

No. 672,707.

Patented Apr. 23, 1901.

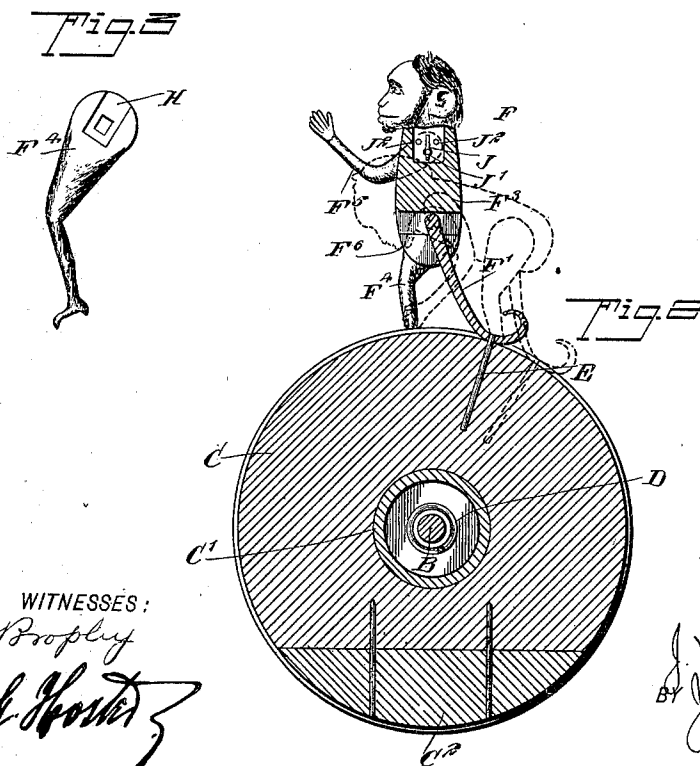
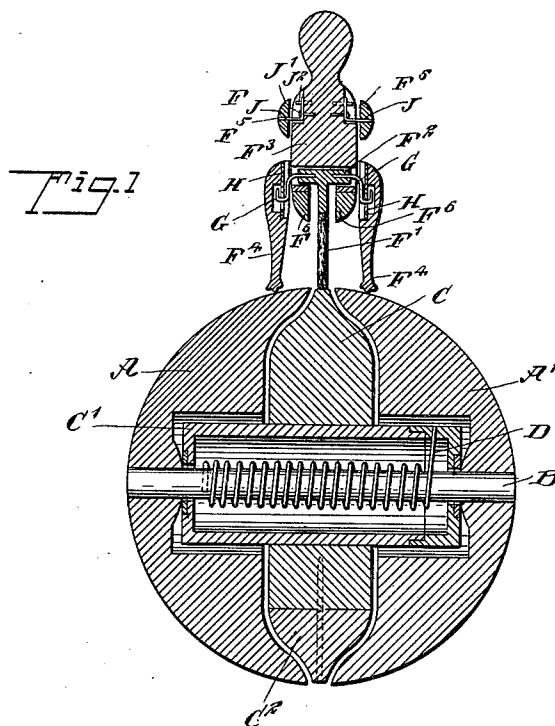
J. W. MACKIN & J. ZWEIGART.

MECHANICAL TOY.

(No Model.)

(Application filed Apr. 2, 1900.)

2 Sheets—Sheet 1.



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Fig. 4

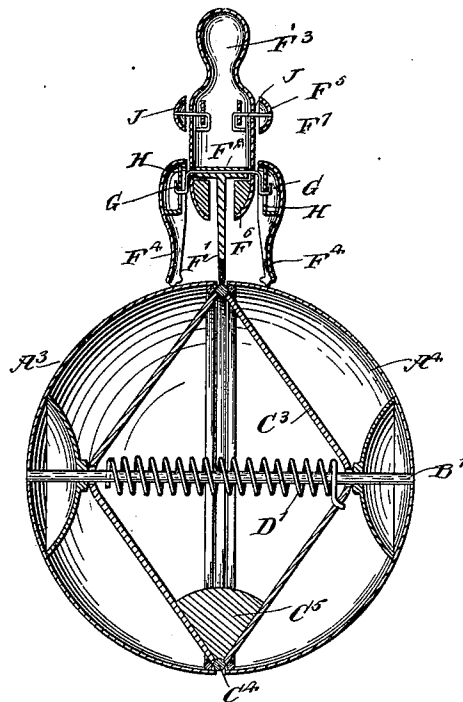
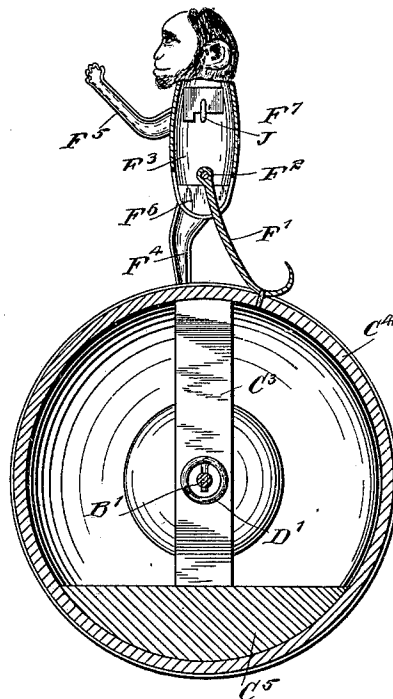


Fig. 5



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UNITED STATES PATENT OFFICE.

JOHN W. MACKIN AND JULIUS ZWEIGART, OF CHICAGO, ILLINOIS.

MECHANICAL TOY.

SPECIFICATION forming part of Letters Patent No. 672,707, dated April 23, 1901.

