Sept. 24, 1968 D. E. ADAMS 3,402,934

PUZZLE GAME

Filed Aug. 18, 1966 2 Sheets-Sheet 1

Fig. 1

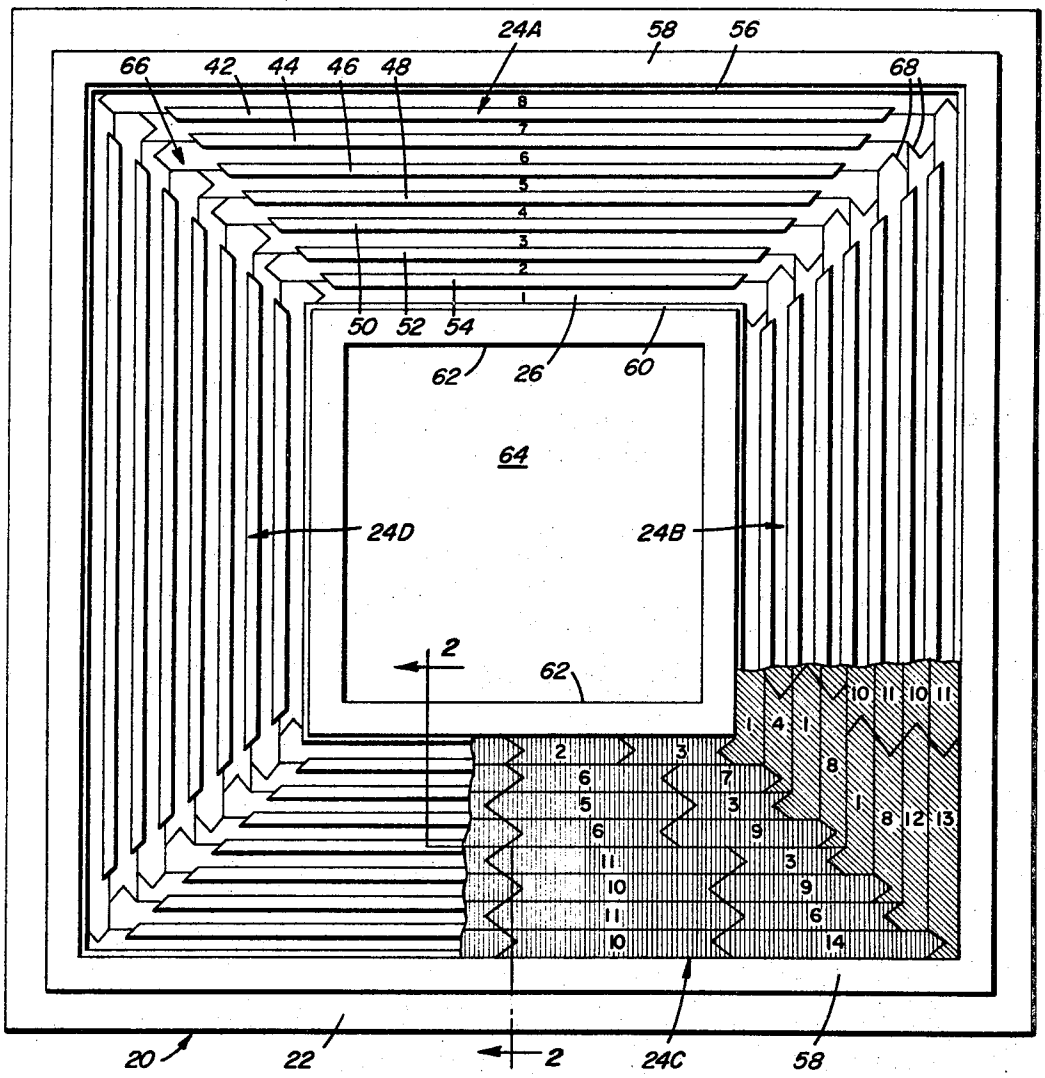


Fig. 2

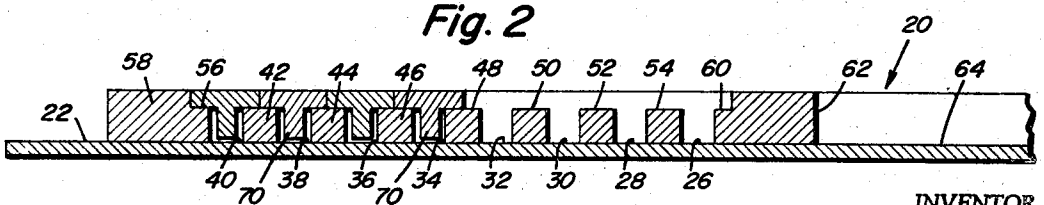
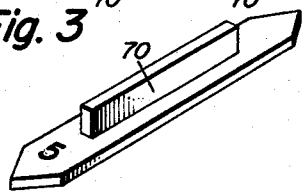


