

Oct. 27, 1953

I. P. PESCATORI
EDUCATIONAL TOY

2,656,618

Filed May 6, 1952

6 Sheets-Sheet 1

FIG. 1.

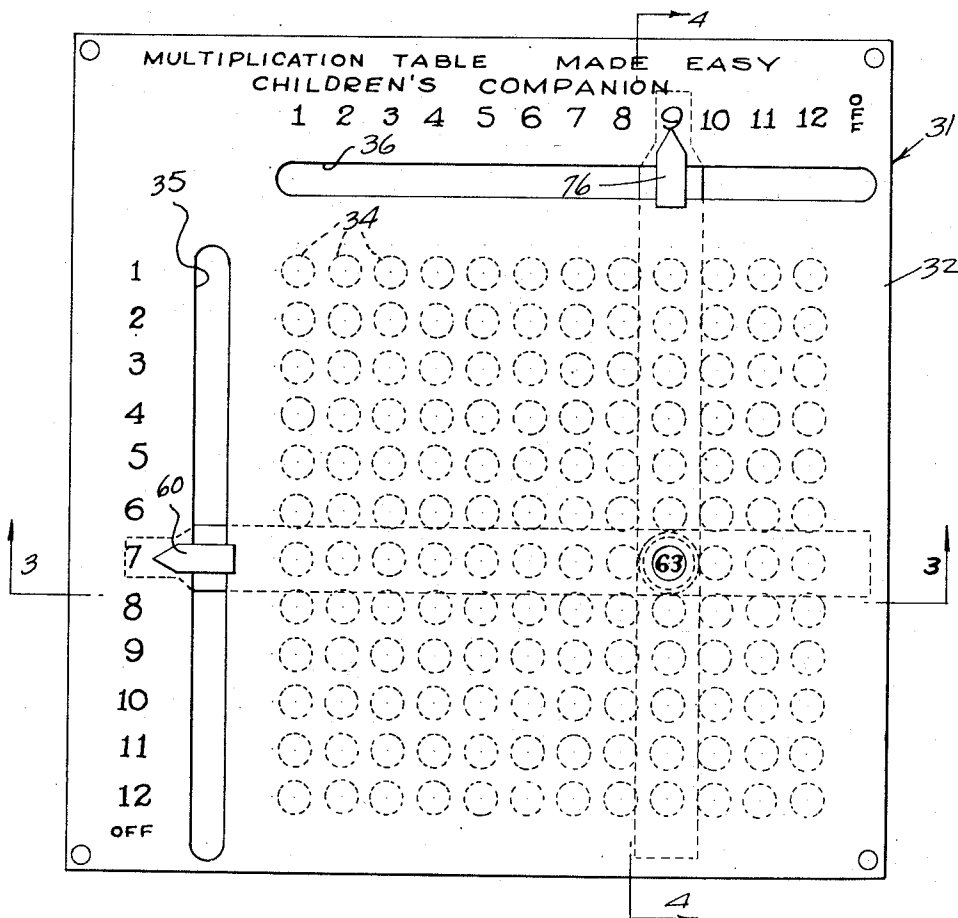


FIG. 2.

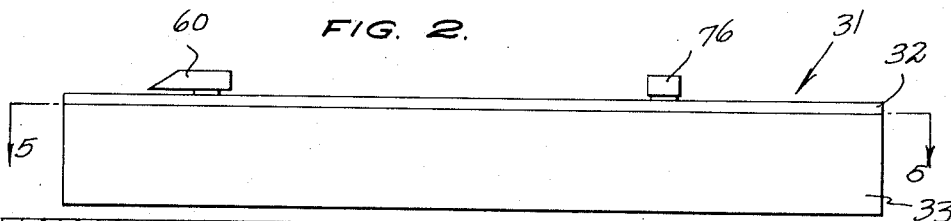
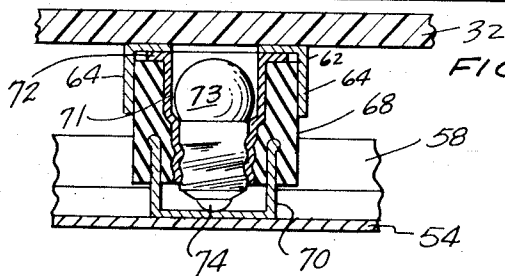


FIG. 6.



