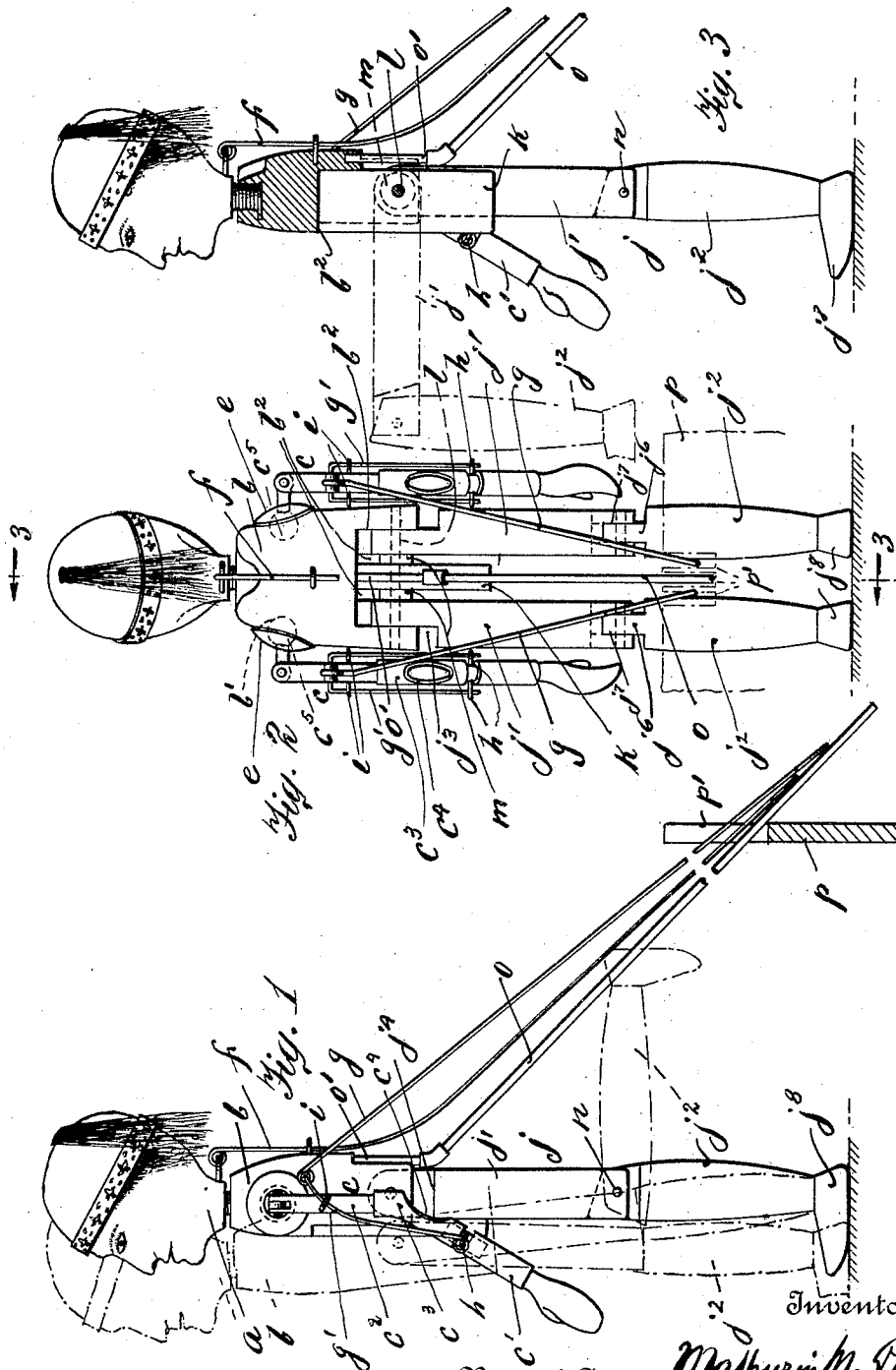


M. M. DONDO.
MARIONETTE.
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1,400,532.

Patented Dec. 20, 1921.