Fig. 3



INVENTOR

Doris E. Adams

BY Gustav Miller

ATTORNEY

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Fig. 4

EACH SET EQUALLY DEVIDED IN FOUR COLORS

12	1	8	8
8	2	8	9
12	3	16	10
4	4	16	11
12	5	4	12
16	6	4	13
4	7	4	14
68		60	
		68	
		128	

Fig. 5

Fig. 6

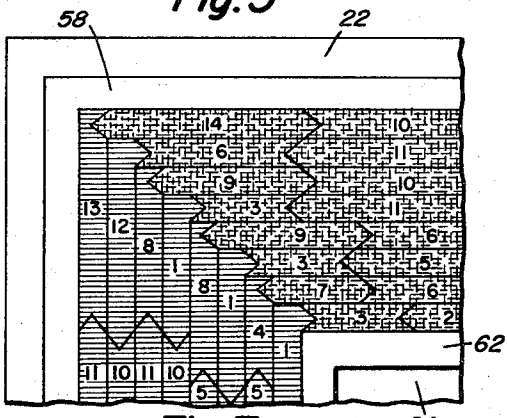


Fig. 7

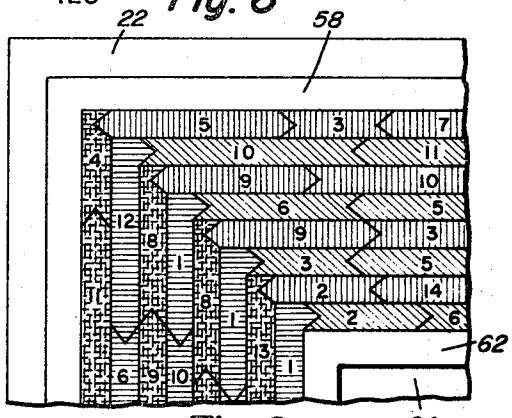


Fig. 8

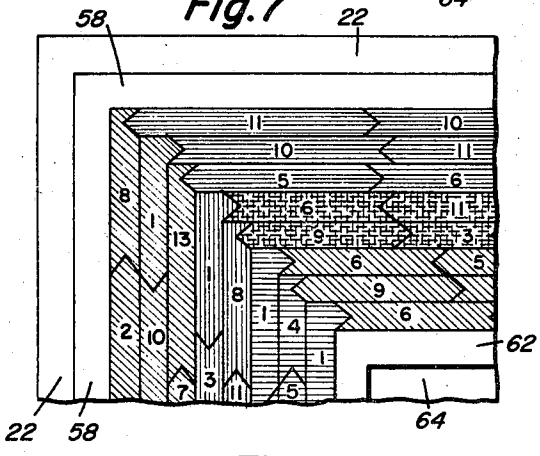
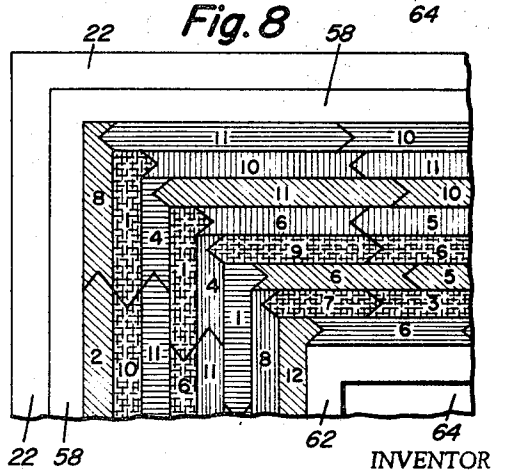
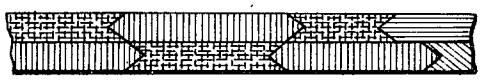


Fig. 9



INVENTOR

Doris E. Adams



BY Gustave Miller

ATTORNEY

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3,402,934

PUZZLE GAME

Doris E. Adams, Rye, N.Y., assignor of one-half to Harriet L. Foster, Larchmont, N.Y.

