No. 672,538. Patented Apr. 23, 1901.

B. F. SCHWIER.

MECHANICAL TOY.

(Application filed Jan. 19, 1900.)

(No Model.)

Fig. 1.

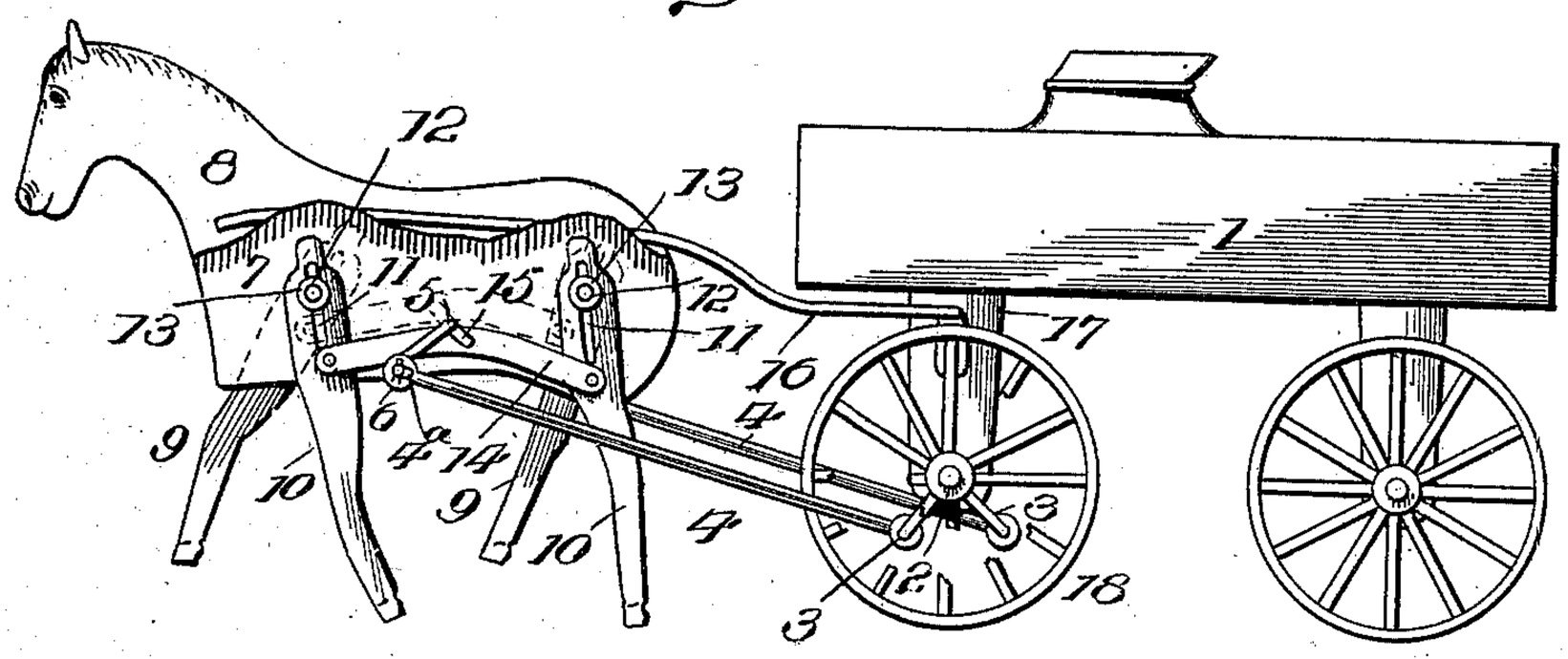


Fig. 2.