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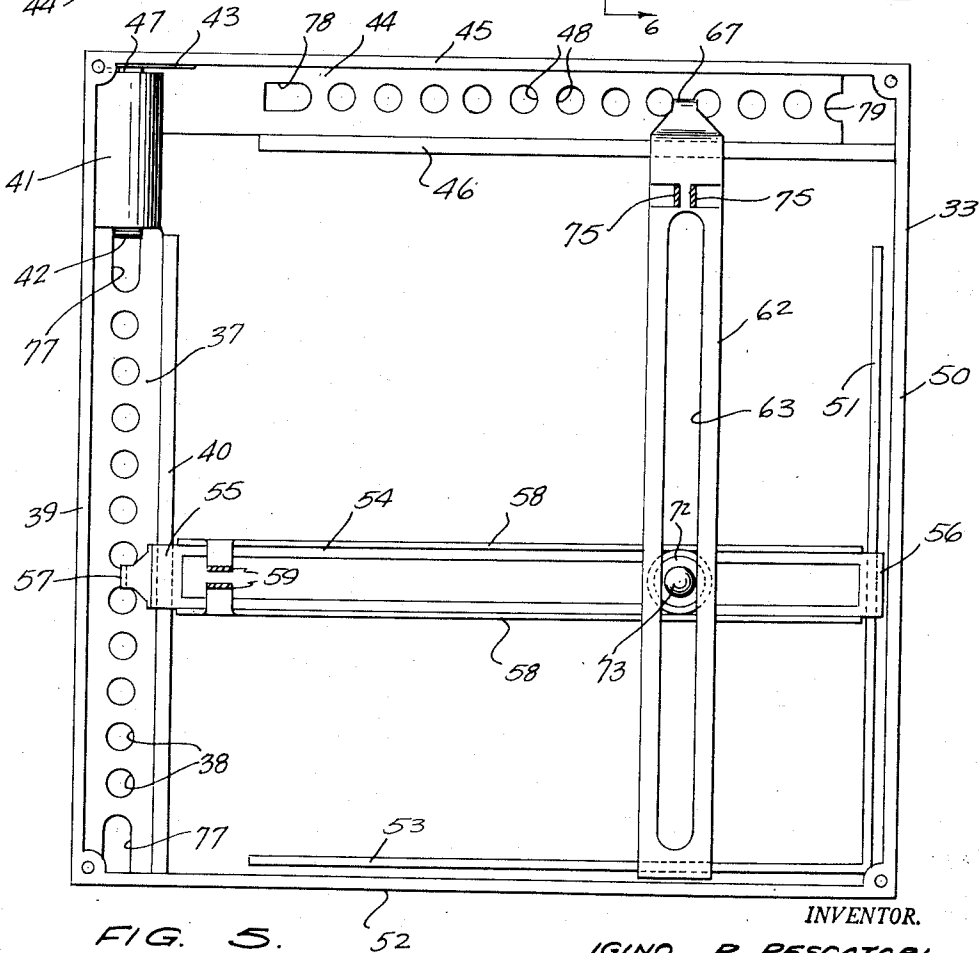
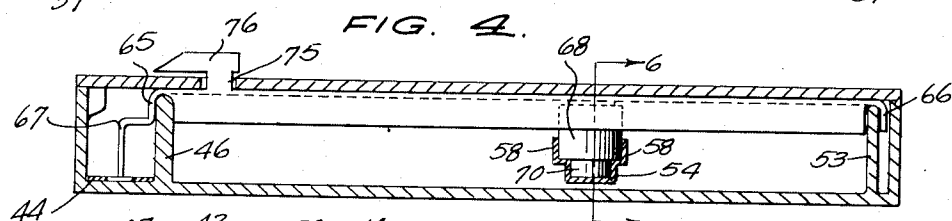
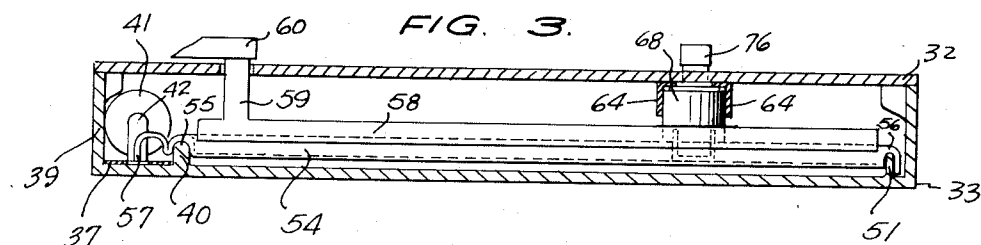
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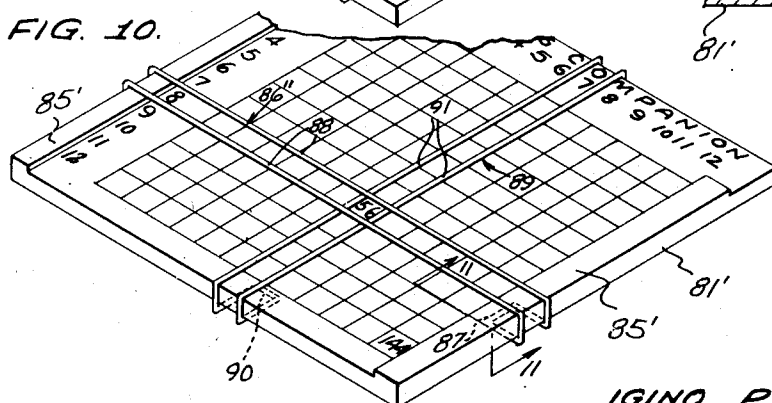
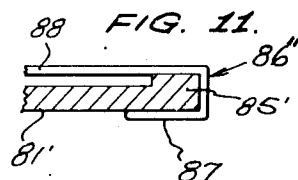
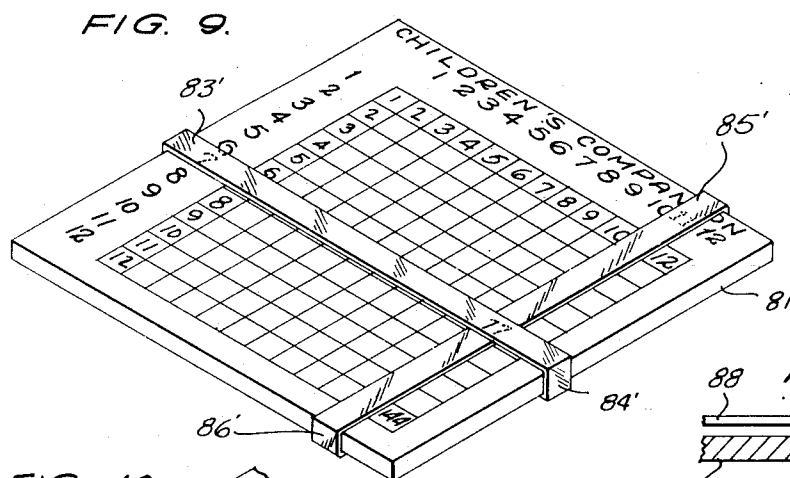
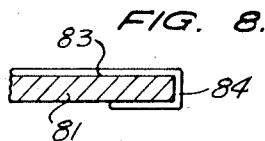
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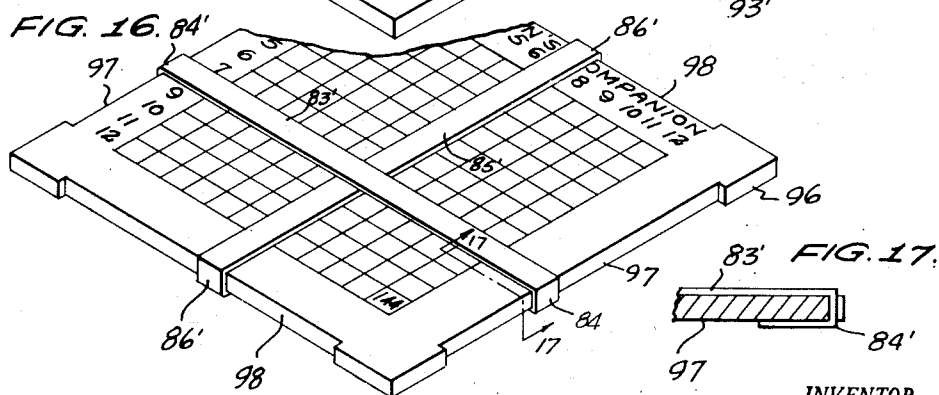
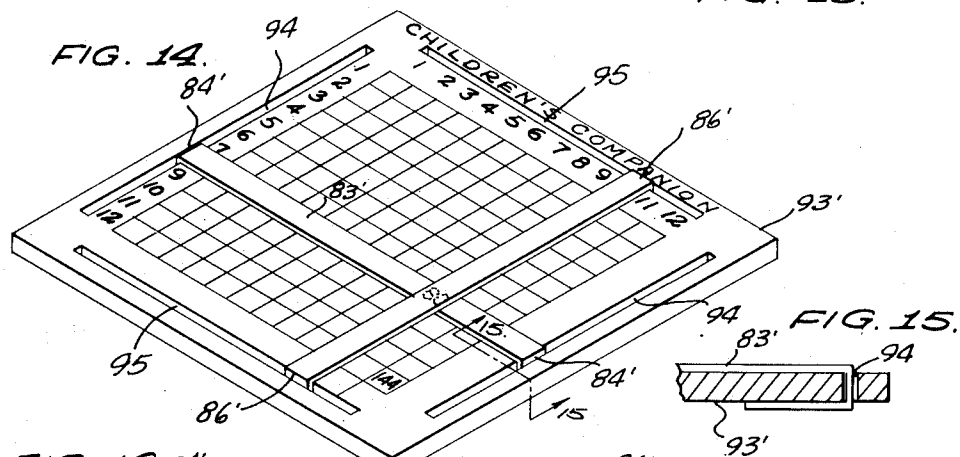
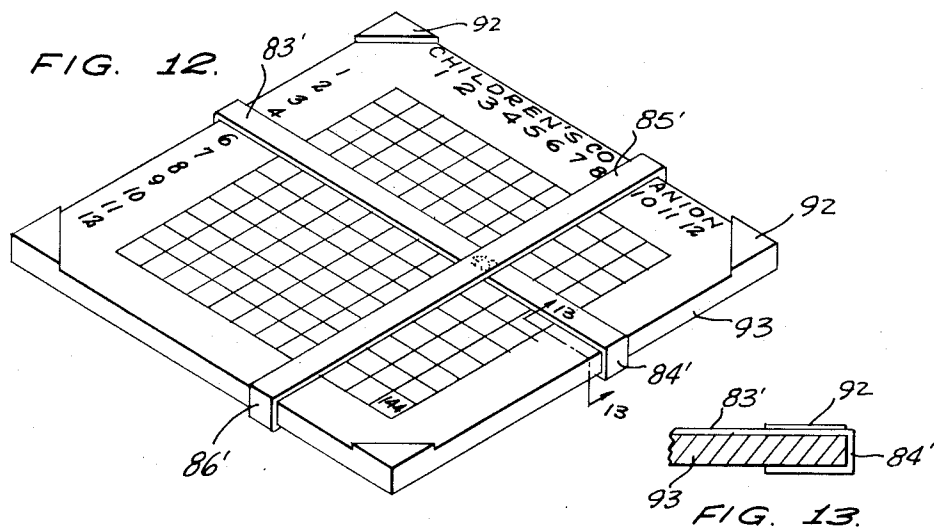
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EDUCATIONAL TOY

