Sept. 7, 1937. E. J. HORNUNG 2,092,577

GAME AND EDUCATIONAL DEVICE

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Fig. 1

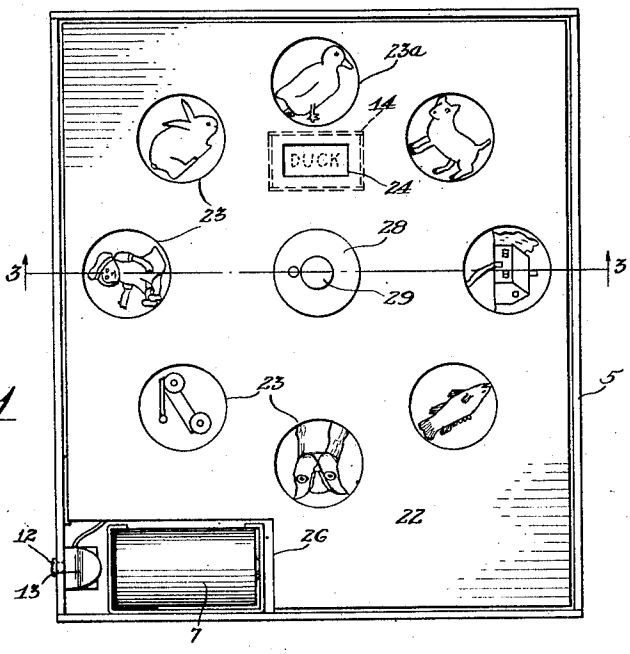
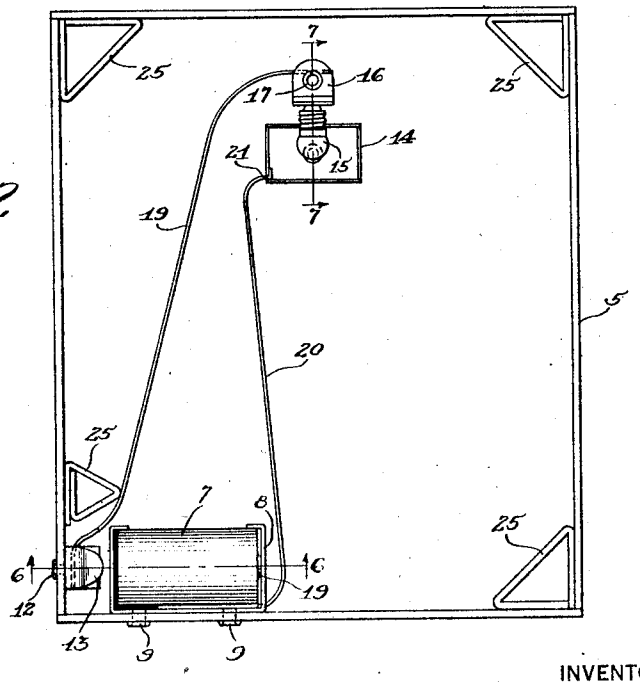


Fig. 2



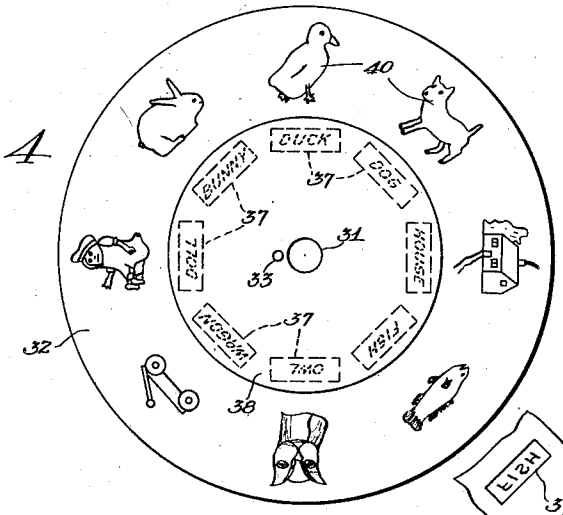
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Fig. 4



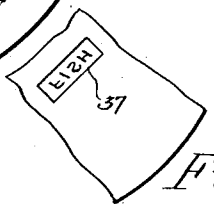


Fig. 5

Fig. 3

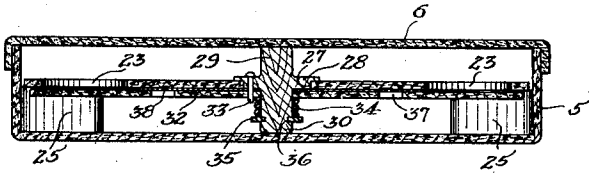
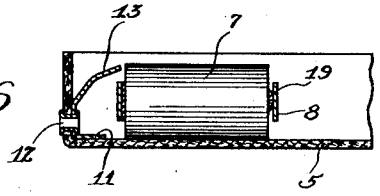


Fig. 6



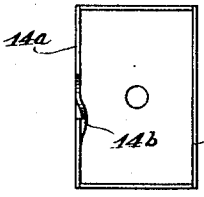


Fig. 8

Fig. 7

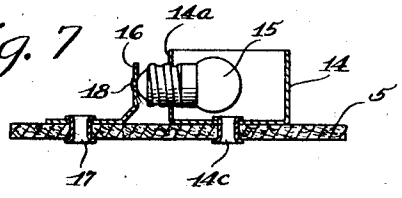




Fig. 9

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2,092,577

UNITED STATES PATENT OFFICE

2,092,577

GAME AND EDUCATIONAL DEVICE

Elias J. Hornung, Rochester, N. Y.

