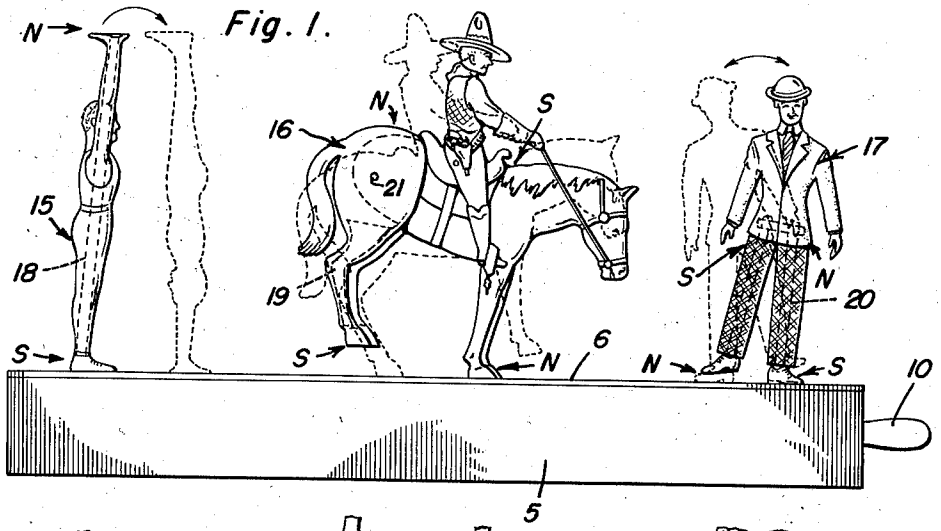
Dec. 30, 1952 R. P. KINNEY 2,623,326

MAGNETIC TOY

Filed June 6, 1949

Fig. 1.



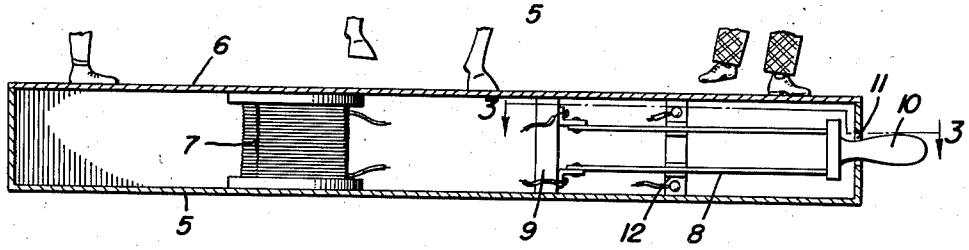


Fig. 2.

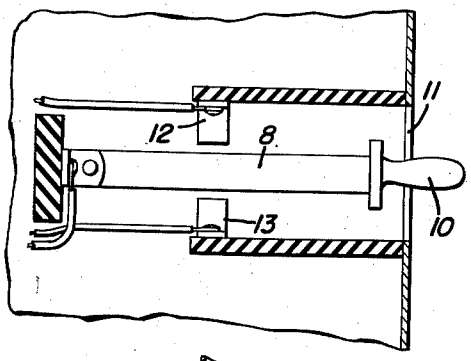


Fig. 3.

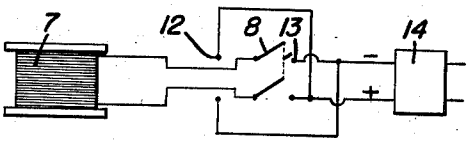


Fig. 5.

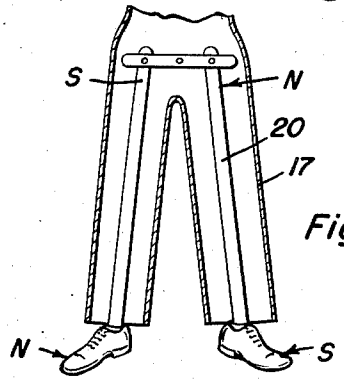


Fig. 4.

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UNITED STATES PATENT OFFICE

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MAGNETIC TOY

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Application June 6, 1949, Serial No. 97,355

2 Claims. (Cl. 46—45)

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The present invention relates to new and useful improvements in toys and more particularly to a magnetically operated animated figure toy.

