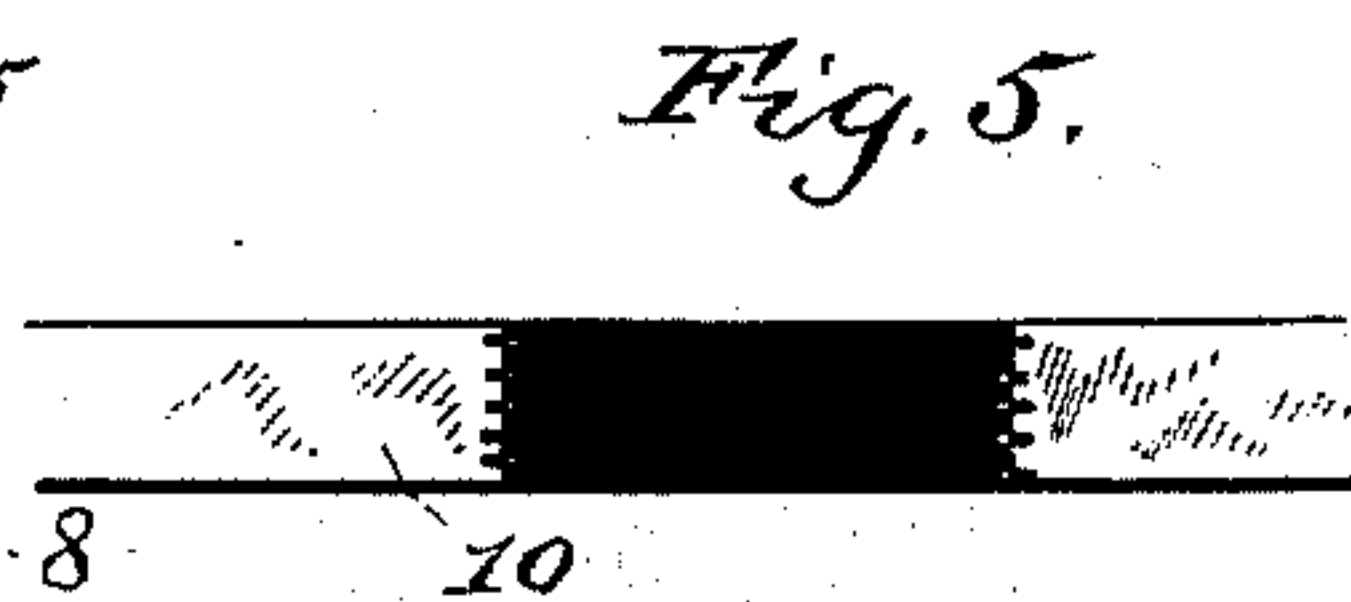
