PATENT SPECIFICATION

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302,677

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Complete Accepted: May 9, 1929.

COMPLETE SPECIFICATION.

Improvements in or relating to Mechanical Toys.

We, BING WERKE vorm. Gebrüder Bing A.G., a German Company, of Blumenstrasse 16, Nuremberg, Germany, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to a running animal figure.

The invention consists of a running animal figure with driving mechanism arranged on a running axle of the figure in which the driving mechanism consists of a Bowden cable which at the same time serves as a lead, in combination with a toothed sector and a toothed pinion and a one-way acting ratchet mechanism and is provided with a fly-wheel so that a continuous running motion of the figure is made possible. A further feature of the invention is that the end of the steel wire of the Bowden cable traversing the body is connected with a toothed segment which drives a running axle, by means of a toothed wheel and a uni-directional ratchet mechanism, which drives a fly-wheel, by means of a transmission gearing, for maintaining the speed of the running axle.

The Bowden wire serving as a lead enters the body of the animal at the neck, passes through the body, and enters the casing of the running mechanism from above. This method of guiding the Bowden wire gives rise to the impression that the toy figure is being led by the line, and the nature of the drive enables the playing child to let the animal run on in front.

One constructional example of the invention is illustrated in the drawing, wherein

Figure 1 shows a sectional side elevation of the running mechanism on the section line A—A in Fig. 2,

Figure 2 shows a plan of the running mechanism, and

Figure 3 shows a running animal figure with running mechanism fitted therein, and also the Bowden cable.

The animal figure *a* carries on its legs running axles *d* and *e* provided with running wheels *b* and *c*. Between the front legs is mounted the running mechanism, which is lodged in a casing *f*. A Bowden cable *g* serves as a driving means and as an apparent leading line. It enters the body of the animal *a* at the collar *h* and passes through the body. The sheath of the Bowden cable is secured to the mechanism casing *f*, while the displaceable end *i* of the steel wire is connected with a toothed segment *k*, the partial revolutions of which are transmitted to a small toothed wheel *m*. The toothed pinion *m* is rigidly connected with a ratchet wheel *n* and is mounted loose upon the front running axle *d*, upon which a toothed wheel *o*, which carries a detent *p*, with an applying spring *q*, is mounted fast. This toothed wheel *o* meshes with a driving wheel *r*, which is rigidly connected with a flywheel *s* and is mounted upon an axle *t*.

The method of working of the running toy figure is as follows:—When the end *i* of the steel wire of the Bowden cable is moved up and down, the toothed segment *k* swings to and fro, and, during retraction of the wire *i*, drives the pinion *m*, and, by means of the ratchet wheel *n* and its pawl *p*, drives the toothed wheel *o* mounted upon the running axle, the rotation of which is maintained for a fairly long time by the flywheel *s*. If the running toy is to be kept continually in motion a periodic drive must be effected by means of the Bowden cable.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A running animal figure with a driving mechanism arranged on a running axle of the figure, characterised by the feature that a driving mechanism consisting of a Bowden cable which at the same time serves as a lead in combination with a toothed sector and a toothed pinion and a one-way acting ratchet mechanism is provided with a fly-wheel so that a continuous running motion of the animal figure is made possible.

2. A running animal figure or the like

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as claimed in claim 1, characterised by the feature that the end of the steel wire of the Bowden cable traversing the body of the running figure is connected with a toothed segment which drives a running axle by means of a toothed wheel and a unidirectional ratchet gear and which drives by means of a transmission gearing a flywheel that maintains the speed of the running axle.

3. A running animal figure or the like, substantially as hereinbefore described in reference to the accompanying drawings.

Dated this 2nd day of May, 1928.

