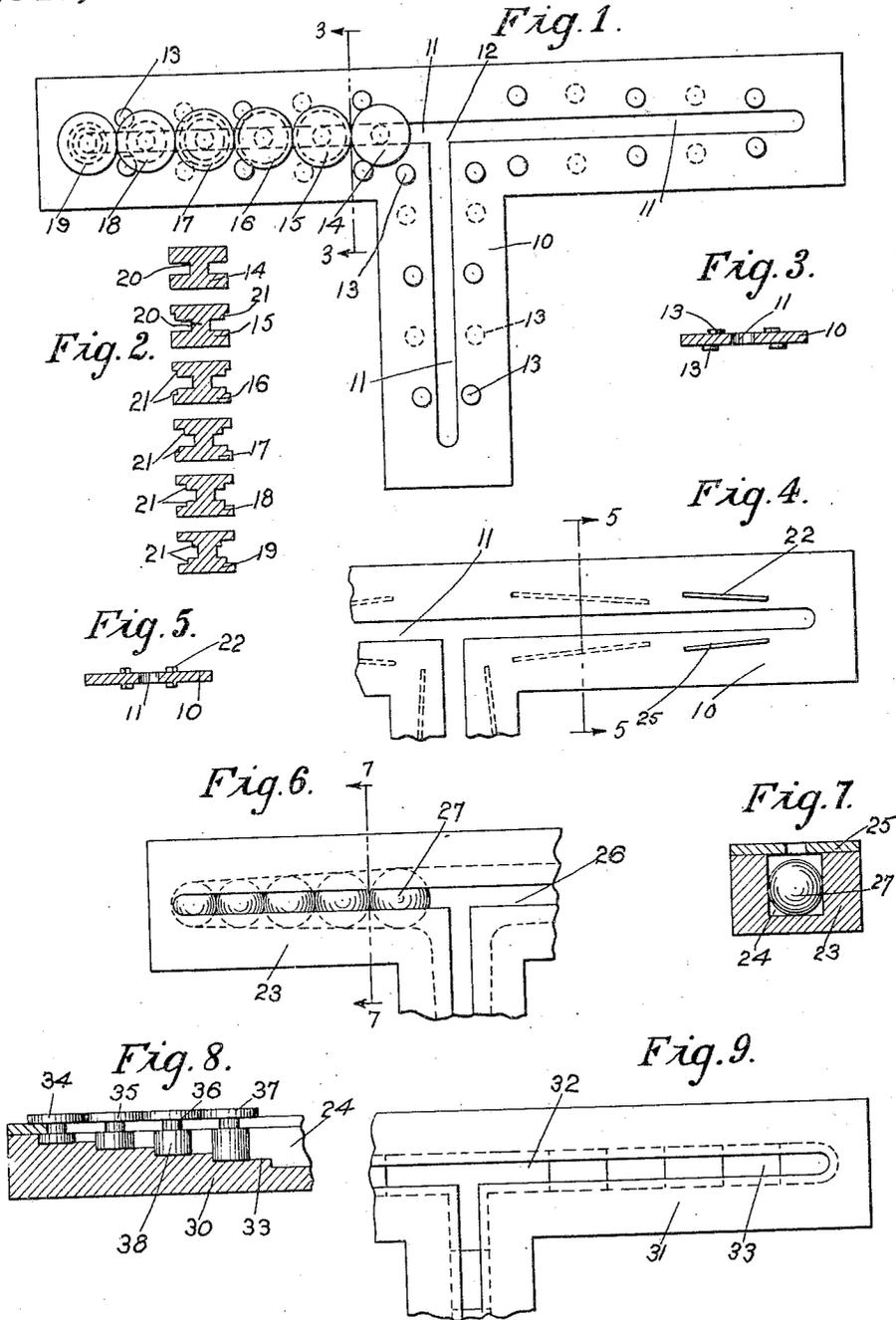


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PUZZLE.

APPLICATION FILED APR. 10, 1919.

Patented Aug. 10, 1920.

1,349,456.



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PUZZLE.

