

No. 630,850.

Patented Aug. 15, 1899.

W. BOWMAN.
TOY.

(Application filed July 2, 1896.)

(No Model.)

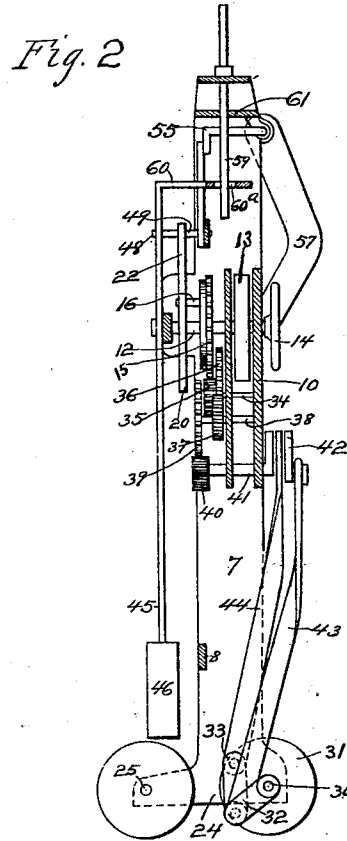
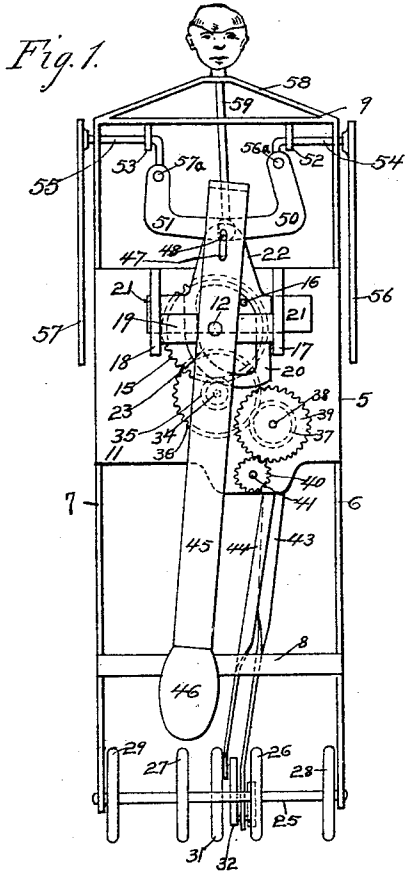
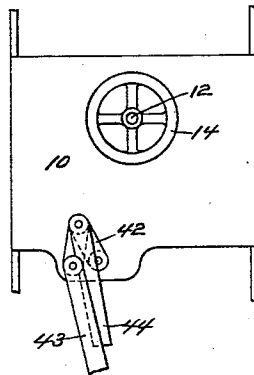


Fig. 3.



WITNESSES

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TOY.

SPECIFICATION forming part of Letters Patent No. 630,850, dated August 15, 1899.

Application filed July 2, 1896. Serial No. 597,895. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BOWMAN, a subject of the Queen of England, and a resident of Medicine Hat, in the Territory of Assiniboia and Dominion of Canada, have invented certain new and useful Improvements in Toys, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar numerals of reference indicate corresponding parts.

This invention relates to automatic toys which move by mechanical means; and the object thereof is to provide a toy of this character representing a man in the act of skating or in which the movements of the toy will be similar to those of a person when skating; and with these and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter fully described in the specification and illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a toy constructed according to my invention, showing merely the frame and actuating mechanism. Fig. 2 is a side elevation thereof, one of the side members of the frame and several of the connected parts being removed; and Fig. 3, a rear view of a part of the device shown in Fig. 1.

Similar numerals indicate like parts throughout the several views.

