Oct. 11, 1955 L. H. CLARK 2,720,038

TOY

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Fig. 1.

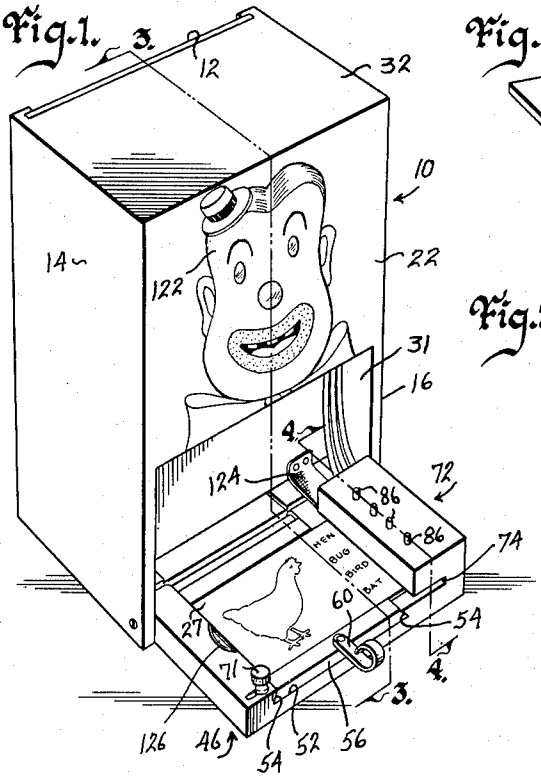


Fig. 2.

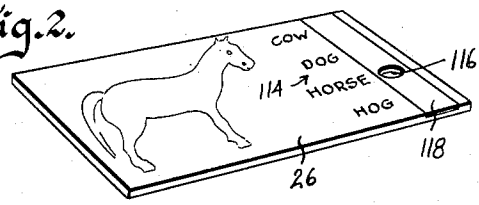


Fig. 3.

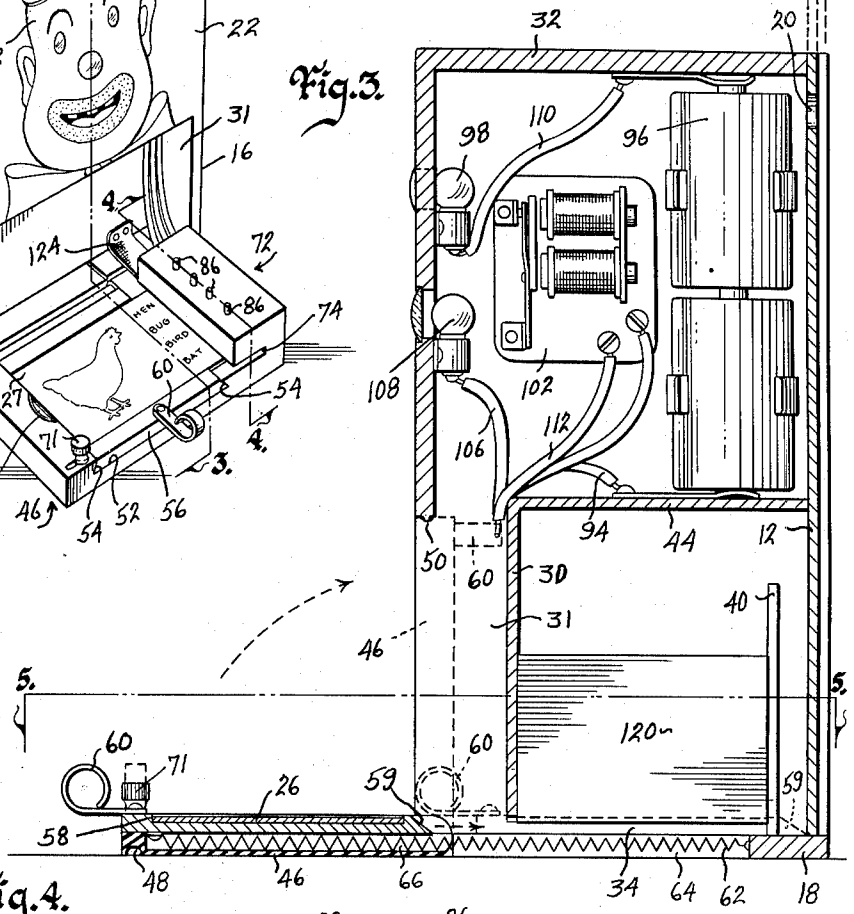
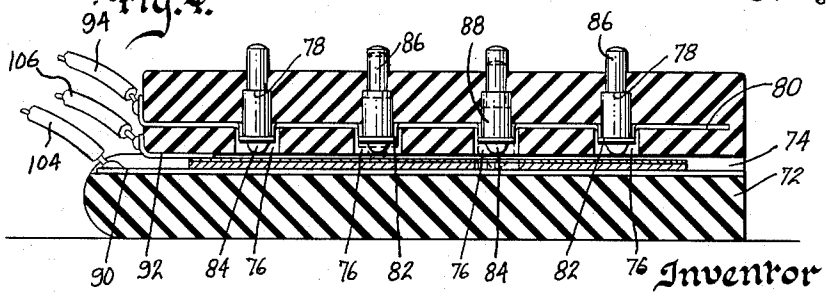


