Aug. 10, 1965 M. J. RUDERIAN 3,199,231

EDUCATIONAL TOY DEVICE

Original Filed Oct. 3, 1962

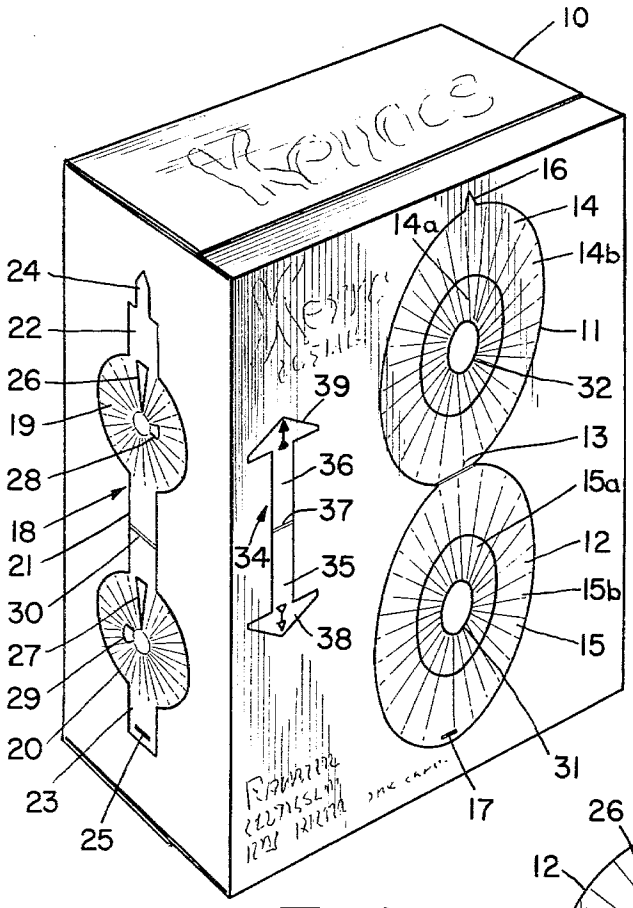

FIG. 1.

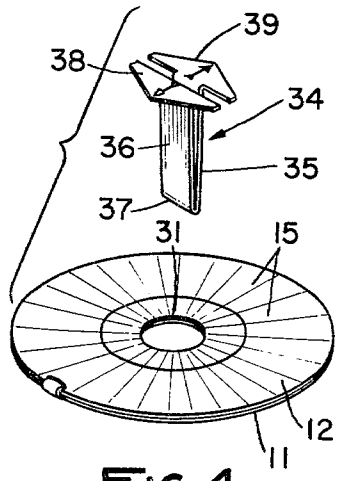

FIG. 4.

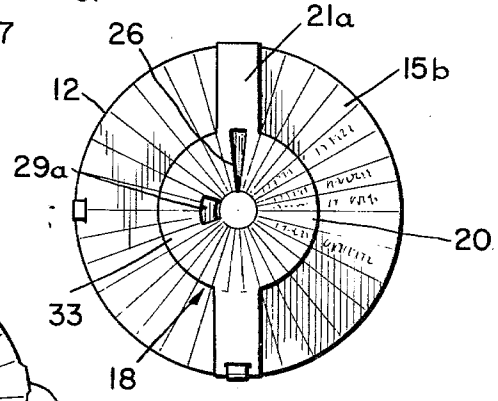

FIG. 3.

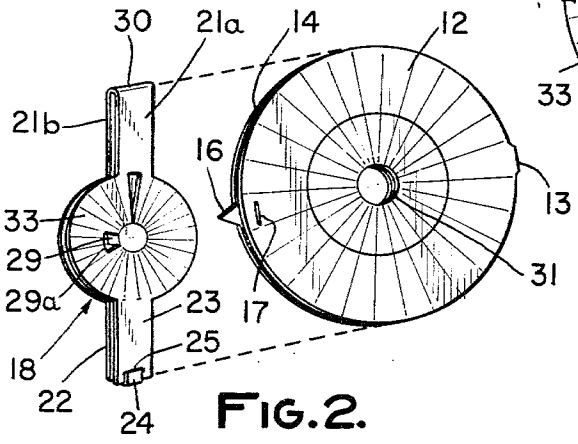

FIG. 2.

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EDUCATIONAL TOY DEVICE

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Continuation of application Ser. No. 228,133, Oct. 3, 1962. This application Apr. 19, 1965, Ser. No. 450,258

1 Claim. (Cl. 35—74)

This invention is a continuation of my copending patent application Serial No. 228,133, filed October 3, 1962, and entitled Educational Toy Device.

This invention generally relates to an educational toy device. Although the toy device of the present invention is primarly designed for educational purposes, it will be appreciated as the specification proceeds that it also may be employed in conjunction with games of chance or the like.

