

E. A. NELSON, JR.
 PUZZLE.
 APPLICATION FILED NOV. 25, 1913.

1,109,698.

Patented Sept. 8, 1914.

Fig. 1.

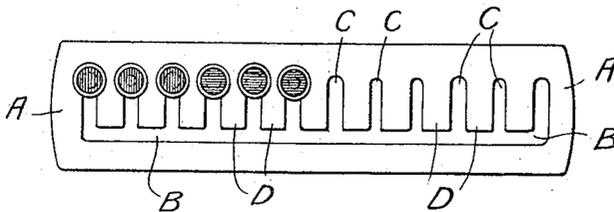


Fig. 2.

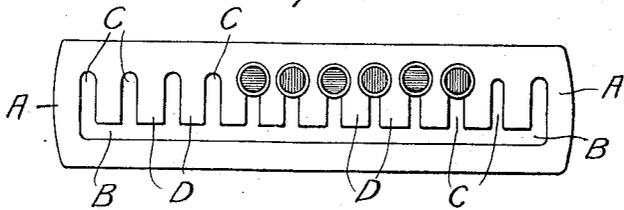


Fig. 5.

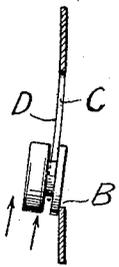


Fig. 4.

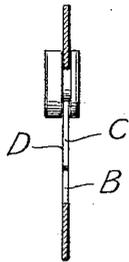
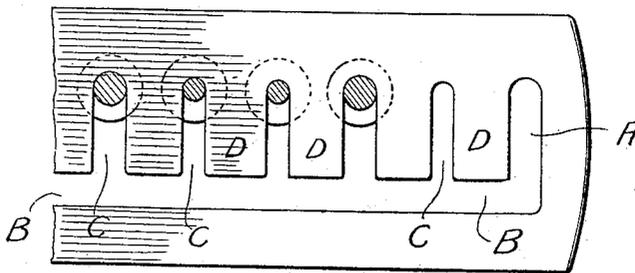


Fig. 3.



Witnesses

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PUZZLE.

1,109,698.

Specification of Letters Patent.

Patented Sept. 8, 1914.

Application filed November 25, 1913. Serial No. 802,919.

To all whom it may concern:

Be it known that I, EDGAR A. NELSON, Jr., a citizen of the United States of America, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Puzzles, of which the following is a specification.

My invention relates to improvements in puzzles, and has for its object to provide a game apparatus or puzzle that shall be simple in construction, durable, and cheap to manufacture, and hence may be placed before the public at a small expense, and which shall afford entertainment and amusement for people of all ages.

My invention consists in so arranging and constructing a puzzle that a predetermined number of pieces or buttons of diverse values may be moved in a predetermined and arbitrary number of moves from a certain relation to each other to a different and staggered or alternate relation, and then reversed or returned to their original position the same number of predetermined and arbitrary number of moves.

My invention consists further in certain novel features of construction, arrangement and operation of the various parts as will be hereinafter fully described and pointed out in the claims, reference being had to the accompanying drawings in which:

Figure 1 is a plan view, showing arrangement of parts with buttons or pieces correctly arranged or positioned preparatory to working the correct solution of one phase of the puzzle. Fig. 2 is a similar view, showing position of the buttons or pieces after correct solution in a predetermined and arbitrary number of moves. Fig. 3 is an enlarged view partly in section, showing the distinctive sizes of the slots and shanks upon which the puzzle depends for its novelty. Fig. 4 is an edge view, showing a piece or button in place in one of the transverse slots. Fig. 5 shows method of inserting or removing a piece or button in one of the slots.

In carrying out my invention I employ a base or supporting body A made preferably from resilient sheet metal which may be struck out or punched at a single operation to form therethrough a longitudinal slot B which extends to near each end of the base A, and a plurality of transverse slots C connecting with the longitudinal slot and divid-

ing the base into a plurality of tongues or segments D. In the slots C are to be placed the pieces or buttons E, which may be turned or spun preferably from a single piece of metal or other material, the heads and shank being preferably integral; these pieces or buttons are placed in position in the slots by springing the tongues to one side, as illustrated in Fig. 5, by virtue of the resiliency of the material of the base A; Fig. 4 showing the button in place.

To carry out the puzzle the buttons or pieces E are used, in this particular instance the number of them being six (6), each set or three (3) being diversely colored from each other in distinctive colors. I prefer to color one-half of the buttons, or one head thereof, red and the other half blue; though other contrasting colors may be used for each set, and the color may be applied to the head in the form of enamel or otherwise.

As shown in Fig. 1, I place in slots 1, 2 and 3 the red buttons, while three blue buttons are placed in slots 4, 5 and 6. The buttons must be placed in the various slots in a certain predetermined and arbitrary order so that the puzzle can be worked or solved in a predetermined and arbitrarily set number of moves; in this particular instance three (3) is the number of moves or shifts determined upon. It will be noticed that slots 8 and 9 are narrower or of less width than the slots 1, 2, 3; 4, 5, 6 and 7, this being an essential feature of the puzzle, and forms the basis of one of the distinctively novel features of the invention.

