June 21, 1927. 1,633,147

A. L. WHITESIDE

WALKING TOY

Filed Oct. 23, 1923 2 Sheets-Sheet 1

Fig. 1.

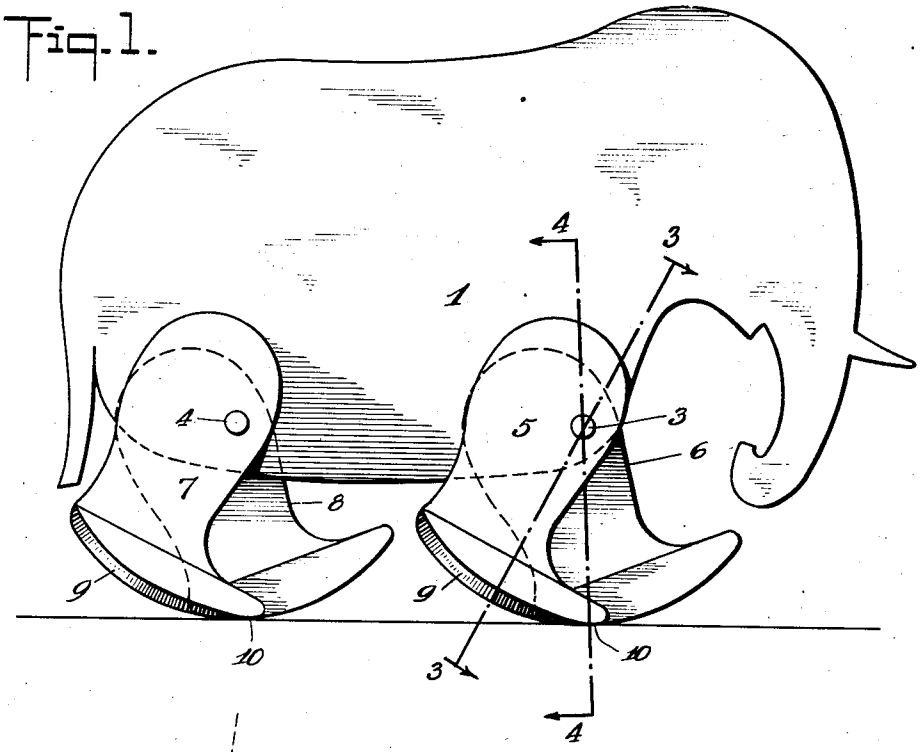


Fig. 2.

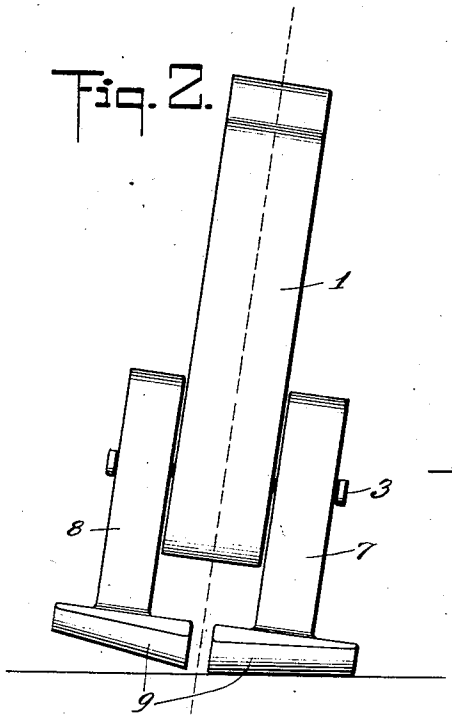


Fig. 3.

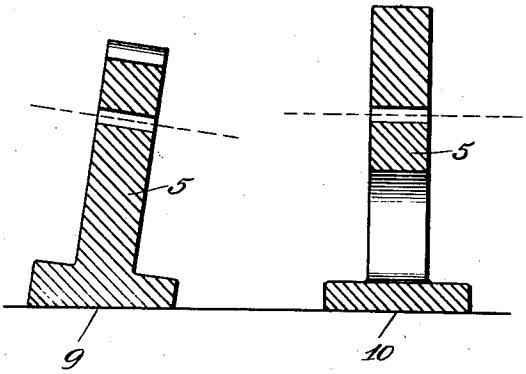


Fig. 4.