More specifically, the educational toy device of the present invention falls into that category of structures in which one portion is moved with respect to another portion and various indicating means are employed in conjunction with markings to discretely or by random identify a given term, word, number, name, or the like which is to be matched with or related to another term or marking. Thus, the educational toy device of the present invention is designed to stimulate a student's or child's thinking and desire to acquire knowledge by matching words, names, or the like through a movable structure rather than through merely visible means as is oftentimes the conventional practice. Of course, as heretofore mentioned, although the device of the present invention is primarily directed towards educational purposes, it may be employed for games of chance and luck.

One object of the present invention is to provide an educational toy device which may be extremely economically constructed from heavy paper, cardboard, or other inexpensive thin sheets of material, for example, plastic, metal foil, or the like.

Another object of the present invention is to provide an educational toy device which, except for the minute thickness of the material as such, may be manufactured in two-dimensional form and assembled by the user into the three-dimensional operational device.

A still further object of the present invention is to provide an educational toy device which may, for example, be embodied on a cardboard box of the type that is employed for holding dry cereals, flour, pancake mixes, cake mixes, and the like. More specifically, in this regard, it is an object of the present invention to provide a device which may be printed upon cardboard sheets to be snapped out of place or cut out of place and simply assembled into the operational unit without any appreciable skill being required of the user.

A still further object of the present invention is to provide an educational toy device conforming with the foregoing objects, and yet which is susceptible of repeated usage without deterioration, and also which may be simply assembled and disassembled and which consists of only a minimum number of parts.

These and other objects and advantages of the present invention are generally achieved by providing a pair of congruent discs, which discs are flexibly joined together at an edge portion so as to be foldable for super-imposition one with respect to the other. The discs may be formed of cardboard, thin plastic, aluminum foil, or other materials. In one preferred form, the discs are formed in conjunction with cereal box sidewalls, for example, such that they may be easily pressed out along perforations or cut along designated lines.

The discs preferably comprise the movable or rotatable portion of the device and marking means are associated

with the discs, preferably in the form of sector designating lines, although it is conceivable that other types of markings may be used.

Frame means are designed to journal the discs in super-imposed position. Associated with the frame means is some type of stationary indicating means designed to cooperate with the markings on the discs to establish the particular disposition of the discs relative to the indicating means.

It will be appreciated that as a consequence of the foregoing structure, various educational games as well as games of chance may be played according to the particular printing employed on the discs and the particular relationship of the indicating means associated with the frame means to the markings used on the discs.

In a preferred form, it is also desirable to employ markings in conjunction with the frame means and also cut-outs associated with the frame means whereby the educational toy device of the present invention may be employed in several different ways as will hereafter become clearer as the specification proceeds.

A better understanding of the educational toy device of the present invention may be had by reference to the drawings, showing merely illustrative embodiments, and in which:

FIGURE 1 is a view of the toy device of the present invention prior to being cut out and assembled, the device being shown embodied in the sidewalls of a cereal box or the like;

FIGURE 2 is an exploded perspective view showing the device immediately prior to final assembly;

FIGURE 3 is a top elevational view of the device in its assembled form; and

FIGURE 4 is a view of a modified form of the educational toy device of the present invention.

Referring now to the drawings, there is shown in FIGURE 1 a cereal box or the like 10 which is merely disclosed for illustrative purposes of suggesting the manner in which the structures of the educational toy device may be formed. Thus, on one sidewall of the cereal box, there are shown a pair of discs 11 and 12 joined together at a common edge portion 13. Preferably, the disc 11 is divided by printing into a plurality of sector portions 14, and similarly the disc 12 is provided with printing or the like to form a plurality of sector portions 15. It is also desirable, but not essential, in this particularly structure, that a tab 16 be formed in association with the disc 11 and a slot 17 in association with the disc 12. The tab 16 serves as a means of locking the disc 11 to the disc 12 in super-imposed position when the discs are folded together as will be hereafter described.

In the adjacent side of the box 10, there is shown a retainer structure or frame means 18 which embodies a disc-like portion 19 and a disc-like portion 20. The disc portions 19 and 20 have integrally formed therewith strip or frame portions 21, 22, and 23. The frame portion 22 is provided with a locking tab 24, and the frame portion 23 is provided with a cooperating slot 25 for the locking tab 24. It is also preferred to provide a perforated sector or triangularly shaped cutout or the like 26 in the disc portion 19 and a similar cutout 27 in the disc portion 20.

As an important feature of the present invention, tab structures 28 and 29 are provided, respectively, in the disc portions 19 and 20. The tab structures are preferably partially perforated into the disc portions 19 and 20 such that three sides of each of the tabs 28 and 29 may be freed while one side retains the tab connected to a given disc portion 19 or 20 as the case may be. The function of these tabs 28 and 29 will become clearer as the specification proceeds.

Thus, referring to the view of FIGURE 2, the frame or retaining means **18** is shown folded over along a fold line **30** and locked by having the tab **24** extend around the bottom edge of the frame **23** back into the slot **25** in the manner indicated. Normally, this locking operation would not be completed until the super-imposed discs **11** and **12** were assembled within the frame member **18**.

As will be seen from the view of FIGURE 2, the tab **29** has been forced out of position to leave a cutout **29***a*. The tab is designed to be received through a central opening **31** formed in the disc **12** such that the marginal portion of the disc adjacent the opening **31** will fit against the tab **29** and below the tab opening **29***a*.