In each set of differently colored buttons there is to be one button the shank of which is reduced or of less diameter than the other two, this reduced diameter being for the purpose of permitting such button to slide into and out of the reduced slots 8 and 9; the diameters of the shanks of the remaining two buttons in each set must be so much larger than the reduced shanks that it will be impossible to slide said buttons with enlarged shanks into or out of slots 8 and 9. I have also shown at 11 and 12 a reduced and normal slot respectively, these slots being not absolutely essential to the puzzle, but are placed there to act as a sort of "blind" and trap to add to the difficulty of working out the correct solution, unless the operator is apprised of the essential features of the invention in advance. In

Fig. 1 the red button in slot 2 has a reduced shank, while the blue button in slot 6 also has a reduced shank.

To solve one phase of the puzzle, namely, to transpose the buttons from the position shown in Fig. 1, that is, three reds alongside of three blues, to alternate red and blue, as shown in Fig. 2, the operator proceeds as follows to correctly solve the puzzle in three moves, and three only, to wit: The red buttons in slots 1 and 2 are simultaneously slid into longitudinal slot B, along the same to the right, and thence into slots 7 and 8; then the buttons which are now in slots 6 and 7 are simultaneously slid into slot B, along the same to the right, and thence into slots 9 and 10; then buttons left in slots 3 and 4 are simultaneously slid into slot B, along the same to the right, and thence into the now vacant slots 6 and 7, whereupon it will be found that the buttons are alternately red and blue, as shown in Fig. 2. By this statement is meant that the hand is taken from the buttons three times, a move comprising the act of removing the buttons from one set of transverse slots, transporting them along the longitudinal groove and placing them into another set of slots. This constitutes one phase of the puzzle; another phase being to return the buttons from the position shown in Fig. 2 to that shown in Fig. 1 in three moves or steps to the original position shown in Fig. 1, which can only be done when the operator is aware of the peculiarities of the distinctively reduced slots and reduced shanks and the correct sequence of the buttons and moves thereof.

The puzzle can be quickly and easily worked by one familiar with the peculiarities above mentioned, but the uninformed person will move the buttons usually at random and find it almost impossible to correctly solve the puzzle in the arbitrarily fixed three moves before mentioned, inasmuch as the number of slots and buttons make it possible for a large number of combinations to be made and yet not chance upon the correct ones. This will, of course, add to the perplexity of the operator and add to the value of the invention as a method of entertainment and contribute to the skill of the operator.

A greater or less number of pieces or buttons and slots may be used, if desired, but it has been found that the arrangement herein shown and described produces the most convenient arrangement.

The device can be cheaply manufactured, the base piece being preferably of resilient sheet steel or other resilient material which can be stamped or punched out at a single operation, as may also the buttons, though they may be made of separate parts and then united in any suitable manner. The whole can be placed before the public at a

low price and may be ornamental or provided with advertisements or a trade name, if desired. By making the base or body piece of resilient material the buttons can be quickly snapped or sprung into and out of the slots. The base may be made with undercut grooves or channels and the headed buttons disposed therein so that the lower end of the buttons will be hidden from view.

I claim:

1. A puzzle comprising a plate having a longitudinal slot or channel, a plurality of transverse slots or channels connecting therewith, and a plurality of sets or series of headed buttons of diverse values, the shanks of said buttons adapted to slide in said slots or channels; one button of each set having a reduced shank.

2. A puzzle comprising a base plate having a longitudinal slot or channel, a series of transverse slots or channels connecting therewith, a definite number of said transverse slots or channels being of less width than the remaining transverse slots or channels, and a plurality of sets of buttons of diverse value, each button having heads and a shank, said shank adapted to slide in the aforesaid slots or channels, one button in each set provided with a reduced shank capable of being slid in any of the slots, but fitting only in to the reduced slots, whereby the plurality of sets of diverse values may be moved or shifted in a predetermined arbitrary number of moves from a continuous arrangement of sets to an alternate arrangement of buttons.

3. A puzzle comprising a base plate having a longitudinal slot or channel, a plurality of transverse slots or channels connecting therewith, a definite number of said transverse slots or channels being of reduced width, an additional number of transverse trap slots or channels, and a plurality of sets of buttons or pieces the shanks of which are adapted to slide in the aforesaid slots, one button of each set being provided with a reduced shank capable of fitting only the reduced transverse slots or channels.

4. A puzzle comprising a plate having a longitudinal slot or channel, a plurality of transverse slots or channels connecting therewith, a definite number of said transverse slots being of reduced width, an additional number of transverse trap slots of reduced and normal width, and a plurality of sets of buttons of diverse value the shanks of which are adapted to be moved into and out of said slots or channels, one button of each set being provided with a reduced shank adapted to fit in a predetermined and arbitrary reduced slot or channel.

5. A puzzle comprising a plate having a longitudinal slot or channel, a plurality of transverse slots or channels connecting therewith, a definite number of said trans-

verse slots being of reduced width relative to the other slots, a plurality of sets of buttons, each set being of diverse value, a plurality of buttons in each set having shanks of such diameter as will prevent their entrance into the reduced transverse slots, and a single button in each set having a reduced shank adapted to fit in the aforesaid reduced slots, whereby the buttons in the sets may be moved from one predetermined alternate placement in a predetermined and arbitrary number of moves of two buttons simultaneously.

6. In a puzzle, the combination with two sets of buttons of diverse value and each having heads and a shank connecting the

same, a single button in each set having a reduced shank, of a plate having a longitudinal slot and plurality of transverse slots connecting therewith, a definite number of said transverse slots being of uniform width adapted to receive the shanks of all the buttons, and a definite number of said transverse slots being of reduced width capable of receiving only the buttons with the reduced shanks.

In testimony whereof I affix my signature in presence of two witnesses.

EDGAR A. NELSON, JR.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."