

May 24, 1966

G. S. DONEV

3,252,230

EDUCATIONAL SPELLING TOY

Filed Dec. 27, 1963

4 Sheets-Sheet 1

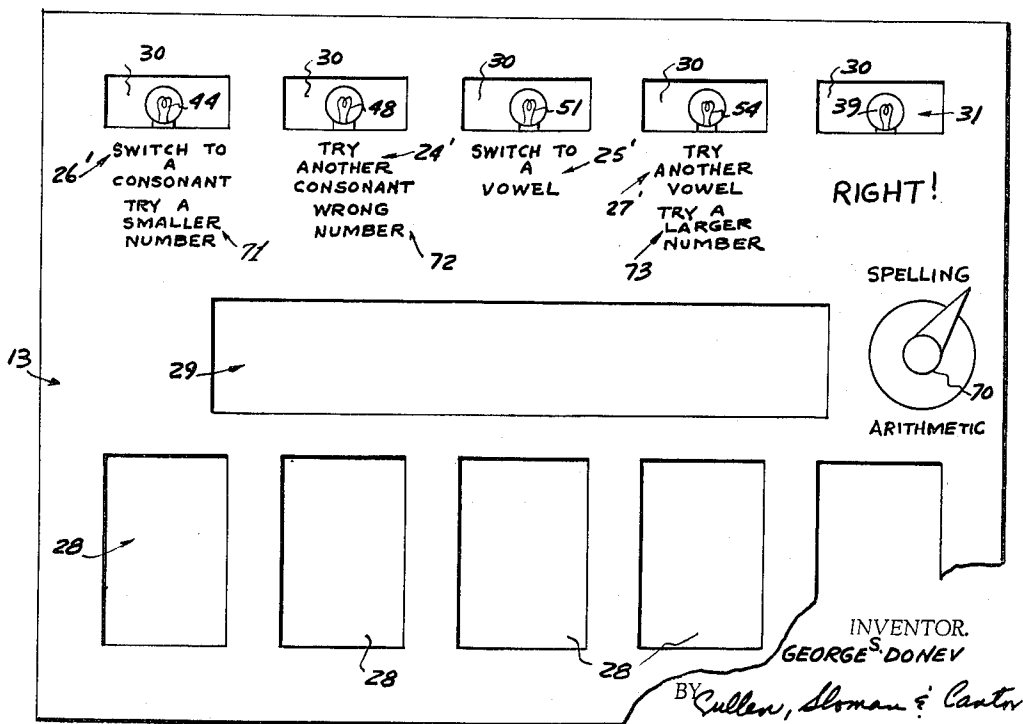
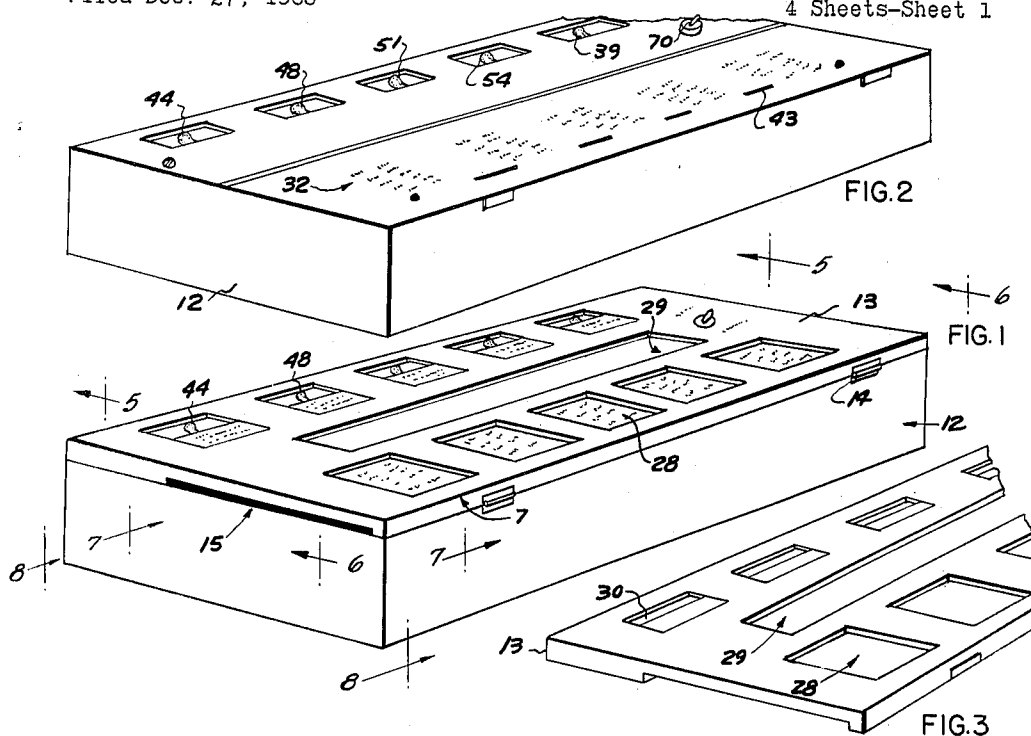