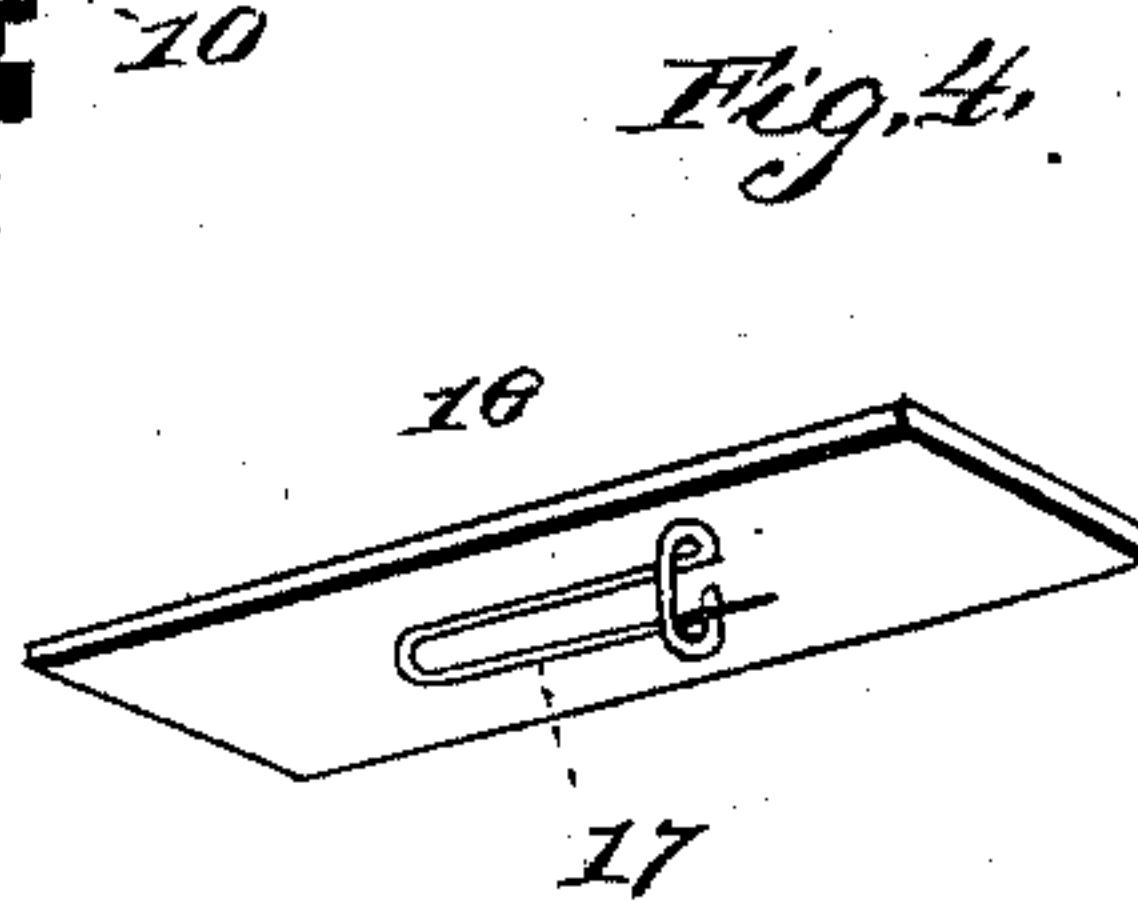
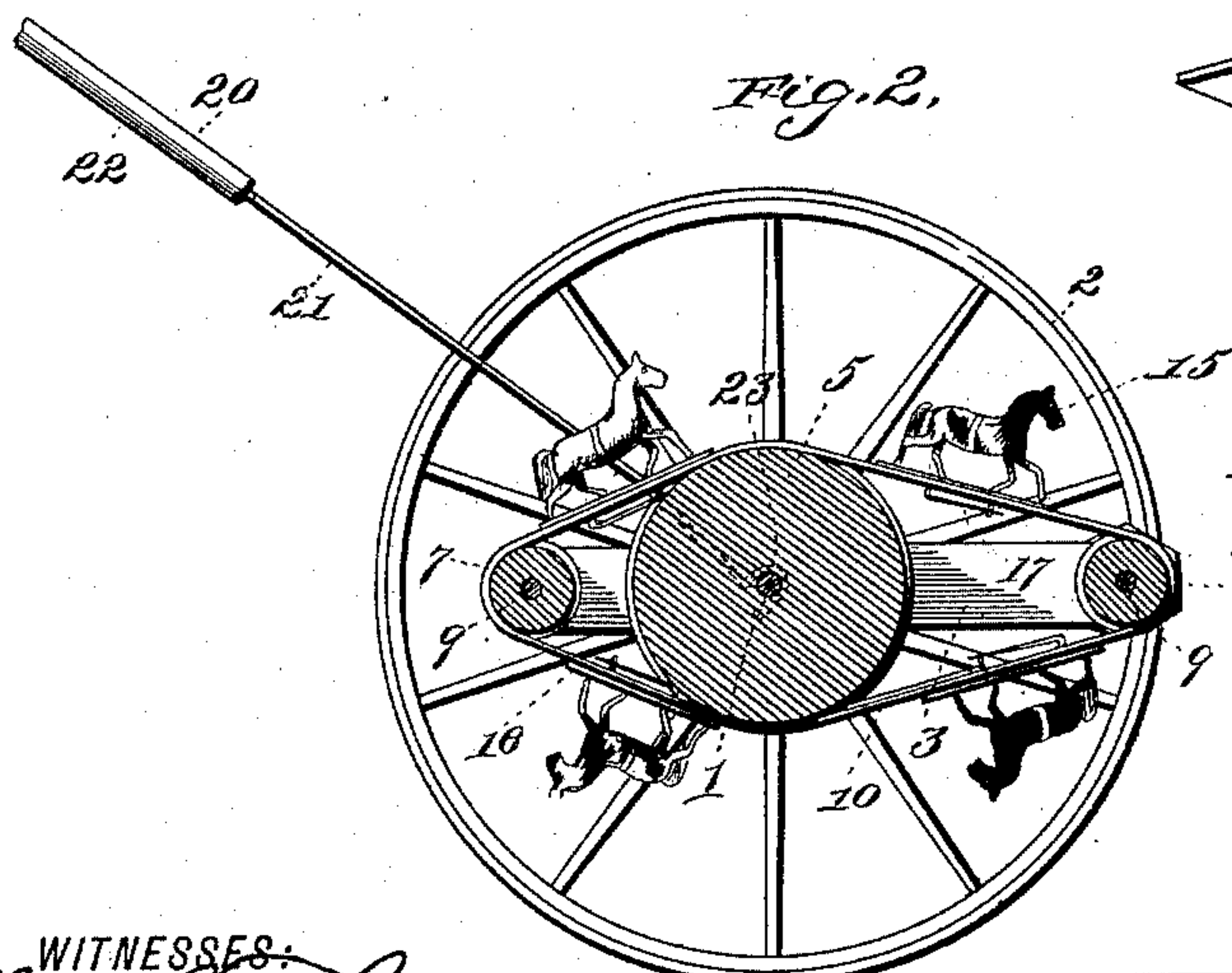