Fig. 4.



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Fig.5.

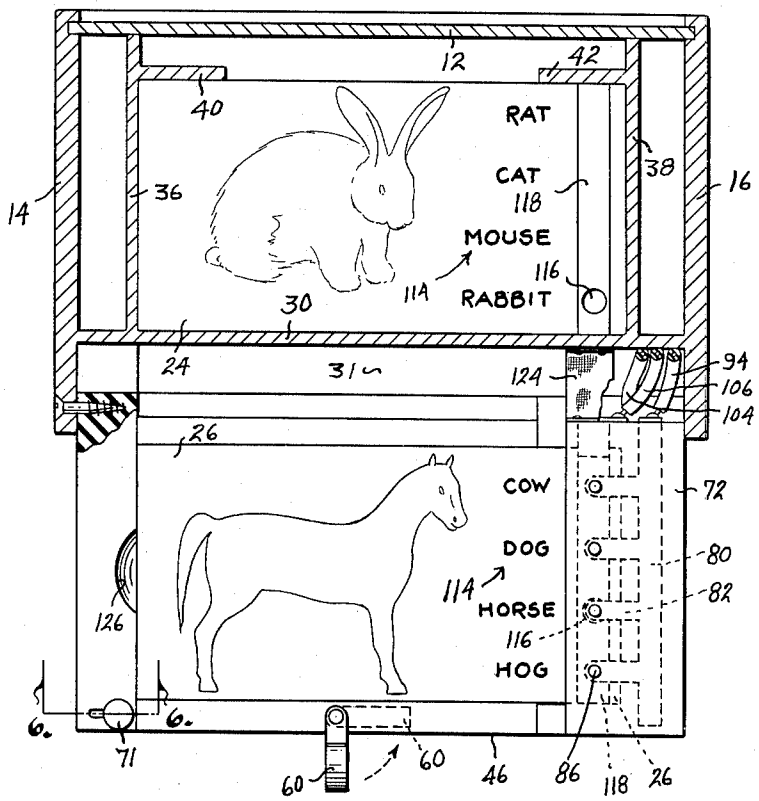
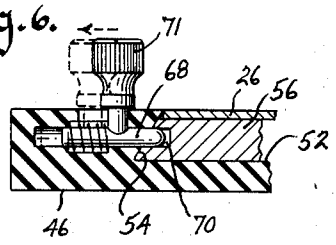


Fig.6.