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6 Sheets-Sheet 4



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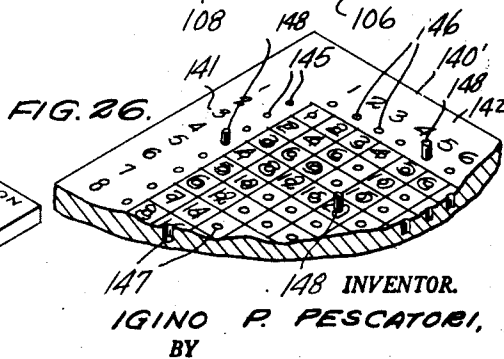
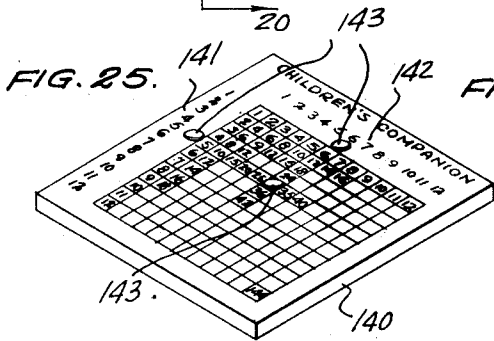
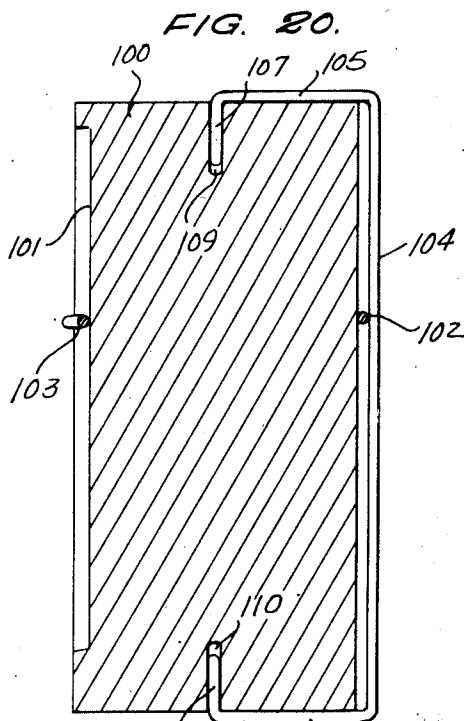
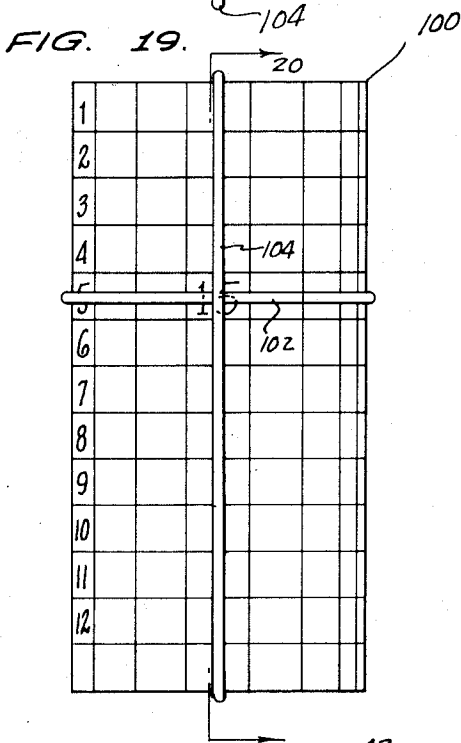
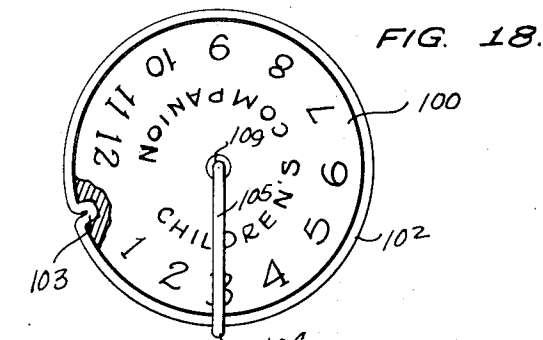
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6 Sheets-Sheet 5