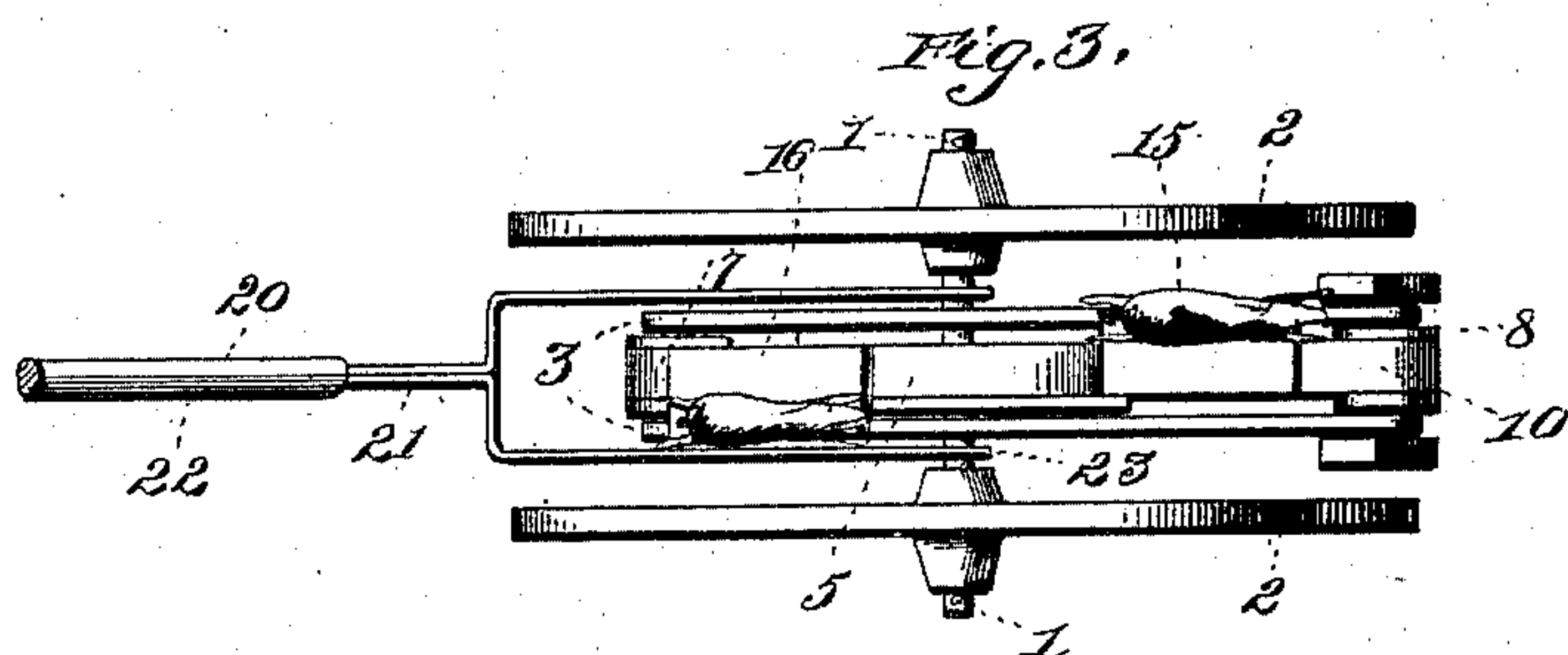