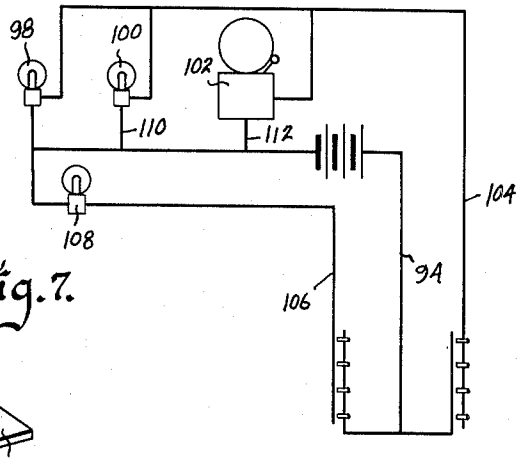
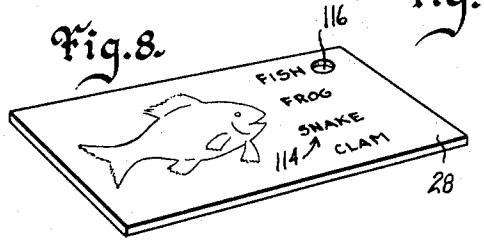


Fig.7.

Fig.8.



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TOY

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Application September 15, 1952, Serial No. 309,697

12 Claims. (Cl. 35—9)

One of the important objects of this invention is to provide a toy that is both entertaining and educational in character.

Another object of my invention is to provide a toy of the above class that can be adapted for educational purposes to children of varying age groups.

Still another object of this invention is to provide a toy as above described in which the type of information that can be utilized through its educational features is limited only by the imagination of parents and others who may prepare the same for use by the children.

Still other objects of my invention are to provide a toy with the above characteristics that is economical in manufacture, refined in appearance, simple to use, and compact in arrangement.

These and other objects will be apparent to those skilled in the art.

My invention consists in the construction, arrangement, and combination of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of my toy ready for use,

Fig. 2 is a perspective view of one type of illustrated card used with this toy,

Fig. 3 is a cross-sectional view showing the signal mechanism of this toy, and taken on the line 3—3 of Fig. 1,

Fig. 4 is a cross-sectional view showing the card arrangement and taken on the line 4—4 of Fig. 1,

Fig. 5 is a cross-sectional view taken on line 5—5 of Fig. 3,

Fig. 6 is a cross-sectional view taken on the line 6—6 of Fig. 5,

Fig. 7 is an electrical wiring diagram showing the simple circuit used in this toy, and

Fig. 8 is a perspective view of another type of illustrated card used with this toy.

Referring to the drawings, the numeral **10** designates generally a vertically arranged rectangular box or housing that is open at the back to receive the vertically slidable door **12** which rides in grooves provided in the sides **14** and **16** as shown in Figs. 1, 3 and 5 and is designed to engage and rest on the bottom **18**. (Fig. 3). A transverse opening **20** is provided in the door **12** in a suitable place to facilitate the manual moving thereof. The front side **22** of box **10** is designed so that a substantial opening is provided in the lower portion thereof. The interior bottom portion of the housing **10** is boxed in to provide a card compartment for receiving and holding a stack of cards such as shown at **24**, **26**, **27** and **28**, and which will later be explained, and for this purpose a partition **30** extends between sides **14** and **16**. This partition is spaced slightly inwardly from the front of the box **10** to provide a chamber **31**, rises to a point substantially midway to the top **32** of box **10** and is spaced slightly above the bottom **18** to provide the passageway **34** as shown in Fig. 3. Partition sides **36** and **38** extend respectively from partition **30** toward the rear parallel to the respective box sides **14** and **16** to a point where they will not interfere with movement of door **12** (Fig. 5). Stub partitions **40** and **42** extend inwardly towards, but not to each other from the rear portion of partitions **36** and **38** so that this interior card compartment is open at the rear to facilitate the placing in and removal from of cards used therein. Partitions **40** and **42** are shorter in height than partition **30** and thus their top edges are spaced below the top **44** of this inner compartment as shown in Fig. 3. The size of this card compartment is determined by the size of illustrated cards used with this toy and preferably I find that cards 3 x 5 inches are the most satisfactory although such dimensions are not intended to be critical.