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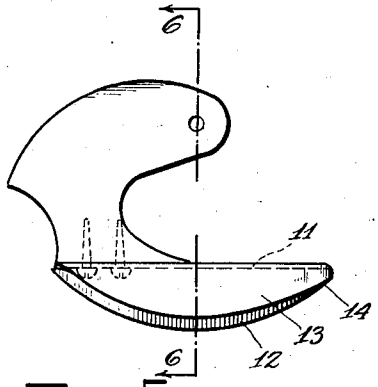


Fig. 5.

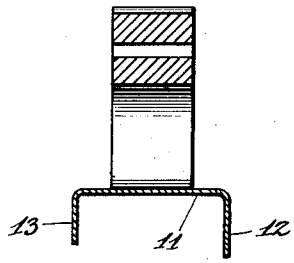


Fig. 6.

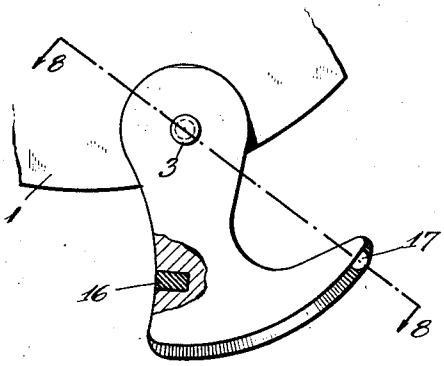


Fig. 7.

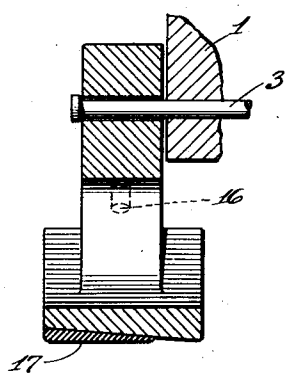


Fig. 8.

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UNITED STATES PATENT OFFICE.

ARTHUR L. WHITESIDE, OF BAYSHORE, NEW YORK.

WALKING TOY.

Application filed October 23, 1923. Serial No. 670,251.

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.

While not so limited, my present application is directed to a walking toy quadruped figure, differing therein from the example of a two-footed figure such as is illustrated in my earlier application for patent, Serial No. 600,282, filed November 11, 1922; and furthermore, my present application includes certain characteristic features not found in said earlier application, and representing a further development in the art.

Thus, in addition to providing the figure with four legs, arranged in front and rear pairs, each leg having a foot or tread portion whose base represents the section of a cone, said base has a wedge shaped strip applied transversely thereto to accord it a terminal contour representing the section of a cylinder.

Further, whereas in my earlier application device the legs of the figure are weighted by having the greater mass of their material rearwardly of the pivot to cause them to hang with the heel portion in readiness to make surface contact, so that the figure may roll forwardly on the tread arc, I have found that the same effect can be produced by introducing a portion of relatively heavier material into the lower rear portion of the leg, thereby enabling the shape of the leg to be fashioned independently of its pendulous quality.

Still further, while the tread portions of the device in my earlier application are shown as composed of solid material, I find that by giving them a hollow or channel-like shape, with travel edges in place of a continuous bottom surface, certain structural advantages are achieved which serve to reduce the cost of production and provide for highly efficient rolling action upon such tread portions.

Other features and advantages of my invention will hereinafter appear.

In the drawings:

Figure 1 is a side elevation of a toy quadruped figure provided with my improved walking legs.

Fig. 2 is a rear view thereof in a position just prior to reaching the position shown in Fig. 1.

Fig. 3 is a section on the line 3—3 of Fig. 1, showing the position of the leg when the figure is swung over on its right side.

Fig. 4 is a section on the line 4—4 of Fig. 1.

Fig. 5 is a side elevation of a modified form of tread portion.

Fig. 6 is a section on the line 6—6 of Fig. 5.

Fig. 7 is a side elevation of a leg provided with inserted weighting means and the added strip to give cylindrical contour to the toe portion, and

Fig. 8 is a section on the line 8—8 of Fig. 7.

