Nov. 6, 1945. M. S. ANDERSON 2,388,629

TOY WAGON AND MEANS FOR STEERING THE SAME

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FIG. 1

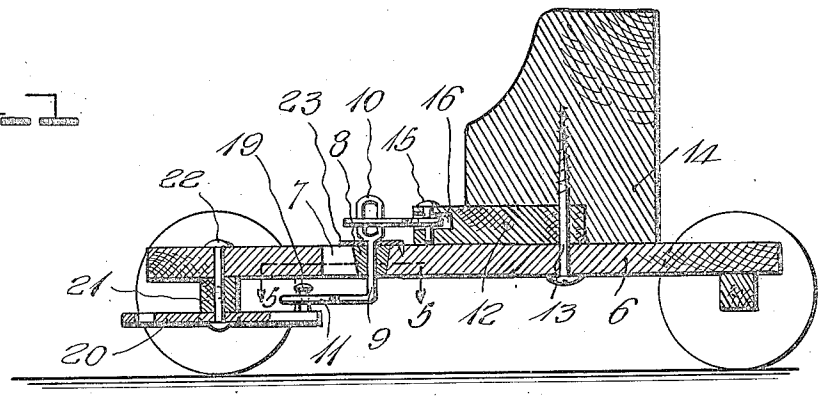



FIG. 2

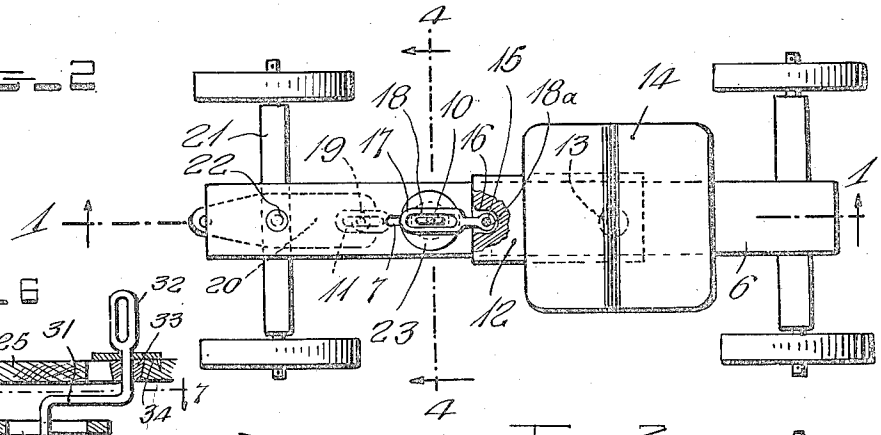



FIG. 6

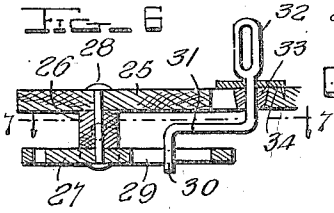
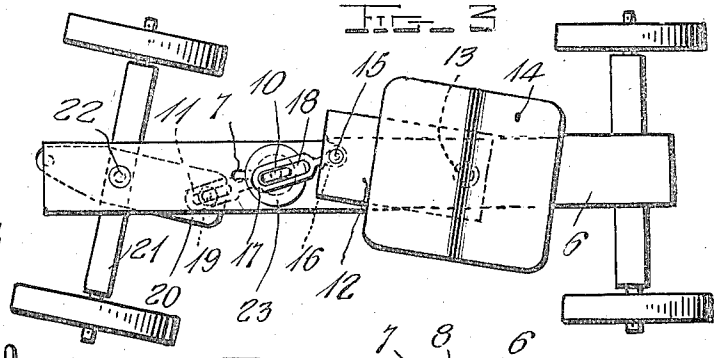



FIG. 3



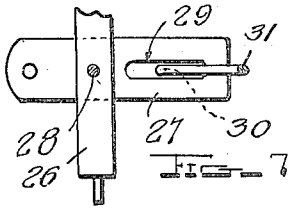
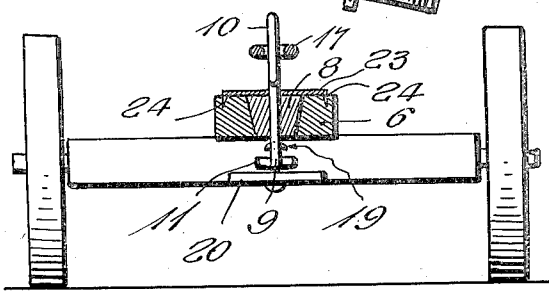