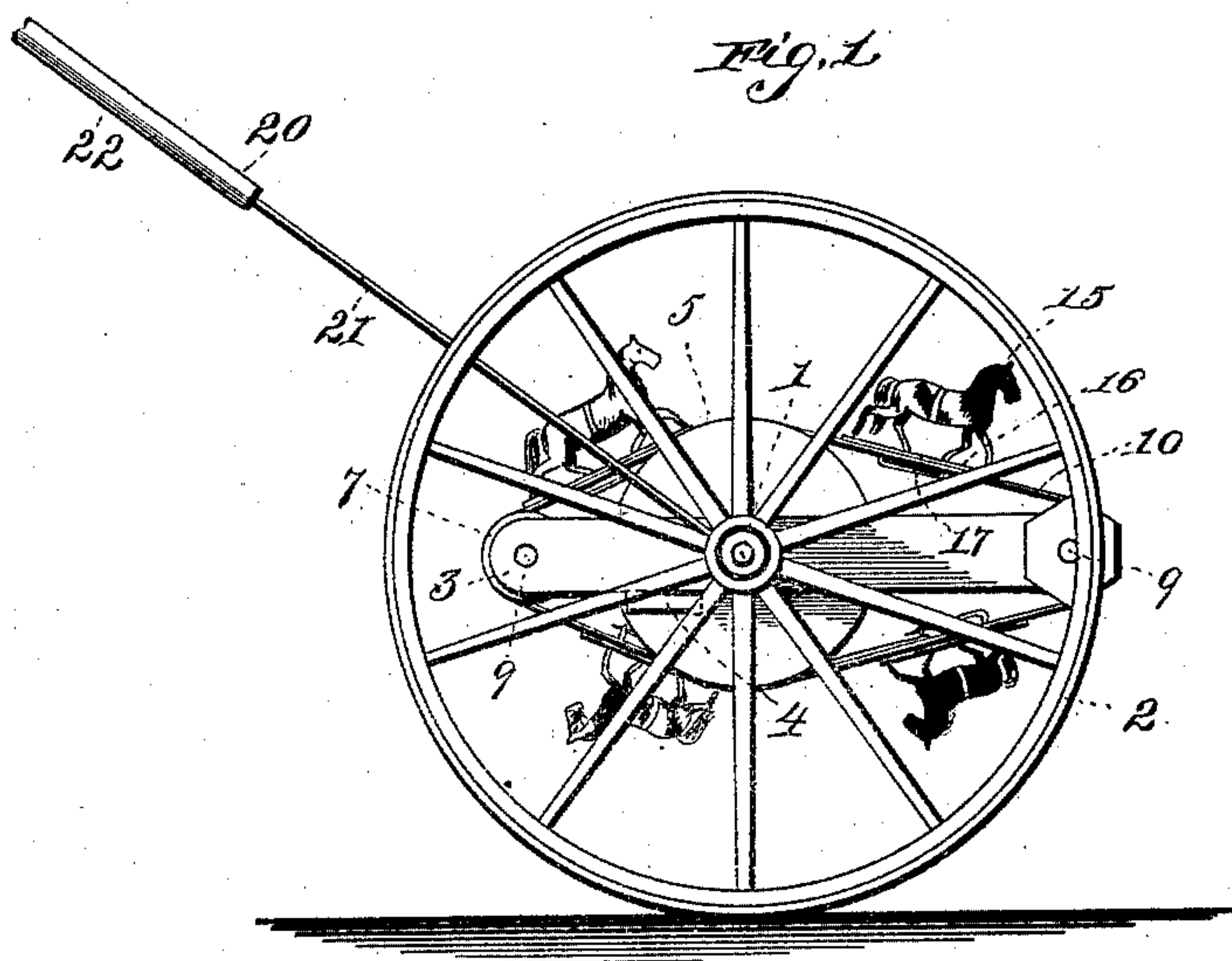