A playing board shown generally at **46** is designed to serve the additional purpose of a door closure means for the opening in the front side **22** of box **10** and is pivotally or hingedly connected to the sides **14** and **16** at the bottom thereof so that it will open outwardly as shown in Fig. 1. In its open position board **46** will rest on the same surface that supports the box **10**. When closed, the outer side of door **46** will be flush with front **22**, and a finger tip well **48** is provided on the door to facilitate the opening thereof. A nipple **50** or the like on the bottom edge of the front **22** (Fig. 3) may be used to frictionally engage door **46** when closed to hold it against accidental opening.

The playing board **46** when in use will be in open position as shown in Fig. 1 and thus references hereafter to this board in describing its construction and use will be relative to its open position. Board **46** is provided with a relatively wide groove or channel **52** (Figs. 1 and 6) that extends across the same from front to rear and has the beveled sides **54** so that it is wider at the bottom than at the top. Slidable in groove **52** is the card carrier member **56** that has beveled sides which are complementary to sides **54** in forming a locking means to keep the carrier **56** on the same horizontal plane and also to serve as lateral guides when the carrier is being moved as will be described. Across the carrier **56** transversely of its direction of movement on the board **46** is a card pocket **58** (Fig. 5). Thus arranged, the carrier **56** is capable of being slid into passageway **34** so that all of pocket **58** is within the card compartment above described and the front portion of the carrier is within chamber **31** so that board **46** can be closed. The positioning of the carrier within the card compartment is controlled by the rear beveled edge thereof **59** engaging and being stopped by the closed door **12** as shown in Fig. 3. To facilitate sliding the carrier, a finger grip member **60** is placed on the front thereof and is laterally movable so that it will not interfere with closing the board **46**. A spring means **62** connects the carrier **56** to the rear portion of the bottom **18** and for this purpose, the bottom **18** may be provided with a groove **64** and the carrier with the well **66** in which the spring is contained. In this way, spring **62** is intended to return the carrier to the card compartment unless it is held on the playing board **46** by the spring loaded pawl **68** (Fig. 6) at the front of the board which engages the opening **70** in the carrier **56** and which is releasable by moving knob **71**. It will be observed that when the carrier **56** is on the playing board and held there by pawl **70**, that the board **46** can also be placed in closed position.

One end of board **46** is adapted to contain a push button receptacle **72** that is suspended over a portion of the board **46** from the front toward, but not to the rear thereof and thus forms the slot **74** as illustrated in Fig. 1, and it will be observed that that portion of the surface of board **46** which serves as the bottom of slot **74** is below the horizontal plane of the top surface of the

card carrier when in pulled out position. Receptacle **72** is provided with a plurality of spaced apart openings **76**, here shown as four, which extend in line from front to rear and which communicate with slot 74. The upper portion of holes **76** that communicate with the top surface of receptacle **72** are reduced in diameter to provide the annular shoulder **78** as shown in Fig. 4. A strip of spring metal or the like **80** capable of conducting electric current extends through receptacle **72** from front to rear parallel to the top thereof and contains a plurality of spring arms **82** that are spaced apart so that one respective arm **82** registers with the bottom portion of each of the holes **76**. The bottom free end of each arm carries a contact nipple **84** and arms **82** are designed to be normally in an upward position. In each opening **76** a push button **86** is mounted so as to protrude upwardly therefrom and these buttons have an enlarged lower portion **88** that moves within the enlarged portion of holes **76**. By this arrangement, a downward push on button **86** depresses arm **82** and when pressure on the buttons is released, the spring action of arms **82** moves the buttons upwardly until stopped by shoulder **78**. This is a common structure in an electric circuit and no invention is claimed therefore.