1,349,456.

Specification of Letters Patent.

Patented Aug. 10, 1920.

Application filed April 10, 1919. Serial No. 289,085.

To all whom it may concern:

Be it known that I, VATSLAV A. HLASKO, a citizen of Russia, having declared my intention to become a citizen of the United States, and residing in the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Puzzle, of which the following is a full, clear, and exact description.

The present invention relates to new and useful improvements in toys and pertains more particularly to such toys as are commonly known as puzzles.

The invention has for its primary object to provide a puzzle in which a plurality of elements of different sizes are movable relatively to each other to position them according to their value, it being understood that each of said elements is given a different value.

Reference to the drawings—

Figure 1 is a top plan view of one form of the invention;

Fig. 2 is a sectional view of the various buttons used in connection therewith;

Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a top plan view partly broken away, of a modified form of the invention;

Fig. 5 is a transverse sectional view on the line 5—5 of Fig. 4;

Fig. 6 is a top plan view partly broken away, of a still further modified form of the invention;

Fig. 7 is a transverse sectional view on the line 7—7 of Fig. 6;

Fig. 8 is a detail sectional view of a still further modified form of the invention;

Fig. 9 is a top plan view partly broken away of that form of the invention illustrated in Fig. 8.

Referring to the drawings and more particularly to Figs. 1, 2 and 3, the device comprises a T-shaped piece of metal 10, and each of the legs of said T-shaped piece of metal is provided with a slot 11. The slots 11 meet and communicate with each other at a point 12, substantially central of the longest leg of said T-shaped member 10.

The T-shaped member 10 is formed from relatively thin metal, and the slots 11 extend entirely therethrough, as shown in Fig. 3, and on opposite sides of the slots 11 are arranged bosses or projections 13. The bosses or projections 13 are arranged on opposite faces of the T-shaped member 10

in pairs, as shown in Fig. 1. The projections 13 in full lines are on top the circular dotted lines indicating the projections 13 on the bottom.

By reference to Fig. 1, it will be seen that the projections 13 which are at the outer extremities of the slots 11, are arranged closer to each other than those at the intersection of the slots, and that the spaces between the projections 13 gradually increase from the outer extremities of the slots to the point of intersection thereof. By this construction, it will be seen that a tapered space between the projections 13 is provided, and the purpose of this space will be hereinafter more fully described.

The reference characters 14, 15, 16, 17, 18 and 19 designate the buttons which are used in connection with the T-shaped member, and said buttons are alike in that they have two heads of the same diameter which are connected by a stem portion 20. The button 14 consists merely of two head portions connected by a stem portion 20. The button 15 comprises two head portions connected by a stem portion 20, one of said head portions being provided with an annular shoulder of less diameter than the head portion in which it is formed. The heads of the button 16 are each provided with an annular shoulder 21 of less diameter than the head portions on which they are formed. The heads of the button 17 are provided with annular shoulder 21, the shoulder on one head being of smaller diameter than the shoulder on the other head. The button 18 is provided with two annular shoulders 21 of the same diameter, said diameter corresponding to that of the smaller annular shoulder 21 of the button 17. The heads of the button 19 are each provided with annular shoulders 21, one of which is smaller than the other. This construction is shown in Fig. 2.

The buttons are placed in the slots 11 in any suitable manner, and in moving them back and forth through the slots, the object is to position all of the buttons in one leg of the T-shaped member. The several buttons 14 to 19, inclusive, will occupy only certain positions in said slots, and it is necessary in order to properly position all of the buttons in one leg of the T-shaped member, that each button occupy its proper position, which is shown in Fig. 1. In the movement of the buttons through the slots

11, it will be seen that the annular shoulders 21 thereof will engage the projections 13 and unless the proper button is presented to the proper projection, the button will not move longitudinally of the slot and will, therefore, prevent any buttons passing thereby.