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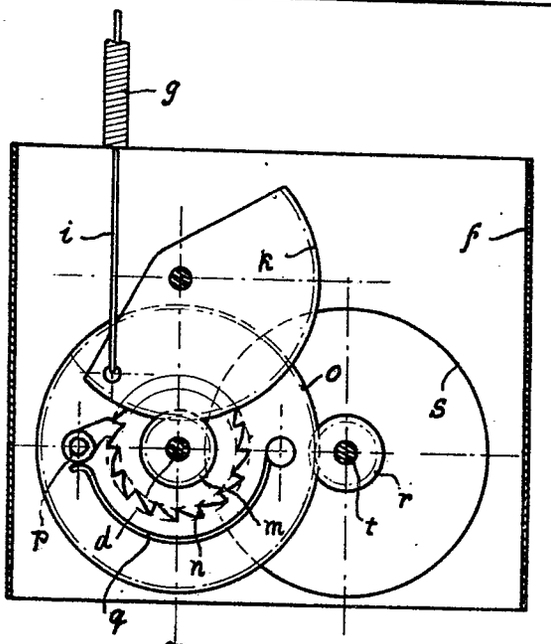

Fig.1.

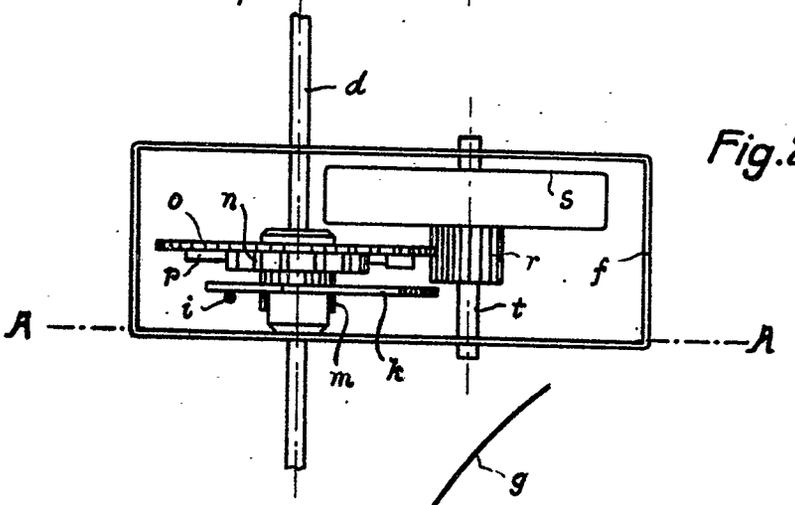

Fig.2

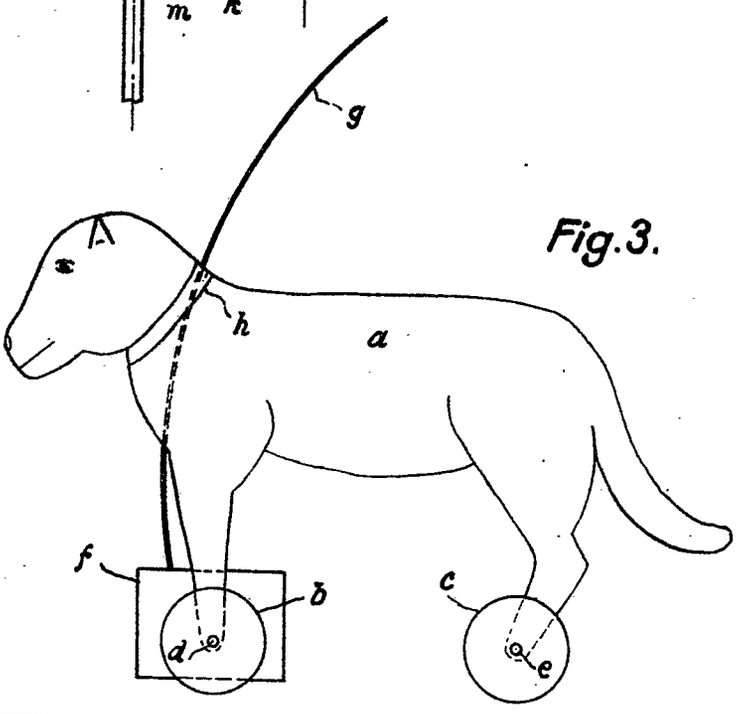

Fig.3.

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