A second metal strip **90** is positioned on the surface of board **46** so that it can be contacted by any one of the nipples **84** that are sufficiently depressed as will later be described and a third conductor strip **92** is mounted to the rear bottom portion of receptacle and extends forwardly towards the closest opening **76**. Lead wire **94** connects strip **80** to a battery **96** which is suitably mounted in box **10** above the card compartment and battery **96** is further electrically connected in series to a pair of lights **98** and **100** and to a buzzer **102** also above the card compartment. Lead line **104** completes a circuit with lead **94** for operating lights **98** and **100** and buzzer **102** which occurs any time one of the nipples **84** is in contact with strip **90**. Lead line **106** completes a circuit with lead **94** for operating light **108** whenever contact is made between strips **80** and **92**. Leads **110** and **112** serve to complete the circuits as illustrated in Fig. 7.

Reference is now made to the cards **24**, **26**, **27** and **28** and to illustrate one form in which these cards can be used with this toy, I have placed on each card a picture or drawing of a different animal or object such as the horse, hen, rabbit and fish. To the right of the object on each card as viewed in the drawing is contained a vertical list of names of diffierent objects with one name on the list correctly identifying the illustrated figure and a hole **116** is provided on each card between the correct word and the end of the card. Also each card preferably carries a strip or band **118** capable of conducting electricity along the top surface at the right side and will contain the opening **116** above described. Cards **24** and **26** showing the rabbit and horse illustrate strip **118**, but since the toy can be used without it, Figure 7 illustrates a card not having such a strip.

Thus constructed and arranged, this toy is used in the following manner. Board **46** is placed in open position as shown in Fig. 1 and a supply of cards indicated generally as **120** (Fig. 2) is placed in the card compartment with the illustrated face up, thus placing the holes **116** at the right (Fig. 5). Normally, the card carrier **56** will be in passageway **34** when not in use, but if it should have been left in pulled out position, by release of pawl **68**, spring **62** will return it there. In this position, the bottom card in stack **120** will drop into pocket **58** which is made deep enough for only one card. The carrier **56** is then pulled out with a card in pocket **58** and to a point where pawl **68** engages opening **70** to position the carrier in its correct position. As the carrier is being pulled out, the right end portion of the card which extends outwardly from the carrier will pass into slot **74** and since the bottom of slot **74** is lower than the top surface of the carrier, this extended portion of the card will in effect be suspended within the slot so as not to drag on any surface as it is moved. Once the carrier is in set position due to pawl **68** engaging opening **70**, the hole **116** on the particular card will register with one of the nipples **84** associated with the push buttons. With the card thus arranged, the child using the toy endeavors to associate the correct word with the illustration and then depresses the push button opposite the word selected. If he is correct, nipple **84** passes through opening **116** in the card, contacts strip **90** and the circuit formed by leads **94** and **104** is closed to sound the buzzer and light up lights **98** and **100**. In this respect it will be appreciated that any signal producing means will suffice but to add to the enjoyment of the user, I preferably have used both an audible and a visible signal. And to further intrigue the child, I have placed on the outer side of front **22** a clown's face **122** with the lights **98** and **100** respectively shining through reflectors that serve as eyes on the clown.

If the card used is one containing strip **118** and the child depresses the correct button, the action is the same as just described. However, if the wrong button is depressed, nipple **84** will contact strip **118**, which as shown in Fig. 4 will be in engagement with strip **92** so that the circuit formed by leads **94** and **106** is closed to light up light **108** which I have preferably positioned to illuminate a reflector that serves as the nose on the clown face. When a card not having strip **118** is used, a wrong button provokes no response as the nipple **84** would contact the card surface and no circuit would be affected. With the carrier empty, pawl **68** is released and the carrier will return to the card compartment and as this happens, the beveled edge **59** on the carrier will pass under the bottom card on stack and move rearwardly until stopped by the door **12** in which position pocket **58** receives the bottom card and the operation above described is repeated. It is pointed out that board **46** can be closed whether the carrier **56** is on it or in the card compartment and thus the possibilities of damage to this toy are minimized when used by small children who cannot be expected to always put away their toys in any exact manner.

