United States Patent [19]

Fields

[11] **3,883,988**

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[54] **MAGNETICALLY OPERATED AMUSEMENT DEVICE**

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[52] **U.S. Cl.** ..... **46/239**; 273/1 M

[51] **Int. Cl.** **A63h 33/26**

[58] **Field of Search** ..... 273/1 M, 157 R; 35/19 A; 46/236–240

[56] **References Cited**

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417,931	12/1889	Miatt	273/159 R UX
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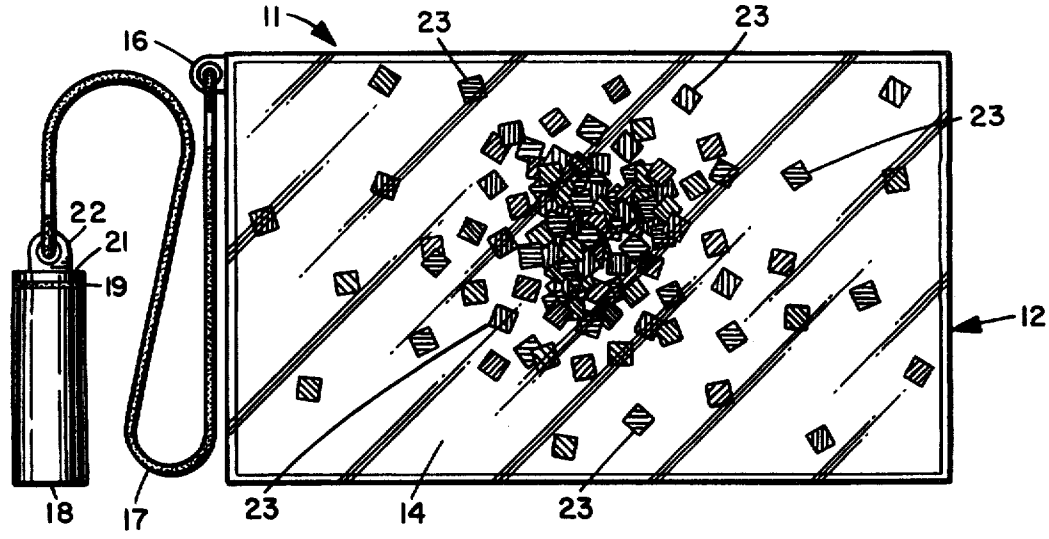
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[57] **ABSTRACT**

An amusement device including at least partially transparent container formed of non-magnetic material having a plurality of relatively small magnetizable elements enclosed therein; each of such magnetizable elements having been coated with at least one of a plurality of bright colored paints. Preferably, each of such magnetizable elements is a segment cut from a length of conventional magnetic recording tape. Alternatively, however, each of such magnetizable elements may be a readily commercially available, conventional, small "ring core" element formed of magnetizable iron oxide manufactured for use in a data storage or "memory" component of an electronic computer. A conventional bar magnet is manually maneuverable externally around and about such container, and such magnetizable elements enclosed therein may move about under the influence of such magnet to pile up, spread out, flip, and tumble to create variously colored patterns thereof in a somewhat kaleidoscopic fashion considered to be interesting and amusing.

