No. 710,627. Patented Oct. 7, 1902.

L. J. SULLIVAN.

MAGNETIC TOY.

(Application filed Nov. 29, 1901.)

(No Model.)

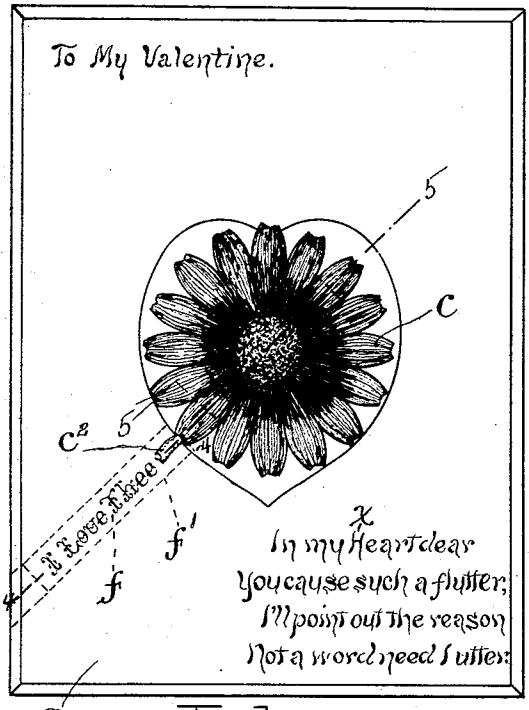


Fig. 1.

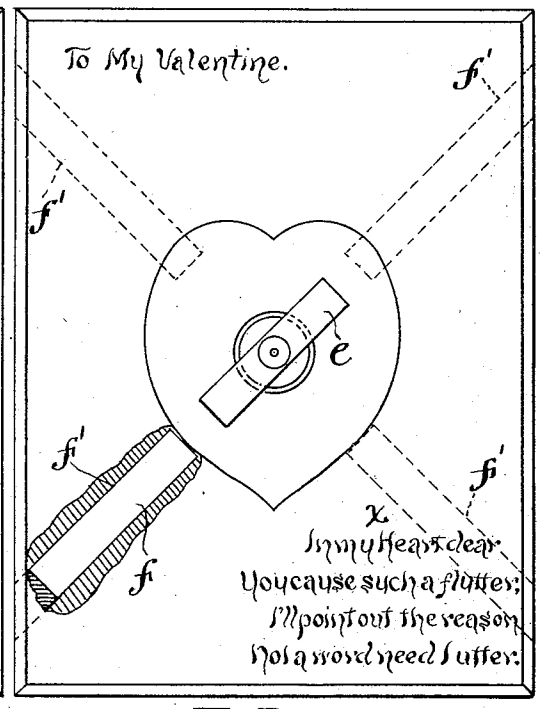


Fig. 3.



Fig. 2.

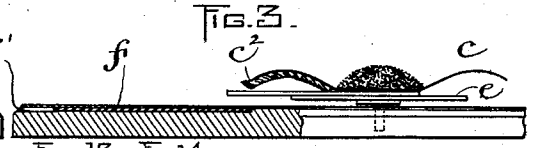


Fig. 4.

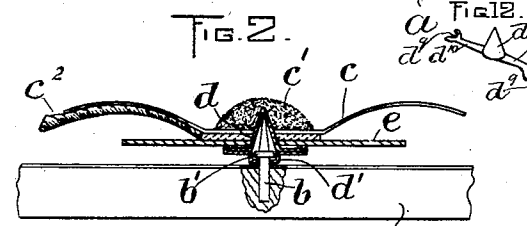


Fig. 5.

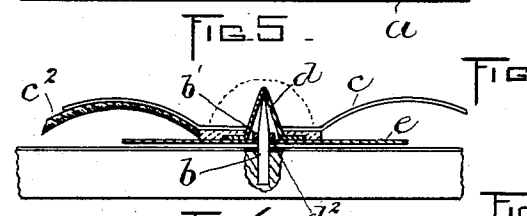


Fig. 6.

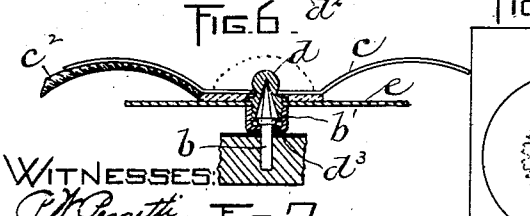


Fig. 7.