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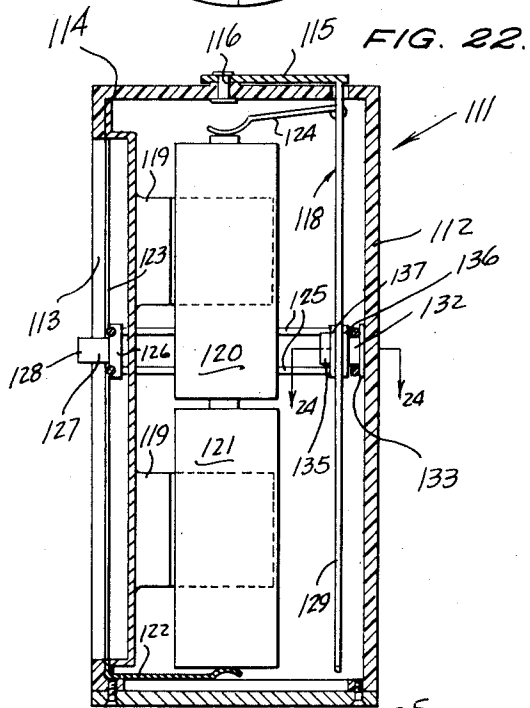
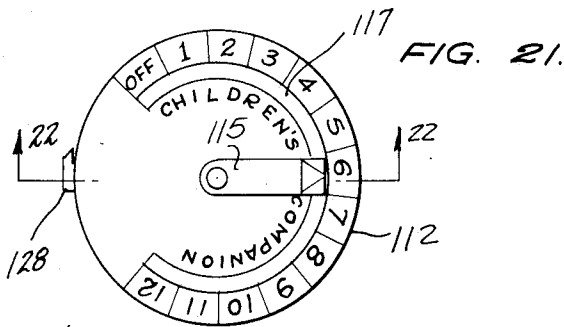
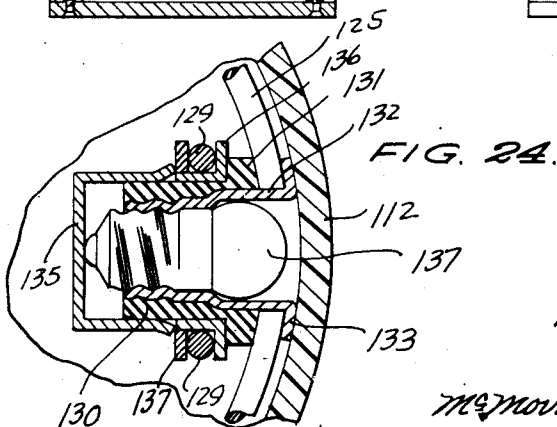
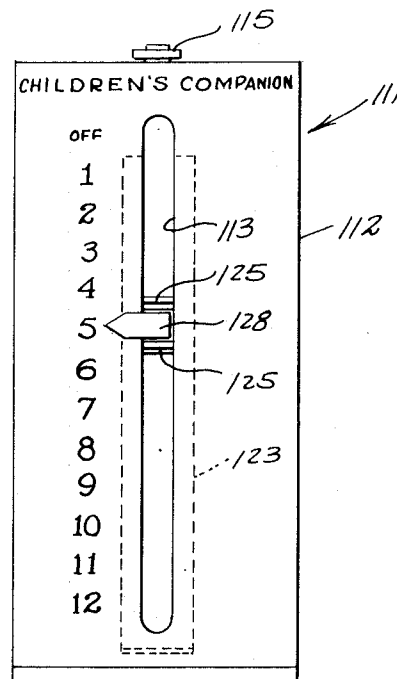


FIG. 23.



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UNITED STATES PATENT OFFICE

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Application May 6, 1952, Serial No. 286,239

4 Claims. (Cl. 35—9)

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This invention relates to educational toys, and more particularly to an improved educational device for teaching multiplication and the use of the multiplication table.

The main object of the invention is to provide a novel and improved educational device for teaching multiplication, said device being simple in construction, being easy to operate, providing a useful and entertaining means for teaching a child the use of the multiplication table, and being especially suitable for use in classrooms as an aid in instruction in multiplication.

A further object of the invention is to provide an improved educational toy device for teaching multiplication, said device being inexpensive to manufacture, being rugged in construction, being compact in size, and being operable by very simple manipulations.

A still further object of the invention is to provide an improved educational device for teaching the use of the multiplication table, said device including unique signal means providing a distinctive indication when the movable index elements thereof have been correctly positioned, the signal device providing a positive indication of the product obtained by the multiplication of two selected numerals, and providing a means of determining a product obtained by multiplying two such selected numerals in a positive and direct manner.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a plan view of one form of educational toy constructed in accordance with the present invention.

Figure 2 is an edge elevational view of the educational toy device of Figure 1.

Figure 3 is a vertical cross sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a vertical cross sectional view taken on the line 4—4 of Figure 1.

Figure 5 is a horizontal cross sectional view taken on the line 5—5 of Figure 2.

Figure 6 is an enlarged cross sectional detail view taken on the line 6—6 of Figure 4.

Figure 7 is a perspective view of still another form of educational toy constructed in accordance with the present invention.

Figure 8 is an enlarged cross sectional detail view taken on the line 8—8 of Figure 7.

Figure 9 is a perspective view of still another form of educational toy device constructed in accordance with the present invention.

Figure 10 is a fragmentary perspective view of

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a further modified form of educational toy device according to the present invention.