In said figures let 1 indicate the body of a toy quadruped figure here arbitrarily shown to represent an elephant.

Said body, at its lower portion, is provided with the shafts 3, 4, that respectively extend transversely therethrough toward the front and rear thereof the ends of the shafts extending beyond the sides of the figure to serve as pivots for oscillable legs.

There is a pair of front legs 5, 6 and a pair of hind legs 7, 8, the legs of each pair corresponding in character. In the example of Figs. 1 and 2 the legs are represented as having the greater mass of their material located rearwardly of the pivot, so that when the legs are free to hang pendent, (see legs 6, 8) the heels of their arcuate tread portions will be adjacent the surface for engagement therewith when the center of gravity is shifted to impose the greater weight of the figure at that side thereof having said legs 6, 8.

The feet or tread portions of the legs have arcuate bases which in each instance extend almost wholly in front of the vertical plane through the pivot, transversely of the figure, when the leg is hanging plumb. But said surfaces represent a frusto-conical section 9 concentric with the pivot (see Fig. 3) except at the front or toe portion, where the surface represents the segment of a cylinder 10 concentric with the pivot (see Fig. 4).

The tread portions are relatively broad and extend laterally beneath the body 1, being parallel with and near the longitudinal central vertical plane through the body, so that when the figure is erect, with its weight carried by the adjacent edges of the conoidal base surfaces, the equilibrium of the figure

is easily disturbed. Therefore, in practice, under forward motion, the figure sways from side to side, resting alternately upon the feet at its opposite sides, the change over from one side to the other resulting from the shift in the centre of gravity as the figure rolls upon the cylindrical toe portions 10 of the tread.

It should be noted that with the quadruped figure herein shown, all of whose legs are capable of independent pivotal action, longitudinal support is provided by aligned front and hind treads at the respective sides of the figure; the transversely flat and relatively broad surfaces of the treads on either side enabling the figure to maintain its footing while tilted over thereon.

In the modified form of tread portion illustrated in Figs. 5 and 6 it has a hollow base 11, provided with the opposite side walls 12, 13, whereof the inner wall 12 is deeper than the outer wall 13, and the surface contacting edges of these walls, proceeding from the heel of the tread to a forward portion thereof, are arcuate, in concentric relation to the pivotal axis of the leg. But the toe portion of wall 13 is flattened out at 14 so that its surface contacting edge is there transversely aligned with the surface contacting edge of wall 12, in order that the figure, in rolling upon these walls may rock from a laterally tilted position to the true vertical position, preparatory to assuming an opposite lateral slant as it comes to rest upon the treads at the other side of the figure.

These hollow tread portions may obviously be composed of any desirable material and suitably included in the leg structure.

In Figs. 7 and 8 there will be seen the modification wherein a leg 15 is weighted as by the insertion of a plug 16 of relatively heavy material to balance the extended forward portion of the tread, thereby causing the heel portion to hang plumb from the pivot. Also there will be noted in these figures, the feature of the tread base shaped throughout in conoidal form, this being desirable in fashioning the tread in material such as wood. With this form of tread, the desired cylindrical effect at the toe portion is produced by affixing a tapered strip 17 transversely thereto.

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

I claim:

1. A four-footed toy figure, comprising a body portion having two pairs of limbs pivotally connected at opposite sides thereof, the limbs on the same side having parallel tread portions, disposed near the central, longitudinal, vertical plane through the figure, whose base surfaces are respectively conoidal in concentric relation with their pivots, with major inner arcs, from their heels to near their toes, and are transversely cylindrical in concentric relation with their pivots at their toes.

2. A four-footed toy figure, comprising a body portion having two pairs of limbs pivotally connected at opposite sides thereof, the limbs on the same side having parallel tread portions, disposed near the central, longitudinal, vertical plane through the figure, whose base surfaces are respectively conoidal in concentric relation with their pivots, with major inner arcs, from their heels to near their toes, and are transversely cylindrical in concentric relation with their pivots at their toes, said cylindrical surface conforming to the radius of the major arc.

Executed at New York, this 19th day of October, 1923.

ARTHUR L. WHITESIDE.