FIG. 4

ATTORNEYS

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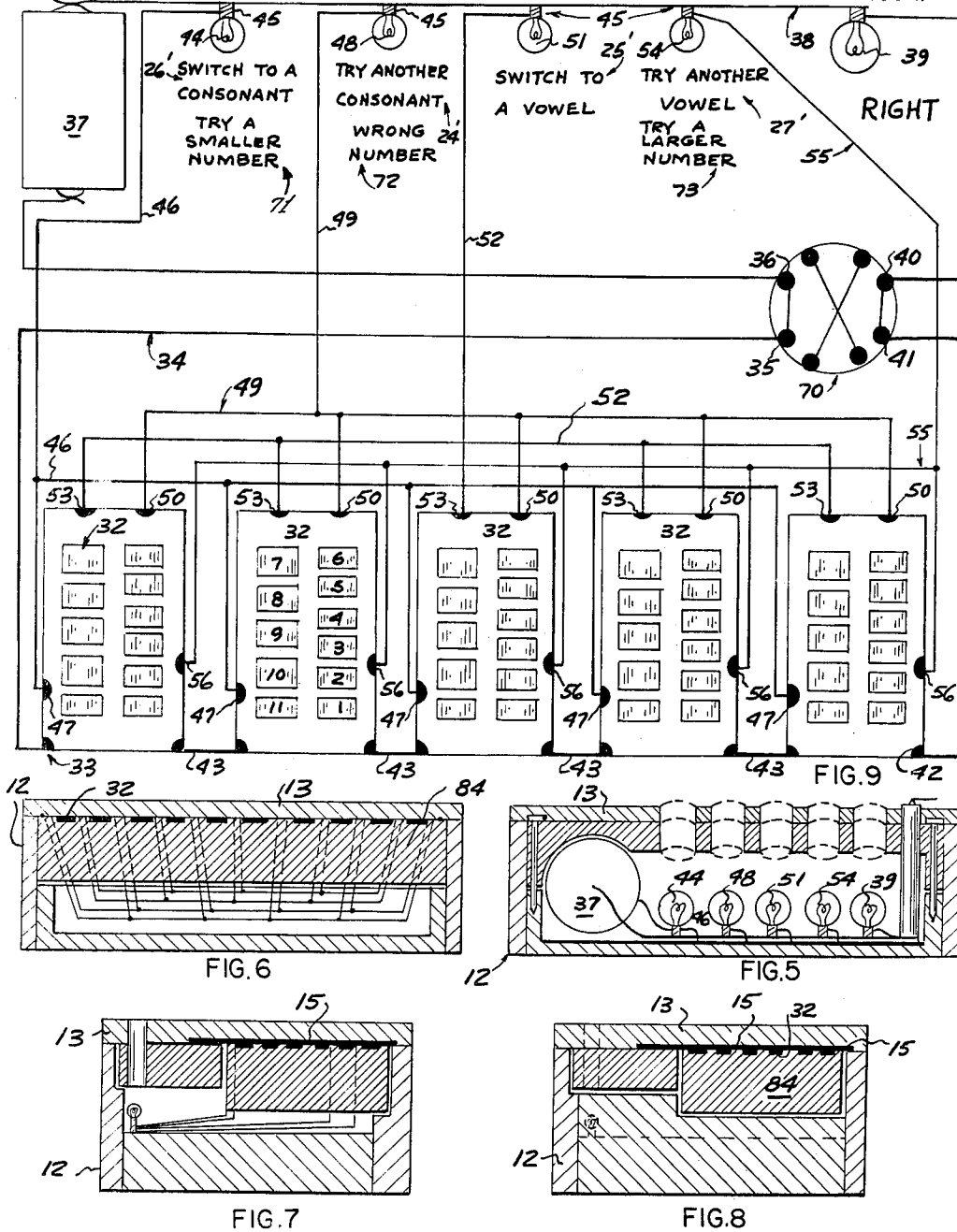
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4 Sheets-Sheet 2