Figure 11 is an enlarged cross sectional detail view taken on the line 11—11 of Figure 10.

Figure 12 is a perspective view of a still further modified form of educational toy device according to the present invention.

Figure 13 is an enlarged cross sectional detail view taken on the line 13—13 of Figure 12.

Figure 14 is a perspective view of a still further modified form of educational toy device according to the present invention.

Figure 15 is an enlarged cross sectional detail view taken on the line 15—15 of Figure 14.

Figure 16 is a fragmentary perspective view of a still further modified form of educational toy device according to the present invention.

Figure 17 is an enlarged cross sectional detail view taken on the line 17—17 of Figure 16.

Figure 18 is a top plan view, partly in cross section, of a still further modified form of educational toy device according to the present invention.

Figure 19 is a side elevational view of the toy device of Figure 18.

Figure 20 is a cross sectional view taken on the line 20—20 of Figure 19.

Figure 21 is a top view of a still further modified form of educational toy device according to the present invention.

Figure 22 is a vertical cross sectional view taken on the line 22—22 of Figure 21.

Figure 23 is a side elevational view of the toy device of Figures 21 and 22.

Figure 24 is an enlarged cross sectional detail view taken on the line 24—24 of Figure 22.

Figure 25 is a perspective view of a further form of educational toy device according to the present invention.

Figure 26 is a fragmentary perspective view of a still further modification of the improved educational toy device of the present invention.

Referring to the drawings, and more particularly to Figures 1 to 6, one form of educational toy device according to the present invention is designated generally at 31 and comprises a rectangular or square board 32 of translucent material, such as translucent plastic, or the like, and 33 designates a rectangular or square housing to which the board 32 is secured and forms the top wall thereof. The surface of the board 32 is inscribed with the numbers of a conventional multiplication table arranged in the circular areas shown in dotted view at 34 and will normally not be seen, but will be rendered visible

when illuminated from below. Designated at 35 is a slot formed in the board 32 adjacent the left side of the multiplication table, as viewed in Figure 1, and designated at 36 is a slot formed in the board 32 adjacent the top row of the multiplication table, the slots 35 and 36 being substantially coextensive with the marginal rows of the multiplication table, as shown in Figure 1. Inscribed on the left marginal portion of the board 32 adjacent the slot 35 is a row of consecutive numerals from "1" to "12," aligned with the respective horizontal rows of numerals of the multiplication table, as viewed in Figure 1. Inscribed on the top marginal portion of the board 32 adjacent the slot 36 is a second row of consecutive numerals from "1" to "12," aligned with the respective vertical rows of numerals on the multiplication table, as viewed in Figure 1. Secured in the housing 33 adjacent the left side wall thereof, as viewed in Figure 5, is a flat ribbon or strap bar member 37 of electrically conducting material, the bottom of said bar member being formed with the apertures 38 which are evenly spaced along the bar member, as shown in Figure 5. The bar member 37 is located below the row of marginal numerals at the left side of the board 32 and the apertures 38 are vertically aligned with the spaces between successive numerals.

As shown in Figure 5, the bar member 37 is positioned between the left side wall of the housing, designated at 39, and a rib 40 rising from the floor of the housing and extending parallel to the wall 39. Designated at 41 is a flashlight battery which is secured between an upstanding contact lug 42 formed on the end of the bar member 37 and an upstanding contact flange 43 formed on a horizontally extending conductive bar member 44 secured in the housing 33 adjacent the rear wall 45 thereof, and secured between said rear wall and a longitudinally extending, upstanding rib 46 formed on the floor of the housing and extending parallel to the rear wall 45. As shown in Figure 5, the center contact 47 of the battery engages the contact flange 43, whereas the casing of the battery 41 engages the contact lug 42. The bar member 44 is formed with uniformly spaced apertures 48 disposed below the top row of numerals from "1" to "12," as viewed in Figure 1, each aperture 48 being vertically aligned with the space between two successive numerals.

Rising from the floor of the housing 33 and extending adjacent the right side wall 50 thereof, as shown in Figure 5 is an upstanding rib 51, the rib 51 extending parallel to the rib 40. Rising from the bottom wall of the housing 33 adjacent the forward wall 52 thereof, as viewed in Figure 5, is an upstanding rib 53, extending adjacent and parallel to the forward wall 52 and parallel to the rib 46.

Designated at 54 is a first bar member having respective channeled end portions 55 and 56 slidably engaged on the ribs 40 and 51 and guided thereby for movement along said ribs in a direction parallel to the slot 35, the bar member 54 being maintained at right angles to said slot by the cooperation of the channeled elements 55 and 56 with the ribs 40 and 51. The left end of the bar member 54 is formed adjacent the channeled element 55 with a depending contact member 57 which slidably engages the conductive bar 37, it being understood that the bar member 54 is of conductive material whereas the housing 33 is of insulating material. The bar member

54 is formed with the parallel upstanding marginal walls 58, 58 which are outwardly offset with respect to the channel-shaped lower portion of the bar member 54, as shown in Figure 4. At the left end portion of the bar member 54, the walls 58, 58 are integrally formed with upstanding, parallel vertical arms 59, 59 which extend through the slot 35 and have secured to their top ends the index pointer element 60 (Figure 3) extending at right angles to the slot 35 and crossing said slot, as shown in Figure 1.

Designated at 62 is a second bar member extending at right angles to the bar member 54 and located above the bar member 54 subadjacent to the board 32. The bar member 62 is formed of conductive material and is formed with the elongated slot 63 extending substantially for its full length. As shown in Figure 3, the bar member 62 is provided with the depending parallel side flanges 64, 64 and is formed with downwardly facing channel elements 65 and 66 at its opposite ends slidably engaging the respective upstanding ribs 46 and 53 to guide the bar member 62 for movement along the slot 36 and to retain said bar member 62 at right angles with respect to slot 36. The rear end of the bar member 62 is formed with a depending contact element 67 slidably engaging the bar 44.

Designated at 68 is a cylindrical shell element of insulating material whose lower portion is slidably received between the upstanding wall elements 58, 58 of the bar member 54 and whose upper portion is slidably received between the depending side flanges 64, 64 of the upper bar element 62. Secured to the bottom of the shell member 68 is the metal cup 70 which makes sliding contact with the bottom wall of the bar member 54, as shown in Figure 6. Secured in the shell element 68 is the screw threaded lamp socket shell 71 which may be formed with an annular top flange 72 making sliding contact with the top wall of the bar member 62, as shown in Figure 6. Mounted in the socket shell 71 is a flashlight bulb 73 whose bottom contact 74 is in engagement with the cup member 70, as shown in Figure 6, and is therefore electrically connected to the bottom wall of bar member 54.