Since it is possible that as the carrier **56** is pulled from passageway **34**, the hole **116** might be observed as the card passes through chamber **31**, a flexible cover member **124** is placed as shown in Figs. 1 and 5 between the inner end of receptacle **72** and the outer side of partition **30** and thus the holes **116** are concealed from view as the cards are used. To remove a used card from the carrier, a finger tip well **126** is provided on the left side of the carrier so that the card is merely manually lifted and slid out from slot **74**.

It will be appreciated that this toy has educational uses for all children's age group and can be adapted to as many forms of instruction and pleasure as the imagination of parents and others will permit. For example, in the cards illustrated, a child must of course be able to read in order to compare the words with the object. However, if the child has not reached the reading stage, then objects or drawings can be substituted for the words, with one of the same corresponding to the larger one so that the child can select the right button merely by visual comparison. As the child progresses, parents can, for example, prepare cards showing arithmetic problems, questions in geography, history, sports, etc. All that is required is a supply of blank cards and some ingenuity so that the use of this type of toy will not become boring and played out.

It is submitted that the invention shown and described is aptly suited to achieve the purposes intended and is characterized by a combination of highly useful and mutually cooperating elements that combine their respective and proportionate functions in accomplishing the objects sought to be obtained.

Some changes may be made in the construction and arrangement of my toy without departing from the real

spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

1. In a toy, a box member having an open portion on one side, a playing board arranged as a horizontal extension from the bottom of said open portion, a first electrical contact means on said playing board, a second electrical contact means on said playing board disposed above and spaced from the first, a plurality of spring mounted push buttons in spaced alignment on said second contact means and each capable when depressed of engaging said first contact means, a signal producing member in said box member, a source of electric power in said box member, said signal producing member, source of power and contact means electrically connected to form an electric circuit so said signal will be actuated when said contact means are in engagement, a card disposed within said box member and having subject matter thereon to be identified, said card also having a legend of words, objects or symbols with one of the same corresponding to the subject matter to be identified, said card provided with a hole adjacent the correct designation in said legend, said box member having a compartment for containing a supply of said cards, a card carrier slidable on said playing board into and out of said box member, said carrier when moved into said box member passing under said supply of cards to support the bottom one and to withdraw it from said box when said carrier is withdrawn therefrom, means to limit the withdrawal of said carrier from said box member at a point where the hole in said card registers with one of said push buttons, said hole being then between said contact points and not visible to the operator while said legend is visible, and the depression of the push button opposite the correct designation of said legend closing the circuit to said signal producing means by engaging the first contact means through the hole in said card.

2. A toy as defined in claim 1 characterized by said playing board being hingedly connected at one end to said box member and movable to serve as a closure for the opening therein.

3. In a toy, a box member having an open portion on one side, a playing board arranged as a horizontal extension from the bottom of said open portion, a first electrical contact means on said playing board, a second electrical contact means on said playing board disposed above and spaced from the first, a plurality of spring mounted push buttons in spaced alignment on said second contact means and each capable when depressed of engaging said first contact means, a signal producing member in said box member, a source of electric power in said box member, said signal producing member, source of power and contact means electrically connected to form an electric circuit so said signal will be actuated when said contact means are in engagement, a card disposed within said box member and having subject matter thereon to be identified, said card also having a legend of words, objects or symbols with one of the same corresponding to the subject matter to be identified, said card provided with a hole adjacent the correct designation in said legend, said box member having a compartment for containing a supply of said cards, a card carrier slidable on said playing board into and out of said box member, said carrier when moved into said box member passing under said supply of cards to support the bottom one and to withdraw it from said box when said carrier is withdrawn therefrom, spring means connecting said carrier to said box member to normally hold said carrier within said box member, releasable means on said playing board for holding said carrier thereon, said last mentioned means also serving to limit the withdrawal of said carrier from said box member at a point where the hole in said card registers with one of said push buttons, said hole being then between said contact points and not visible to the operator while said legend is visible, and the depression of the push button opposite the correct designation of said legend closing the circuit to said signal producing means by engaging the first contact means through the hole in said card.