FIG. 7

FIG. 4



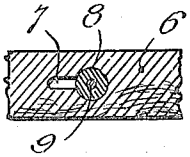




FIG. 5

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FIG. 8

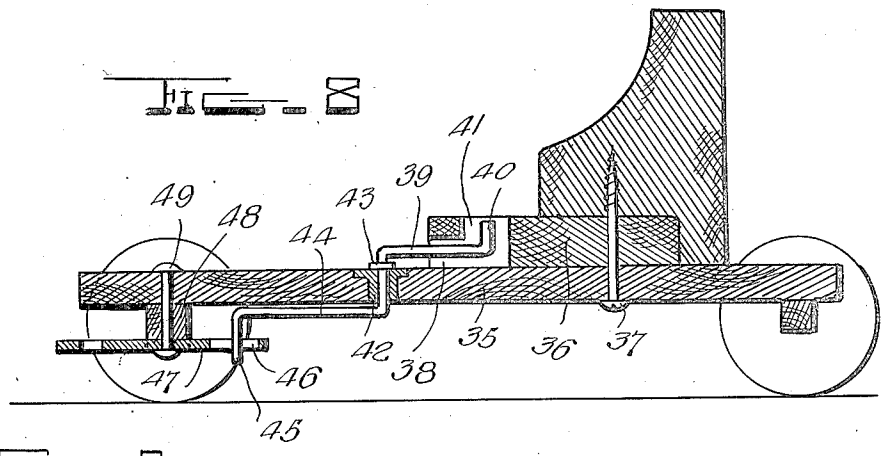



FIG. 9

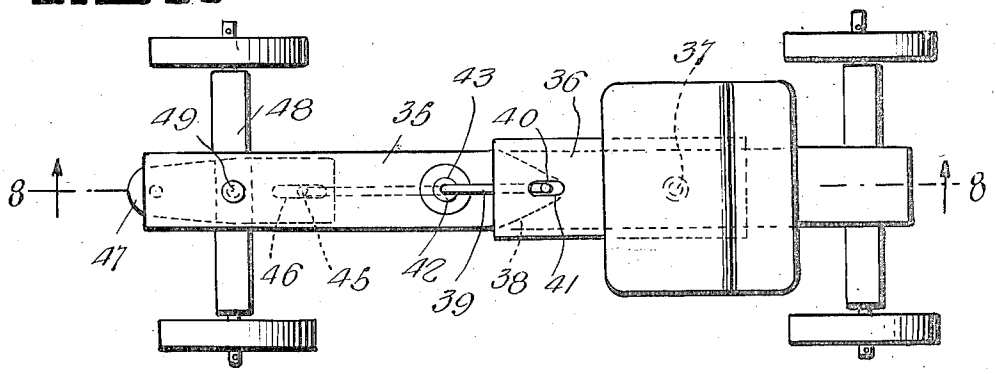



FIG. 10

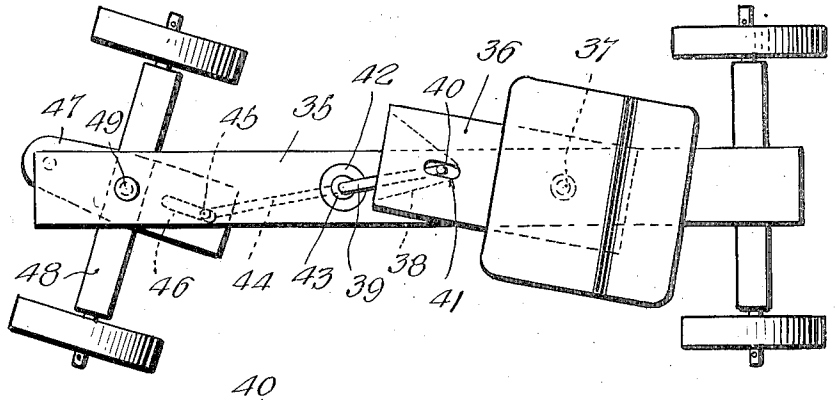
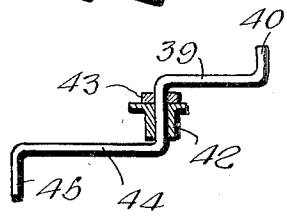



FIG. 11




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# UNITED STATES PATENT OFFICE

2,388,629

## TOY WAGON AND MEANS FOR STEERING THE SAME

Miner S. Anderson, Wabasha, Minn.