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4 Sheets-Sheet 3

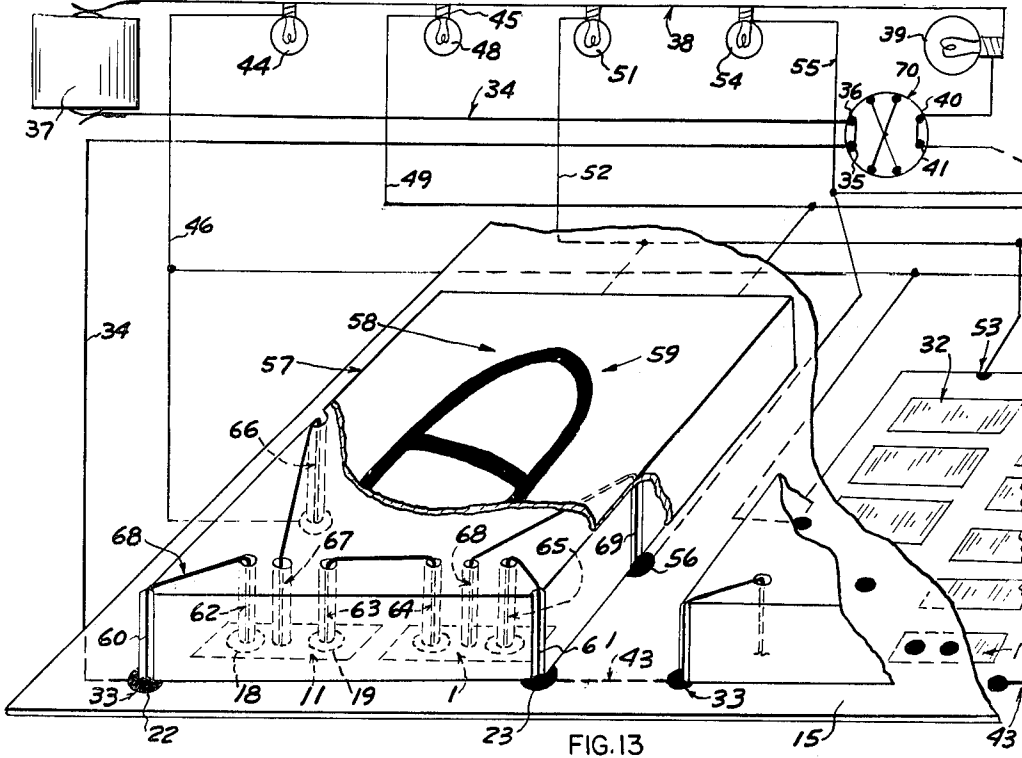
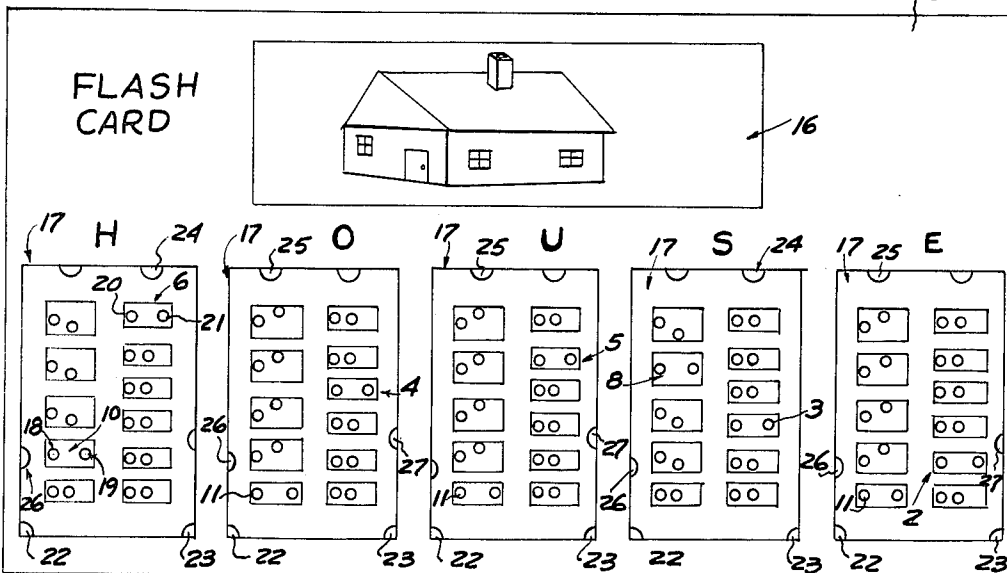


FIG. 13



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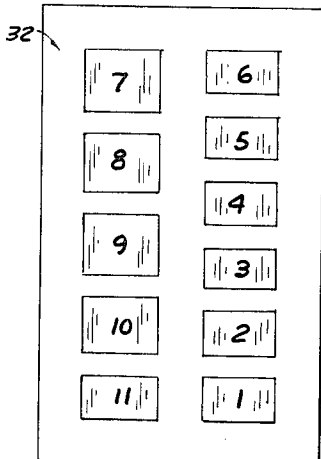
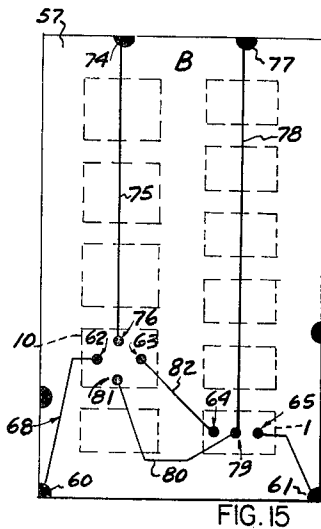
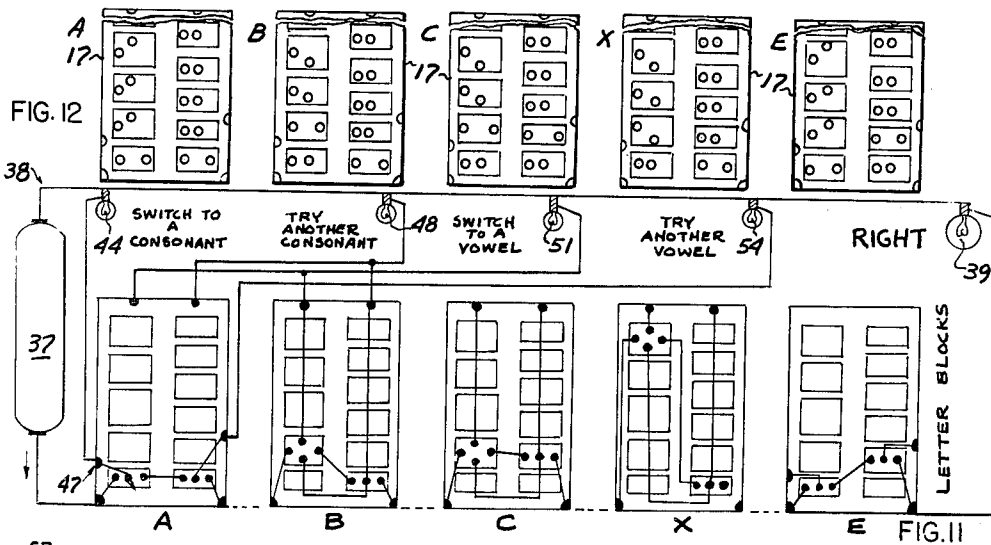
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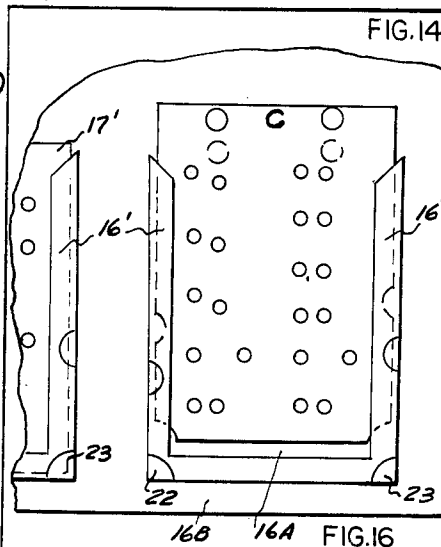
4 Sheets-Sheet 4



