A. J. GIBBS.

TOY.

APPLICATION FILED MAR. 22, 1916.

1,230,574.

Patented June 19, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

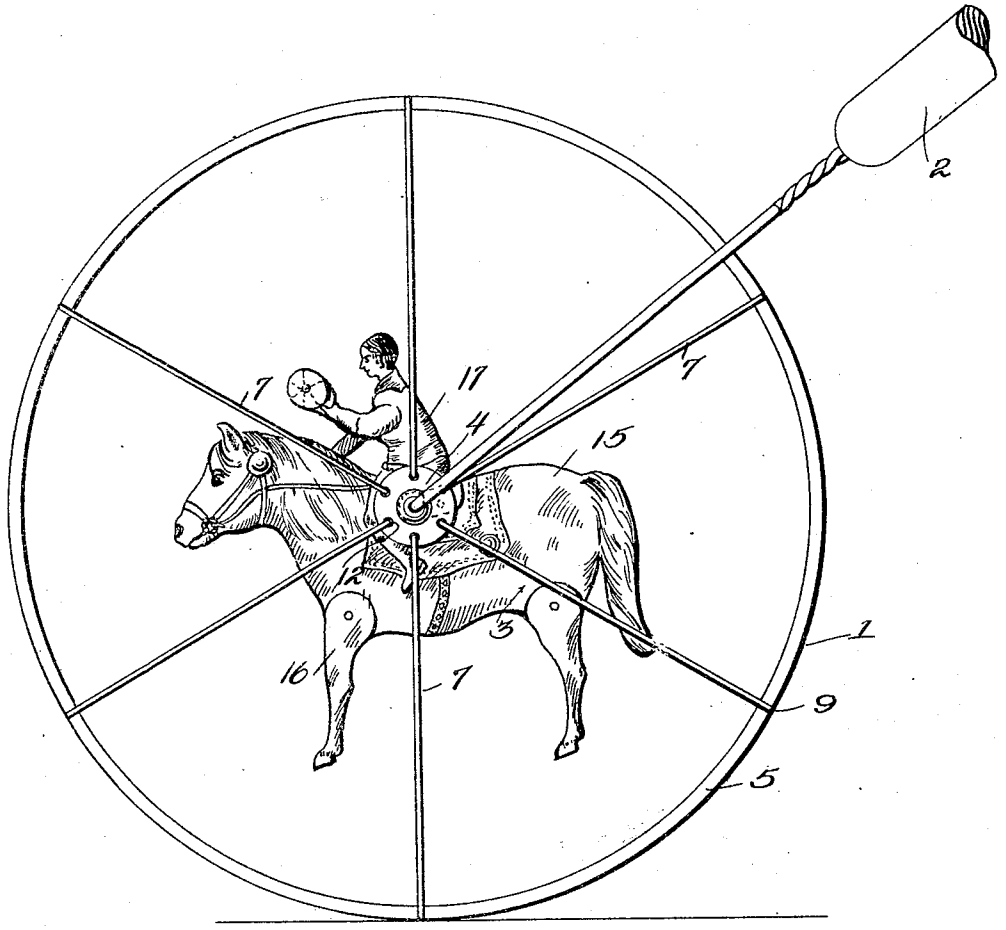
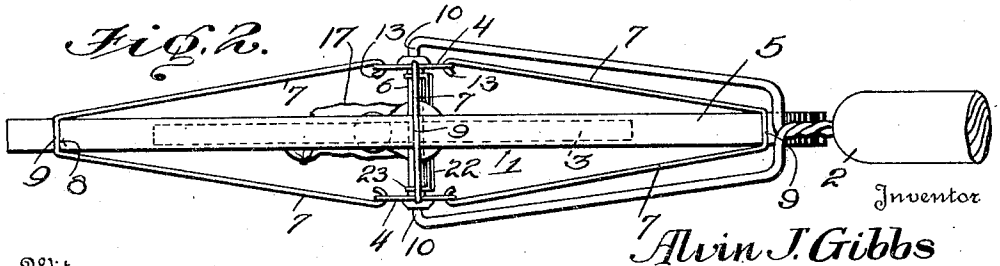


Fig. 2.