2 Claims, 8 Drawing Figures



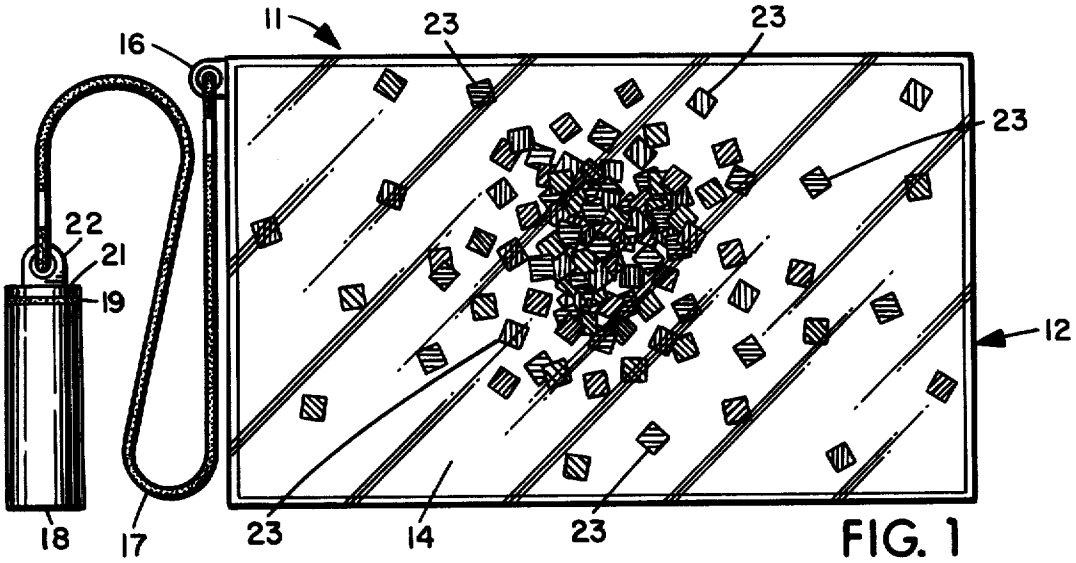


FIG. 1

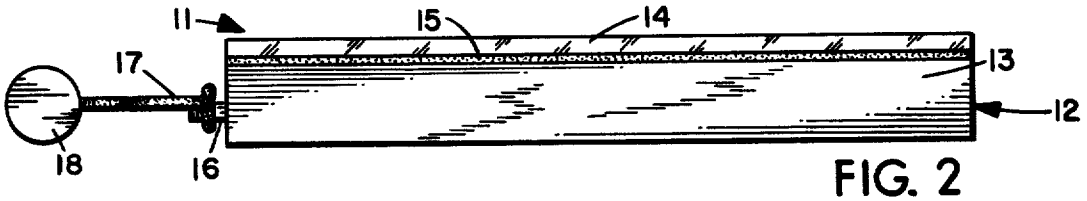


FIG. 2

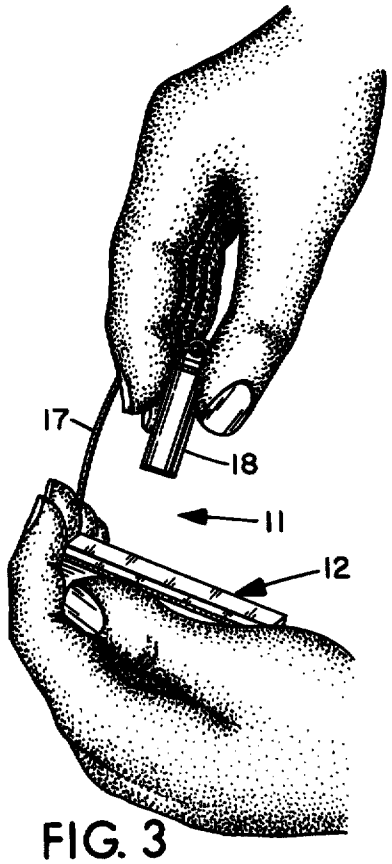


FIG. 3

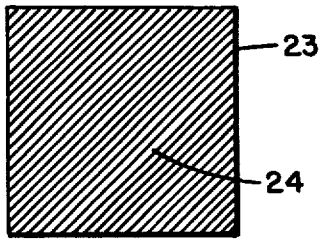


FIG. 4

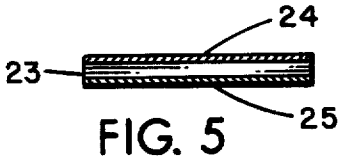


FIG. 5

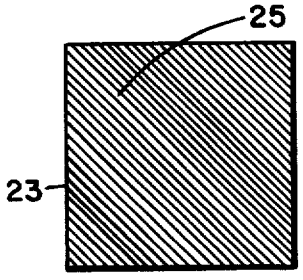


FIG. 6

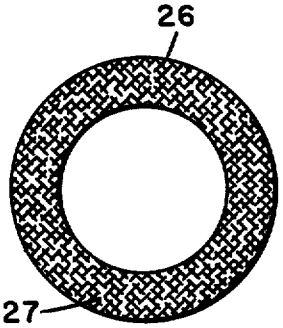


FIG. 7



FIG. 8

MAGNETICALLY OPERATED AMUSEMENT DEVICE

This invention relates generally to an amusement device, and more particularly to a device of this type including a plurality of small, light, brightly variously colored, magnetizable elements enclosed within an at least partially transparent container formed of non-magnetic material; such magnetizable elements being adapted to be moved about within such container under the influence of a magnet maneuvered exteriorly thereof to form various patterns somewhat analogous to the effects obtainable with a conventional kaleidoscope.