In Fig. 5 of the drawings is shown a modified form of the invention, and in this form a T-shaped member 10 provided with slots 11 similar to the form shown in Fig. 1 is employed. However, in the modified form, the projections 13, which are heretofore described as being circular bosses, are supplemented with integral elongated ribs 22, which are angularly disposed with relation to each other, and are positioned on opposite faces of the T-shaped member 10. In this form of the invention, the buttons 14 to 19, inclusive, are employed in the same manner as in the form shown in Fig. 1, the various shoulders 21 of different diameters engaging the integral ribs 22 to prevent movement of any of the buttons other than the proper ones, longitudinally of the slots 11.

In Fig. 6 is shown a still further modified form and in this embodiment, in lieu of a sheet metal plate 10, a housing or the like 23 is employed. The housing 23 is cut out to form a channel 24, which is rectangular in shape. The housing 23 is substantially T-shaped and the rectangular channel 24 extends throughout the major portion of each leg of the T-shaped member. The top wall 25 of the housing is provided with a slot 26, and movable through the channel 24, is a plurality of spherical members 27. As shown in Fig. 6, the rectangular channel 24 in each of the legs of the T-shaped member tapers from the point of intersection of the several channels to their outer extremities, and in this form, it is the object to position the several spherical members 27 in such a manner that the one of smallest diameter is in the extreme outer end of the channel 24, and the remaining spherical members being positioned with respect to each other according to their size as shown in Fig. 6.

In Figs. 8 and 9, a still further modified form of the invention is shown, and in this form, a housing 30, similar to the housing 23, is employed. The housing 30 has a cover plate 31, which is provided with a slot 32. In this form of the invention, the bottom wall of the rectangular channel 24 is provided with a plurality of stepped portions 33, which serve to make the channel gradually decrease in depth from the point of intersection of the various slots 32 to the outer extremities thereof. In this form of the invention, buttons 34, 35, 36 and 37 are employed, and each of said buttons has a depending body portion 38. As clearly shown in Fig. 8, each of these depending

body portions is of a different length corresponding to the depth of the channel 24, and the object in this form of the invention is to position the shortest button at the extreme outer end of one leg of the T-shaped member, and the next longer button adjacent thereto, and so on throughout the entire series of buttons, the button with the longest body portion being the nearest to the point of intersection of the slots 32.

From the foregoing it will be seen that the present invention provides a novel device in which great interest may be incited in the proper positioning of the several movable elements to their respective places, and if such movable elements are given different numerical values, which is fully within the scope of the present invention, mathematical problems may be presented which tend to increase the interest in the proper positioning of the movable elements.

Having thus described the invention, what is claimed as new is:

1. A puzzle comprising a member provided with a plurality of slots communicating with each other, elements movable longitudinally of said slots, and means for restricting the movement of said elements in said slots.

2. A puzzle comprising a body portion having communicating slots arranged at right angles to each other, a plurality of elements movable longitudinally of said slots, and means carried by the slotted body portion for limiting the movement of said movable elements within the slots.

3. A puzzle comprising a body member provided with annularly disposed communicating slots, movable elements movable longitudinally of said slots and provided with slot-engaging portions of uniform diameters, projections carried by said slotted member on opposite sides of said slots, and means integral with said movable elements for engagement with the projections on opposite sides of the slots for restricting the movement of said movable elements within said slots.

4. A puzzle comprising a body portion provided with slots arranged at right angles to each other, a plurality of elements movable in said slots, and means arranged on opposite sides of said slots, and on opposite sides of said body portion for restricting the movement of said movable members in their respective slots.

5. A puzzle comprising a body portion provided with slots angularly disposed with respect to each other, a plurality of elements movable in said slots, and means carried by the puzzle body exteriorly of said slots for restricting the movement of said elements in said slots.

6. A puzzle comprising a body portion provided with a plurality of communicating

slots, a plurality of elements movable through said slots, and means for preventing movement of each of said movable elements beyond a predetermined position in
5 each of said slots.

7. A puzzle comprising a body portion provided with slots arranged in communica-

tion with each other, elements movable through said slots, and means carried on opposite sides of said slots for preventing
10 movement of said elements beyond a predetermined point in said slots, substantially as described.

VATSLAV A. HLASKO.