

(No Model.)

G. A. GOODSON.
MAGNETIC TOY.

No. 464,611.

Patented Dec. 8, 1891.

Fig. 1.

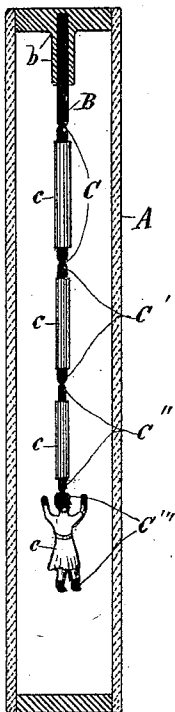


Fig. 2.

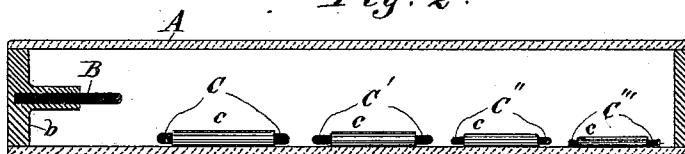
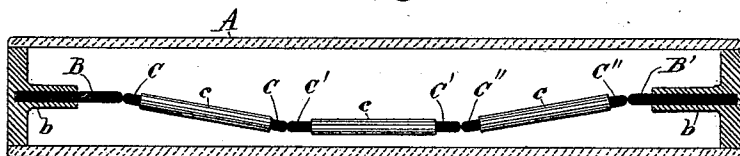


Fig. 3.



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UNITED STATES PATENT OFFICE.

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MAGNETIC TOY.

SPECIFICATION forming part of Letters Patent No. 464,611, dated December 8, 1891.

Application filed March 21, 1891. Serial No. 385,871. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. GOODSON, a citizen of the Dominion of Canada, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Magnetic Toys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an amusing toy. To this end I employ a glass case adapted to be held in the hand and a series of magnetic pieces within the case, one or more of which are fixed to the walls of the case and project therefrom toward the axial center of the case and the others of which are free. One or more of the free or loose pieces is preferably a grotesque figure. The others may be of any desired form calculated to give variety or attraction. The fixed pieces are preferably arranged in the axial centers of the end walls, projecting inward therefrom. They are also preferably surrounded by insulating material, except at their extremities. The loose pieces are also preferably covered, except at their extremities or poles. The glass case is preferably of tubular form of comparatively small diameter. There may be a single fixed magnet or there may be one at each end of the case. Where two fixed magnets are used, the loose magnets should be of a length, when taken collectively, to span the intervening space between the fixed magnets, with a little slack, so as to give an appearance of a line or cord.

The device is illustrated in the accompanying drawings, wherein Figures 1 and 2 are longitudinal sections through the case, illustrating the parts in two different positions. Fig. 3 is a similar sectional view showing the modification with two fixed magnets.

A is the glass tube constituting the case. B is the fixed magnet secured in one end of the same, protected with the insulating material *b*.

C C', &c., are the loose magnets, of which C''' is represented as a grotesque figure and the others as of tubular form. All the loose

magnets are covered with insulating material *c*, except at their contact or pole points.

In the modification shown in Fig. 3, B' is a fixed magnet similar to B, secured to the opposite ends of the case. The loose magnets are preferably of different mass, so as to have different attractive power, and the covering material may be of different colors, so as to indicate to the eye different orders of arrangement which the pieces may take.

The trick or action is to manipulate the case in such manner as to secure the free magnetic pieces to each other and to one or both of the fixed magnets. It is comparatively easy to bring the loose magnets in line with each other, so that they will adhere together; but to effect the contact of one of the end loose pieces with one of the fixed magnets and hold the chain when shifting the case to a vertical position is a matter of considerable difficulty. It can, however, be done by giving exactly the right movement to the case. It is more easily effected by arranging the magnets in the order of their attractive power, with the largest at the top, and most difficult in the reverse order. The grotesque figure may form any link in the chain, but has more motion when dangling at the lower end. The figure is preferably stamped out of sheet metal and has uplifted outstretched hands and spreading feet. The head, hands, and toes are left exposed, any one of which serves as a pole or contact point. Hence the figure is liable to be suspended in any one of several different ways, thus adding variety. When the two fixed magnets are used, as shown in Fig. 3, the trick or action is to make the loose magnets into a line spanning the space between the fixed magnets, which requires a sleight or skill almost, if not quite, equal to that required in the other action or arrangement shown in Figs. 1 and 2.

The apparent simplicity of the act, the difficulty of performance, and the variety of arrangement of which the parts are capable, the instruction afforded by the explanation, and the motion of the grotesque figure make this an attractive and instructive toy, well adapted not only to amuse children, but to entertain people of an older growth.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A magnetic toy comprising a transparent
5 case adapted to be held in the hand and a series of two or more magnetized pieces, one or more of which are fixed to the interior of the case and one or more of which are free therein.
2. A magnetic toy comprising a transparent
10 case and a series of magnetized pieces, one or more of which are fixed and the others of which are loose, the fixed magnets being arranged to project toward the axial center of the case, substantially as described.
- 15 3. A magnetic toy comprising a closed glass case and a series of magnetized pieces within the same, one of which is fixed to the end of the case approximately in the axial center of the same and others of which are free, sub-
20 stantially as described.
4. A magnetic toy comprising a closed glass case and a series of magnetized pieces within the same, one or more of which are fixed to the

wall of the case and others of which are free, one of the said free pieces being a grotesque
25 figure, substantially as described.

5. A magnetic toy comprising a closed glass case and a series of magnetic pieces within the same, two of which are fixed, one to each
30 end of the case projecting therefrom approximately in the axial line of the case and the others of which are free and collectively sufficient to span the space from one fixed magnet to the other, substantially as described.

6. A magnetic toy comprising a closed glass
35 case and a series of magnetic pieces within the same, one or more of which are fixed to the case and others of which are free, the said free pieces being of different mass, substantially
40 as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE A. GOODSON.

Witnesses:

JAS. F. WILLIAMSON,
EMMA F. ELMORE.