Devices known heretofore including magnetizable elements enclosed within at least partially transparent containers formed of a non-magnetic material which a magnet positionable exteriorly thereof may move about have been utilized in the field of education as well as for the purpose of amusement. One device of this type utilized in illustrating magnetic fields for educational purposes is shown in U.S. Pat. No. 3,663,731 (Ofwerstrom) granted on May 16, 1972 (35/19A), while an amusement device of this general type is disclosed in U.S. Pat. No. 2,853,830 (Herzog) issued Sept. 30, 1958 (46/239). Although somewhat analogous to the devices set forth in such prior art references, the novel amusement device forming the subject matter of the present application differs considerably therefrom, and is useable for the attainment of objectives of a non-analogous nature.

Accordingly, an object of the present invention is the provision of a simple and inexpensive amusement device including a plurality of variously colored magnetizable elements moveable under the influence of a magnet to produce a somewhat kaleidoscopic effect.

According to the instant invention, the foregoing and other objects are attained by providing in an amusement device an at least partially transparent container formed of a suitable non-magnetic material having enclosed therein a plurality of small, light, variously colored, magnetizable elements. Such magnetizable elements may be relatively small segments cut from a plurality of lengths of conventional magnetic recording tape of the type used in conventional tape recorders; each of such lengths of magnetic recording tape having previously been coated on both of the surfaces thereof with a bright paint or the like. Each of such lengths of magnetic recording tape may have been coated on one of the surfaces thereof with a paint or the like of one color and on the other of the surfaces thereof with paint or the like of another color, or may have been coated on both of the surfaces thereof with paint or the like of the same color; the number of such lengths of magnetic recording tape coated with variously colored paints or the like utilized to provide the magnetizable elements incorporated in a single device according to the present invention being sufficient to provide therein magnetizable elements exhibiting quite a variety of colors. Alternatively, the magnetizable elements provided in an amusement device according to the instant invention may be small "ring core" elements formed of magnetizable iron oxide manufactured in considerable quantities and readily available for use in the data storage or "memory" components of electronic computers; each of such "ring core" elements being coated with a bright paint or the like. A plueliry of such "ring core" magnetizable elements each coated with one of a variety of colors of paint or the like are

used in each amusement device according to the present invention. The amusement device forming the subject matter of the instant application is utilized with a conventional bar magnet which may be interconnected with the container thereof by means of a suitable flexible, non-magnetic tether element; such magnet being held in one of the hands of a user of the amusement device and moved externally about the container thereof, which may be held in the other of the hands of such user, to move such magnetizable elements enclosed within such container about, causing them to pile up, spread out, tumble, or flip, creating various patterns of various color combinations in a somewhat kaleidoscopic manner considered to be interesting, pleasing, and amusing in nature.

A more complete appreciation of the invention and many of the attendant advantages thereof will be readily apparent as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawing wherein:

FIG. 1 is a plan view of the amusement device according to the present invention;

FIG. 2 is a side elevational view thereof;

FIG. 3 is a pictorial representation of the amusement device in use;

FIG. 4 is a view of the upper surface of a first embodiment of magentizable element encloseable within the container provided in the amusement device according to the instant invention;

FIG. 5 is a side elevational view of the magnetizable element shown in FIG. 4;

FIG. 6 is a view of the lower surface of the magnetizable element shown in FIG. 4;

FIG. 7 is a plan view of a second and alternative embodiment of magnetizable element encloseable within the container provided in the amusement device according to the present invention; and

FIG. 8 is a side elevational view of the magnetizable element shown in FIG. 7.

Referring now more particularly to the drawing, wherein like reference numerals designate the same or similar parts throughout the several views, and more specifically to FIGS. 1 and 2, there is shown an amusement device, generally designated by the reference numberal 11. Amusement device 11 includes container, generally designated by the reference numberal 12, including a box-like body portion 13 having a retangular lower wall and relatively shallow side walls of uniform height integrally formed therewith af a suitable non-magnetic material such as a conventional plastic; the body portion 13 of container 12 preferably being opaque, as indicated in the drawing. The container 12 of amusement device 11 is further provided with a transparent cover portion 14 substantially corresponding in shape and size to the lower wall of the body portion 13 thereof formed of a suitable non-magnetic material such as conventional clear plastic; such cover portion 14 of the container 12 of amusement device 11 being operationally peripherally interconnected with the upper edges of the side walls of the body portion 13 thereof as by a suitable adhesive bonding material 15. It is to be clearly understood, however, that the particular container 12 hereinbefore described and shown in FIGS. 1 and 2 of the drawing has been specifically set forth for the purpose of illustration rather than of limitation, and that a container of another desired shape

also formed of non-magnetic material and either entirely transparent or partially transparent to a desired extent may be utilized in the amusement device **11** in lieu of such container **12**.