4. In a toy, a box member having an open portion on one side, a playing board arranged as a horizontal extension from the bottom of said open portion, an electric switch receptacle on said playing board, said receptacle having a slot in one side extending transversely of the opening in said box member, at least two spring loaded normally open switches disposed within said receptacle so that the slot is intermediate the respective contact points thereon, a signal producing member and a source of electric power in said box member electrically connected to said switches to form a circuit, a card disposed within said box member and having subject matter thereon to be identified, said card also having a legend of words, objects or symbols with one of the same corresponding to the subject matter to be identified, said card provided with a hole adjacent the correct designation in said legend, means for moving said card from said box member onto said playing board so that the hole in said card passes into said slot and registers with one of said switches, the hole in said card being then invisible to the operator with said legend being visible, and the operation of the switch opposite the correct designation on the legend closes said circuit through the hole in said card to actuate said signal producing means.

5. In a toy, a box member having an open portion on one side, a playing board arranged as a horizontal extension from the bottom of said open portion, a first electrical contact means on said playing board, a second electrical contact means on said playing board disposed above and spaced from the first, a plurality of spring mounted push buttons in spaced alignment on said second contact means and each capable when depressed of engaging said first contact means, a signal producing member in said box member, a source of electric power in said box member, said signal producing member, source of power and contact means electrically connected to form an electric circuit so said signal will be actuated when said contact means are in engagement, a card disposed within said box member and having subject matter thereon to be identified, said card also having a legend of words, objects or symbols with one of the same corresponding to the subject matter to be identified, said card provided with a hole adjacent the correct designation in said legend, means for moving said card from said box member onto said playing board so that the hole in said card registers with one of said push buttons, said hole being then between said contact points and not visible to the operator while said legend is visible, and the depression of the push button opposite the correct designation of said legend closing the circuit to said signal producing means by engaging the first contact means through the hole in said card.

6. In a toy, a box member having an open portion on one side, a playing board arranged as a horizontal extension from the bottom of said open portion, an electric switch receptacle on said playing board, said receptacle having a slot in one side extending transversely of the opening in said box member, at least two spring loaded normally open switches disposed within said receptacle, a first and second signal producing means and a source of electric power in said box member electrically connected to said switches, separate leads from said receptacle connecting said signal producing means respectively to said source of electric power and each of said leads separately but not simultaneously capable of being engaged by each of said switches to complete

a circuit to one of said signal producing means, a card disposed within said box member and having subject matter thereon to be identified, said card also having a legend of words, objects or symbols with one of the same corresponding to the subject matter to be identified, an electricity conducting element disposed on said card adjacent said legend, said card provided with a hole in said element adjacent the correct designation in said legend, means for moving said card from said box member onto said playing board so that the hole in said card passes into said slot and registers with one of said switches and with said element engaging one of said leads, the hole in said card being then invisible to the operator with said legend being visible, and the operation of the switch opposite the correct designation on the legend closing said circuit through one lead through the hole in said card to actuate one of said signal producing means, and the operation of the switch opposite the wrong designation on the legend relative to the subject matter on the card closing a circuit through the other lead by contacting said element to actuate the other signal producing means.

7. A device as defined in claim 6 characterized by said box member having a comical illustration on its external surface and said signal producing means being in the form of lights adapted to illuminate different portions of said illustration.