In the practice of my invention I provide a rectangular frame 5, consisting of sides 6 and 7, a bottom plate 8, and top plate 9. To the sides 6 and 7 I secure a rectangular plate 10 in any suitable manner, and in front of said plate 10 I mount a second plate 11, which is similar in form to said plate 10, and revolvably mounted in said plates 10 and 11 is a shaft 12, and mounted on the shaft 12 between said plates 10 and 11 is a spring-drum 13, and the rear end of the said shaft 12 is provided with a wheel 14, by which the said drum may be wound, as will be readily understood. On the front end of the said shaft 12 I secure a gear-wheel 15, and on the face of the gear-wheel 15, near the outer edge thereof, I place a pin 16. Secured to the said plate 11 are two outwardly-directed standards 17 and 18, to the outer end of which is secured a cross-

plate 19, and the said shaft 12 passes through the cross-piece 19 and revolves therein. Slidably mounted in the said standards 17 and 18 back of said cross-piece 19 is a plate 20, and said plate 20 consists of a body portion having laterally-extending arms 21 and an upwardly-directed extension 22, and formed in the body portion of said plate 20 is a cam-shaped opening 23, and the said pin 16 on the gear-wheel 15 is adapted to engage the edge of said cam-shaped opening and to project the said plate 20 toward the side of the frame, as will be readily understood. The lower ends of the sides 6 and 7 are shaped to represent a man's foot, as shown at 24, and mounted in the toes is a shaft 25, on which are mounted two large disks 26 and 27, adjacent to the central part thereof and each being at the same distance from its respective side, and said disks or rollers 26 and 27 are of equal size, and on the ends of said shaft 25 I mount two similar disks 28 and 29, and said last-named disks are also of equal size and equal in size with the disks 26 and 27. In the part of the sides representing the heel I mount another shaft 30, and centrally of this shaft I place a disk or roller 31, which is similar to the said disks 26 and 27, and said shaft 30 is connected with said disk 31 centrally thereof at one side, while the other half of said shaft 30 is formed into a double bell-crank lever 32, adjacent to said disk or roller 31, and is pivotally connected with said disk 31 at 33. Secured to the said plates 10 and 11 is a shaft 34, on which is mounted a pinion 35, adapted to mesh with the gear-wheel 15, and I also mount a second gear-wheel 36 on the said shaft 34, which is adapted to mesh with a pinion 37, mounted on a shaft 28, which is secured to said plates 10 and 11, and the shaft 38 is also provided with a gear-wheel 39, adapted to mesh with a pinion 40, mounted on a shaft 41, which is revolvably mounted in the lower sides of the plates 10 and 11, and on the rear end of the said shaft 41 I form a double bell-crank lever 42, and the double bell-crank levers 42 and 32 are connected by two links 43 and 44, which are of the form shown in Figs. 1 and 2.

Pivotally mounted on the shaft 12 is a long bar 45, to the lower end of which is secured a weight 46, and the upper end of the said bar

45 is provided with a longitudinal slot 47, and the extension 22 of the plate 20 is provided with a pin 48, adapted to engage said longitudinal slot, and the pin 48 is provided with a backwardly-directed extension 49, on which are pivotally mounted two arms 50 and 51.

The top piece of the frame is provided with two standards 52 and 53 on the lower side thereof, and pivotally mounted in the upper ends of the sides 6 and 7 and the standards 52 and 53 are crank-levers 54 and 55, and said crank-levers are pivotally connected with the arms 50 and 51 at 56 and 57, respectively, and mounted on the outer end of the crank-levers 54 and 55 are depending arms 56^a and 57^a.

The top cross-piece 9 is provided with an angular-shaped bar 58, in which is pivotally mounted a rod or bar 59, the upper end of which is provided with an image representing a human head. The bar 45 is provided at the upper end thereof with a backwardly-directed extension 60, and the said rod 59 passes through a slot 60^a formed therein, and the top plate 9 is slotted, as shown at 61, so that the said rod 59 is free to move therein.

