June 21, 1927.

1,633,146

A. L. WHITESIDE

WADDLE WALKING TOY

Filed Nov. 11, 1922

Fig. 1.

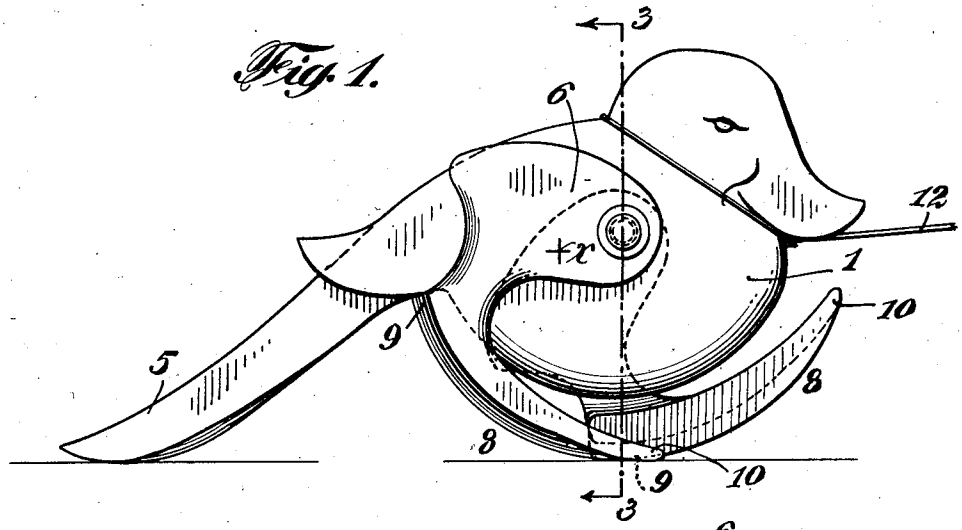


Fig. 2.

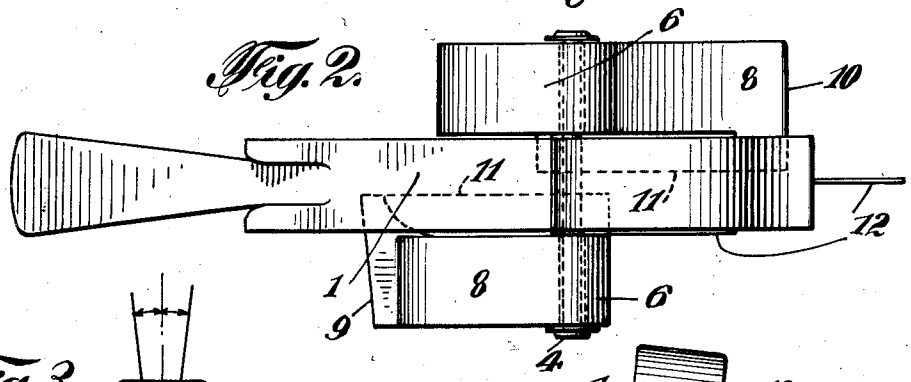


Fig. 3.

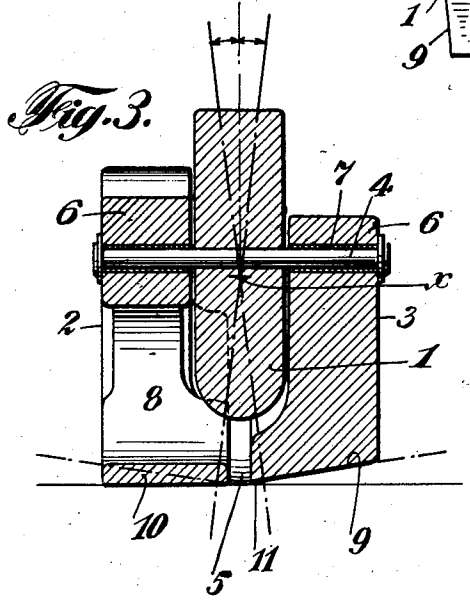
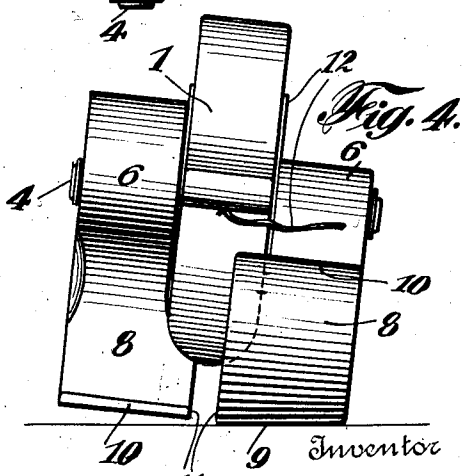


Fig. 4.



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UNITED STATES PATENT OFFICE.

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WADDLE WALKING TOY.

Application filed November 11, 1922. Serial No. 600,282.

This invention relates to walking toy figures, and my improvement is directed to a novel figure having independent pivotal limbs with tread surfaces angled to respectively serve as base supports in alternation during progressive motion of the figure, whether it be drawn forwardly, or caused to travel down an incline.

Particularly my invention consists in the provision of a two-part, pivotal base support characterized by its respective tread surfaces being oppositely inclined in upward directions from a longitudinal median base line, so that the figure will tend normally to find support upon the tread surface of one of the limbs, leaving the figure tilted over toward that side, with the other limb raised out of contact with the surface.