Application filed April 2, 1900. Serial No. 11,129. (No model.)

To all whom it may concern:

Be it known that we, JOHN W. MACKIN and JULIUS ZWEIGART, citizens of the United States, and residents of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Mechanical Toy, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved mechanical toy which is simple and durable in construction, arranged to afford considerable amusement, and very attractive when in operation, owing to the unique mechanical movement, representing an image walking on the top of a rolling body.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a transverse section of the improvement arranged with a wooden ball. Fig. 2 is a sectional side elevation of the same. Fig. 3 is a side elevation of one of the legs of the image. Fig. 4 is a transverse section of a modified form of the improvement arranged with a hollow metallic ball, and Fig. 5 is a sectional side elevation of the same.

The improved toy illustrated in Figs. 1, 2, and 3 consists, essentially, of a wooden body or ball made in two sections A A', axially connected by a rod or shaft B, the inner faces of the said sections being recessed, as is plainly shown in Fig. 1, to afford sufficient room for a disk C, the peripheral surface of which extends to the peripheral surface of the ball at the joint of the two sections, said disk C having its hollow hub C' mounted to rotate loosely on the rod or shaft B. A torsion-spring D, coiled on the shaft B, within the hub C', is fastened at one end to the said rod or shaft B and at its other end to the hub C' of the disk, so that when the ball A is rotated the disk C remains stationary on account of its weighted bottom C², which causes a winding up of the spring D to store the propelling energy of the spring.

On the peripheral surface of the disk C, at

or near the top thereof, is secured by a pin or nail E a part F' of an image F, preferably in the shape of a monkey, the part F' being the tail. The upper end of the tail F' is formed with shoulders or trunnions F², on which the body F³ of the image is mounted to turn, and in said trunnions are secured angular depending arms G, adapted to hook upon apertured plates H, secured in recesses formed on the inside of the legs F⁴ of the image, said legs hanging downward and freely resting with their lower ends on the peripheral surface of the ball-sections A A', as is plainly shown in Fig. 1. The arms F⁵ of the image are provided with angular bars J, pivoted at J' on the body F³, the vertical members of said bars being mounted to oscillate between stop-pins J², secured to the said body F³, as is plainly indicated in Figs. 1 and 2.

The lower portion F⁶ of the body F³ of the image F is weighted to normally hold the body in an upright position; but as the body is mounted to turn freely on the upper end of the tail F' it is evident that the body can readily assume a stooping position when the ball is rolled along, as indicated in dotted lines in Fig. 2, the arms F⁵ then reaching to the ball-sections, thus giving the image the appearance of walking on all fours on the ball. The legs are hung on the angular arms G to keep said legs always in the same position relatively to the ball, no matter what position the body F³ may assume between its upright position (shown in full lines) and the stooping position. (Shown in dotted lines.)

By the arrangement described the rotation of the ball causes a winding up of the spring D for storing up the propelling energy of the said spring, and when the ball is propelled the disk C approximately maintains its position, owing to the inherent gravity of the disk, which prevents it from turning on the rod or shaft B. Thus when the ball rolls along the surface the image appears as though walking on the top of the ball, especially as the several joints of said image are loosely connected with the body, and hence are free to vibrate according to the vibrations of the rolling ball. By making the rim or peripheral surface of the disk C very narrow very little space is left between the adjacent peripheral edges of the ball-sections A A', so

that the ball appears whole when rolling along a surface.

In the modified form (shown in Figs. 4 and 5) the body or ball has its sections A³ A⁴ made of metal and hollow, and the disk is in the form of a skeleton frame C³, an annular rim C⁴ extending to the joint between the ball-sections A³ A⁴. The lower portion of the skeleton frame carries a weight C⁵ and the frame is mounted loosely on a pin B', on which is coiled a spring D', secured with one end to the frame C³ and at the other end to the pin B'. The image F⁷ is similar in construction to the image F, above described, with the difference that the image F⁷ is made hollow instead of solid, as shown in Fig. 1. It is understood that in either case, however, the lower portion of the body of the image is weighted and the legs are hung on depending angular arms G, so as to hold the legs in proper position relatively to the body when the latter moves into a stooping position, it being evident that the trunnions F² must necessarily be located above the weight F⁶ to allow proper movement of the body, as described—that is, to allow it to move to stooping position and back into an upright position when the ball comes to rest.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination with a rolling body and a disk arranged within the rolling body and with relation to which the rolling body may freely rotate, of an image comprising a body portion, a part rigidly attached to the disk and with which said body portion has swinging connection, arms mounted to swing on said body portion, and legs mounted to swing

on said body portion, the said arms and legs being adapted to engage with the rolling body while rolling, substantially as specified.

2. A mechanical toy, comprising a ball made in sections, recessed at opposite faces, a disk mounted in the ball between the sections thereof, the disk having a balancing-weight at the bottom, a spring for turning the ball relatively to the disk, the said spring being arranged within the ball, and an image supported on the periphery of the disk at the top thereof and extending outside of the ball, said image comprising a supporting-joint attached to the disk, a body journaled on said joint, a weight on the body below the journal, and body members or joints hung loosely on angular arms forming parts of said supporting-joint, substantially as specified.

3. A mechanical toy, comprising a ball made in sections recessed at opposite faces, a rod axially carried by said sections, a disk fitted between the sections in the recesses thereof, the disk having a hollow hub mounted to turn loosely on said rod, a spring on the rod within said hub, one end of the spring being secured to said rod and the other end to said hub, the said spring being wound by rotating the ball relatively to the disk, and an image carried on the periphery of the disk directly opposite its balancing-weight, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN W. MACKIN.
JULIUS ZWEIGART.

Witnesses:

O. G. ELSENER,
WM. LANIGAN.