(No Model.)

J. GOODRICH.
CIRCUS TOY.

No. 442,038.

Patented Dec. 2, 1890.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOSEPH GOODRICH, OF CHICAGO, ILLINOIS.

CIRCUS TOY.

SPECIFICATION forming part of Letters Patent No. 442,038, dated December 2, 1890.

Application filed November 8, 1889. Serial No. 329,701. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH GOODRICH, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Circus Toys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in toys, which I prefer to call a "circus toy," from the fact that it contemplates as an essential part of the invention one or more figures which are given or capable of a peculiar movement appropriate to the character of the figure; and the object of my invention is to provide an amusing and attractive toy, which is simple in construction and cheap of manufacture.

With these ends and other ends in view my invention consists, essentially, of an axle having carrying-wheels which rotate therewith, a frame mounted on the axle, a driving pulley or sheave fixed on the axle, an endless apron supported on the frame and arranged in contact with the driving pulley or sheave to be moved by the same, and a figure or figures carried by the endless apron.

The supporting-frame is loosely mounted on the axle, so that the latter is free to turn in the frame, which is weighted, in order to balance the same, and at its ends said frame is provided with guide-rollers, around which the endless apron passes. The driving-pulley on the axle is arranged between the sides of the frame, and its diameter is considerably longer than the width of the frame, in order to insure a good contact or long bearing-surface of the endless apron on said pulley or sheave.

The apron is provided with means for keeping the same taut on the driving-pulley and supporting roller or rollers, which means consists, preferably, of a piece of elastic, a spring, or other suitable device whereby the slack in the apron can be taken up and thus cause the same to be drawn taut around the guide-pulleys and the driving-pulley.

A figure or a series of figures of any suitable or desired character may be mounted on