Application April 26, 1944, Serial No. 532,813

5 Claims. (Cl. 46—201)

This invention relates to toy wagons, and is regarded as an improvement of my inventions as set forth in my Patent No. 2,334,742, dated November 23, 1943, and application Serial Number 507,294, filed October 22, 1943.

An object of this invention is to produce a toy wagon in which means for guiding it are associated with and actuated by a turnable member mounted on a chassis or body support, the said turnable member being associated with levers interposed between an axle of the toy and the said turnable member; the said instrumentalities being of novel arrangement and comprising comparatively few, inexpensive parts which have proven efficient and satisfactory in use.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this application, wherein like characters denote corresponding parts in the several views, and in which:

Figure 1 illustrates a sectional view of a toy wagon with parts in elevation, on the line 1—1 of Fig. 2;

Figure 2 illustrates a top plan view thereof in neutral position;

Figure 3 illustrates a top plan view with the parts adjusted for changing the direction of travel of the toy;

Figure 4 illustrates a sectional view on the line 4—4 of Fig. 2;

Figure 5 illustrates a sectional view of the toy wagon on the line 5—5 of Fig. 1;

Figure 6 illustrates a fragmentary longitudinal section embodying a modification;

Figure 7 illustrates the device in section on the line 7—7 of Fig. 6;

Figure 8 illustrates a sectional view of a toy wagon embodying a further modification;

Figure 9 illustrates a top plan view thereof;

Figure 10 illustrates a similar view with the parts in different adjustments; and

Figure 11 illustrates a detail showing the crank for effecting the steering operation.

In these drawings 6 denotes the chassis which may comprise a plain slab of wood or metal having a buttonhole slot 7 to receive a bearing 8, in which a crank 9 is rotatable, the said crank having a straight portion which is mounted in the bearing and an upper end which is flat and may be formed by shaping the metal into a loop 10, whereas the other arm of the crank is shaped to form a loop 11, for a purpose to be presently explained. The turnable member 12, which may have various embodiments or forms, is mounted on the chassis, and a pivot 13 extends through the chassis and through the turnable member and may be anchored in a body 14, of any appropriate form, which is movable with the turnable member. Thus, as the turnable member is moved by hand, it will change the position of a pin 15 which extends through a slot or clearance 16 in the turnable member, and an arm 17 is mounted on the pin 15 and extends outwardly.

The arm has an elongated opening 18 into which the upper end 10 of the crank projects and it also has an eye 18a, through which the pin 15 extends so that the arm oscillates on the pin as the turnable member is moved; there being a loose joint between these two members in order that when the turnable member is moved, the arm will serve to turn the crank in its bearing and thus move the lower arm of the crank laterally of the chassis. The loop 11 of the arm receives a pin 19 projecting upwardly from a plate 20, preferably of wood, which moves the axle 21 for guiding the front wheels of the toy. The axle and plate are mounted on the chassis through the employment of a king pin 22 extending through the several elements and secured thereto in appropriate manner.

The bearing 8 may be anchored in place through the employment of a metal plate 23 having spurs 24 which are embedded in the upper surface of the chassis.

While the arm 16 may comprise a plate having the slot for the reception of the upper end 10 of the crank, it has been found that small metal rods can be expeditiously worked to produce the loops and the eyes of the lever, and the crank may likewise be formed of such rather comparatively inexpensive material.