Application April 18, 1934, Serial No. 721,189

7 Claims. (Cl. 35—9)

This invention relates to games and educational devices.

The invention has for its main purpose the provision of an educational device or game which is interesting and instructive, which is simple to operate even by the youngest user and which is relatively inexpensive to manufacture.

The various features of the invention will appear from the detailed description and the claims when taken with the drawings in which Fig. 1 is a plan view of the device with the cover thereof removed; Fig. 2 is a plan view of the device with the panel and the parts supported thereby removed; Fig. 3 is a sectional view thereof taken on the line 3—3 of Fig. 1 with a section of the cover in position; Fig. 4 is a plan view of an indicia disk and Fig. 5 is a fragment of the reverse surface of this disk; Fig. 6 is a sectional view taken on the line 6—6 of Fig. 2 showing the dry cell mounting and the switch; Fig. 7 is a sectional view of the lamp mounting and reflector taken on the line 7—7 of Fig. 2; Fig. 8 is an enlarged plan view of the reflector; and Fig. 9 is a plan view of a mutilated washer for retaining certain of the parts in position.

Referring to the drawings, 5 designates a box made of any suitable material such as pasteboard and having a cover 6 (Fig. 3) of like material. In the lower left hand corner of the box, as illustrated, there is provided a dry cell 7, and a dry cell retaining clip 8 of resilient, conducting material. This clip is fastened to the lower side of the box by eyelets 9, 9 and is formed into generally rectangular shape to engage the ends and opposing sides of the dry cell. An L-shaped piece of insulating material, fastened in engagement with a portion of the clip by means of one of the eyelets 9, insulates the lower end of the cell from the clip while the pasteboard covering of the side wall of the cell insulates the remainder of the clip from this cell wall. It will be understood, however, that the right end of this clip is engaged by the center pole 19 of the cell. A switch 11 composed of a U-shaped strip of conducting material, is fastened by an eyelet 12 (Fig. 6) to the side wall of the box. The upper arm 13 of this switch is resilient and is so positioned that when it is depressed its free end engages the exposed metallic bottom of the cell.

There is also mounted on the bottom of the box near the upper end thereof, a combined reflector and electric lamp support. The reflector 14 is in the form of an open-topped receptacle to surround a low voltage lamp 15 which receptacle is fastened to the bottom of the box 5 by an eyelet 14c. Preferably the reflector is made from chromium or nickel-plated sheet metal suitably shaped and formed to have a bottom and side walls. One of these side walls 14a is notched to receive the thread base of the lamp, while the material 14b at an edge of the notch is offset so that the principal axis of the lamp is held symmetrical with respect to the sides of the reflector. An L-shaped bracket 16 of conducting material is fastened to the bottom of the box 5 by an eyelet 17 in such position that the upper end of the bracket engages the metal end terminal of the lamp. If desired, the upper end of this bracket may have a depressed portion 18 to receive the mentioned lamp terminal.

A conductor 19 electrically connects the bracket 16 and the switch 11 while conductor 20 electrically connects the clip 8 to the reflector 14. Altho these conductors may have their ends soldered to the mentioned parts these connections are preferably made merely by contact engagement effected by inserting an end of the conductor between the part and the box when the part is riveted to the box by an eyelet. In the case of the connection of the conductor 20 to the reflector, the upper end of this conductor is gripped in the corner between two adjacent side walls of the reflector as indicated at 21 (Fig. 2).

A panel 22 having a series of openings 23 arranged in a circle and a window 24 adjacent one of said openings, such as 23a, is held in spaced relation to the bottom of the box by triangular supports 25 which are fastened to the side walls of the box. The mentioned window is positioned directly above the reflector 14 when the panel is in normal position. The lower left hand corner of the panel 22 is also cut away to expose the dry cell 7 and the switch 13. In addition, the panel is provided with an opening 27 located at the center of the circle of openings 23. In this center opening 27, there is mounted a rotatable hub 28 having its upper portion 29 reduced to form a knob and its lower portion 30 reduced for insertion in the central opening 31 in an indicia disk 32. It should be noted that the hub is of such length that its lower end rests on the bottom of the box and its upper end engages the inner surface of the cover to prevent sagging of the cover when the devices are stacked. A pin 33 projects downwardly from the hub to enter the opening 33 in the disk so that the hub and disk rotate as a unit whenever the knob 29 is turned. The disk although it is replaceable, is normally, tightly clamped to the hub so that it rotates in close relation to the under side of the panel. The clamp-

ing means comprises a coil spring **34** surrounding the lower portion **30** of the hub with its upper end pressing the disk against the hub in which position the spring is detachably held by the mutilated washer **35** engaging a circular groove **36** in the mentioned hub portion.