A conventional eye element **16** is preferably integrally interconnected with the body portion **13** of the container **12** of amusement device **11**. A first extremity of a flexible, elongated tether element **17** of suitable length formed of a suitable non-magnetic material such as a plant fiber or a conventional plastic is conventionally secured to the eye element **16** as by, for example, passing a shore length thereof through such eye element **16**, then bending a terminal portion of the same back into contact with a portion of the length of such tether element **17** adjacent such eye element **16** but which has not been passed therethrough, and then clamping such contacting portions of such tether element **17** together by means of a pliable metallic crimping element formed of a non-magnetic such as brass or the like; the other or second extremity of such tether element **17** being interconnected with one of the ends of a conventional bar magnet **18** as set forth hereinafter. Such bar magnet **18**, which may be of cylindrical configuration as indicated in FIGS. **1** and **2** of the drawing, may have suitably connected to one of the ends thereof as by a conventional adhesive bonding material **19** a non-magnetic component **21** formed of plastic or the like having integrally interconnected therewith an eye element **22** similar to the eye element **16** integrally interconnected with the body portion **13** of the container **12** of amusement device **11**. The second extremity of the tether element **17** set forth hereinbefore is conventionally secured to the eye element **22** of the component **21** similarly to the manner in which the first extremity thereof is secured to the eye element **16**. It will be apparent, however, that so tethering the bar magnet **18** to the container **12** of the device **11** is a matter of convenience rather than of necessity, and that an amusement device **11** not provided with the eye element **16** or the equivalent could be utilized with a separately provided or obtained magnet in the successful practice of the invention.

Amusement device **11** further includes a plurality of small, light, variously brightly colored elements such as the elements **23** operationally enclosed within the container **12** thereof; such elements **23** or other elements similarly useable in the amusement device **11**, as set forth hereinafter, being formed of a magnetizable material. When the amusement device **11** is used in the manner contemplated herein, as illustrated in FIG. **3** of the drawing, the container **12** thereof is held in one of the hands of the user, and the bar magnet is held in the other of the user's hands; the user of the amusement device **11** holding the end of the bar magnet **18** most remote from the tether element **17** in proximity to or even in contact with the container **12** thereof. Such end of the bar magnet **18** may then be maneuvered around and about the container **12** of the amusement device **11** to pass across the top thereof, along the side thereof, and even therebeneath, according to the fancy of the user of such amusement device **11**. The magnetizable elements such as the magnetizable elements **23** operationally enclosed within the container **12** of the amusement device **11**, under the influence of the magnetic field of the bar magnet **18** as it is so maneuvered about such container **12**, will pile up, spread out, swirl, flip, and tumble to create various patterns in various color combinations in a somewhat kaleidoscopic fashion deemed to be interesting, pleasing, and amusing.

The magnetizable elements **23** operationally enclosed within the container **12** of amusement device **11**, as shown in FIGS. **4 – 6** of the drawing, are small segments cut from a plurality of lengths of conventional magnetic recording tape of the type used in conventional tape recorders. Each of such magetizable elements **23**, as indicated in the drawing, may be of a substantially square configuration with each of the sides thereof measuring from about 1/16 inch to about 1/10 inch in length, although magnetizable elements **23** of other desired shapes of comparable size may also be employed. One of the surfaces of each of such magnetizeable elements **23** is coated with a bright paint **24** or the like, and the other of the surfaces of such magnetizable element **23** is coated with a bright paint **25** or the like. The paints **24** and **25** may be of different colors; the paint **24**, for example, being brown, as indicated in FIGS. **4** and **5** of the drawing, and the paint **25** being green, as indicated in FIGS. **5** and **6** of the drawing. Magnetizable elements **23** exhibiting surfaces each having one of six or more colors of paint coated thereon are preferably incorporated in an amusement device **11** according to the instant invention, and if such magnetizable elements **23** are cut from lengths of magnetic recording tape having a paint or the like of one color coated on one of the surfaces thereof and paint or the like of another color coated on the other of the surfaces thereof, at least three different lengths of magnetic reocrding tape would preferably be used in supplying magnetizable elements **23** to be incorporated in an amusement device **11**; one of such lengths of magnetic recording tape, as mentioned hereinbefore, having a coating of bright brown paint or the like provided on one of the surfaces thereof and having a coating of bright green paint or the like, for example, provided on the other of the surfaces thereof; another of such lengths of magnetic recording tape having a coating of bright blue paint or the like, for example, provided on one of the surfaces thereof and having a coating of bright yellow paint or the like, for example, provided on the other of the surfaces thereof; and still another of such lengths of magnetic recording tape having a coating of bright red paint or the like, for example, provided on one of the surfaces thereof and having a coating of bright orange paint or the like, for example, provided on the other of the surfaces thereof. Inasmuch as at least several hundred of the magnetizable elements **23** are preferably employed in an amusement device **11** according to the instant invention, when three lengths of magnetic recording tape coated with paint or the like as hereinbefore described are utilized to supply the same at least 100 magnetizable elements **23** are preferably cut from each of such lengths of magnetic recording tape for inclusion in such amusement device **11**.

