs can be kicked while the doll is being carried. A button is mounted on the hollow body portion which is similar in function to the push button described in my prior application. This button is capable of being depressed to operate the eyes as previously described and is also capable of a pivotal movement which through an appropriate linkage actuates the legs and head. The arrangement is such that limited pivotal movement of the button causes the head to turn through a large angle.

An object of the present invention is to provide a walking doll which produces a large head turning effect as the legs are moved.

Another object of the present invention is to provide a doll which includes manual means whereby the legs can be moved in a kicking motion even though the doll is not being moved across the floor.

Other objects and many of the attendant advantages of the present invention will become apparent upon consideration of the following detailed specification when taken in connection with the accompanying drawings wherein:

Fig. 1 is a perspective view of a doll showing the manually operable element mounted on the body;

Fig. 2 is a side elevation partly in section showing the leg operating means;

Fig. 3 is a rear elevation partly in section;

Fig. 4 is a cross-sectional view along the lines 4—4 of Fig. 2;

Fig. 5 is a cross-sectional view along the lines 5—5 of Fig. 2;

Fig. 6 is an exploded view of certain of the operating elements;

Fig. 7 is a view of the parts shown in Fig. 6 in connected position; and

Fig. 8 is a plan view of certain parts in another position.

Referring now more particularly to the drawings wherein like numerals indicate like parts throughout the several views, there is shown at **11** in Fig. 1 a doll provided with a hollow body portion to which are attached legs **12** and arms **13** in such a manner that these parts are capable of movement with respect to the body. Head **14** is attached to the hollow body portion in such a manner that it may be turned from side to side with respect to the body. The doll may be made of any suitable material which is durable and capable of supporting the structure necessary to operate the doll in a manner to be described more fully hereinafter. Extending outwardly from the hollow body portion is a push button or operating element **15**. This button is mounted so as to be spaced slightly from the hollow body portion and may be made in the form of a decorative pendant with a chain **16** attaching the pendant around the neck of the doll.

Referring now more particularly to Fig. 2, the supporting element for the push button may be seen. Suitably secured within the hollow body portion is a bracket **17** from which is pivotally suspended bar **18** so as to pivot about hinge **20**. Attached to the lower end of bar **18** for rotative movement with respect thereto is member **19** to the forward face of which is attached the push button **15**. While member **19** is here shown to rotate about fixed axis **9** and bar **18** pivot about hinge **20**, the specific constructional details of this mounting are not significant and may, in fact, be similar to that disclosed in my pending application previously referred to. It is important only that the push button or operating means **15** be supported in such a manner that it is capable of movement from side to side with respect to the body portion of the doll and is also capable of being depressed a suitable distance to actuate the eye mechanism.

There is provided within the body portion a bifurcated bracket member **21** which is adapted to pivotally support lever **22**. The free end of lever **22** is attached to a wire **23** which extends upwardly through the hollow body portion into the head to connect with the eye operating mechanism which is fully disclosed in my prior application. The lower end of member **19** is adapted to cooperate with the forward end of lever **22** so that, as may be clearly seen from Fig. 2, when push button **15** is depressed the outer end of lever **22** will be depressed thereby pulling wire **23** downwardly to actuate the eye mechanism.

Suitably secured to the rear face of bracket **21** is an L-shaped support **24** which has the outer end thereof apertured to receive the lower end of a shaft **25**. The shaft is journalled within this aperture and maintained in position by collar **26** which is secured to the shaft by suitable screw means as more clearly seen in Fig. 6. The upper end of shaft **25** is operatively connected with the head in a manner such as disclosed in my prior application so that rotation of the shaft produces equal rotation of the head.