The indicia disk **32**, has on its front margin (as view in Figs. 1 and 4) a series of symbols **40**, or pictures of objects which are so positioned that they are visible through the openings **23** as the disk is rotated. The disk also has formed therein a series of windows **37**, one of which is positioned adjacent each of the pictures. These windows **37** are so positioned that as the disk is rotated, one of these windows can be brought into registry with the window **24** in the panel. The windows **37** are covered with translucent material herein illustrated as being a circular piece of material **38** fastened to the front surface of the disk although the invention is not limited to this particular arrangement. On the rear surface of the material **38** there is reversely printed in the portions thereof exposed through the windows **37**, certain indicia such as the name of the objects pictured adjacent to the windows.

In using the device, the knob **29** is turned to rotate the indicia disk **32** until a desired picture, for example the picture of a duck, is moved under the top opening **23***a*. It will be understood that the reversely printed name of the object in the desired picture, for example the word "duck" is in registry with the window **24** but this printed name is not visible at this time since it is on the lower surface of the translucent material. In order to make this printed name visible through this window, the lamp **15** is lighted by the depression of the switch **13** to illuminate the translucent material exposed through the window **24** which causes the word "duck" to appear in this window. It will be understood that the depression of the switch completes a circuit for the lamp **15** from pole **19** of the dry cell **7**, conductor **20**, through the walls of the reflector **14** and the screw terminal of the lamp, then through the lamp filament and its end terminal to the bracket **16**, conductor **19**, and switch **13** now in engagement with the bottom of the cell which constitutes its other pole. When any one of the other pictures, is moved into registry with the window **23***a*, and when the switch **13** is depressed, the name of the object in this picture will appear in an illuminated field in window **24**.

It will be appreciated that several indicia disks will be supplied with each device which can be interchanged on the hub **28**. While the indicia disk is herein illustrated as bearing pictures of objects and the names thereof, the disks may carry questions and answers or mathematical problems and answers, or other similar material.

What I claim is:

1. In a device of the class described, a panel member having an opening therein and a related window therein, a second member having a series of symbols and a series of indicia, one symbol being individual to a certain one of said indicia, one of said members being movable with respect to the other to bring a symbol and its related indicium respectively into position at said opening and said window, translucent material permanently covering said indicia for rendering the same normally illegible, and means for rendering the indicium at said window legible through said translucent material at will.

2. In a device of the class described, a panel member having an opening and a related window therein, a second member having a series of symbols and a series of indicia, one symbol being individual to a certain one of said indicia, one of said members being movable with respect to the other, to bring a symbol and its related indicium respectively into registry with said opening and said window, said indicia being normally invisible, and means for illuminating the indicium at said window for rendering it visible.

3. In a device of the class described, a panel member having an opening and a related window therein, a second member having a series of symbols on one surface, said second member having a translucent portion related to each symbol, indicia on the reverse side of said translucent portion related to said symbols, said members being relatively movable to bring a symbol and its related indicium respectively into position under said opening and said window, and means for illuminating the indicium under said window.

4. In a device of the class described, a panel member having an opening and a related window therein, a second member having a series of symbols on one surface and having a translucent portion related to each symbol, indicia reversely printed on the rear surface of said translucent portions and related to said symbols, said members being relatively movable to bring a symbol and its related indicium respectively into position under said opening and said window, an electric lamp behind said second member for illuminating the indicium under said window, and means for lighting said lamp.

5. In a device of the class described, a panel having a series of openings therein arranged in the form of a circle, said panel also having a window therein related to one of said openings, a member rotatably mounted at the rear of said panel and having symbols thereon so positioned that they are visible through said openings, said member having a translucent portion adjacent each symbol, an indicium reversely printed on the rear of each translucent portion and corresonding to its related symbol, said translucent portions being visible in succession at said window as the member is rotated, and means at the rear of the window for illuminating the translucent portion at said window.

6. In a device of the class described, a box, a panel supported thereon, movable parts carried by said panel, an electric lamp for illuminating certain of said parts, a U-shaped conducting clip mounted on said box, a dry cell engaged by the end portions of said clip, said dry cell except for one of its poles being insulated from said clip, a resilient conducting piece mounted on said box for movement into engagement with the other pole of said dry cell, and conducting means for connecting the terminals of said lamp to said clip and to said conducting piece.

7. In a device of the class described, a box, a panel supported in said box, said panel having a window therein, a receptacle mounted on said box under said window and opening toward said window, said receptacle having a side and a lamp having an end terminal and a screw-threaded side terminal and extending into said receptacle, said side having a notch in which the side terminal of the lamp is insertable laterally for mounting therein, said receptacle having a reflecting surface facing said lamp, a resilient bracket engaging the end terminal of said lamp, and means comprising an electric circuit including said receptacle and said bracket for lighting said lamp.

ELIAS J. HORNUNG.