Alternatively, however, the magnetizable elements **23** incorporated in an amusement device **11** may have paint or the like of the same color coated on both of the surfaces thereof. In such a case, as many as six lengths of magnetic recording tape may be utilized in furnishing the magnetizable elements **23** of an amusement device **11**; one of such lenghts of magnetic recording tape having a coating of bright green paint or the like, for example, provided on both of the surfaces thereof; another of such lengths of magnetic recording tape being similarly coated with a bright brown paint, for example;

still another being similarly coated, for example, with a bright yellow paint or the like; yet another being similarly coated with a bright blue paint or the like, for example: a further of such lengths of magnetic recording tape being similarly coated with a bright red paint or the like, for example; and still a further of such lengths of magnetic recording tape being similarly coated, for example, with a bright orange paint or the like. When as many as six lengths of variously colored magnetic recording tape each coated on both of the sides thereof with a single one of such colors of paint or the like are utilized in supplying the magnetizable elements **23** operationally incorporated in an amusement device **11**, then preferably at least 50 of such magnetizable elements **23** are cut from each of such lengths of magnetic recording tape.

Magnetizable elements other than segments cut from magnetic recording tape may be utilized in the amusement device **11** in lieu of the hereinbefore described magnetizable elements **23**. A magnetizable element **26** useable in lieu of a magnetizable element **23**, accordingly, is shown in FIGS. **7** and **8** of the drawing; the magnetizable element **26** being a "ring core" element formed under heat and pressure of magntizable iron oxide for use in the data storage or "memory" components of electronic computers. The "ring core" element, also known commercially as a "ferrite core," utilized as the magnetizable element **26** employed in the amusement device **11** according to the present invention, may be the Core Type 184–06 readily commercially available from the Computer Products Division of Ampex Corp., 9937 W. Jefferson Blvd., Culver City, Calif. 90230, which has an outside diameter of 17.8 mils, an inside diameter of 11.7 mils and a height of 4.2 mils, or may be a "ferrite core" of somewhat larger size also readily available from this source. Another "ring core" element that may be employed in the amusement device **11** according to the instant invention is the "ferrite core" Class **18**, Type 12–100 manufactured by Electronic Memories, a division of Electronic Memories and Magnetics Corp., 12621 Chadron Ave., Hawthorne, Calif. 90250, which measures 18 mils in outside diameter, 11.5 mils in inside diamter, and is 4 mils in height. Of course, somewhat larger "ferrite cores" also readily commercially available from this source may also be used in the amusement device **11**. The hereinbefore disclosed magnetizable element **26** is coated with a bright paint or the like **27** for use in the amusement device **11**. Preferably, at least several hundred of the magnetizable elements **26** are used in an amusement device **11** in liew of the magnetizable elements **23**, and each of the same is coated with one of a plurality of colors of bright paint or the like; there being included within an amusement device **11**, for example, 50 or more magnetizable elements **26** colored orange, as indicated inf FIGS. **7** and **8** of the drawing; another 50 or more magnetizable elements **26** colored red; still another 50 or more magnetizable elements **26** colored blue; yet another 50 or more magnetizable elements **26** colored green; a further 50 or more magnetizable elements **26** colored brown; and still another 50 or more magnetizable elements **26** colored yellow. It will be apparent that an amusement device **11** incorporating several hundred of the magnetizable elements **26** variously colored as hereinbefore set forth will function in the same manner for the attainment of the same objectives as the amusement device **11** incorporating the magnetizable elements **23**.

Obviously, many modifications and variations of the present invention are possible in the light of the foregoing teachings. It is therefore to be understood that within the scope of the appended claims the invention be practiced otherwise than as specifically described.

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. An amusement device, comprising:

an at least partially transparent container formed of a non-magnetic material; and

a plurality of substantially small, substantially light, variously colored magnetizable elements operationally enclosed within said container, each of said magnetizable elements being a segment of magnetic recording tape having a surface coated with one of a plurality of coating materials each of a different color, said magnetizable elements being adapted to move about within said container to form various patterns thereof in various color combinations under the influence of the magnetic field of a magnet adapted to be maneuvered exteriorly about said container.

2. The amusement device according to claim **1**, wherein each of said magnetizable elements further has another surface coated with another of said plurality of coating materials.

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