It will be readily apparent that when the contact elements 57 and 67 are in positions engaging the respective bars 37 and 44, namely in positions between adjacent apertures 38, 38 and 48, 48, the battery 41 will be connected to the flashlight lamp 73 and will energize said lamp.

The bar member 62 is formed adjacent its rear end with the upstanding arms 75, 75 which extend through the slot 36 and which have secured to their top ends the index pointer element 76 crossing and extending at right angles to the slot 36.

When the respective index elements 60 and 76 are positioned adjacent selected numerals along the slots 35 and 36, the contact elements 57 and 67 will engage portions of the bars 37 and 44 between respective adjacent apertures 38, 38 and 48, 48 and will therefore energize the flashlight lamp 73. The energization of the lamp produces illumination below the product number of the multiplication table associated with the numerals selected by the index element 60 and 76 and will thus provide an indication of the correct answer obtained by multiplying said numerals.

The bar member 37 is formed at its opposite ends with slots 77, 77 in which the contact element 57 may be received when it is desired to deenergize the device. Similarly, the bar member

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44 is formed at one end with a slot 78 and at the other end with a notch 79, in either of which the contact element 67 may be received when it is desired to deenergize the device.

It will be obvious that when the index elements 60 and 76 are not correctly aligned with factor numerals adjacent the slots 35 and 36, the contact elements 67 and 57 will engage in openings 43 and 38 and will therefore prevent energization of the flashlight lamp 73.

Referring now to Figures 7 and 8, another form of the invention is designated generally at 80 and comprises a rectangular or square board 81 provided with a multiplication table 82 thereon, the board being provided with a first row of consecutive numerals from "1" to "12" along the side margin of the multiplication table and respectively align with the rows of product numerals in the multiplication table, and with a second row of consecutive numerals from "1" to "12" along the top row of product numerals and aligned with the vertical rows of product numerals of the multiplication table. Designated at 83 is a first indicator wire formed with hook portions 84 at its opposite ends slidably engaged over the side edges of the board 81, and designated at 85 is a second indicator wire having opposite hook portions 86 at its opposite ends slidably engaged over the forward and rear margins of the board 81, as shown in Figure 7. The hook portions 84 and 86 maintain the respective indicator wires 83 and 85 at right angles to each other and guide said wires for movement parallel to the respective opposite margins of the board 81. In using the device of Figures 7 and 8, the indicator wire 83 is first positioned over one of the factor numerals along the side margin of the multiplication table, and the indicator wire 85 is then positioned over one of the factor numerals along the top margin of the multiplication table, as shown in Figure 7, whereby the product of said factor numerals will be indicated at the intersection of the wires 83 and 85.

In the form of the invention shown in Figure 9, the board 81 is similar to that shown in Figures 7 and 8. Designated at 83' is a bar member of transparent plastic material having opposite hook portions 84' slidably engaging the opposite side edges of the board 81, and designated at 85' is a second bar member of transparent plastic material having the opposite hook portions 86' slidably engaging the forward and rear edges of the board 81. In using the device of Figure 9, the transparent bar member 83' is disposed over a factor numeral at the left side of the multiplication table, as viewed in Figure 9, and the transparent bar member 85' is disposed over another selected factor numeral along the top margin of the multiplication table, whereby the product of the selected factor numerals will be indicated at the intersecting overlapping portions of the bar members 83' and 85', as shown in Figure 9.

In the form of the invention illustrated in Figures 10 and 11, the board, as designated at 81' has the raised marginal ribs 85', 85' at its opposite side edges. Designated at 86'' is a slidable bar member formed of a single piece of wire bent to define opposed U-shaped hook portions 87, 87 which are respectively slidably engaged around the ribs 85', 85' at the side margins of the board 81'. The main body of the bar element 86'' comprises two parallel rod elements 88, 88 as shown in Figure 10. Designated at 89 is a second bar element formed of a single piece of rigid wire having its ends connected and looped

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in the manner shown in Figure 10, the looped ends of the bar element being formed to define the U-shaped hook members 90 which are respectively slidably engaged with the forward and rear margins of the board 81'. The main body of the bar element 89 thus consists of a pair of parallel wire rod elements 91, 91 which intersect the wire elements 88, 88 at right angles, as shown in Figure 10. In using the device of Figures 10 and 11, the slider bar 86'' is first positioned so that one of the factor numerals at the left marginal side of the multiplication table is positioned between the rod elements 88, 88. The slider member 89 is then positioned so that one of the factor numerals at the top marginal portion of the board is positioned between the wire rod elements 91, 91. The product of the selected factor numerals may then be found in the square defined by the intersecting rod elements 88, 88 and 91, 91.

It will be understood that the ribs 85', 85' provide a clearance therebetween for the slider bar 89 whereby the slider bar 86'' may overlie the slider bar 89, the height of the rib elements 85', 85' above the intervening surface of the board 81' being approximately the same as the thickness of the wire stock of which the slider member 89 is formed. It will further be understood that each of the slider members 86'' and 89 are formed of a single piece of wire having its ends connected to define a closed loop, the loop being then elongated and formed at its opposite ends with the U-shaped hook elements which are shaped to slidably engage the respective opposite side marginal edges of the board 81'.

Referring now to the form of the invention shown in Figures 12 and 13 the board is designated at 93 and is rectangular or square in shape, the respective corners of the board having the upstanding thickened portions 92 which are triangular in shape, as shown in Figure 12. Designated at 83' is a first transparent plastic bar, similar to that employed in Figure 9, which is provided at its end with the hook portions 84' slidably engaging the opposite side edges of the board 93. Designated at 85' is another transparent plastic bar having the hook portions 86' at its opposite ends slidably engaging the forward and rear margins of the board 93. The operation of the device of Figures 12 and 13 is the same as that of Figure 9, except that the transparent slide bars 83' and 85' are retained on the board by the triangular abutments 92 at the respective corners of the board, whereby said sliding bars cannot be removed and hence cannot be lost.