The legs **12** are pivotally secured to the hollow body portion as by means of pins **27** and **28**. The upper ends of the legs which extend inwardly of the hollow body portion are provided with upstanding pins **29** and **31** which are fixedly mounted in the legs. In the usual type of walking doll now available on the market the pins on the legs are interconnected by means of a link or crank such as disclosed at **32**. The construction of this link may be more clearly seen in Fig. 6 wherein it can be seen that the link is provided with slotted wings or ears **33** and **34**. In the usual type of walking doll this link is fixed on shaft **25** with the pins **29** and **31** on the leg

members extending upwardly through slots 33 and 34 respectively. Thus, as a walking motion was imparted to the doll by shifting the weight from one foot to the other, a reciprocating pivotal motion was given to link 32 which through shaft 25 imparted similar motion to the head. However, due to the construction of the link 32 the angle through which this link moves is limited and, therefore, does not impart a large turning movement to the head. This can be appreciated from a consideration of Fig. 8 wherein the parts are shown in the end position and it can be seen that the link 32 moves through only the relatively small angle A.

One of the primary aims of the present invention being to provide an increased head turning effect, it was found necessary to redesign link 32 and provide a second link or crank as shown at 35. Link 35 is provided with slotted ears or wings 36 and 37 and it will be noted from Fig. 4 that these slots extend substantially normally with respect to the slots in link 32. By providing a link in the form of member 35 it was found that a walking motion of the doll did impart a large turning movement to the head as is apparent from a consideration of Fig. 8 wherein it can be seen that the link moves through an angle B during movement of the legs. However, it will be noted that in the end position the slot in one of the wings or ears of the link 35 is aligned with the pin on the leg so that the pin would simply slip within the slot and not produce the necessary reciprocal motion of the other leg. Thus, it is apparent that the link 35 could not be utilized as the sole means for effecting the walking and head turning motions.

According to my invention, links 32 and 35 are both used to interconnect the leg members. Link 35 is secured to shaft 25 through collar 38 which is provided with set screw 39 and screws 41 securely fasten link 35 to this collar. Link 32, on the other hand, is journalled on shaft 25 so as to be free to rotate with respect thereto. Pins 29 and 31 on the leg members extend upwardly through the slots in both of the links as clearly shown in Figs. 3 to 5.

Suitably secured to the rear face of member 19 is a plate 42 which is provided with a rectangular cutout portion intermediate the ends thereof as clearly seen in Figs. 3 and 4. The outer end of plate 42 is provided with a downwardly extending pin 43 as shown in Figs. 2 and 6. Formed integrally with link 32 or suitably secured thereto is a slotted bar 44. Pin 43 is adapted to extend into the slot in bar 44 as can be seen in Figs. 2 and 4.

As push button 15 is pivoted on its mounting, the outer end of plate 42 will be moved in an angular manner and through the interconnection between pin 43 and bar 44 the link 32 is caused to pivot. By virtue of the fact that the pin 43 is located rearwardly of the shaft 25, a small angular movement of the push button will produce a larger angular movement of the pin 43 and, therefore, link 32 due to the length of the lever arm.

Angular movement of the link 32 causes the pins 29 and 31 to move within the slots 33 and 34 and imparts an angular movement to the leg members which simulates a walking or kicking motion. Movement of the pins 29 and 31 due to angular displacement of the link 32 causes a larger angular movement of the link 35 due to movement of the pins within the slots 36 and 37. The link 35 moves through a larger angle than does the link 32 due to the angular disposition of the slots in the links. As the link 35 is fixed to shaft 25, the shaft will move through the same angle as does link 35 and thus impart to the head the same degree of angular turning movement.

Thus, it can be seen that the presently described invention provides a mechanism whereby the doll's legs may be actuated in a kicking motion through reciprocation of the push button. Furthermore, the presently disclosed mechanism provides means whereby the head is turned through a larger angle as the doll's legs are moved. This larger head turning effect is accomplished by the interposition of links 32 and 35, link 32 serving the purpose of interconnecting the leg members so that a positive conection is provided at all times and link 35 serving the function of turning the shaft 25 upon movement of the legs. The arrangement of the connection between link 32 and the push button provides for a large turning of the link with a relatively small angular movement of the push button.