An important object of the invention is to provide a toy figure having a permanent magnet and a platform or stage forming one pole of an electromagnet controlled by a double throw switch to either attract or repel the poles of the permanent magnet of the figure when placed on the platform to cause the animation of the figure in a predetermined manner.

Another object of the invention is to provide a toy capable of numerous embodiments in shape and action to afford amusement according to the taste of the individual.

A further object is to provide a toy of simple and practical construction, which is neat and attractive in appearance, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view.

Figure 2 is a longitudinal sectional view.

Figure 3 is an enlarged fragmentary sectional view taken on a line 3—3 of Figure 2.

Figure 4 is an enlarged fragmentary vertical sectional view of one of the toy figures, and

Figure 5 is a diagram of the electric circuit for the electromagnet.

Referring now to the drawing in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of my invention, the numeral 5 designates a hollow box of suitable material of which the top 6 is of magnetic material and forms one of the poles of an electromagnet 7 positioned in the box and is suitably insulated from the other pole.

A double pole, double throw, knife-type switch 8 is pivoted at its inner end to a bracket 9 in the housing and with the outer end of the switch provided with a handle 10 projecting outwardly through a horizontal slot 11 in one side of the box.

The blades of the switch engage pairs of resilient contacts 12 and 13 upon an opposite swinging movement of the switch, the contacts being connected in a circuit with the electromagnet to reverse the polarity of the electromagnet. The circuit may be connected to a suitable source, such as a battery (not shown) and when connected to a house circuit is provided with a rectifier 14.

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An animated toy figure, such as an acrobat 15, a horse 16, or a walking or dancing figure 17, is provided with one or more permanent magnets 18, 19 and 20 respectively, the magnet in the acrobatic figure 15 extending through the legs, body and raised arms to position one pole of the magnet in the feet and the other pole of the magnet in the hands. In the toy horse 16 permanent magnets are positioned vertically in united front and rear legs, with the poles of the magnet in the front legs reversed from the poles of the magnet in the rear legs. In the walking or dancing figure 17 each leg is provided with a vertical permanent magnet positioned with their poles reversed.

The rear legs of the horse may be pivoted to the body thereof as shown at 21 or the horse may be constructed with rigidly connected front and rear legs having a horseshoe type magnet therein (not shown).

In the operation of the device, in a static condition the figures will be attracted to the top of box or stage 6 with equal force by either of their two poles, but when current flows through the windings of electromagnet 7, one pole of the permanent magnets in the individual figures will be attracted while the other will be repelled. When direction of current flow in the electromagnet is reversed by switch 8, the opposite poles will be attracted and repelled to thus move the toy figures.

The motion of toy acrobat 15 will simulate handsprings when its poles are alternately attracted and repelled. The toy horse 16 will first raise the front legs and then the rear legs as its poles are alternately attracted and repelled, and the walking or dancing figure 17 will likewise raise first one foot and then the other.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A toy comprising a housing including a mag-

netic top, an electromagnet in said housing with said top forming one pole thereof, a switch in said housing electrically connected to said electromagnet to alternately reverse the polarity thereof and cause said top to alternately form part of the opposite poles of the electromagnet, and a plurality of upright standing toy figures on said top having permanent bar magnets embedded therein coplanar therewith with opposite poles extending to different terminal parts of the figures and the poles thereof reversed relative to the poles of said electromagnet so that alternately reversing the poles of the electromagnet will cause the top to alternately attract opposite poles of said bar magnets and said different parts of said figures to cause said figures to stand on said different parts alternately.

2. A toy comprising a housing including a magnetic top, an electromagnet in the housing with said top forming one pole thereof, a switch in said housing electrically connected to said electromagnet to alternately reverse the polarity thereof and cause said top to alternately form part of the opposite poles of said electromagnet, an upright standing toy figure on said top having

a pair of legs for supporting the same in standing position, and a pair of permanent bar magnets in said legs extending longitudinally thereof with the poles oppositely arranged in one leg relative to the other leg and oppositely arranged relative to the poles of said electromagnet, so that alternately reversing the polarity of said electromagnet will cause said top to attract opposite poles of said bar magnets alternately and cause said figure to stand on its pair of legs alternately.

ROBERT P. KINNEY.

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