the endless apron—as, for instance, an animal, beast, bird, insect, or a human being—and these figures are mounted or supported in a peculiar manner, so that the figures are capable of a movement or play on the endless apron. In order to secure this independent movement or play of the figures on the endless apron, I support each figure loosely on the apron, and provide means which is arranged in the path of the figure in order to impinge against the latter, and thus move the same on the support thereof at one or more points of its transit around the frame. The figure may be given any appropriate movement—as, for instance, a kicking movement if the figure be a horse or like animal, or a rocking, diving, swimming, or other preferred movement—and the means by which this independent movement of the figure on the apron is effected preferably consists of an angular or polygonal spool mounted on the frame or on the protruding ends of the shafts of the guide-pulleys on said frame. The polygonal sleeve or sleeves is either fixed in place or capable of rotation on its axis, and it is arranged in the path of a part of the figure or on a base or plate to which the figure is attached, which base or a part of the figure is arranged or constructed to project below or beyond the apron, in order to cause said protruding part of the figure to come in contact with said polygonal actuating device. A suitable handle is provided for drawing or otherwise operating the toy, the wheels of which rest on the floor or other surface and operate to rotate the axle by traction.

To enable others to more readily understand my invention, I will now proceed to a detailed description thereof in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of my improved circus toy. Fig. 2 is a longitudinal sectional view through the toy. Fig. 3 is a plan view. Fig. 4 is a detail view of one of the pins. Fig. 5 is a detail view of a part of the endless apron, showing a piece of elastic for holding the apron under tension.

Like numerals of reference denote corresponding parts in all the figures of the drawings, referring to which—

1 designates the axle of my improved toy, and 2 the carrying-wheels, which are fixed in any suitable manner to the ends of the axle in order to rotate the same. Between the carrying-wheels is arranged a supporting-frame 3, through suitable openings in which the axle loosely fits, in order to rotate in the frame without affecting the position of the latter to any material extent. The axle may pass centrally through the frame or at points one side or the other of the middle thereof, as shown in the accompanying drawings, and in order to maintain the frame in equilibrium and cause it to assume a horizontal position said frame is weighted at the bottom near its center, as indicated at 4; but it is obvious that the manner of balancing the frame can be varied within wide limits and without departing from the spirit of my invention.

5 designates the driving pulley or sheave, which is fixed to the axle to rotate or turn therewith, and the diameter of this driving-pulley is considerably longer than the width of the supporting-frame, so that the pulley projects beyond (above and below) the edges of the frame.

At the ends of the supporting-frame 3 I provide guide-rollers 7 8, which are carried by shafts 9, journaled in the sides of the frame, or, if preferred, the shafts may be rigidly secured in the frame and the guide-rollers fitted loosely thereon. I prefer, however, to journal one of the shafts in the frame and to extend one or both ends of said shaft beyond the side or sides of the frame, and on these extended ends of the shaft I place the angular actuating devices for moving the figures on the endless belt. These angular devices are preferably polygonal sleeves having four, five, six, or other desired number of sides, and these sleeves are rigidly secured on the shaft 9 to rotate therewith, or said sleeves may be loose on the shaft to enable a crossed belt to be used and the figures, or a part of them, to travel reversely, said sleeves being arranged in close lateral relation to the frame and in the path of a protruding part of the movable figure on the endless apron. It is obvious, however, that the means for actuating the figures can be fixed in place on the supporting-frame and arranged in a different manner with relation to said frame without departing from the spirit of my invention.

10 designates the endless apron, which is of any suitable width, and this apron is arranged around the guide-rollers and in contact with the drive-pulley, so as to be moved or driven by frictional contact therewith. The endless apron is provided with a piece of elastic or any suitable equivalent therefor for taking up the slack in the apron, whereby the apron can be kept taut around the driving-pulley and supporting-rollers.

The endless apron carries one or a series of figures 15, which may be of any desired character—as, for instance, an animal, beast, bird, insect, a human being, or any other desired

object. This figure is provided at its base with a plate 16, on which the figure is rigidly secured, and this base-plate of the figure is detachably and loosely connected to the endless apron by a pin 17, which passes through the web or apron, whereby the figure can be removed at will from the apron or readily replaced thereon, or other figures can be substituted for the same. The pin is preferably bent from a piece of wire to form the two arms, as shown in Fig. 4, which are constructed so as to be attached to the apron and to play or move up or down at right angles to the plane of the apron. To this pin is fixed the figure or the base of the figure, as shown in Figs. 2 and 3, said figure and its base being free to play with the pin on the apron when the figure or the base thereof comes in contact with the polygonal sleeve. The figure and its base may be arranged near one edge or the other of the apron and a portion thereof extended or projected beyond the edge of the apron, so as to strike or impinge against the polygonal actuating device. Thus, if the figure is an animal one of the legs thereof may be extended beyond the belt to strike the actuating device. I do not, however, confine myself to any precise construction by which the figure is actuated or moved on its pin by the actuating device, as it is obvious that many changes therein can be made and still be within the scope of my invention.

