Nov. 8, 1938. M. SCHMID 2,135,850

MECHANICAL TOY

Filed Feb. 5, 1938

Fig. 1

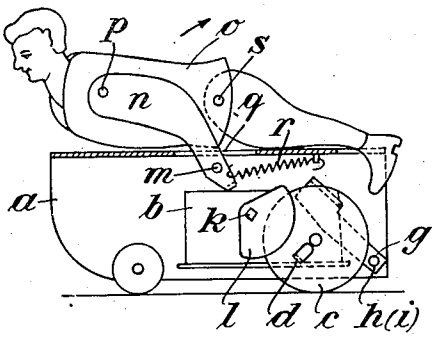


Fig. 2

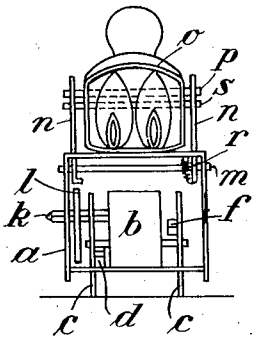


Fig. 3

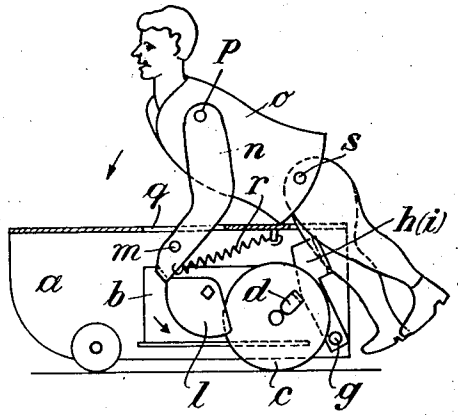


Fig. 4

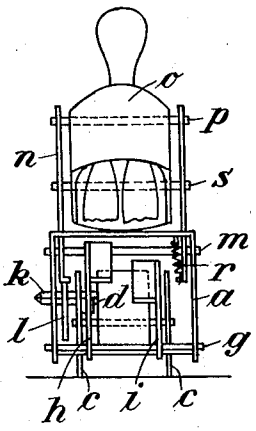
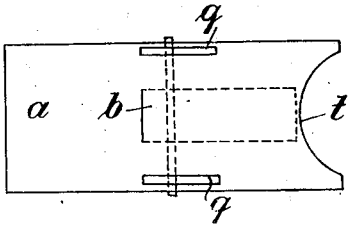


Fig. 5



Inventor:

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By [signature]

his Attorney

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UNITED STATES PATENT OFFICE

2,135,850

MECHANICAL TOY

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Application February 5, 1938, Serial No. 188,961
In Germany May 8, 1937

5 Claims. (Cl. 46—107)

This invention relates to a mechanical toy simulating for example a sledge or the like with an articulated figure which, when the toy is running, seems alternately to push the sledge or to lie full length thereon.

The object of this toy is to give animation to the doll or figure which was hitherto rigidly secured to the toy, such as a sledge, so that it looks as if the figure was resting on the sledge or pushes the truck.

An embodiment of the invention is illustrated in the accompanying drawing in which:—

Fig. 1 shows in side elevation partly in longitudinal section a toy in the form of a sledge with a figure lying thereon, a driving motor of known construction being diagrammatically indicated.

Fig. 2 is a rear elevation of Fig. 1, the legs of the figure being cut off at the knees and the mechanism for producing animation omitted for the sake of clearness.

Fig. 3 shows the toy in side elevation with the figure in almost erect position, pushing the sledge.

Fig. 4 is a rear view of Fig. 3 the legs of the figure being likewise cut off for the sake of clearness.

Fig. 5 is a top plan view of the sledge, the figure being omitted.

In the toy, for example a sledge *a*, a spring motor *b* of known type is arranged which drives running wheels *c* provided with relatively displaced cams *d*, *f*. These cams *d*, *f* serve to alternately actuate two upwardly directed levers *h*, *i* oscillatably mounted on an axle *g*. On the winding pin *k* of the spring motor a cam *z* or the like is fixed destined to oscillate the arms *n* of a figure *o*, said arms being mounted on an axle *m* journalled in the side walls of the sledge.

A spiral spring *r* one end of which is attached to the left arm *n* of the figure and the other rear end to the top plate of the sledge pulls back the arms of the figure so that the figure lies on the top plate of the sledge in the position for sledging, shown in Fig. 1, the arms extending through apertures *q* in the top plate of the sledge. The legs of the figure are oscillatably mounted on the body *o* of the figure by a transverse axle *s*.

The sledge *a* has in the rear end a semicircular recess *t*.

The operation of the toy is as follows:—

After the spring motor *b* has been wound and the axle *k* is liberated again, the winding spring of the motor revolves the axle *k* so that cam *l* is oscillated in upward direction and lifts the left arm *n* of the figure *o* so that the figure is lifted out of the lying position (Fig. 1); the legs of the figure drop by gravity into the recess *t* and the cams *d* and *f* strike alternately against the levers *h*, *i* which in turn strike against the legs of the figure, so that it looks as if the figure was walking and pushing the sledge *a*. The figure continues to perform these running movements until the cam *l* again releases the lower end of the arm *n*, whereupon the spring *r* causes the arms to turn about the axle *m* and shift forward the axle *p* at the upper end of the arms with the figure *o* mounted thereon, the figure being thus returned into the position shown in Fig. 1 and remaining in this position until the cam *l* once more strikes against the arm *n*. This sequence of movements is repeated periodically until the motor has run down.

To facilitate the winding of the spring motor the arms *n* may be resilient.

I claim:

1. A mechanical toy, comprising in combination a casing similar to a sledge, runner wheels supporting the rear end of said casing, a figure resting on the upper side of said casing, arms one on each side of said figure, an axle extending transversely through said figure and connecting the upper ends of said arms, a transverse axle journalled in said casing and rigidly connecting the lower ends of said arms, a spring motor in said casing and adapted to drive said runner wheels to propel the toy, a cam rotated by said motor in the path of the lower extremity of one of said arms to swing said arms with said transverse axle and raise the figure from said casing and shift it towards the rear end thereof through the intermediary of said first mentioned axle, and a spring connected at one end to the lower end of the other of said arms and at its other end to said casing, said spring adapted to return said figure into its initial position.

2. In a mechanical toy as specified in claim 1, legs articulated to the figure, two levers oscillatably mounted in said casing and bearing one against each of said legs, and relatively displaced cams one on each of the runner wheels adapted to alternately oscillate said levers to move said legs backwards and forwards.

3. In a mechanical toy as specified in claim 1, legs articulated to the figure, two levers oscillatably mounted in said casing and bearing one against each of said legs, and relatively displaced projections one on each of the runner wheels adapted to alternately oscillate said levers to move said legs backwards and forwards.

4. A mechanical toy as specified in claim 1, in which the spring is maintained under tension by the cam while the figure is shifted towards the rear end of the casing and contracts when the cam runs off the extremity of the arms to shift the figure towards the front end of the casing.

5. A mechanical toy as specified in claim 1, in which the casing has a recess at its rear end, and the figure has legs articulated to its rear end and adapted to drop by gravity into said recess when the figure is moved towards the rear end of the casing, and means for alternately oscillating said legs in their lowered position.

MAX SCHMID.