The limb tread surfaces are longitudinally arcuate, to accord thereto a rolling motion as the figure is moved forwardly. During this motion with support provided by a limb at one side of the figure, the limb at the other side, by being suspended on its pivot, serves, when this rolling action has been completed, to receive the weight of the figure, and to support it, oppositely inclined, during a like rolling motion of the other limb.

The operation being repeated during the advance of the figure causes it to have a waddle-like walking effect.

Other features and advantages of my invention will hereinafter appear.

In the drawing:—

Figure 1 is a side elevation of a toy figure, here shown as representing a duck, comprising the features of my invention.

Fig. 2 is a top plan view of Fig. 1.

Fig. 3 is a vertical section on the line 3—3 of Fig. 1, and

Fig. 4 is a front elevation of the toy figure.

In said figures let 1 indicate the body portion of the toy figure, 2 a limb at one side thereof, 3 a limb at the opposite side, 4 a shaft extended transversely through the body and projecting at opposite sides thereof; the limbs 2 and 3 being respectively mounted on the projecting portions of the shaft, and 5 a fixed tail portion.

The upper portions 6 of limbs 2, 3 are pierced transversely and there fitted with bushings 7 to receive the projected shaft portions, so that the limbs may be free to hang pendulously and to be capable of rocking easily upon the shaft. Continuing from each limb portion 6 is a forwardly extended tread portion 8, whose base is longitudinally arcuate in form and upwardly inclined in an outward direction from the heel 9 to a point near the toe 10. But the base of the toe portion of the tread is in a straight horizontal line, there being a transition area intermediate the inclined base and straight toe portion. Hence, while theoretically the toy figure will stand upright upon the inner edges 11 of its tread portions, it will, when tilted over to one side, as occurs in its operation, be supported solely by the inclined, arcuate tread of one limb.

In that position of its support, the toy figure when in motion will cause its support limb to roll upon the surface until the straight surfaced toe portion is reached and causes the toy figure to assume a vertical position. Then the heel 9 of the other limb which had been raised above the surface will engage the surface, and, with continued motion of the toy figure, support thereof will be afforded by that other limb.

It will be noted by referring to the drawing that the upper portion 6 of each limb is pivoted eccentrically upon the shaft 4, the greater mass of portion 6 extending rearwardly of the shaft, to balance the forwardly extended tread portion 8, so that in the freely hung position of the limb its heel 9 lies nearly in a vertical line intersecting the pivotal axis, so that the heel of the limb is therefore in position to have engaging contact with the surface when the toy figure becomes tilted over to find support upon one of the limbs. In the example of my toy figure herein illustrated the centre of gravity occurs at a point rearward of the shaft 4, as at x.

Also it will be noted that the arcuate tread portions 8 are wider than the portions 6, they being extended in width beneath the body 1, so that in the normal, inactive state of the device the edges 11 are in adjacent parallelism, and together may constitute the supporting means for the toy figure at rest.

Obviously, if these arcuate tread portions were brought close together, their combined edges 11 would fail to support the figure in an upright position, and it would be forced by lack of poise to lie over upon one or other of the inclined tread surfaces. This however is what actually happens in practice, when the toy figure is put in motion, either by placing it on an inclined surface, or by drawing it along a level surface by

means of a string 12 attached to its head. For the space separating the treads 8 is too narrow to permit the toy figure to remain upright on edges 11 while in motion. Some space is necessary between the treads to permit the limbs to have independent movement, and particularly to allow clearance between the tread of an inactive limb and the surface when that limb is cocked up by reason of the toy figure then riding upon the arcuate surface of the other limb.

It will be apparent from the foregoing description that my improved toy figure will in its motion simulate walking, by rolling alternately on its respective limbs, and since the act of walking requires the toy figure to sway from side to side in attaining its bearing alternately on the respective limb treads, thereby a waddling effect is imparted to the walk.

The toy figure may be suitably balanced, and as here shown the tail 5, having contact with the surface at a point rearward of the body, thereby serves as balancing means.

Variations within the spirit and scope of my invention are equally comprehended by the foregoing disclosure.

I claim:—

1. A toy figure comprising a body portion and relatively short supporting limbs, pivotally connected at opposite sides thereof, said limbs being characterized by each having the greater mass of its upper portion so located as to cause it to hang pendent with its heel adjacent to a supporting surface, said limbs having parallel tread portions, disposed near the central, longitudinal, vertical plane through the figure, whose base surfaces have, respectively, the contours of cone surfaces in concentric relation with the limb pivots, with major inner arcs, and each having a cylindrical surface at the extreme forward edge, the radius thereof corresponding to the radius of said major arc and a transition area intermediate said conical and cylindrical surfaces adapted to interrupt the smooth rolling action of the tread at the end of its travel.

2. In a toy figure, in combination, a body portion, relatively short side supporting limbs therefor, and longitudinal balancing means, said limbs having parallel tread portions, disposed near the central, longitudinal, vertical plane through the figure, whose base surfaces have, respectively, the contours of elements of cone surfaces in concentric relation with the limb pivots, with major inner arcs and minor outer arcs and each having a cylindrical surface at the extreme forward edge, the radius thereof corresponding to the radius of said major arcs, and a transition area defined by the mergence of said major and minor arcs into said cylindrical surface, said transition area being adapted to interrupt the smooth rolling action of the tread at the end of its travel and said limbs being characterized by each having the greater mass of its upper portion so located as to cause it to hang pendent with its heel adjacent to a supporting surface.

Signed at the borough of Manhattan, in the city, county and State of New York, this 10th day of November, 1922.

ARTHUR L. WHITESIDE.