The toy is propelled by means of a handle 20, which consists of a bail 21 and a hand-piece 22. The bail is preferably made of wire, secured at one end to the hand-piece, and the other ends of the bail are bent to form the hooks 23, which are fitted over or around the axle between the carrying-wheels and the supporting-frame. If desired, the bail may be made of three pieces of wire, two of which are connected to the axle in the manner described, while the third wire or arm may be connected to the supporting-frame.

The operation of my invention is simple, and may be briefly described as follows: The toy is propelled by the handle and bail, which are loosely connected to the axle, and the carrying-wheels are rotated by traction, so that the axle and driving-pulley are operated to move the endless apron longitudinally of the frame, said endless apron being moved by frictional contact with the driving-pulley and supported by the frame, which swings loosely on the axle. The figures are carried with the endless apron as the latter travels longitudinally of the frame, and when the figure comes in contact with the polygonal sleeve it is moved for a limited distance at right angles to the plane of the apron by said sleeve on its pin independently of the motion due to being carried by the apron. The figures, if a series are employed, are operated successively and preferably at the upper side of the frame.

I am aware that slight changes in the form and proportion of parts can be made without departing from the spirit or sacrificing the

advantages of my invention, the essential features of which will be stated in the appended claims.

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

1. In a toy substantially as described, the combination of an axle provided with a driving-pulley, the carrying-wheels, a supporting-frame having the guide-rollers, an endless apron arranged over said guide-rollers and in contact with the driving-pulley, a series of figures carried by the endless apron, and a bail loosely connected to the axle between the carrying-wheels and frame, substantially as described.

2. A traction toy consisting of an axle having the carrying-wheels, a frame loosely supported on the axle, an endless apron supported by the frame, a series of figures attached to the apron, and a driving-pulley fixed on the axle and arranged in contact with the apron to move the same, for the purpose described, substantially as set forth.

3. A traction toy consisting of an axle, the carrying-wheels fitted on the axle and arranged to rotate the same by traction, the frame loosely fitted on the axle and having the supporting-rollers, an endless apron supported on the rollers of the frame, the figures attached to the apron, the driving-pulley fixed on the axle to be rotated thereby and arranged between and in contact with the sides of the apron, and means for propelling the toy, for the purpose described, substantially as set forth.

4. In a toy, the combination of an axle, the

carrying-wheels, a frame loosely mounted on said axle and having a guide-roller, a handle or bail, a driving-pulley carried by the axle to rotate therewith, an endless apron arranged in contact with said roller and the driving-pulley and having means for keeping the same taut around the driving-pulley and supporting-rollers, and figures attached to said endless apron, for the purpose described, substantially as set forth.

5. In a traction toy, the combination of an axle having the propelling-wheels, a frame loosely mounted on the axle, an endless traveling apron, a driving-pulley attached to the axle and arranged in contact with the apron, figures attached to the apron, and means, substantially as described, carried by the frame and arranged in the path of the figures, to move the latter as they are carried past the device by the apron, substantially as described.

6. In a traction toy, substantially as described, the combination of an axle having the propelling-wheels, a frame, the endless apron, a driving-pulley, figures attached to the apron to have movement thereon at right angles to the plane of the apron, and a polygonal sleeve carried by the frame and arranged in the path of the figure, for the purpose described, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH GOODRICH.

Witnesses:

ARTHUR L. BRYANT,
W. O. BELT.