It is obvious that in the modification shown in Figs. 6 and 7 the parts correspond generally to those illustrated in Figures 1 to 5, inclusive and, in this modified form the chassis 25, the axle 26 and plate 27 are secured together by a king pin 28, and these parts are similar to like parts in the form heretofore described, although the plate 27 in this modified form has a slot 29 into which the end 30 of the crank 31 projects, the said crank having an upper looped end 32, and the said crank rotates or partially rotates in the bearing 33 held in place by the plate 34. This modified construction eliminates the use of the pin on the plate, and the construction of the lower

end of the crank is changed so that as the crank rotates, its lower end moves in the slot of the plate 27 and serves to turn the axle in much the same manner as in the operation of the construction heretofore described.

In the modified form shown in Figs. 8 to 11, 35 denotes the chassis, 36 the turnable member which is mounted on the chassis through the employment of a pivot 37, and the front end of the turnable member is recessed in appropriate manner, as at 38, to form a clearance for the oscillation of a double crank 39; it being shown that the inner arm of the crank has an angularly disposed extension 40 operating in a slot 41 in the turnable member. That part of the crank between the arms is rotatable in a bearing 42 which is in the nature of a sleeve embedded in an aperture of the chassis, and the said crank may have a friction disk 43 which operates on the upper surface of the sleeve. In practice a hollow rivet has been found satisfactory as a bearing in which the crank partially rotates, although the inventor does not wish to be limited with respect to the particular mounting of the said crank. The forward arm 44 of the crank has a depending end 45 which operates in a slot 46 of the plate 47, which plate is attached to the axle 48, and the said axle and plate are mounted on a king pin 49 extending through the chassis and it is obvious that when the inner end of the crank is moved by the turnable member it will serve to move the front axle for guiding the front wheels and that this simple connection affords a saving in material and results in an economical assembly by which the turning of the body of the toy with the turnable member serves to steer the toy in its movement.

I claim:

1. A toy wagon having a suitably mounted chassis, a turnable member mounted on the chassis and having a slot in its front side, a pin vertically disposed in the slot, an arm having an eye in which the pin is seated so that the said arm may oscillate as the turnable member is moved, the said arm having a slot in its front end, a crank having a flat upper end projecting into the slot of the arm, means for rotatably mounting the crank in the chassis, a front axle having wheels, a plate secured to the axle to move it as the crank is oscillated, and a king pin extending through the chassis, axle and plate, whereby the parts are held assembled.

2. In a toy wagon, a chassis, a member mounted to turn on the chassis, an arm oscillatably mounted on the turnable member and having a slotted outer end, a crank rotatably mounted on the chassis and having a flat end fitted into the slot of the arm, the end of the crank below the chassis having a slot in its outer end, an axle and plate under the chassis, a king pin extending through the chassis, axle and plate whereby the axle and plate are turnable on the said king pin, and a stud on the plate extending through the slot of the crank, whereby movement of the crank guides the front wheels on the axle.

3. In a toy wagon, a chassis, a member mounted to turn on the chassis, an arm oscillatably mounted on the turnable member and having a slotted outer end, a crank rotatably mounted on the chassis and having a flat end fitted into the slot of the arm, the end of the crank below the chassis having an angularly disposed extension, an axle and plate under the chassis, a king pin extending through the chassis, axle and plate whereby the axle and plate are turnable on the said king pin, the said plate having a slot into which the extension of the crank projects whereby movement of the crank guides the front wheels on the axle.

4. In a toy wagon, a chassis, a member mounted to turn on the chassis, an arm oscillatably mounted on the turnable member and having a slotted end, a crank rotatably mounted on the chassis and having a flat end fitted into the slot of the arm, the end of the crank below the chassis projecting forwardly, an axle and plate secured together under the chassis, a king pin extending through the chassis, axle and plate whereby the axle and plate are turnable on said king pin, and means by which the forwardly extending end of the crank turns the plate for guiding the front wheels.

5. A toy wagon and means for steering the same comprising a chassis, a turnable member mounted on the chassis, the said turnable member having a clearance in its front end and a slot extending from the clearance to the top of the turnable member, a crank having two arms with an interposed straight portion mounted for partial rotation in the chassis, a plate having a slot, an axle to which the plate is secured, a king pin on which the axle and plate are partially rotatable, the said crank having a forward arm movable in the slot of the plate and the opposite end of the crank movable in the clearance of the front end of the turnable member and oscillated by the said turnable member.

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