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2,553,913

PUZZLE

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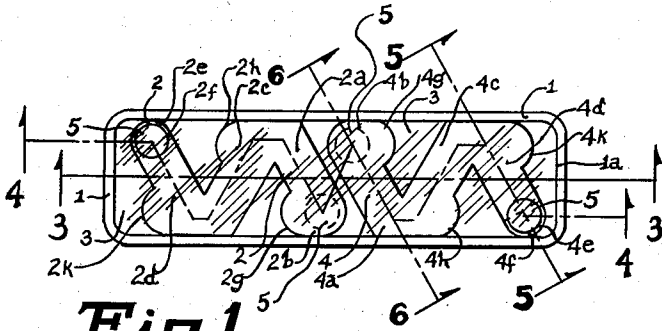


Fig. 1

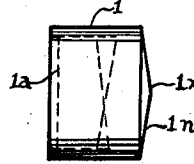


Fig. 2

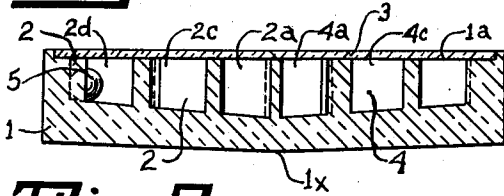


Fig. 3

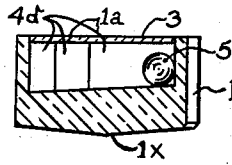


Fig. 5

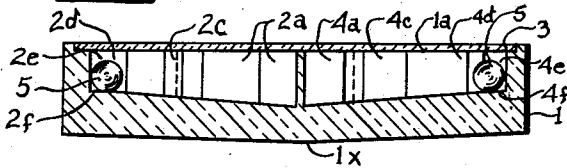


Fig. 4

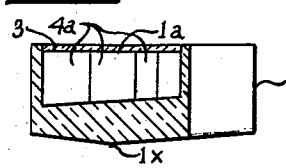


Fig. 6

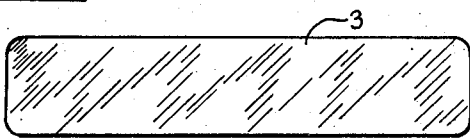


Fig. 7

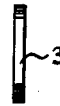


Fig. 8

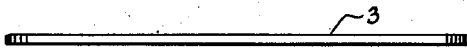


Fig. 9

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UNITED STATES PATENT OFFICE

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PUZZLE

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3 Claims. (Cl. 273-109)

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This invention is a novel and unique puzzle consisting of a block having a pair of oppositely extending tortuous grooves therein provided with sets of parallel races extending from the center to the opposite ends thereof in which grooves a pair of balls are movable respectively, said grooves having bottom walls sloping upwardly from their starting or inner ends to their outer ends where the bottom walls terminate in substantially horizontal platforms, the solution of the puzzle consisting in rotating or spinning the block with the balls initially disposed at the inner ends of their respective tortuous grooves in such manner as to cause the balls to move towards the outer ends of their respective tortuous grooves coming to rest upon the horizontal platforms at the outer ends of the respective grooves.

I will explain the invention with reference to the accompanying drawing which illustrates one principal embodiment thereof, to enable others to adopt and use the same; and will summarize in the claims, the novel features of construction, and the novel combinations of parts, for which protection is desired.

In said drawing:

Fig. 1 is a top plan view of my novel puzzle showing the arrangement of tortuous grooves, and showing in full lines the balls at the outer ends of said grooves, and showing in dotted lines the starting positions of said balls in their respective grooves.

Fig. 2 is an end view of the puzzle shown in Fig. 1.

Fig. 3 is a longitudinal section through the puzzle, on the line 3-3, Fig. 1.

Fig. 4 is a longitudinal section on the line 4-4, Fig. 1.

Fig. 5 is a transverse section on the line 5-5, Fig. 1.

Fig. 6 is a transverse section on the line 6-6, Fig. 1.

Figs. 7, 8 and 9 are plan, end, and edge views, respectively, of the transparent cover plate.

