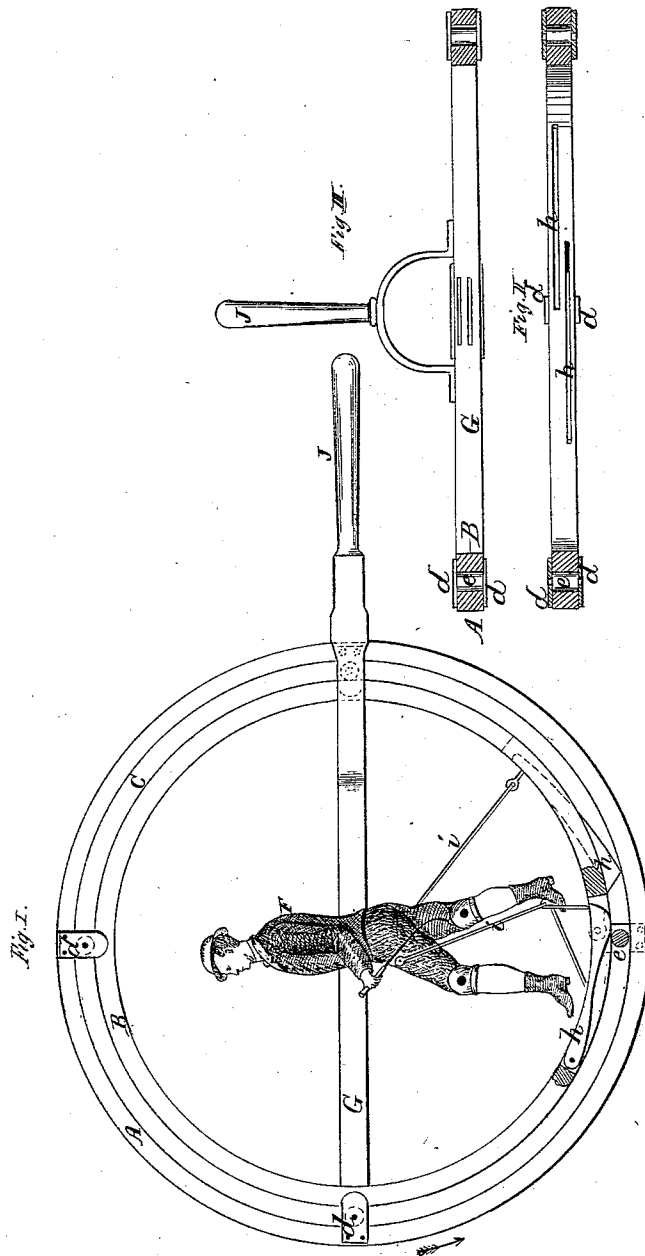


J. L. Lay,

Toy Hoop.

No. 82,724.

Patented Oct. 6. 1868.



W. J. Chamberlain
W. B. Ker } *Witnesses*

John L. Lay *Inventor*
by Forbush & Hyatt
attys.

United States Patent Office.

JOHN L. LAY, OF BUFFALO, NEW YORK.

Letters Patent No. 82,724, dated October 6, 1868.

IMPROVEMENT IN TOY-HOOPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN L. LAY, of the city of Buffalo, in the county of Erie, and State of New York, have invented a new and useful Improvement in Toy-Hoops; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure I is a side elevation of my improved hoop.

Figure II is a section of the same.

Figure III is a sectional view, showing a different mode of attaching the handle.

Like letters of reference designate corresponding parts in all the figures.

My improvement relates to that class of toy-hoops designed for rolling on the ground, in which an image is arranged within the hoop; and the invention consists of two hoops, concentrically arranged, so that the image or equivalent device supported within one of the hoops shall be operated by the rotation of the other, through the intervention of rollers, levers, and connecting-rods, or equivalents, substantially as hereinafter fully set forth.

In the drawing, A B represent two hoops, made of any suitable material, preferably, however, of wood, on account of its cheapness and lightness, one of which is arranged concentrically within the other, so as to leave a space, C, between the two. These hoops are maintained in their proper relative position by means of guide-plates *d d*, attached to the outer hoop, A, and overlapping the sides or entirely surrounding the inner hoop, with guide or friction-rollers *e e* mounted between them, and engaging with the periphery of the inner hoop as the outer one rotates.

F is an image, supported in any suitable manner within the hoop B, being represented in the drawing as attached to a cross-piece, G.

The image or images may be of any desired and suitable character, such as a man, horse, or other animal, or several combined, with or without other appendages.

For imparting the required motion to the legs or other portions of the image, I employ the following mechanism: *h h* are two levers, hinged at one end in suitable slots in the inner and relatively stationary hoop B, so as to freely play therein. The other end of these levers is connected to the legs or other parts of the image, to be actuated by suitable connecting-rods, *i i*. These levers being arranged in the lower portion of the hoop B, the gravity of the free or movable ends thereof, together with that of the connecting-rods, causes them to decline through their respective slots, so as to be nearly in contact with the outer hoop, except when elevated by the action of the rollers *e e* as the outer hoop is rotated.

The lower edge of the levers, or that against which the rollers engage, is made of suitable form, so as to impart to the leg, which is jointed at the thigh and knee, a motion imitative of the natural movement in walking. As the outer hoop rotates in the direction indicated by the arrow, a roller, *e*, coming in contact with the lower edge of the lever at the pivoted end, will force the free end of the same upward, which, by means of the connecting-rod *i*, will cause the leg to advance or oscillate forward. The length of the lever should be so graduated, that when the leg has advanced the required distance, the roller will have passed the end of the former, or the point of greatest eccentricity, so as to permit the parts to suddenly or gradually return to their normal position, as required. The two levers are arranged, one in advance of the other, so that the rollers will act successively on them, and thereby produce the required successive movement to the legs. The levers or arms attached thereto should extend back sufficiently far to prevent the connecting-rods *i* getting in line of the dead-centres.

The distance between the rollers *e* should be made to correspond with the length of the step or other movement the image is required to make.

It is evident that a rigid pin, cam, or an incline, can be used instead of the roller *e*, although the friction would thereby be considerably increased.

It is also apparent, that by the use of other levers and connecting-rods, &c., or by other rods attached to

the same levers, and connecting with the arms or other parts of the image or images, a corresponding motion may likewise be communicated to them.

Springs may also be employed to modify or produce the required movements, and other and equivalent mechanism, operated by the same principle, can be substituted for the levers *e*, and accomplish substantially the same or an equivalent result.

The toy is held and operated by a handle, *J*, attached to the inner hoop, as shown in Fig. I, having a slot or divided end where fastened to the hoop, to permit the outer hoop to rotate therein, or the handle may be formed as represented in Fig. II, and attached to the cross-piece *G*, at right angles thereto, on each side of the image. With the former method of attaching the handle, the hoop is designed to be rolled upon the ground by pushing in front of the child. With the other method, the hoop rolls by the side, as in trundling an ordinary hoop, the image, when of proper size, keeping step, or nearly so, with the operator, and thereby producing a most pleasing automaton-companion for children.

What I claim as my invention, and desire to secure by Letters Patent, is—

The relatively stationary hoop *B*, supporting an image or images, in combination with an outer concentric and rotating hoop, *A*, provided with rollers *e e*, or their equivalent, which gives motion to the image through intermediate levers *h* and connecting-rods *i*, or their equivalent, substantially as set forth.

JOHN L. LAY.

Witnesses:

W. J. CHAMBERLAIN,
BYRON S. HEATH.