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MARIONETTE.

1,400,532.

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To all whom it may concern:

Be it known that I, MATHURIN M. DONDO, a citizen of the French Republic, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Marionettes, of which the following is a specification.

The present invention relates to improvements of the marionettes described in my U. S. Letters Patent No. 1,350,711.

In the said patent only the head and arms of the figure are articulated to permit graceful reproduction of human actions and emotions by gesticulation, while the legs thereof are either entirely omitted and in that case merely represented by the shape of the garment, or are inarticulate. Such construction apart from the objection to the necessity of holding the figure by the hands while manipulating it, which is very inconvenient, particularly when several figures are to be manipulated in rapid succession or sometimes simultaneously, has also the drawback that various human actions or emotions, such as kneeling, sitting down or walking can only roughly be imitated, if at all.

The object of my present invention is to so improve the construction that by slight alternate lateral lifting of the figure from its base and simultaneous advancing or retracting thereof, a true to life walking action will be reproduced.

Another object is to provide a simple means whereby both actions, namely, the lifting and pushing or pulling can be effected simultaneously by a simple contrivance.

A still further object is to provide means whereby the figure can be easily and readily supported in position on its base to permit the operator to manipulate other figures or other parts of the same figure.

With these and other objects in view my invention consists in the novel construction, combination and arrangement of parts, as will be hereinafter fully described and defined in the appended claims.

In the accompanying drawings, in which similar reference characters denote corresponding parts, Figure 1 is a side elevation; Fig. 2 a rear elevation of my improved marionette and Fig. 3 a vertical section on line 3—3 of Fig. 2.

The figure is composed of a head *a*, a trunk

b, arms *c*, *c* and legs *d*, *d*. The head is articulated to the trunk *b* and is manipulated by a rigid member or rod *f* in a similar manner to that described in my patent above referred to.

The arms *c*, *c* are each composed of two sections *c*¹, *c*² united together by an intermediate flexible section, such as a rubber tubing *c*³ or the like, which at the elbow portion is cut out as at *c*⁴ to facilitate the bending and twisting of the arm sections. Fixed to the upper section is a ball *c*⁵ which movably bears in a semi-spherically shaped socket *b*¹ provided on each side of the shoulder portion of the trunk. The balls are secured in position in their sockets by concave disk shaped members *e* made of rubber or other suitable material and fixed to the trunk.

The arms *c* are operated each by means of a rigid member *g*. In the present example each member *g* is pivotally secured to a U-shaped somewhat curved link *g*¹ formed of wire or the like and arranged in an inverted position at the back of the arm to extend longitudinally above and below the elbow part of the latter. Projecting laterally from the upper end of the lower section *c*¹ of each arm are members *h* to which the lower ends of the U-shaped links *g*¹ are pivotally secured. On the upper section of each arm are provided loops *i* or the like through which the sides of the U-shaped links are movably guided. The members or rods *g* extend rearwardly of the figure and normally in a downwardly slanting position. By pushing, pulling or twisting or by either one of the first named actions in conjunction with the twisting action, different arcuate movements can be imparted to the arms or to the individual sections thereof in a very graceful and life like manner.

By the attachment of the operating members *g* to the arms according to the present example, there is the advantage that any kind of garment can be used for the upper part of the body, since the arms are free and can be conveniently passed through the sleeves of the garment. With the already patented structure, where the operating members are fastened directly to the elbow portions of the arm the robe must be either cut away at its sleeves or be of special design.