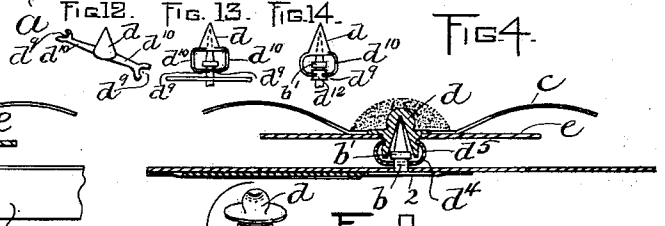


Fig. 12. Fig. 13. Fig. 14.

Fig. 8.

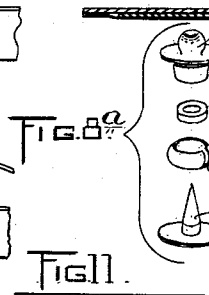


Fig. 8a.

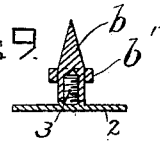


Fig. 9.

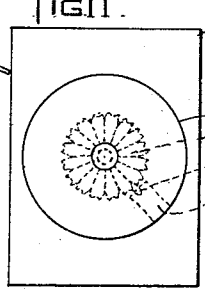


Fig. 11.

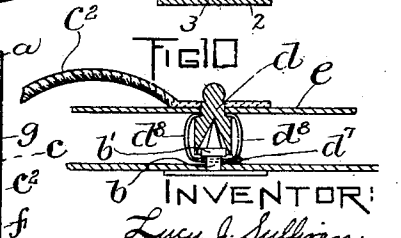


Fig. 10.

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UNITED STATES PATENT OFFICE.

LUCY J. SULLIVAN, OF BOSTON, MASSACHUSETTS.

MAGNETIC TOY.

SPECIFICATION forming part of Letters Patent No. 710,627, dated October 7, 1902.

Application filed November 29, 1901. Serial No. 84,092. (No model.)

To all whom it may concern:

Be it known that I, LUCY J. SULLIVAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Magnetic Toys, of which the following is a specification.

This invention consists in a magnetic toy comprising a base having an upwardly-projecting standard affixed to it, a rotary body having a socket mounted to turn on the upper end of the standard and having also a bar or strip of metal adapted to be influenced by magnetism, means for preventing the removal of the socket and rotary body from the standard, so that while the rotary body can freely rotate it cannot be displaced from the standard when the base is inverted or held vertically edgewise, and means for holding a magnet in suitable relation to the rotary body to act upon said bar or strip and cause the rotation of the rotary body to a position determined by the position of the magnet.

The invention also includes certain other improvements incidental to the general object of my invention.

My invention may be embodied in a valentine, or it may be otherwise embodied, as hereinafter described.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top plan view of a magnetic toy embodying my invention. Fig. 2 represents an end view of the same. Fig. 3 represents a top plan view, the rotary body and the covering of the magnet being removed. Fig. 4 represents a section on line 4 4 of Fig. 1. Fig. 5 represents a section on line 5 5 of Fig. 1. Figs. 6, 7, 8, 8ª, 9, and 10 represent modifications hereinafter referred to. Fig. 11 represents a back view of the toy, showing a modification hereinafter referred to. Figs. 12, 13, and 14 represent views of other modifications.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents a base, which may be a sheet of cardboard, wood, or any other desired material of suitable size and thickness. To the central portion is affixed a vertical standard *b*, projecting from one side of the base and preferably sharpened or pointed at its upper end.

c represents a rotary body, which is here shown as resembling a flower and composed of a series of radiating petals and a center *c'*, imitating the central portion of the flower.

d represents a metallic socket, which is suitably affixed to the rotary body *c* and is preferably of conical form internally, the apex of its interior bearing upon the upper end of the standard *b*, so that the socket and the rotary body affixed thereto can rotate freely upon the standard and can oscillate to a slight extent.

I do not limit myself to the described construction of the rotary body, as the same may be a simple flat disk or piece of paper suitably attached to the socket *d*, or it may be of any other suitable construction.

e represents a strip or bar of metal adapted to be influenced by magnetism, said strip being affixed in any suitable way to the rotary body *c*, so that it will turn with the latter.