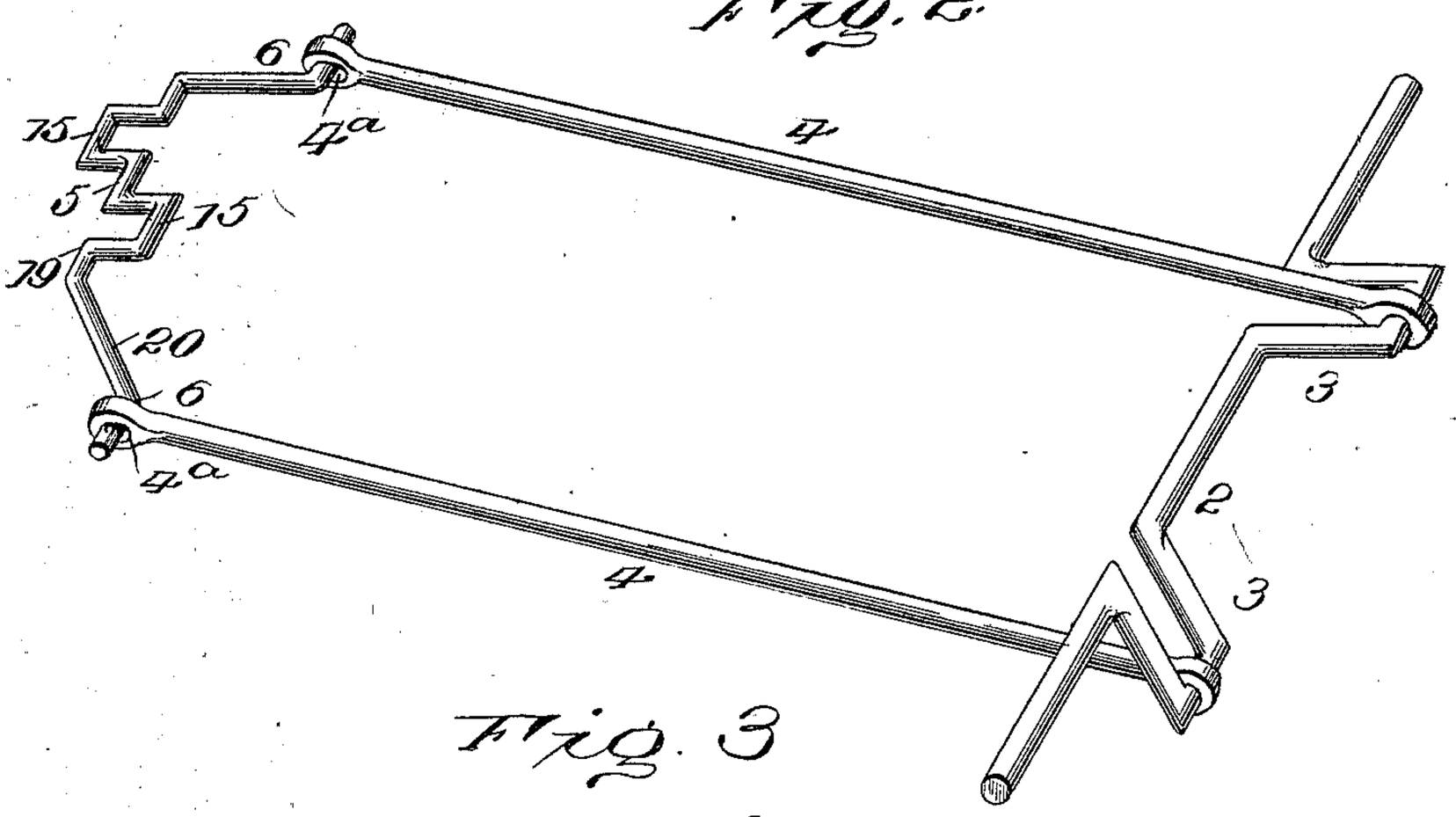
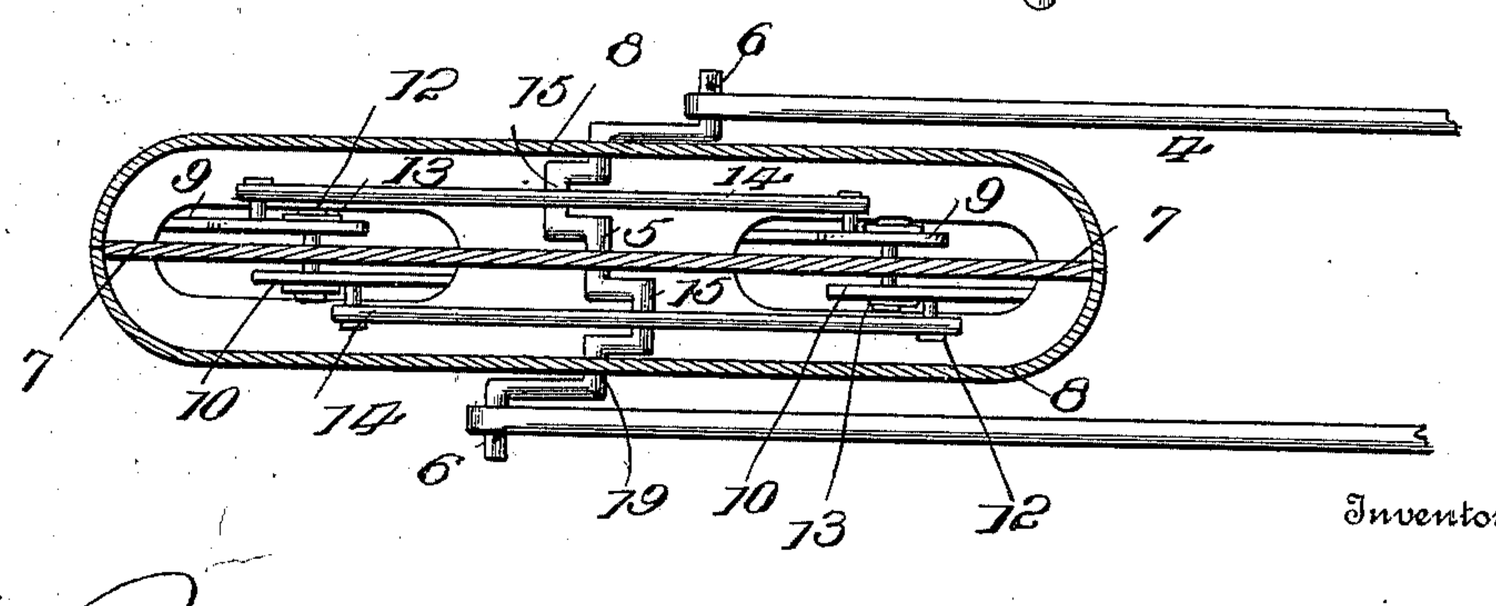