Filed Aug. 18, 1966, Ser. No. 573,404
15 Claims. (Cl. 273—156)

This invention relates to a puzzle game, and has for an object to provide an improved puzzle game, which may be played by one player, possibly first as a puzzle in determining that one or more solutions are possible, and then as a puzzle game, in a contest with time, and also may be played by two to four players competitively or against time.

A further object of this invention is to provide a puzzle game wherein there are a number of types of puzzle targets to be achieved, and wherein there may be more than one solution for each solution, and wherein in some certain puzzle targets, there are a great number of possible solutions.

A further object of this invention is to provide a puzzle game including a rectangular and preferably, but not necessarily, square game board, the game board having four similar playing areas, each area being in the shape of an isosceles trapezoid, each trapezoid area having a plurality of playing lanes, preferably eight in number, each lane being succesively shorter in length from the longer outermost parallel side to the shorter innermost parallel side.

A further object of this invention is to provide a puzzle game having a number of sets of elongated playing pieces of different shapes and sizes which, when the puzzle is solved for any puzzle target, completely cover all the playing lanes and provide the particular target puzzle intended.

A further object of this invention is to provide the different size and shape playing pieces with a multiplicity of colors, preferably four, with a set of playing pieces of each color, and with some of the playing pieces duplicated one or more times, which, in the case of a square gameboard, with fourteen different playing pieces to a set, has a total of one hundred twenty-eight playing pieces.

Still a further object of this invention is to provide playing pieces somewhat resembling jig-saw playing pieces, each individual piece being provided at each end with projections or recesses extending at forty-five degrees to the edge from which they extend or recess, some extending from or recessing into the end edges, others extending from or recessing into the side edges at the ends of the piece.

A further object of this invention is to provide playing pieces in accordance with the foregoing objects, which playing pieces may be placed on the gameboard to provide prescribed puzzle targets such as, for example, each playing area being covered by one solid color, or by single lines of solid color, each line being different, or by pairs of lines of solid color different from the other pairs of lines in the same area, or by each line being of different colored pieces, or further, with the further target that the same color be not touching in adjacent lines, or by other puzzle targets as will become apparent from the disclosure in the hereinafter specification.

Still a further object of this invention is to provide a gameboard wherein the playing lanes are in slots provided by spaced apart parallel ledges, each of progressively shorter length progressing inwardly from the outer side, the ledges stopping short of touching each other at their ends, thus providing diagonal alleys, which alleys are imprinted with representations of the particular ends shapes of the playing pieces that must be played in such locations, and wherein the playing pieces are provided with depending projections or feet to extend between the spaced

apart ledges and thus keep the pieces from accidentally being slid away from their playing lanes.

A further object of this invention is to provide a puzzle game, playable by one, two, three or four players, against time or in competition, and which will be enjoyed by players of all ages and both sexes.

A further object of this invention is to provide playing pieces which may carry identifying indicia, such as numbers one to fourteen for the fourteen different shapes and sizes, on the bottom of the pieces where the indicia is not visible during play, so that the completed results may be compared with prescribed targets, and also for recording new puzzle targets discovered by the players.

In brief, the puzzle game includes a square gameboard of four isosceles trapezoid playing areas meeting each other along their angular sides in diagonal alleys which are imprinted with designs corresponding to the shapes of the ends of the pieces that must be played in such locations, there being eight successively shorter playing lanes in each area provided by slots between parallel spaced apart ledges, each stopping short of touching the ledges in the adjacent areas, thus providing the aforesaid alleys, the innermost and outermost ledges being provided on an inner and an outer frame on the gameboard. The playing pieces consist of fourteen different playing pieces to a complete set, with four different colored sets, thus making a minimum of fifty-six different colored and shaped pieces, with certain pieces further duplicated in groups of four identical shapes each of a different color, to make a complete set of one hundred twenty-eight playing pieces, the total length of the added length of all playing pieces being equal to the total added length of all the playing lanes, and the length of each playing lane is equal to the added length of the particular pieces to be plyaed thereon, thus making it puzzling to select pieces of the right length to cover each playing lane.

A further feature is that the colors can form a number of different prescribed patterns, and in some solutions, each area may have the identical number of pieces, and in others the number of pieces in one solution may be different from the number of pieces in the adjacent areas, yet in each case, every one of the pieces are used, with none ever left over.

With the above and related objects in view, this invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing, in which:

FIGURE 1 is a plan view of the puzzle game, with one of the puzzle patterns fragmentarily illustrated thereon.

FIG. 2 is a sectional view on line **2—2** of FIG. 1.

FIG. 3 is a bottom perspective view of a typical playing piece No. **5**.