CODE	R = 8	Z = 7-2	Y = 7-3(c)
VOWELS	S = 8	NUMBERS	
A = 11-1	T = 8	1 = 1	2 = 2 3 = 3
E = 11-2	V = 8	4 = 4	5 = 5 6 = 6
I = 11-3	W = 8	7 = 7	8 = 8 9 = 9
O = 11-4	X = 7	10 = 10	• = 11
U = 11-5			
Y = 11-6(v)			

CONSONANTS

B = 10-1
C = 10-2
D = 10-3
F = 10-4
G = 10-5
H = 10-6
J = 9-1
K = 9-2
L = 9-3
M = 9-4
N = 9-5
P = 9-6
Q = 8-1



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3,252,230

EDUCATIONAL SPELLING TOY

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Filed Dec. 27, 1963, Ser. No. 333,916
5 Claims. (Cl. 35—9)

The present invention relates to an educational game apparatus or toy primarily directed to spelling and alternately, to the solving of mathematical problems, such as addition, subtraction, multiplication or division.

This is not just a toy which tells the player that he is right or wrong but it is more like a teacher looking over a child's shoulder and giving him advice on how to reach the correct answer in spelling a word or solving a mathematical problem.

The child, learning how to write, often has primary difficulties in distinguishing between a few letters as; A and E, O and U, E and I; or M and N, P and B and D, etc.

This toy will guide the child's spelling, but not take the fun out of the game by telling him exactly what letters to use. The correction of his spelling is known immediately, so the child does not have to wait until he finishes to find out whether he was wrong or right and, without knowing where he was wrong. Also, he can find out his weakest spots in spelling, what letter confuses him most, etc. For an intelligent and less patient child, the toy stays with him and he never gets bored, by having to try and attempt again until he may lose his interest.

The same is true with mathematical problems, because, by turning a switch, the current goes from right to left, in the same order we write the results of addition, subtraction, etc.

In spelling, the toy goes so far as to tell the child when a Y serves as a consonant or vowel, giving the player a full understanding of the rules of spelling.

The consonants, vowels and numbers are printed in different colors. This helps the beginner to understand from which group he has to make his next selection.

Regardless how much the child plays with the toy, he cannot know what letter or number goes over approximately 30 holes of the flash card, because the back of the letters are constructed to look the same.

The toy is constructed solidly and no pins are attached to the letters which could endanger the safety of the player.

It is an object of this invention to provide an educational toy which provides:

A. GUIDED SPELLING

Four guide lights that not only tell the player when he is wrong, but it helps him in the selection of the next letter by advising him:

- Change from a vowel to a consonant
- Change from a consonant to a vowel
- Try another vowel
- Try another consonant.

B. GUIDED NUMBER

With the help of a switch (changing the direction of the current) the same guiding lights give the player the following advice in arithmetic problems:

- Try another number
- Try a smaller number
- Try a larger number

It is another object to provide an educational toy for spelling purposes which is constructed on the principle that an electrical circuit is completed if the letters are

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arranged in proper order, and a light or a buzzer is activated.

It is a further object to employ coded flash cards and coded letter or digit elements corresponding thereto which when correctly applied to the said flash cards, will energize a signal but which if incorrectly applied will indicate through the activation of one of a plurality of different circuits, the nature of the error and a suggestion for correcting same.

These and other objects will be seen from the following specification and claims in conjunction with the appended drawings in which:

FIG. 1 is a perspective view of the educational game apparatus.

FIG. 2 is a similar view with the cover removed.

FIG. 3 is a perspective view of the cover broken away.

FIG. 4 is a plan view of the educational game apparatus on an increased scale, partly broken away.

FIG. 5 is a vertical section taken on line 5—5 of FIG. 1.

FIG. 6 is a vertical section taken on line 6—6 of FIG. 1.

FIG. 7 is a section taken on lines 7—7 of FIG. 1.

FIG. 8 is a section taken on line 8—8 of FIG. 1.

FIG. 9 is a top plan view of the game apparatus with cover removed illustrating the electrical connections and circuitry.

FIG. 10 is a plan view of a flash card.