As shown in Fig. 1, the puzzle preferably comprises a block 1 of rectangular shape, having a recess 1a in its top face adapted to receive a transparent panel 3, shown in Figs. 7, 8 and 9. Below the panel 3 within the base 1 are a pair of separate oppositely extending tortuous grooves 2 and 4, each extending approximately one half the length of the base 1, said passages being provided with a set of parallel inner runs 2a and 4a disposed in parallel relation but at an angle to the longitudinal axis of the block, said channels having starting points 2b and 4b, respectively, at

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opposite sides of the block 1. The outer ends of the runs 2a and 4a communicate with a second set of parallel runs 2c and 4c extending at an angle opposite to that of the first-mentioned set of runs 2a, 4a, said runs 2c and 4c being disposed in parallel relation. The outer ends of the second runs 2c and 4c communicate with a third set of runs 2d and 4d disposed in parallel relation and at the same angle to the longitudinal axis of the base 1 as the first set of channels 2a, 4a, said third set of channels 2d, 4d having their outer terminals 2e, 4e, at opposite sides of the block 1. As shown in Figs. 3, 4, 5 and 6, the bottom walls of the three sets of channels are continuously inclined upwardly from the inner starting points 2b, 4b to the outer terminal points 2e, 4e at which points the bases are flattened as at 2f, 4f (Fig. 4) for the purpose hereinafter described.

Preferably the widths of the runs at the starting points 2b, 4b are enlarged as at 2g, 4g (Fig. 1) while the outer walls of the runs 2c, 4c at their entrances are recessed as at 2h, 4h (Fig. 1) and the outer walls of the runs 2d, 4d, at their entrances thereto are recessed as at 2k, 4k, for the purpose hereinafter described.

Within each pair of grooves 2 and 4 is a ball 5 adapted to normally come to rest at the inner ends of the related tortuous grooves 2 and 4 in the positions shown in dotted lines in Fig. 1.

The solution of the puzzle is to rotate or spin the block 1 so as to bring both balls 5 into the full line positions shown in Fig. 1, i. e., at the outer terminals 2e, 4e of the third set of channels 2d, 4d. In order that the block may rotate freely, the same is preferably bevelled longitudinally and transversely on its bottom so as to provide a centrally disposed low point 1x upon which the block may be spun, utilizing point 1x as a pivot. Starting with both balls 5 in the position shown in dotted lines in Fig. 1, the block is placed upon a hard surface and is first spun in a counter-clockwise direction to bring both balls 5 opposite the entrances to the second set of runs 2c, 4c, in which position they would be retained by the recesses 2h, 4h in the outer walls of the said runs 2c, 4c. By then spinning the block 1 quickly in a clockwise direction, the balls 5 would then be shifted or moved into positions opposite the entrances to the third set of runs 2d, 4d, in which position the balls would be retained in the recesses 2k, 4k in the outer walls of runs 2d, 4d. By then again spinning the block 1 quickly in a counter-clockwise position, the balls 5 would be shifted or moved to come to rest upon

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the terminal points 2e, 4e at the outer ends of the third set of runs 2d, 4d, in which position the balls would remain seated upon said flattened portions 2f, 4f preventing same from gravitating down the inclined bottoms of the tortuous passages to their initial starting points 2b, 4b. The block 1 may be made of any desired material and the transparent cover may be of glass, mica, cel-
luloid or any transparent substance.

I do not limit my invention to the exact form shown in the drawings, for obviously changes may be made therein within the scope of the claims.

I claim:

1. A puzzle of the character specified, comprising a block having a pair of oppositely disposed tortuous grooves therein extending from the center towards the opposite ends thereof; the bottoms of the grooves inclining generally upwardly from their inner ends to their outer ends and terminating in ball seats; the bottom of the block having a low central pivot point; the lower ends of the inner runs being enlarged; and the outer walls of the remaining runs being recessed at the entrances thereto.

2. A puzzle of the character specified, comprising a block having a pair of oppositely disposed tortuous grooves extending from the center toward the opposite ends thereof, said grooves being provided with sets of parallel runs disposed at different angles to the longitudinal axis of the block; the bottoms of the grooves inclining generally upwardly from their inner ends to their outer ends and terminating in ball seats; the bottom of the block having a low central pivot point;

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the lower ends of the inner runs being enlarged; and the outer walls of the remaining runs being recessed at the entrances thereto.

3. A puzzle of the character specified, comprising a block having a pair of oppositely disposed tortuous grooves extending from the center towards the opposite ends thereof, said grooves being provided with sets of parallel runs, the adjacent runs of each groove being inclined in opposite directions with respect to the longitudinal axis of the block; the bottoms of the grooves inclining generally upwardly from their inner ends to their outer ends and terminating in ball seats; the bottom of the block having a low central pivot point; the lower ends of the inner runs being enlarged; and the outer walls of the remaining runs being recessed at the entrances thereto.

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