A similar opening **32** in the center of the disc **11** is provided which is designed to receive the tab **28**, the latter being preferably 180 degrees out of alignment with the tab **29**. Thus, the tab **28** would be received through the opening **32** for disposal between the discs **11** and **12** with respect to the frame or retaining means **18**, but would also serve to guide relative rotative movement of the discs in a given path relative to the axis of the device as determined by the center openings **31** and **32**.

In the form shown in FIGURE 2, the device is ready for final assembly; the disc **11** has been folded at the edge portion **14** over the disc **12**, and the tab **16** is shown in position ready to be turned over the adjacent edge of the disc **12** into and through the slot **17** disposed thereon. The tab **16** in its final position would have its free end disposed between the discs **11** and **12** in the same manner that tabs **28** and **29** would be hidden from view. Thereafter, the discs **11** and **12** would be inserted into the retainer **18** by positioning the tabs **28** and **29** relative to the openings **31** and **32** in the manner as previously described. The tab **24** would then be locked into the slot **25** in the manner as shown in FIGURE 2 and the device would be ready for operation.

In its final assembled form, as shown in FIGURE 3, it is simple for the user to retain any portion of the frame structure **18** between the fingers of one hand and spin or move the disc members **11** and **12** which are now locked for coupled rotation about the axis of the device.

It will be appreciated that a variety of educational games of chance may be played with this device. For example, the cutout **26** may indicate a particular radially inner sector marking **15***a* having printing designating the primary product of a given state. The radially outer sector portions **15***b* could indicate the names of states, and the sector portions **33** on the disc portion **20** could indicate the capitals of the states. It would then be the user's objective to find the particular related state and align the capital therewith by moving the disc portion **20** relative to sector markings **15***b*.

It will also be appreciated that cooperating nomenclature can be imposed on the reverse side of the device or on the disc **11** which might indicate, for example, the flower of the particular state or the like or serve as a check for the answer.

In addition, it will be noted that the tab opening **29***a* may index to a particular portion of the inner markings or sector areas **15***a*. This indication might also give a particular number which would indicate the population ranking of the state or the area ranking of the state. Thus, it will be evident that the device may employ an appreciable number of variable to make the toy stimulating and challenging to the user thereof.

Although it is a preferred concept of the toy that the discs **11** and **12** be rotated with respect to the frame structure or retaining means **18**, it is apparent that the frame means **18** may be discretely moved with respect to the discs **11** and **12** and achieve the same result.

In an alternate form of the invention, instead of providing the structures as shown, a similar construction

may be used with respect to the discs **11** and **12**; however, in place of the frame structure **18**, a cutout of the form **34** may be used. The cutout **34** functions for the same purpose but does not yield as many variations in the use of the device. Thus, the cutout **34** may comprise strip structures **35** and **36** integrally formed and extending from a fold line **37**. The strip structures **35** and **36** terminate, respectively, in arrow portions **38** and **39**.

In use, the portions **35** and **36** are folded about the fold line **37** into the position as indicated in FIGURE 4. The arrow portions **38** and **39** are then also folded ninety degrees back and the disc structure assembled as shown in the manner of FIGURE 3, may then be spun about the strips **35** and **36** now functioning as a shaft and retaining means for the coupled discs **11** and **12**. Towards this end, the strip structures **35** and **36** would be passed through the central opening **31** and the user's fingers would be used to grasp the same while the other hand could be employed to spin the super-imposed discs **11** and **12**. The arrows **38** and **39** would then align with given sector portions **15** whereby the user would have to, for example, name the capital of one state or the state associated with the capital of another.

Of course, the educational toy device may be used in a variety of ways, for example, to name poets associated with given poems, to name inventions associated with given inventors, and the like.

In view of the foregoing, it will be appreciated by those skilled in the art that many changes and modifications may be made to the educational toy device of the present invention without departing from the spirit and scope of the invention as set forth in the following claim.

What is claimed is:

An educational toy device comprising, in combination: first and second congruent flat discs having first and second central openings and being flexibly joined together at an edge portion, said discs being folded together about said edge portion with said central openings in registration; markings on the exterior exposed surfaces of each of said discs; frame means comprising an elongated strip of the same material as said discs folded back on itself, said discs being received between the folded portions of said strip so that said folded portions extend diametrically across the exposed surfaces of said discs; means for securing the ends of said elongated strip together to thereby cradle said discs within said strip; and at least two locking tabs, one of said tabs being on the inner surface portion of said elongated strip extending across the exposed surface of said first disc adjacent to said first central opening in aid first disc, and the other being disposed on the inner surface portion of said elongated strip exetnding across the exposed surface of said second disc adjacent to said second central opening in said second disc, said tabs extending between the peripheral edges of said central openings of said discs to lie between said discs and thereby journal said discs for rotation within said elongated strip member, said elongated strip defining indicating means whereby one of said markings will be juxtaposed said indicating means on said elongated strip when said discs are at rest.

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