FIG. 11 is a fragmentary plan view of the game apparatus illustrating the multiple circuits as connected with the respective electrical fields.

FIG. 12 is a plan view of individual flash cards to be applied to the fields shown in FIG. 11.

FIG. 13 is a fragmentary perspective and schematic view of the electrical field, associated flash card and illustrative letter element in place and showing the electrical connections.

FIG. 14 is a diagram of the code employed for the respective flash cards and letter and digit elements corresponding to the coded electrical field areas 1—11 in FIG. 9.

FIG. 15A is a plan view of one electric field.

FIG. 15 is a plan view of one of the letter elements with cover removed, superimposed over said field.

FIG. 16 is a fragmentary plan view of a different form of flash card.

It will be understood that the above drawings illustrate merely a preferred embodiment of the invention, and that other embodiments are contemplated within the scope of the claims hereinafter set forth.

Referring to the drawings, the present educational game apparatus includes a hollow housing 12, of rectangular form, and having a removable cover 13, preferably hinged thereto at 14. Within the housing below said cover there is employed one of a plurality of replaceable and interchangeable flash cards 15, FIG. 10, bearing a printed problem 16 such as a picture, the title of which is to be applied, or a mathematical problem to be solved.

This problem is viewable through aperture 29 of the cover, FIG. 4. In the case of a spelling problem, FIG. 10 shows an illustrative flash card 15 where the picture or problem is illustrated at 16. A series of longitudinally spaced coded flash card elements are indicated at 17 below the picture, forming a part of and printed on the flash card. Flash card units 17' are removably mounted in pockets 16' on opposite sides of apertures 16A of flash cards 16B. These correspond to the spelling of the particular picture title. Flash card elements 17 are registerable with the various longitudinally spaced apertures 28 in the cover, FIGS. 1—4.

Arranged within each element 17 are a pair of rows of spaced code areas corresponding generally with the

location of the series of electrically conductive fields 32, FIG. 9. The latter are spaced upon a block 84 in the housing below the cover and generally indicated by code numbers 1-11, FIG. 15A, and correspond to the code shown in FIG. 14.

In flash card 15, FIG. 10, there is shown the coding for the letters H-O-U-S-E corresponding to the code of FIG. 14. The letter H corresponds to the code numbers 10-6. In said element 17, the coded areas 10 and 6 have the pairs of spaced apertures 18-19, and 20-21 formed therethrough.

When a letter element 57, FIGS. 13, 15, having the indicia H thereon is juxtaposed over the H coded element 17 of flash card 15, its contacts are so arranged as to extend through the respective openings 18, 19, 20 and 21, for engagement with the respective electrically conductive fields 10 and 6 of FIG. 9. Each of the code elements 17 also have corner apertures 22 and 23 therethrough and wherein aperture 22 of the H code of FIG. 10 registers with contact 33 of the primary electrical circuit 34. Aperture 23 registers with contact 43 which forms a part of primary circuit 34 of FIG. 9.

For all coded elements 17 corresponding to the use of a consonant, such as H or S, FIG. 10, there is also provided apertures 24 and 26. Through the code elements representing vowels, there are the apertures 25 and 27 formed therethrough, for the activation of certain independent circuits as hereafter described, in the event that an erroneous letter is applied to a particular code element of the flash card.

Referring to FIG. 4, cover 13 includes the longitudinally spaced series of transverse apertures 28 which register with not only the respective fields 32 of FIG. 9, but also the code elements 17 of the flash card which is removably mounted under the cover, FIG. 1. At the same time, aperture 29 in the cover registers with the picture 16 or other designation of the problem to be solved, as in FIG. 10.

Additional transverse apertures 30 are formed through the cover, FIG. 4, through which illumination from a series of bulbs 44, 48, 51 and 54 may be viewed. These bulbs form a part of the auxiliary control circuits hereafter described to indicate the nature of an error made by player. Additional aperture 31 is formed through the cover for revealing illumination from bulb 39 in the primary circuit, and which will be illuminated when the primary circuit is closed where there has been a correct solution of the problem, whether it be a spelling problem or a mathematical problem.

Referring to FIG. 9, there is shown a series of fields 32 with each field including spaced rows of spaced electrically conductive areas numbered 1-11 corresponding to the code, FIG. 14.

THE PRIMARY CIRCUIT

The primary circuit includes contact 33 and lead 34 which through contacts 35, 36 bi-passes switch 70 for direction to the power source such as battery 37. The latter is connected by lead 38 to a socket for bulb 39 and thence through switch contacts 40, 41 to contact 42, FIG. 9. This circuit becomes closed when the correct letters, as for example, the letters H-O-U-S-E corresponding to flash card 15 of FIG. 10 are correctly applied over the respective field areas 32. This results in the completion of an electrical circuit between contact 33 and the series of spaced contacts 43 successively by the letter elements 57 as they are added. When the last letter E has been added completing the spelling of the word, if the spelling is correct, the light 39 will be activated through primary circuit 34, 38.

INDEPENDENT CIRCUITS

Adjacent to and forming a part of the game apparatus are a series of normally open independent circuits designated by the leads 46, 49, 52 and 55.

These circuits are employed for the purpose of indicating to the player that a mistake has been made and a suggestion as to how the mistake can be rectified.