Fig. 3.



Inventor

Benjamin F. Schwier

Witnesses

Wm. J. Jacobi

By F. W. Bond Attorney

UNITED STATES PATENT OFFICE.

BENJAMIN F. SCHWIER, OF CANTON, OHIO.

MECHANICAL TOY.

SPECIFICATION forming part of Letters Patent No. 672,538, dated April 23, 1901.

Application filed January 19, 1900. Serial No. 2,081. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. SCHWIER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Mechanical Toys; and I do declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a side elevation showing the toy properly connected to a wagon and also showing parts broken away. Fig. 2 is a view showing the connecting-rods in their relative position with the cranked axle and the cranked shaft for imparting motion to the movable parts of the toy. Fig. 3 is a longitudinal section showing the connected rods properly attached to the crank-shaft of the toy proper.

The present invention has relation to mechanical toys; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the wagon, which may be of the form shown in the drawings, or it may be of any other desired form, inasmuch as the object of the present invention may be carried out without any particular reference to the construction of the wagon, except as to the front axle 2. The front or forward axle 2 is provided with the oppositely-timed cranks 3, to which oppositely-timed cranks are connected the rods 4, which rods are extended and are connected to the shaft 5 at its outer ends or cranks 6, said rods 4 being arranged substantially as shown in the drawings. The shaft 5 is journaled to the center plate 7 and may be journaled to the side members 8, which side members are connected to the center plate in any convenient and well-known manner. To the center plate 7 are pivotally connected the legs 9 and 10, the legs 9 being located upon one side of the plate 7 and the legs 10 located upon the opposite side thereof, as illustrated in the drawings.

For the purpose hereinafter described the legs 9 and 10 are provided with the elongated slots 11, through which elongated slots are passed the pins 12, said pins being securely connected in any convenient and well-known manner to the center plate 7.