I now come to the construction and articulation of the legs j, j . The lower part of the trunk b is cut out to form a groove b^2 open at the bottom, in front and back. Fixed to the trunk or made integral therewith is a piece l which projects downwardly and centrally through the groove dividing it vertically into two separate compartments. The legs j, j are each composed of two sections j^1, j^2 pivotally joined together as will be hereinafter more fully explained. The upper portion of the section j^1 of each leg is laterally cut away as at j^3 each to fit in a compartment and are rotatively or tiltably mounted on a common axle l which is supported in the side walls of the groove b^2 and also in the partition or member l . Between the latter and the adjoining faces of the legs, washers m may be provided which are mounted on the axle l . The lower edge j^4 of the cut out part j^3 of the leg acts as a stop against the trunk when the upper section of the leg is tilted into horizontal position to bring the figure into sitting position. The lower section j^2 of each leg has its upper end cut away at its sides to form a tenon j^5 while the lower portion of the upper section is grooved as at j^7 to form a mortise. The upper ends of the tenons j^5 extend in front to about the top of the groove j^7 and toward the rear are beveled downwardly. The tenons j^5 are tiltably supported on pins n fixed in the side walls of the grooves j^7 , so that they can freely swing rearwardly in vertical direction, but owing to the shape of the tenons and their mounting in the grooves j^7 will not be permitted to swing forwardly. The lower ends j^6 of the sections j^2 are formed to represent feet. Normally the two sections of the legs, like pendulums, by their gravity tend to extend in vertical direction and maintain that position. When the figure while resting on a base in upright position is inclined forwardly or rearwardly and is then lifted alternately on one and the other side, the released legs will swing from their inclined positions to the vertical and produce a step by step movement in exact imitation of walking.

The means for manipulating the figure in order to produce walking action consists of a somewhat bent rigid member o either of wire or a wooden rod. The upper end o' of said member is fixed in a suitable manner in vertical position to the rear of the trunk, the member o extending rearwardly at a slant. By pushing or drawing said member while the figure rests in upright position on a base, the figure is slightly inclined either forwardly or rearwardly as the case may be. Simultaneously with the inclining of the figure the member o may be twisted around its axis alternatively to the right and left. By this twisting action the figure is lifted

alternately at one side and the other, thereby releasing the legs from the base. On the release of the legs the same by their own gravity, like a pendulum, swing back into vertical, thereby producing the step by step motion.

To put it into sitting position the figure while standing upright on its base is merely pulled downwardly by the member o . As a result thereof the two sections of each leg assume an angular position relative to one another and to the trunk b . To bring the figure into kneeling position the member o is first inclined forwardly thereby causing the section j^1, j^2 of the legs to bend at an angle to one another, then the member is pulled downwardly causing the lower section to adopt a horizontal position.

Thus by a single member the various actions, to wit, walking, kneeling and sitting down can be easily produced.

In order that the figure may be steadied on its base while other parts thereof are manipulated or while other figures are operated, a board or plate p , may be provided at the rear of the stage or base in which the member o may be suitably fixed while not in use. Thus, the board p may have a plurality of notches p' to frictionally or otherwise engage the member o and the members for operating the arms and head, in various positions.

The chief characteristic features of this invention are the construction and articulation of the legs and the means for operating the same, so that by their own gravity, they will carry out a step by step motion either forwardly or rearwardly when the figure is inclined in the respective direction and then tilted alternately on its sides.

While in the foregoing I have described the details of the construction of my improved marionette, it is obvious that the details may be variously modified without departing from the principle of my invention. I, therefore, do not limit myself to the construction described and shown.

What I claim and desire to secure by Letters Patent is:

1. In a marionette, a pair of arms capable of universal movements at the shoulders and elbow portions, and means for operating said arms, each of said means including a rigid member extending rearwardly of the arm, a link at one end connected to said member and at the opposite end to the lower part of the arm and a guide for said link on the upper part of said arm.

2. In a marionette, the combination with the trunk, of a pair of arms, each composed of two sections articulated to said trunk and to each other, so as to be capable of universal movement at the shoulders and elbow portions, and means for operating said arms, including rigid members, one for each arm,

links pivotally connecting said members to
the lower sections of the arms and guides on
the upper sections of said arms, so that by
longitudinal and twisting movements of said
5 members diverse movements will be im-
parted to the arm sections relative to one
another and the trunk.

In testimony whereof I affix my signature
in presence of two witnesses.

MATHURIN M. DONDO.

Witnesses:

MAX D. ORDMANN,

JOSEPH T. MCMAHON.