Obviously, many modifications and variations of the present invention are possible in the light of the above teachings without departing from the spirit of the invention as defined in the appended claims. What is claimed as new and desired to be secured by Letters Patent is:

1. A doll comprising, in combination, hollow body, a button mounted on said hollow body for pivotal movement with respect thereto, a head mounted on said body for turning movement with respect thereto, a pair of legs pivotally mounted on said body, a vertically extending shaft journalled in said hollow body and rigidly connected to said head, a first crank fixed to said shaft having a pair of relatively angularly extending arms with slots therein, a second crank rotatably journalled on said shaft having a pair of arms with slots therein, the arms of said second crank extending substantially normally with respect to the arms of said first crank in the normal positions of said cranks, means interconnecting said button and said second crank and pins on said legs extending through the slots in said first and second cranks, said first crank movable through a greater angle than said second crank in response to pivotal movement of said legs so as to move said head through a greater angle of turn than the pivotal angle through which said legs move, motion being independent of any walking surface.

2. A doll according to claim 1 wherein said interconnecting means includes a member fixed to said button and having a pin mounted thereon and a third slotted arm on said second crank engageable with said pin.

3. A doll comprising a hollow body, manual operating means mounted on said body for movement with respect thereto, means rigidly connected to said operating means and extending inwardly in said hollow body, a pin mounted on said rigid means, a shaft mounted within said hollow body and rotatable with the head of said doll, a first slotted member rotatably journalled on said shaft and engageable with said pin, a second slotted member fixedly mounted on said shaft, means engaging both said first and second slotted members and connected with limbs of said doll whereby movement of said manual operating means imparts rotative motion to said slotted members and in turn to the limbs of said doll, the slots of said first and said second slotted members so relatively angularly disposed that the head of said doll moves through a greater angle of turn than the pivotal angle through which said limbs of said doll move.

4. A doll comprising, a hollow body, a button mounted on said body for pivotal movement with respect thereto, means rigidly connected to said button and extending inwardly in said hollow body, a pin mounted on said rigid means, a shaft mounted within said hollow body and rotatable with the head of said doll, a first link having slotted arms and rotatably mounted on said shaft, said pin engageable within a slot thereof, a second link having slotted arms and fixedly mounted on said shaft, leg members pivotally mounted on said hollow body, pins secured to said leg members and engageable in the slots of said first and second links, the slots of said first and second links being so relatively angularly disposed that with pivotal movement of said button walking motion is imparted to said leg members and the head of said doll moves through a greater angle of turn than the pivotal angle through which the legs of said doll move.

5. In a doll designed to simultaneously simulate a walking and head turning effect, in combination, a hollow body, a head mounted on said body for turning move-

ment, a shaft journalled within said hollow body and having the upper end thereof interconnected with said head, a first link having a pair of slotted arms and fixed on said shaft, a second link having a pair of slotted arms and rotatably journalled on said shaft, manual operating means mounted on said body, means interconnecting said manual operating means and said second link, the slots of said second link extending substantially normally with respect to the slots of said first link in the normal position of said links, a pair of legs pivotally mounted on said hollow body and pins fixed to said legs and extending through the slots in said first and second links, the slots of said first and second links so relatively angularly disposed that said head moves through a greater angle of turn than the pivotal angle through which said legs move.

6. In a doll adapted to simultaneously produce a walking and head turning effect, a body, a head rotatably mounted on said body, legs pivotally interconnected with said body, a shaft journalled in said body and rotatable with said head, a freely movable first link means journalled on said shaft interconnecting said legs whereby forward movement of one leg causes rearward movement of the other leg, and a second link means fixed on said

shaft interconnecting said shaft with said legs to impart turning movement to the head in response to movement of the legs, said first and second link means including slotted members, the slots of said members being so relatively angularly disposed that said head moves through a greater angle of turn than the pivotal angle through which said legs move.

7. A doll comprising a body, a head turnable with respect to the body, a pair of legs pivotally mounted on said body, a shaft turnable with the head, a freely movable first link interconnecting the legs for simultaneous movement, a second link fixed to the shaft and engaged by the legs to produce turning movement of the head in response to the leg movement, said first and second links having slotted arms, the slots of said first and second links being so relatively angularly disposed that said head moves through a greater angle of turn than the pivotal angle through which said legs move.

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