For the purpose of holding the top or upper ends of the legs 9 and 10 in a proper relative position the pins 12 should be provided with the heads 13 or their equivalents.

The legs 9 and the legs 10 are pivotally connected together by means of the coupling rods or bars 14, one of said rods being located upon each side of the center plate 7, as illustrated in the drawings.

The coupling rods or bars 14 are each journaled upon the crank 5 at the points 15, by which arrangement an oppositely-timed movement is imparted to the coupling rods or bars 14, thereby imparting an oppositely-timed movement to each set of legs 9 and 10—that is to say, when the legs 9 are moving in one direction the legs 10 will be moving in the opposite direction.

For the purpose of imparting an upward movement to the different legs as they are moved forward the crank-shaft 5 is so timed that as the legs move forward they will be carried upward, and when they are moved backward they will be carried downward, by which arrangement a walking movement is imparted to the toy proper.

For the purpose of assisting in holding the horse in an upright position the shafts 16 are provided, which shafts are located upon opposite sides of the horse in the usual manner and are connected to the side members 8 in any convenient and well-known manner. The rear ends of the shafts 16 are connected to the blocks or bolsters 17, to which blocks or bolsters is journaled the forward axle 2.

It will be understood that the bolsters or blocks 17 should be pivotally connected to the wagon-body in any convenient and well-known manner; but this construction is not shown, inasmuch as it is an ordinary and well-known construction.

It will be understood that when the toy proper is drawn forward a rotary motion will be imparted to the cranked axle 2 by means of the rotation of the traveling wheels 18, which traveling wheels are securely attached to the axle 2, and as the axle is rotated a recipro-

cating motion will be imparted to the connecting-rods 4, which in turn impart a rotary motion to the shaft 5, and for the purpose of preventing the connecting-rods 4 from being set upon a dead-center the shaft 5 is provided with the bend 19, which throws the portion 20 in advance of the journal-bearings of the shaft 5.

In the drawings but one shaft 16 is illustrated; but it will be understood that there are to be two, both constructed and connected in the same manner.

In the event that the toy proper is run backward instead of forward the motion of the shaft 5 will of course be reversed, which in turn will impart a reverse motion to the coupling-bars 14; but the upward movement of the legs 9 and 10 will be so timed that they will be lifted at the proper time and brought downward at such a time that a natural backward movement is imparted to the legs.

For the purpose of preventing the rods 4 from binding their front or forward ends are provided with the short elongated slots 4ª, said slots being so arranged that as rotary motion is imparted to the cranked axle 2 and the cranked shaft 5 a loose connection is provided between said axle and shaft, thereby providing against any inaccuracies as to the exact formation and location of the cranks 3.

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

1. In a toy the combination of a vehicle provided with a forward cranked axle, a figured toy provided with a center plate having pivotally connected to said center plate legs, the legs provided with slots at their upper ends, a cranked shaft journaled transversely to the toy coupling-rods journaled upon the transverse cranked shaft, and pivoted to the legs at points to one side of the pivotal points of the legs, and connecting-rods journaled upon the forward cranked axle and to the transverse cranked shaft, substantially as and for the purpose set forth.

2. In a toy the combination of a vehicle provided with a forward cranked axle, shafts connected to the vehicle and to the figured toy, a transverse cranked shaft journaled to the toy, coupling rods or bars journaled upon the transverse cranked shaft and pivoted to the legs, the legs provided with slots at their upper portions, and connecting-rods journaled to the cranked axle and to the cranked transverse shaft, substantially as and for the purpose set forth.

3. In a toy the combination of a vehicle provided with a forward cranked axle, rods journaled to the forward cranked axle, a figured toy provided with a cranked shaft, journaled transversely thereto, pivoted legs provided with slots at their upper ends, coupling rods or bars journaled to the transverse cranked shaft and to the pivoted legs, and the connecting-rods provided with elongated slots at their forward ends, and the forward ends of said connecting-rods journaled to the transverse cranked shaft and their rear ends journaled to the cranked axle, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

BENJAMIN F. SCHWIER.

Witnesses:
J. A. JEFFERS,
F. W. BOND.