In the form of the invention shown in Figures 14 and 15, the board is designated generally at 93' and is formed with the marginal slots 94, 94 adjacent the respective sides of the board and with the marginal slots 95, 95 adjacent the respective forward and rear margins of the board. The hooked ends 84', 84' of the transparent slide bar 83' are engaged through the slots 94, 94 in the manner shown in Figure 14, and the hooked ends 86', 86' are engaged through the slots 95, 95, as shown, whereby the slidable members 83' and 85' cannot be detached from the board, and hence, cannot be lost. The operation of the device of Figures 14 and 15 is the same as that of Figures 9 and 12.

In the form of the invention shown in Figures 16 and 17, the board is designated at 96 and is formed along its side margins with the elongated notches 97, 97 and along its forward and rear margins with the elongated notches 98, 98. The

hooked ends 84', 84' of the transparent slide bar 83' are engaged around the notches 97, 97, as shown and the hooked ends 86', 86' of the transparent slide bar 85' are slidably engaged in the notches 98, 98, as shown, whereby the slide bars may be moved and manipulated in the same manner as described in connection with the forms of the invention shown in Figures 9, 12 and 14, but cannot be detached from the board because of the restraint imposed by the corners of the board.

Referring now to the form of the invention shown in Figures 18, 19 and 20, designated at 100 is a cylindrical body formed along its surface with a groove 101 extending parallel to the axis of the body. Designated at 102 is a generally circular ring formed of relatively stiff wire having the inwardly directed loop 103 slidably received in the groove 101 to guide the ring for movement along said groove. Inscribed on the surface of the body 100 is a multiplication table, and said body is provided with a marginal row of factor numerals from "1" to "12" extending parallel to the groove 101, namely, in a direction parallel to the axis of the body, as shown in Figure 19. Designated at 104 is a vertical indicator element formed of stiff wire or the like having the radial end arms 105 and 106 which terminate in axial stud portions 107 and 108 received in axial bores 109 and 110 formed in the opposite ends of the body 100. As shown in Figure 20, the straight outer portion of the indicator member 104 extends across and intersects the circular ring member 102 at right angles. The top end of the body 100 is inscribed along its periphery with a row of factor numerals from "1" to "12" which are respectively aligned with vertical rows of their associated product numbers on the multiplication table provided on the external surface of the body 100. In using the device, the upper radial arm 105 of the indicator member 104 is set over a selected factor numeral and the ring member 102 is moved until it is disposed over another factor numeral, as shown in Figures 18 and 19, whereby the product obtained by multiplying the selected factor numerals will be determined at the intersection of the straight outer portion of the indicator member 104 with the ring member 102. It will be understood that the stud elements 107 and 108 are rotatable in the bores 109 and 110, and the ring member 102 is freely slidable in an axial direction along the cylindrical body 100.

In the form of the invention illustrated in Figures 21 to 24, the device is designated generally at 111 and comprises a hollow cylindrical body 112 formed with a slot 113 in its outer surface extending parallel to the axis of the body and inscribed adjacent said slot with a row of factor numerals from "1" to "12," as shown in Figure 23. The internal surface of the body 112 is inscribed with a multiplication table having product numerals arranged in rows horizontally aligned with the respective factor numerals of the aforesaid row. The top wall of the body, shown at 114 is inscribed along its periphery with a second row of factor numerals vertically aligned with the product numerals of the multiplication table associated therewith and obtained by multiplying the factor numerals on the top wall 114 with the respective factor numerals located adjacent the slot 113.

The cylindrical body 112 is formed of translucent plastic material, and the aforesaid multiplication table is inscribed on the inside surface

of the body and is normally not visible. However, the respective product numerals of the multiplication table will become visible when illuminated from within the body, in a manner similar to that described in connection with the form of the invention shown in Figures 1 to 6.

Designated at 115 is an arm pivoted axially to the top wall 114, as by a rivet 116 shown in Figure 22. The top wall 114 is formed with an arcuate slot 117 located inwardly adjacent the peripheral row of factor numerals on said top wall, as shown in Figure 21, and secured to the end portion of the arm 115 is a metal bar member 118 which extends through the slot 117 into the body 112 and is disposed inwardly adjacent to and parallel with the outer wall of the body, as shown in Figure 22. Secured axially in the body 112 by suitable insulating bracket members 119, 119 are the flashlight batteries 120 and 121 which are supported in series contact, as shown in Figure 22. The casing of the bottom battery 121 engages a radial contact arm 122 formed at the end of a metal bar 123 secured to the wall of body 112 along the slot 113. The center contact of the upper battery 120 is engaged by a resilient contact arm 124 secured to the depending elongated bar 118 and being in rotatable engagement with said center contact. Designated at 125, 125 are respective circular ring members which are secured in parallel spaced relationship to a metal bracket member 126 slidably engaging the bar 123 and having an arm portion 127 extending through the slot 113 and carrying an index pointer element 128, as shown in Figure 23. The index pointer element 128 is arranged horizontally, as shown and may be positioned adjacent a selected one of the factor numerals provided along the slot 113.

As shown in Figure 24, the depending arm 118 comprises the parallel wire rod elements 129, 129 which may form the side arms of a U-shaped loop, the top ends of said side arms being rigidly secured to the radial arm 115. Designated at 130 is an annular plastic shell member formed with a peripheral flange 131 and having a lamp-receiving metal shell 132 secured therein, said shell having an external flange 133. As shown in Figure 24, the lamp-receiving shell 132 is slidably received between the rings 125, 125 and the annular flange 133 is engaged between the rings 125 and the inside surface of the body 112. The plastic shell member 131 is therefore supported for rotation around the spaced rings 125, 125 and is retained between said rings by the cooperation of the annular flange 131 of the shell member 130 and the flange 133 of the lamp-receiving shell 132. Secured to the shank portion of the shell 130 is a cylindrical metal cup 135 having an annular flange 136 and having secured thereto a collar element 137 in spaced relationship to the flange 136. The wire arms 129, 129 are slidably received between the flange 136 and the collar 137, as shown in Figure 24, whereby the cup member 135 and the plastic shell element 131 secured therein are guided for vertical movement between the arms 129, 129. Designated at 137 is a flashlight bulb which is mounted in the metal shell 132 and whose center contact engages the bottom wall of the cup member 135, as shown in Figure 24.

From the foregoing description, it will be apparent that the shell of the lamp 137 is electrically connected through the element 132 and the rings 125 to the contact bar 123 and thus to the casing of the lower flashlight cell 121.