For example, socket 45 for bulb 44 is connected into the primary circuit 38 to the power source and including auxiliary circuit wire 46 which terminates in contact 47 adjacent the first electric field 32, FIG. 9. There are additional corresponding and similar contacts 47 adjacent each of the respective fields 32 also joined by the lead wire 46 to bulb 44. Formed upon cover 13 as in FIG. 4, and associated with bulb 44, is the indicia 26' which reads, "SWITCH TO A CONSONANT" or the alternate indicia 71 "TRY A SMALLER NUMBER." This indicia corresponds to aperture 26 in flash card 15 and which circuit will be energized if any vowel from a letter element 57 should be applied over the flash card coded element 17 shown at H, FIG. 10.

Bulb 48 includes socket 45 connected to primary circuit 38 and includes the independent circuit wire 49 which terminates in contact 50, adjacent the first electrical field 32, FIG. 9. Lead wire 49 has branches which terminate in corresponding contacts 50 similarly located with respect to each of the sets of electrical fields 32. Marked upon cover 13 adjacent bulb 48 is the indicia 24' which reads "TRY ANOTHER CONSONANT" which corresponds to aperture 24 in the H flash card of FIG. 10. Thus, if the wrong consonant is applied to the letter area H bulb 48 will be energized through the second independent circuit 49 advising the user to try another consonant.

The third independent circuit includes bulb 51 with socket 45 connected into primary circuit 38 and joined by lead 52, FIG. 9, to the respective spaced contacts 53 which are adjacent each of the electrical fields 32. Associated with bulb 51 is the indicia 25' which reads, "SWITCH TO A VOWEL." Employing the flash card 15 of FIG. 10, if a consonant letter element similar to element 57 of FIG. 13 were applied to the second aperture 28 in the cover contact 53 would be engaged through aperture 25 of the flash card for illuminating bulb 51.

The bulb 54 includes socket 45 connected into primary circuit 38 and includes a lead 55 which terminates in the series of contacts 56, each adjacent the respective groups of fields 32. Bulb 54 when energized indicates "TRY ANOTHER VOWEL" as by indicia 27', imprinted upon the cover. This light would be activated if the wrong vowel letter element 57 were applied, as for example, to the letter O of flash card 16, FIG. 10.

LETTER AND DIGIT ELEMENTS

A series of letter or digit elements 57, FIG. 11 and FIGS. 13 and 15, normally are constructed of a dielectric material, being non-electrically conductive, and include top wall 58 on which a suitable indicia 59 is imprinted such as the letter A, or any other letter or any digit from 1 to 9 and 0.

The respective letter elements 57 include spaced conductors 60 and 61, FIG. 13, which terminate at their lower ends in corresponding contacts which extend below the bottom surface of the letter element 57 and are adapted for projection through the corresponding apertures 22 and 23 of the respective flash card coded elements 17 for engagement with the respective contacts 33 and 43, FIG. 9.

The conductor 60 is connected with a second conductor 62 by lead 68. Conductor 62 terminates in a contact which extends below the letter element 57 for possible extension through a flash card aperture and for engagement with one of the conductive areas, such as area 11, FIG. 9.

Additional conductors 63 and 64 are interconnected and have contacts which also depend below the bottom surface of a letter element 57 for engagement with, for illustration the conductive areas 11 and 1 for electrically interconnecting the same. Conductor 65 in letter ele-

ment 57 is also connected to end conductor 61 with both of the said conductors 65 and 61 including contacts at their lower ends which extend below the respective letter element or digit element 57.

In the case of letter A, this is coded, FIG. 14, by numerals 11-1 which corresponds to the fields 32 identified 11-1 in FIG. 9. Letter A may be positioned over a flash card which has a series of code elements 17 corresponding to letter A. The circuit from battery 37, lead 34 and switch 70 including contacts 35 and 36 is completed through contact or conductor 60 and through connection 68 to conductor 62 whose contact engages the conductive area 11. This results since the flash card has aperture 18 through which the contact of conductor 62 extends. The flash card also has an additional aperture 19 through which the contact of conductor 63 extends for transmitting power to the connected additional conductor 64 extending the circuit to the conductive area 1, through a corresponding aperture formed through the coded flash card. This transmits the current through conductor 61 to contact 43.

The contact 43 is common to the first two conductive areas 32 of FIG. 9. Consequently, when all of the correct letters have been applied over the respective areas 32 the circuit will be completed to contact 42 and bulb 39 will be energized to indicate the correct solution to the word problem or picture problem for the particular flash card.

The letter element 57 includes additional interconnected conductors 66 and 67 whose contacts extend below the bottom wall of letter element 57. Conductor 66 is adapted for registry through aperture 26 of the flash card for engagement with contact 47. Conductor 67 has a contact adapted to engage area 11 for example. Additional conductors 68 and 69 are suitably interconnected and nested within the letter element 57 and their lower ends have contacts which project below the bottom of the letter element. The conductor 69 through aperture 27, FIG. 10, will engage contact 56 and will connect to a conductive area such as area 1 by the contact of conductor 68, provided an aperture is available at the particular flash card.

The consonant letter element 57 will have conductors 74, 77, FIG. 15, at its upper end portions whose contacts extend below the letter element for alternate projection through apertures 24 and 25 of flash card elements 17, FIG. 10. These have individual contacts which will be suitably connected with additional conductors 76, 79 which respectively engage one of a pair of the conductive area elements 32 selected from the group 1 through 11 depending upon the predetermined coding.

