May 17, 1932. J. RICHTER 1,858,940

LOCKING DEVICE IN CHILDREN'S WHEELED TOYS

Filed July 14, 1930

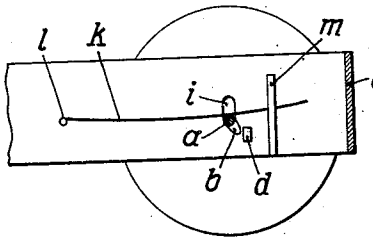


Fig. 1.

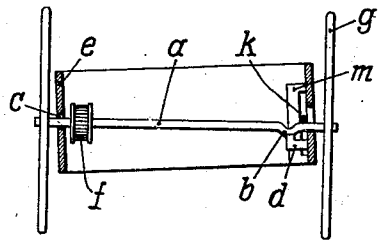


Fig. 2.

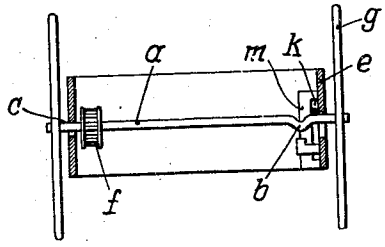
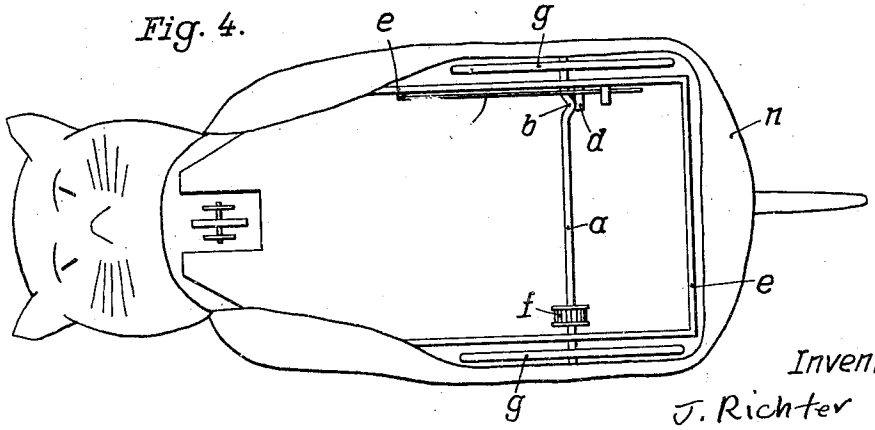


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE

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LOCKING DEVICE IN CHILDREN'S WHEELED TOYS

Application filed July 14, 1930, Serial No. 467,859, and in Germany August 24, 1929.

This invention relates to spring driven wheeled toys.

It has been proposed in such toys to crank one of the axles so as to provide it with a projection which is adapted to engage a fixed stop when the toy is raised above the ground or other surface on which it is to run, so that the toy cannot run while being wound up or after it has been wound up until it has been placed on the ground, the cranked axle being journalled at one end in an elongated slot instead of a round bearing and the bearing at the opposite end of the axle near the driving means being constructed so as to allow a certain amount of motion of the end in the slot, so that on the toy being set down on its wheels, the end of the shaft in the slot slides upwardly and the cranked portion is moved out of the reach of the fixed stop and the axle can then rotate freely. Such a construction is operative only when the toy is held in an upright position, otherwise the weight of the cranked axle does not become effective and the axle may come to rest at another part of the slot where there is nothing to prevent its free movement.

The prior construction set forth in the preceding paragraph is well known and is described in German Patent No. 270,302.

The present invention has for its object to avoid this drawback and with this object in view a weak spring is arranged over the cranked axle which tends to retain the axle always in its lowest position in the slot, as long as the toy is held freely in the hand, but which owing to its weakness will yield when the toy is placed upon the ground, and the spring is subjected to the weight of the toy.

The invention is illustrated by way of example in the accompanying drawings, in which

Figure 1 shows a part vertical longitudinal section of a toy according to the present invention showing the driving axle,

Figures 2 and 3 show a cross section of the toy with the driving axle in two different positions and Figure 4 shows a bottom plan view of a toy according to my copending application for patent Serial No. 467,858 provided with the arrangement shown in Figures 1 to 3.

Referring to the drawings, *a* is the driving axle of the toy which is rotated by means of a gear wheel *f* driven in any suitable manner and on which are fixed the driving wheels *g* of the toy. The axle *a* is supported at one end in a slightly enlarged bearing *c* and at the other end is passed through a slot *i* in the frame *e* of the toy. The axle is cranked at *b*, the cranked portion being adapted to engage a fixed stop *d* on the frame *e* when the toy is raised from the ground in the position shown in Figure 2 with the cranked end of the shaft at the bottom of the slot *i*. When the toy is placed on the ground so as to rest on the wheels *g*, the cranked end of the axle will lie at the top of the slot *i* with the cranked portion *b* out of engagement with the fixed stop *d*.

The weak blade spring *k* constituting the subject of the present invention is secured at one end *l* to the frame of the toy, its opposite end being free and suitably arranged to slide in a guide *m* to prevent it from being bent aside. This spring bears against the axle *a* and urges the cranked end of the axle towards the bottom of the slot *i* whenever the wheels *g* are out of contact with the ground, whether the axle is horizontal and the wheels vertical or otherwise, so that the cranked part of the axle is in engagement with the fixed stop *d*. The strength of the spring *k* is such, however, that it will yield as soon as the toy is placed upon the ground and the spring subjected to the weight of the toy, thereby releasing the axle *a* from the stop *d*.

Figure 4 shows a running toy representing a cat actuated by clockwork mechanism having the improved locking device according to the invention.

I claim:

In a spring driven wheeled toy having a frame, an axle journalled at one end in said frame, driving wheels for the toy on said axle, said frame having a vertical slot therein and a locking device comprising a crank on the axle adapted to engage the frame, the other end of the axle slidably engaging the slot in the frame so as to enable the axle to

tilt from a position with the toy unsupported by its driving wheels and the crank in engagement with the frame into a position with the toy supported by said wheels and the crank out of engagement with the frame, the combination with a weak blade spring fixed at one end to the frame and bearing against the axle so as to urge the axle into the position with the crank in engagement with the frame, of guiding means for the free end of the spring, on the frame, said spring being capable of yielding upon the toy being placed on a support with the driving wheels resting thereon so as to enable the axle to move the crank out of engagement with the frame.

In testimony whereof I have affixed my signature.

JOHANNES RICHTER.