Similarly, the center contact of the lamp 137 is electrically connected through the cup member 135 and the vertical wire arms 129, 129 and the radial contact arm 124 to the center contact of the upper flashlight battery 120. The lamp 137 is thus energized and will illuminate the product numeral of the multiplication table adjacent thereto. This product numeral is the product obtained by multiplying the factor numerals selected by the indicator element 128 and the radial arm 115.

In using the device of Figures 21 to 24, the radial selector arm 115 is first positioned adjacent one of the factor numerals on the top wall 114 of body 112 and the index element 128 is then moved along the slot 113 to a position adjacent one of the factor numerals in the row provided along said slot 113. The lamp 137 will be illuminated and will render visible the product number of the multiplication table obtained by multiplying together the two selected factor numerals. Suitable insulation may be provided on the rings 125, 125 to deenergize the lamp 137 when arm 115 is placed in "off" position.

Figure 25 illustrates a simplified form of educational device according to the present invention comprising a rectangular board 140 having a multiplication table inscribed thereon and provided along one side margin with a first row of factor numerals from "1" to "12," designated at 141, and provided along its top margin with a second row of factor numerals from "1" to "12," designated at 142, the numerals of row 141 being horizontally aligned with the product numerals of the multiplication table associated therewith and the numerals of the row 142 being vertically aligned with the corresponding product numerals of the multiplication table associated therewith, the product numerals being the results obtained by multiplying together the respective factor numerals of the rows 141 and 142. The device may be provided with circular counters 143, and may be used by placing a first counter on a selected factor numeral of the row 141 and placing a second counter 143 on another selected factor numeral of the row 142. The product obtained by multiplying the two selected factor numerals will be located by determining the intersection of the rows of product numerals on the multiplication table aligned with the respective selected factor numerals, as by placing a counter 143 at the intersection of the rows thus determined.

In the form of the invention shown in Figure 26, the board is designated at 145 and is provided with a multiplication table inscribed thereon, as well as with the respective rows of factor numerals 141 and 142 disposed respectively along the side margin and top margin of the multiplication table. As in Figure 25, the factor numerals of the rows 141 and 142 are respectively aligned with the product numerals of the multiplication table obtained by multiplying the factor numerals together. The board is formed adjacent the respective numerals of the row 141 with recesses 145 and is formed adjacent the numerals of the row 142 with recesses 146. Each of the spaces of the multiplication table containing a product numeral is likewise formed with a recess 147. A plurality of pegs 148 are provided, and the device is used by placing a first peg 148 in one of the recesses associated with the factor numerals 141 along the side margin of the board and then placing a second peg 148 in one of the recesses 146 associated with the factor

numerals in the row 142 along the top margin of the multiplication table. As in the form of the invention shown in Figure 25, the product numeral may be determined by locating the intersection of the rows aligned with the selected factor numerals, and may be located by placing a peg 148 in the recess 147 in the space containing the product numeral.

While certain specific embodiments of an improved educational device for teaching multiplication have been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. An educational device for teaching multiplication comprising a body having a first group of numerals from "1" to "12" extending in one direction thereon, said body being provided with respective rows of product numerals beginning with the respective numerals of said first group and extending at right angles to the first group of numerals, a second group of numerals from "1" to "12" on said body and extending along the top marginal row of product numerals, respective indicator elements movably mounted on said body, one indicator element extending parallel to said respective rows of product numerals and the other indicator element extending parallel to said first group of numerals, said indicator elements overlapping each other at right angles, an indicator lamp slidably connected to both indicator elements at the intersection of the indicator elements, a battery, means on the indicator elements slidably connected to the respective electrical terminals of the lamp, and means on the body arranged to electrically connect the indicator elements to the respective terminals of the battery when the indicator elements are positioned respectively adjacent selected numerals of the first and second groups.

2. An educational device for teaching multiplication comprising a translucent body having a first group of numerals from "1" to "12" extending vertically thereon, said body being provided with respective horizontal rows of product numerals beginning with the respective numerals of said first group and extending at right angles to the first group of numerals, a second group of numerals from "1" to "12" on said body and extending horizontally along the top marginal row of product numerals, respective elongated straight bar elements movably mounted beneath said body and engaging opposite marginal portions thereof, one bar element extending parallel to said respective rows of product numerals and the other bar element extending parallel to said first group of numerals, said bar elements overlapping each other at right angles, an indicator lamp slidably connected to both bar elements at the intersection of the bar elements, a battery, means on the bar elements slidably connected to the respective electrical terminals of the lamp, and means secured to the body arranged to electrically connect the bar elements to the respective terminals of the battery when the bar elements are positioned respectively adjacent selected numerals of the first and second groups.

3. An educational device for teaching multiplication comprising a translucent body having a first group of numerals from "1" to "12" extend-

ing vertically thereon, said body being provided with respective horizontal rows of product numerals beginning with the respective numerals of said first group and extending at right angles to the first group of numerals, a second group of numerals from "1" to "12" on said body and extending horizontally along the top marginal row of product numerals, respective elongated straight bar elements movably mounted beneath said body and engaging opposite marginal portions thereof, one bar element extending parallel to said respective rows of product numerals and the other bar element extending parallel to said first group of numerals, said bar elements overlapping each other at right angles, an indicator lamp slidably connected to both bar elements at the intersection of the bar elements, a battery means on the bar elements slidably connected to the respective electric terminals of the lamp, and respective perforated plate members secured to the body adjacent said top and side margins thereof and arranged to electrically connect the bar elements to the respective terminals of the battery when the bar elements are positioned respectively adjacent selected numerals of the first and second groups.

4. An educational device for teaching multiplication comprising a hollow cylindrical body having a first group of numerals from "1" to "12" extending longitudinally along the external surface thereof, said body being provided on its inner surface with respective circumferential rows of product numerals beginning with the respective numerals of said first group and extending at right angles to the first group of numerals, a second group of numerals from "1" to "12" on the top surface of said body and extending along the top marginal row of product numerals, re-

spective indicator elements movably mounted on said body, one indicator element extending parallel to said respective rows of product numerals and the other indicator element extending parallel to said first group of numerals, said indicator elements intersecting each other at right angles, an indicator lamp slidably connected to both indicator elements at the intersection of the indicator elements, a pair of batteries supported in series contact position within said body, means on the indicator elements slidably connected to the respective electrical terminals of the lamp, and means on the body and said one indicator element electrically connecting the indicator elements to the respective terminals of the batteries when the indicator elements are positioned respectively adjacent selected numerals of the first and second groups.

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