The primary circuit includes the switch 70. If the game apparatus is to be adapted to mathematical problems it is necessary to reverse the direction of the circuit or flow of current, since for mathematical problems the digit elements are applied from right to left. Thus, switch 70 shown in FIGS. 4 and 9 will accomplish this reversal and thus permit as a part of the present game apparatus the function of mathematical problems.

Additional indicia 71, 72 and 73 upon the cover will be illuminated through the one of the independent circuits if the wrong number is applied in the solution of a problem. For example, indicia 71 reads, "TRY A SMALLER NUMBER" associated with bulb 44 while indicia 73 corresponds to "TRY A LARGER NUMBER" corresponding to bulb 54. Indicia 72 and bulb 48 correspond to "WRONG NUMBER."

When any of the bulbs 44, 48, 51 and 54 are activated through activation of one of the respective independent circuits it will be visible to a certain extent through one of the respective apertures 30 in the cover 13, FIG. 4.

Referring to FIG. 15, another letter element 57 is shown corresponding to letter B, for illustration, which includes the above described conductors 60 and 62 interconnected by lead 68 upon the interior of the element body. This

establishes electrical power from contact 33 to code area 10 which corresponds to the code numbers 10-1, FIG. 14. This means that with the correct letter B selected for a flash card coding for the letter B the conductive areas 32 are employed merely for transmitting the power between contacts 33 and 43. Thus, power is transmitted through area 10 to conductor 63 and through lead 82 to conductor 64 which contacts area 1. Thus, conductor 65 and connected conductor 61, transmits power from the power source and contact 33 through the conductive field areas 10-1 corresponding to the code, and directly to contact 43, FIGS. 9 and 13.

The letter element B, FIG. 15, requires certain conductors. For example, if the letter B is applied, or any different consonant, where a vowel is required for correct spelling, then the electrical connection will be through conductors 74 and 76 in the letter element interconnected by internal lead 75. Conductor 74 terminates in a contact below element 57 and extends through apertures 25 in flash card 15, FIG. 10. This establishes the electrical circuit to indicia 25' on the cover so that bulb 51 is illuminated giving the information "SWITCH TO A VOWEL."

On the other hand if the letter element B is applied to a consonant, and a different consonant is required for correct spelling, then in that case conductor 77 is energized. Conductor 77 is connected with conductor 79 by lead 78. Conductor 79 is in turn connected by the lead 80 to conductor 81. In this case then the power is transmitted from contact 60 and through conductive areas 10-1 to conductor 77 whose contact extends through an aperture such as aperture 24, FIG. 10, for engagement with contact 50, FIG. 9, illuminating bulb 48 which reads with associated indicia "TRY ANOTHER CONSONANT."

OPERATION

The present flash card 15 as selectively used is superimposed over the isolated electric fields 32, FIG. 9. The flash card element 17 corresponding to a particular letter has approximately 30 coded holes therethrough to selectively receive the ends of the conductors in the letter or digit elements in order to establish the necessary contacts with the electrical fields 32 and direct the current to one of five exits, i.e. to the primary circuit 34 for activating bulb 39 or to any one of the four other circuits for selectively activating any of the bulbs 44, 48, 51 and 54.

The respective letter elements 57, FIG. 13, are wired upon the interior with the extremity of the wires or the contacts extending out of the bottom surface of the letter to pick up the current from the eleven electrical fields 32 that lay correspondingly under each letter. The coded arrangement of the wires within the letter elements or digit elements cooperate with the coded arrangement of the holes in the flash card element 17 to direct the current to one of the said five circuits.

If the letter is applied correctly then the primary circuit is energized together with bulb 39. If an erroneous letter or digit is applied then one of the four other lights 44, 48, 51 and 54 is energized in its respective independent circuit for giving instructions to the user as a guide in the selection of the next letter or number involved. Thus, the electrical circuit in the present invention is completed through the wired letter elements and the electrical fields operating through flash card apertures.

The current in the present game apparatus is directed to one of the guiding lights 44, 48, 51 or 54, or to the next letter by the presence or absence of apertures in the flash card. Thus, the coded arrangement permits or stops the contact end of a conductor in the letter or digit element from making electrical contact with any one of electrical fields 1 through 11 in the field areas 32, FIG. 9, which lay behind each letter of the flash card.

In the operation of the present game apparatus the primary objective is achieved, namely that if the word is correctly spelled corresponding to the title of the picture

16 on the flash card 15, then and only then will bulb 39 be activated and illuminated to show the correct solution. If there is an error along the way the user is immediately advised as to the nature of his mistake by any one of the four bulbs 44, 48, 51 or 54.

While bulb 39 is shown in primary circuit 38, it is contemplated that the bulb could be replaced by any other indicating means, such as a buzzer.

In operation, in view of the coding, FIG. 14, with the respective coded areas 1 through 11 also shown, in FIG. 9, for a particular spelling problem for example, the flash card 15 made up as a unit as in FIG. 10 or made up by a series of separate removable elements 17', FIG. 16. These include the coding for the respective letter elements corresponding to the code which would correctly spell the title of picture 16, FIG. 10. If the word is spelled correctly no problem is involved since the respective letter elements complete the circuit from power source 37 and leads 38, 34 to bridge the respective conductive areas 32 to the contacts 33, 43 and 42 activating bulb 39.