The operation of the device will be readily understood from the forgoing description when taken in connection with the accompanying drawings and the following statement thereof. The spring-drum 13 is wound up by the wheel 14, as will be readily understood, and when the image is set on the floor the said spring-drum will revolve the shaft 12 and gear-wheel 15, and said gear-wheel being connected with the pinion 40 on the shaft 41 through the intermediate gear-wheels and pinions the said shaft 41 will be revolved, as will be readily understood, and the double crank-lever 42 being connected with the double crank-lever 32 on the shaft 30 it will also be understood that the said shaft 30 will be revolved and with it the disk or roller 31, and the figure will move accordingly. When the shaft 12 is revolved together with the gear-wheel 15, the pin 16 will revolve therewith and will engage the cam-shaped opening 23, formed in the said plate 20, and the said plate 20 will be projected toward either side of the frame, as will be readily understood. As the upper end 22 of the plate 20 carries the pin 48, which engages the longitudinal slot 47, it is evident that the upper end of said bar 45 will be carried back and forth with the said extension 22 and the weight 46 will swing the same as a pendulum, and this weight 46 is adapted to change the position of the figure so that the same will be moved as in skating. In this operation the arms 50 and 51 will engage the crank-levers 54 and 55 and will operate the arms 56^a and 57^a, as will be readily understood. It will also be understood that the backwardly-directed extension 60 of the bar 45 will engage the lower part of the rod 59 and project the head toward either side, thereby completing the operation of a skater. It will also be understood that any suitable covering or dress can be placed

upon the frame and the same can be made to imitate perfectly the figure of a skater.

It is evident that many changes may be made in the adjusting mechanism herein described and in many other parts of the invention, and therefore I do not limit myself to the exact construction herein described, but reserve the right to make such alterations and modifications of the construction herein shown as fairly come within the scope of my invention.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A mechanical toy, consisting of a frame or support, with which are connected portions representing the limbs or feet, the latter being provided with rollers, a double bell-crank lever connected with the shaft of the rollers, a lateral shaft mounted in the upper portion of the frame, and provided with a crank portion and connection between the double bell-crank lever and the crank portion of the last-mentioned shaft, a central lateral shaft mounted on said frame and carrying gear connections with the upper lateral shaft, and a spring mounted on said central lateral shaft, whereby the upper lateral shaft is actuated and the toy is propelled, substantially as described.

2. A mechanical toy, consisting of a frame or support, with which are connected portions representing the limbs or feet, the latter being provided with rollers, a double bell-crank lever connected with the shaft of the rollers, a lateral shaft mounted in the upper portion of the frame, and provided with a crank portion and connection between the double bell-crank lever and the crank portion, a central lateral shaft mounted on said frame and carrying gear connections with the upper lateral shaft, and a spring mounted on said central lateral shaft, whereby the upper lateral shaft is actuated and the toy is propelled, a pendulum intermediately pivoted to the central lateral shaft, and connection between the upper end of said pendulum and the arms and head, whereby the former are moved simultaneously with the movement of the lower portion of the toy, substantially as described.

3. A mechanical toy, consisting of a frame or support, with which are connected portions representing the limbs or feet, the latter being provided with rollers, a bell-crank lever connected with the shaft of the rollers, a lateral shaft mounted in the upper portion of the frame, and provided with a double crank portion, and connection between the double crank-lever and the crank portion, of the last-mentioned shaft, a central lateral shaft mounted on said frame and carrying gear connections with the upper lateral shaft, and a spring mounted on said central lateral shaft, whereby the upper lateral shaft is actuated and the toy is propelled, a pendulum intermediately pivoted to the central lateral shaft, a depending rod movably mounted in the top

of the frame, the free end being connected with the head and being engaged by the bifurcated end of the pendulum, and connection between the pendulum and the arms, 5 whereby the head and arms are operated, substantially as described.

In testimony that I claim the foregoing as

my invention I have signed my name, in presence of the subscribing witnesses, this 1st day of June, 1896.

WILLIAM BOWMAN.

Witnesses:

JAMES HARGRAVE,

FRANCIS HERBERT PEACHEY.