Witness

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2 SHEETS—SHEET 2.

Fig. 3.

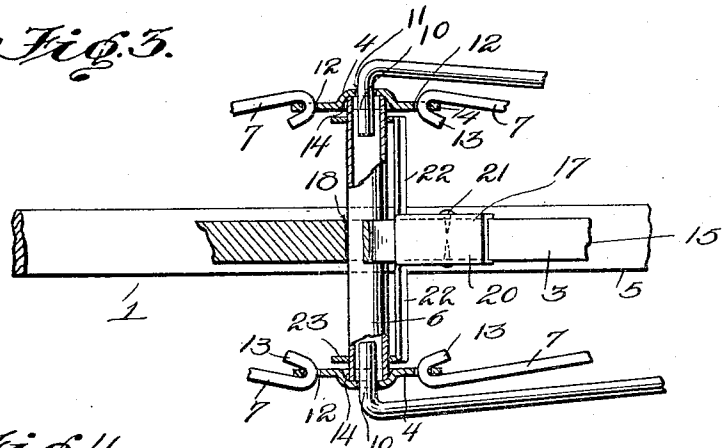


Fig. 4.

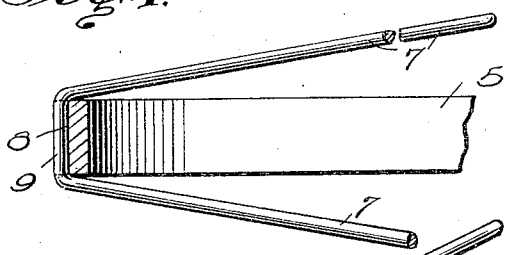


Fig. 5.

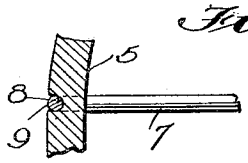
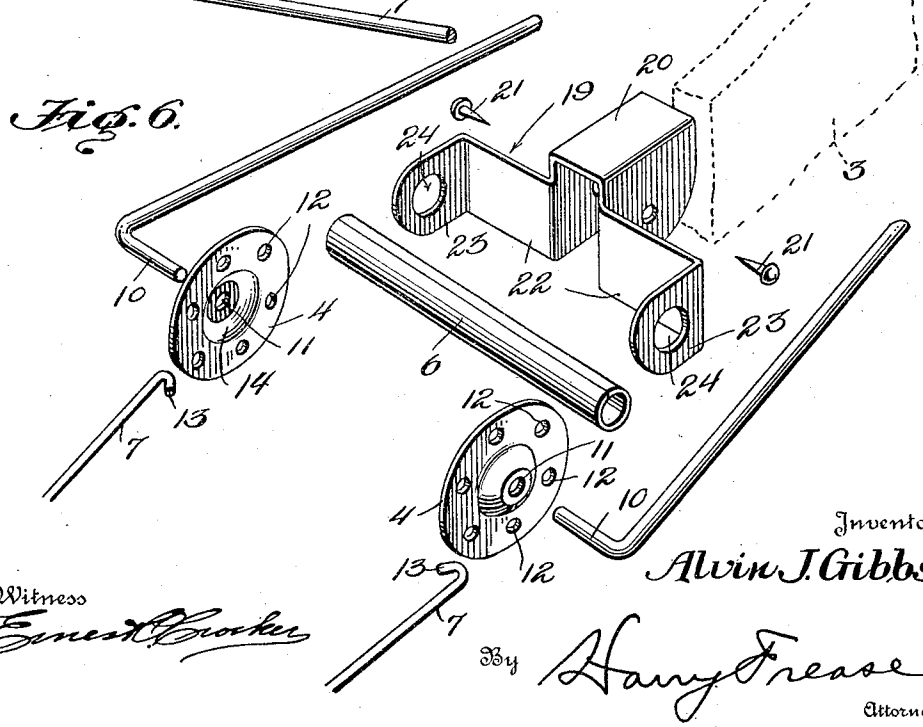


Fig. 6.