The important factor, however, is the selection of the four other circuits by application of the wrong letter or number which will give the correct signal giving the user a clue. For example, if the consonant H is required as the first letter, FIG. 10, and a wrong consonant letter element 57 is applied to the corresponding aperture 28 in the cover, the auxiliary circuit which activates the bulb 48 will be energized corresponding to indicia "TRY ANOTHER CONSONANT."

On the other hand if a vowel is applied then the independent circuit including bulb 44 will be energized designating the indicia "SWITCH TO A CONSONANT." The second letter on flash card 15 requires the vowel O. If an incorrect vowel is applied bulb 54 will be activated so as to designate the indicia on the cover which reads "TRY ANOTHER VOWEL." Alternately, if a consonant is incorrectly applied then bulb 51 will be activated for indicia 27' to give the advice "SWITCH TO A VOWEL."

While the coded flash cards 15 are differently apertured depending upon whether a vowel or a consonant is to be required, the final decision as to which of the five circuits will be activated depends upon the particular letter or digit element which is applied to one of the apertures 18. This further reduces the selection down because if the correct letter or digit is applied then the primary circuit is energized. If the incorrect letter is applied circuits are then reduced to two possible circuits, and depending upon whether a vowel or a consonant is required, is limited to a single independent circuit.

Thus, the present game apparatus tells the user more than merely that an error has been made leaving unlimited selection, but on the other hand serves as a guide to the user to help improve spelling by providing a suggestion for seeking of the right answer but without giving the correct answer. This is an improvement over prior game apparatus of this type which indicate only the presence of an error or the correct answer.

In the event a flash card 15 is used calling for three letters, for illustration, the unused field areas 32, FIG. 9, are interconnected in the primary circuit using letter element blanks. These provide connections between the additional contacts 43 and the primary circuit contacts 33 and 42.

Having described my invention reference should now be had to the following claims.

I claim:

1. An educational game and apparatus comprising a housing;

an electrical power source therein;

a primary electrical circuit including normally open contacts;

a series of spaced independent electrically conductive fields in the housing;

a cover on said housing having a series of apertures corresponding to each field and an aperture for

viewing the spelling or mathematical problem on a flash card removably mounted over said fields;

a signal means in said circuit;

a flash card inserted into the housing under said cover bearing said problem and having a series of spaced groups of apertures in coded arrangements corresponding with the cover series of apertures and said fields;

individual replaceable letter and digit elements selectively positionable within the cover series of apertures in registry with the flash card group apertures; each letter and digit element having a series of pairs of interconnected switch contacts which if the selected card elements correctly solve the problem closes the primary circuit contacts through apertures in said flash card aperture groups to energize said signal;

a series of normally open independent circuits connected to said power source and respectively including spaced normally open contacts adjacent each field;

each field having a separate contact for each independent circuit;

a bulb in each circuit viewable through corresponding apertures in said cover indicating when energized the closing of one of the independent circuits and designating one of a plurality of indicia on said cover, directed to different suggested letter or digit changes;

the coded groups of apertures, in a flash card being arranged to permit closing of one of said independent circuits on application of an erroneous letter or digit element to the corresponding aperture connecting its contact and a corresponding field into the primary circuit depending upon the coded letter or digit called for and the erroneous letter or digit element applied to said flash card;

a pair of contacts of each letter or digit element if said letter is erroneously applied being adapted to complete the circuit of one of the series of independent circuits;

said primary and independent circuits being selectively completed through the letter element contacts to the electrical field operating through the flash card apertures.

2. In the game apparatus of claim 1, the letter and digit elements each comprising a dielectric body; an indicia on its top surface;

the pairs of spaced interconnected switch contacts being nested in and extending below the bottom of said body for selective registry through some of the apertures in a flash card group of apertures engaging the primary and independent circuit contacts and bridging the respective fields.

3. In the game apparatus of claim 1, each field including spaced rows of spaced insulated electrically conductive areas;

the letter and digit elements each comprising a dielectric body; carrying

an indicia on its top surface;

the pairs of spaced interconnected switch contacts being nested in and extending below the bottom of said body for selective registry through some of the apertures in the flash card group of apertures connecting the primary circuit contacts with the respective fields and interconnecting a pair of areas in a field to energize the primary circuit.

4. In the game apparatus of claim 1, each field including spaced rows of spaced insulated electrically conductive areas;

additional open contacts in the primary circuit adjacent each field;

the letter and digit elements each comprising a dielectric body;

an indicia in its top surface;

the pairs of spaced interconnected switch contacts being

nested in and extending below the bottom of said body for selective registry to some of the apertures in the group of apertures in a flash card connecting the primary circuit contacts with the respective fields, and interconnecting a pair of areas in a field to energize the primary circuit;
the flash card blocking said contacts to the primary circuit when an incorrect letter or digit element is mounted thereover;
additional contacts nested in and depending from the bottom of said body connecting the contacts and the power source of the primary circuit through other apertures in said flash card through a pair of areas in a field to one of said independent circuits depending upon the nature of the error in the letter element used.
5. In the game apparatus of claim 1, and a manual switch in the primary circuit for reversing the direction of electrical connections to said series of fields for the solution of mathematical problems where the digit elements

are directed through the cover apertures to said flash card aperture groups from right to left, the bulbs in the independent circuits indicating when selectively energized one of a plurality of indicia on said cover, i.e. "TRY A SMALLER NUMBER," "WRONG NUMBER," and "TRY A LARGER NUMBER."

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