It will be seen that when a permanent magnet is held so that its lines of force reach the bar or strip *e* the latter will be attracted and will cause the rotary body to rotate to a position determined by the position of the magnet. The magnet employed may be held in the hand of the operator without connection with the base *a*. I prefer, however, to provide the base with means for holding the magnet in suitable relation to the rotary body and its strip *e* and in a concealed position, so that it will be invisible either from above or below the base. To this end a pocket *f'* may be formed between the upper and the lower surfaces of the base, a magnet *f* being placed in said pocket. In Fig. 1 I show but one pocket *f'*, while in Fig. 3 I show a series of four of said pockets, thus enabling the position of the magnet *f* to be changed, so that it can be caused to hold the rotary body *c* in different positions.

Owing to the fact that when a series or plurality of pockets are employed, each being formed between upper and lower surfaces of the base, the magnet may be concealed in any one of them, so that it cannot be seen from either side of the base, the utility of the device as a toy is increased, because the magnet may be changed in its position while the acts of the person holding it are unobserved, and such change of position will not be known to the person to whom the toy is being exhibited. With a base so con-

structed any one of the means illustrated for connecting the rotary body therewith may be employed.

The upper surface of the base a may be provided with an inscription over the pocket f', the rotary body c being provided with a pointer c^2, which in this case represents the stem of the daisy and is arranged so that when the strip e is attracted by the magnet the pointer c^2 will point to the inscription above the magnet. It is obvious that in the arrangement shown in Fig. 3 there may be a number of inscriptions corresponding to the number of pockets, each inscription being located over one of the pockets, so that by changing the position of the magnet the pointer c^2 may be caused to coincide with different inscriptions on the base.

In Fig. 11 I show a magnet f affixed to a rotary disk g, which is pivoted to the base a and may be turned to bring the magnet to any desired position, thus causing it to hold the rotary body c with its pointer in any desired position.

My invention may be embodied in a valentine or a trick card or toy, or it may be otherwise embodied.

To prevent displacement of the rotary body c and its socket from the standard in case the base is inverted or held upside down or edgewise, I provide the standard b with a collar or shoulder b', which is rigidly affixed to the standard, and I provide the rotary body c with a flange which projects under the shoulder b' and surrounds the portion of the standard below said shoulder, so that the socket, while free to turn on the standard, cannot be removed therefrom.

In Fig. 5, d' is the flange which is affixed to the base of the socket d.

In Fig. 6, d^2 is the flange which is simply the central portion of the metal strip e, said portion surrounding an orifice formed in the strip for the reception of the standard b.

In Fig. 7, d^3 is the flange which is screwed onto the externally-threaded lower portion of the socket d.

In Fig. 8 the flange d^4 is the lower edge of a cupped resilient split ring d^5, which is sprung onto the externally-grooved lower portion of the socket. (The parts of the socket, flange, and standard shown in Fig. 8 are shown detached in Fig. 8^a.)

In Fig. 10 the flange d^7 is formed on arms d^8 d^8, which may be affixed in any suitable way to the socket d.

Figs. 12 and 13 show the flange formed by the recessed ends d^9 d^9 of arms d^{10} d^{10}, which are integral with the socket d and are bent under the socket, as shown in Fig. 13.

Fig. 14 shows the flange formed by an eyelet d^{12}, embraced by the recessed ends d^9.

I have shown different methods of attaching the standard b to the base. In Figs. 2, 4, 5, 6, and 7 the lower end of the standard is simply embedded in the base. In Figs. 8, 9, and 10 the standard is composed of two parts—viz., a flat footpiece 2, having a screw-threaded stem 3, and a body portion or standard proper, which is internally screw-threaded and screwed onto the stem 3.

I claim—

1. A device of the character specified comprising a base, a standard affixed to and projecting above the base and having a rigid fixed collar or shoulder below its upper end, a rotary body having a socket mounted to turn on the upper end of the standard and a spring-flange projecting under said shoulder, said flange and shoulder preventing the separation of the socket from the standard.

2. A device of the character specified comprising a base, a standard affixed to and projecting above the base, a rotary body mounted to turn on said standard and carrying a metal bar or strip adapted to be influenced by magnetism, a plurality of concealed pockets formed between the upper and lower surfaces of the base, and a magnet adapted to be placed in and concealed by either one of said pockets.

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

LUCY J. SULLIVAN.

Witnesses:
C. F. BROWN,
E. BATCHELDER.