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UNITED STATES PATENT OFFICE.

ALVIN J. GIBBS, OF CANTON, OHIO, ASSIGNOR TO THE GIBBS MANUFACTURING COMPANY, OF CANTON, OHIO, A CORPORATION OF OHIO.

TOY.

1,230,574. Specification of Letters Patent. **Patented June 19, 1917.**

Application filed March 22, 1916. Serial No. 85,857.

To all whom it may concern:

Be it known that I, ALVIN J. GIBBS, 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 Toys, of which the following is a specification.

The invention relates to improvements in wheel toys adapted to be pushed or drawn by a child over a floor or other surface; and the objects of the invention are to mount a toy animal or like object within a cage formed by the spokes and rim of the wheel; to provide a slight frictional engagement between the parts for imparting a rocking movement to the animal when the wheel is rotated to and fro; and to make the toy with a simple rigid and durable construction which can be readily knocked down and reassembled.

These objects are attained, in the present instance, by using a single rim for the wheel with a tubular axle having hub plates on its ends, detachably connected to the rim by V-shaped wire spokes; and by mounting the animal upon a transverse axis near above its center of gravity upon the axle of the wheel by means of a transverse bracket having bearings on its ends journaled upon the axle of the wheel, the wheel being operated by a forked handle having inturned pintles on its ends journaled in the hub plates.

This embodiment of the invention is illustrated in the accompanying drawings forming part hereof, in which—

Figure 1 is a side elevation of the wheel toy, showing part of the handle broken away;

Fig. 2, a plan view of the same;

Fig. 3, a fragmentary plan view of the axial parts, broken away in places to show details of construction;

Fig. 4, a fragmentary plan view showing the engagement of the spoke with the rim of the wheel;

Fig. 5, a fragmentary section of the same on line 5—5, Fig. 4; and

Fig. 6, a dissociated detached perspective view of the axial parts of the wheel, showing details of construction thereof.

Similar numerals refer to similar parts throughout the drawings.

The toy comprises a wheel 1, mounted on the end of a handle 2, and having the toy animal 3 mounted therein.

The wheel 1 consists of the pair of hub plates 4, preferably made of stamped sheet metal disks, a rim 5 preferably made of wood, the axle 6 preferably made of tubular metal, and the V-shaped spokes 7 preferably made of wire.

The periphery of the rim is provided with the series of transverse grooves 8 for receiving the yokes 9 of the spokes; and the forked ends of the handles are provided with the inturned axial pintles 10 for entering the axial apertures 11 in the hub plates to form the axis of the wheel.

Each hub plate 4 is provided near its periphery with a series of apertures 12 for receiving the hooked ends 13 of the spokes, and the inner side of each plate is provided with the socket 14 for receiving one end of the tubular axle 6; and it is evident that these parts can readily be assembled by engaging the spokes with the rim and the hub plates, and then entering the tubular axle between the hub plates by springing the same far enough apart for that purpose; after which the pintles on the forked end of the handle are entered into the axial apertures of the hub plates by springing the forks of the handle far enough apart for that purpose. The pintles are preferably made long enough to extend part way into the tubular axle, so that they cannot be detached excepting by a considerable outward springing.

By this construction and arrangement the wheel and its handle are readily assembled without the use of screws or other separate connections and when assembled the parts are rigidly secured together by the clamping action of the hub plates against the ends of the tubular axis, caused by the lateral springing of the spokes by which the hub is entered between the hub plates.