8. In a toy, a box member having an open portion on one side, a playing board arranged as a horizontal extension from the bottom of said open portion, an electric switch receptacle on said playing board, said receptacle having a slot in one side extending transversely of the opening in said box member, at least two spring loaded normally open switches disposed within said receptacle so that the slot is intermediate the respective contact points thereon, a signal producing member and a source of electric power in said box member electrically connected to said switches to form a circuit, a card disposed within said box member and having subject matter thereon to be identified, said card also having a legend of words, objects or symbols with one of the same corresponding to the subject matter to be identified, said card provided with a hole adjacent the correct designation in said legend, said box member having a compartment for containing a supply of said cards, a card carrier slidable on said playing board into and out of said box member, said carrier when moved into said box member passing under said supply of cards to support the bottom one and to withdraw it from said box when said carrier is withdrawn therefrom, means to limit the withdrawal of said carrier from said box member at a point where the hole in said card registers with one of said push buttons, said hole being then between said contact points and not visible to the operator while said legend is visible, and the depression of the push button opposite the correct designation of said legend closing the circuit to said signal producing means by engaging the first contact means through the hole in said card.

9. An educational toy apparatus, comprising, a playing board, a first electrical contact means on said playing board, a second electrical contact means on said playing board disposed above and spaced from the first, a plurality of spring mounted push buttons in spaced alignment on said second contact means and each capable when depressed of engaging said first contact means, a signal producing member, a source of electric power, said signal producing member, source of power and contact means electrically connected to form an electric circuit so said signal will be actuated when said contact means are in engagement, a card disposed on said playing board and having subject matter thereon to be identified, said card also having a legend of words, objects or symbols with one of the same corresponding to the subject matter to be identified, said card provided with a hole adjacent the correct designation in said legend, said hole being then between said contact points and not visible to the operator while said legend is visible, and the depression of the push button opposite the correct designation of said legend closing the circuit to said signal producing means by engaging the first contact means through the hole in said card.

10. An educational toy apparatus, comprising, a playing board, an electric switch receptacle on said playing board, said receptacle having a slot in one side, at least two spring loaded normally open switches disposed within said receptacle so that the slot is intermediate the respective contact points thereon, a signal producing member and a source of electric power electrically connected to said switches to form a circuit, a card disposed on said playing board and having subject matter thereon to be identified, said card also having a legend of words, objects or symbols with one of the same corresponding to the subject matter to be identified, said card provided with a hole adjacent the correct designation in said legend, said hole being within said slot so as to register with one of said switches, the hole in said card being then invisible to the operator with said legend being visible, and the operation of the switch opposite the correct designation on the legend closes said circuit through the hole in said card to actuate said signal producing means.

11. An education toy apparatus, comprising, a playing board, an electric switch receptacle on said playing board, said receptacle having a slot in one side, at least two spring loaded normally open switches disposed within said receptacle, a first and second signal producing means and a source of electric power electrically connected to said switches, separate leads from said receptacle connecting said signal producing means respectively to said source of electric power and each of said leads separately but not simultaneously capable of being engaged by each of said switches to complete a circuit to one of said signal producing means, a card disposed within said box member and having subject matter thereon to be identified, said card also having a legend of words, objects or symbols with one of the same corresponding to the subject matter to be identified, an electricity conducting element disposed on said card adjacent said legend, said card provided with a hole in said element adjacent the correct designation in said legend, said hole being within said slot so as to register with one of said switches and with said element engaging one of said leads, the hole in said card being then invisible to the operator with said legend being visible, and the operation of the switch opposite the correct designation on the legend closing said circuit through one lead through the hole in said card to actuate one of said signal producing means, and the operation of the switch opposite the wrong designation on the legend relative to the subject matter on the card closing a circuit through the other lead by contacting said element to actuate the other signal producing means.

12. A device as defined in claim 1 characterized by said box member having a comical illustration on its external surface and said signal producing means being in the form of lights adapted to illuminate different portions of said illustration.

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