The toy animal 3 is preferably formed of a thin wooden block body 15 with flat sides having its periphery cut to the contour of the animal and provided with labels on its sides having pictured thereon the natural appearance and dress of the animal. Sheet metal legs 16 may also be pivoted to the animal; and a rider 17 may be secured thereon, in the form of a boy made of stamped sheet metal.

The wooden block body of the animal 3 is provided with the transverse pivot aperture 18 for receiving the axle of the wheel, and this aperture is located a slight distance

above the center of gravity or transverse axis of the animal and its connected parts, so that the same will normally swing freely in natural upright position upon the axle of the wheel.

For the purpose of positioning the animal squarely in the median line of the wheel, that is to say in the plane of its rim, the bearing bracket 19 is preferably secured to the body of the animal, as by means of the saddle 20 engaging the sides of the animal, and the tacks 21. This bracket is provided with the laterally extending arms 22 having the bearing plates 23 on their ends, which are provided with the pivot apertures 24 which are journaled on the tubular axle of the wheel adjacent to the hub plates thereof, when the parts are assembled.

By this construction and arrangement it is evident that the animal will swing freely upon the axle of the wheel, but that the inertia of the animal will cause it to swing rearward with reference to the wheel, before it moves forward with the wheel, after which the weight of the animal will cause it to swing forward, and its momentum will carry it slightly beyond its normal upright position and vice versa; and also that when the forward movement of the wheel is stopped or reversed, the momentum of the animal will cause it to swing forward and then rearward as above described; so that in the movement of the wheel to and fro, the animal will oscillate upon the axle of the wheel in the natural rocking movement of a galloping horse.

It is also evident that the frictional engagement of the pivot apertures in the body of the horse and its bearing bracket will also tend to set up and maintain an oscillating movement or rocking movement of the horse upon the axle of the wheel independent of the effect of the alternately acting inertia and momentum of the animal; for the reason that when the tubular axle of the wheel is rotated forward, the weight of the animal upon its bearings will tend to cause the animal to swing rearward until the frictional contact of the pivotal bearings is overcome by the weight of the animal, after which the animal will swing forward, and then rearward, as described above. By these means it is evident that an oscillating or rocking movement of the animal is started and maintained by the movements of wheel to or fro, even though the same shall be started, stopped and reversed so gradually that the inertia and momentum of the animal does not serve to set up the oscillating movement.

I claim:

1. The combination of a wheel having spaced hub plates, spokes, and an axle, and a toy animal or the like freely pivoted near above its center of gravity upon the axle and adapted to swing or rotate thereon without contacting any other part of the wheel.

2. The combination of a wheel rim having spaced hub plates and V-spokes, an axle between the hub plates and a toy animal or the like freely pivoted near above its center of gravity upon the axle and adapted to swing or rotate thereon without contacting any other part of the wheel.

3. The combination of a wheel rim having spaced hub plates and V-spokes, an axle between the hub plates, and a toy animal or the like freely pivoted near above its center of gravity upon the axle, and a bracket having a saddle secured to the back of the animal and bearing plates journaled on the axle adjacent to the hub plates.

4. The combination of a wheel rim having transverse peripheral grooves, hub plates with apertures near the periphery, V-spokes having hooks on their free ends engaged in the plate apertures, an axle clamped between the hub plates, and a toy animal or the like pivotally mounted on the axle.

5. The combination of a wheel rim having transverse peripheral grooves, hub plates with apertures near the periphery, V-spokes having hooks on their free ends engaged in the plate apertures, an axle clamped between the hub plates, a toy animal pivotally mounted on the axle, and a forked handle with pintles on its ends journaled in the hub plates.

6. The combination of a wheel having an axle, and a toy animal or the like freely pivoted near above its center of gravity upon the axle and adapted to swing or rotate thereon without contacting any other part of the wheel.

7. The combination of a wheel having spaced hub plates, and a toy figure rotatably mounted between the hub plates upon an axis near above its center of gravity, and adapted to swing or rotate thereon without contacting any other part of the wheel.

ALVIN J. GIBBS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."