FIG. 4 is a top plan view of the fourteen shapes and sizes of playing pieces, and a table of the total quantity of each piece.

FIGS. 5, 6, 7 and 8 are top plan views of corner fragments of four different typical puzzle target patterns.

FIG. 9 is a plan view of a two line part of a pattern wherein no two pieces of the same color are in contact with each other.

There is shown at **20** the puzzle game of this invention including a rectangular, and preferably square gameboard **22** having four isosceles trapezoid playing areas **24A**, **24B**, **24C** and **24D**. on which preferably one hundred twenty-eight playing pieces, of fourteen different shapes and four different colors, as illustrated in FIG. 4, are so designed and proportioned that they will exactly cover the eight progressively longer parallel playing lanes **26**, **28**, **30**, **32**, **34**, **36**, **38**, **50** inclusive, each lane being numbered **1–8**, provided by slots between seven spaced

apart parallel ledges 42 to 54 inclusive and a spaced outer ledge 56 on an outer frame 58 and a spaced inner ledge 60 on an inner frame 62.

The inner frame 62 provides a non-playing area 64 which may contain any suitable identifying indicia, such as a trademark, and any desirable instructive data, such as simplified rules of play, etc. Each of the ledges in each playing area comes close to, but stops short of touching the ledge in the adjacent area and thus provide a diagonal alley 66. On these alleys 66 there is imprinted designs 68 at the end of each playing lane corresponding to the shapes of the ends of the pieces that are to be played at the corresponding ends of the playing lanes.

The fourteen individual different playing pieces carry indicating indicia, preferably the numbers 1 to 14 on the bottom side thereof, as shown in FIG. 3. So as to make it possible to better understand the various puzzle solutions satisfying particular puzzle targets hereinafter set forth, these bottom placed numbers are shown as though they were visible on the topside, but preferably, they are not at all visible from the topside, although they may be if particularly desired. A set of pieces thus consists of fourteen individual elongated pieces, no two of which are the same length and shape. All the pieces are of equal width, shaped as shown, preferably of a width to completely cover the playing area when the particular puzzle pattern is solved. The four preferred colors are red, yellow, blue and green, and are illustrated as set forth in "Symbols for Draftsman" in the Patent Office Rules of Practice. Piece 1 is made in four groups of three identically colored pieces, the pieces of each group being different from those of each other group. The number of pieces total one hundred twenty-eight, and each piece has forty-five degree projections or recesses extending either from the end edges, or from the ends of the side edges. Thus, as illustrated, piece 1 has a forty-five degree projection at one end edge and a forty-five degree projection extends at the other end of one side edge. There are twelve of these pieces 1, there thus being three each in blue, three each in red, three each in green and three each in yellow. The shapes and colors of the remaining figures are obvious from the illustration and table in FIG. 4.

In addition, each piece has a depending foot 70, as illustrated in FIG. 3, which drops down between the adjacent ledges as shown in FIGURE 2. Piece 5 in FIG. 3 also shows the preferred manner of providing the identifying indicia or number on the bottom thereof, so that the numbers are preferably not visible in making up the puzzle patterns, but must be lifted up and turned over for identification if necessary. The playing pieces and the gameboard are made of any suitable material, such as wood, plastic, etc.

With the structure thus set forth, it is possible to play either solitaire or competitively. When competitively, each player may take a turn, or may play in a contest against time, to arrive at a particular puzzle target with a predetermined pattern. Four different puzzle targets or patterns are illustrated in part in FIGS. 5, 6, 7 and 8.

The pattern in FIG. 1 is the same as in FIG. 5. In FIG. 1 and FIG. 5, the pattern is a different solid color in each of the four playing areas. There are a number of puzzles which can be made, however, they all fall into one of the four following groups:

(1) *Solid color puzzle group.*—It should again be noted that the shape of each piece played on both ends of every lane in each area should conform to the markings on the alley 66 on the board.

All thirty-two pieces of one color are played in each of the four areas, one color to each area as shown in FIGS. 1 and 5. It will be noted that in this solution, all four areas are assembled exactly the same. This is one solution as follows.

(1) 1—2—2—3
(2) 4—5—6—7
(3) 1—6—5—3
(4) 8—5—6—9
(5) 1—10—11—3
(6) 8—11—10—9
(7) 12—10—11—6
(8) 13—11—10—4

The numbers in parentheses are the numbers of the lanes. (1) is the shortest lane and is closest to the inner square wall; (8) is the longest lane, nearest to the outer square wall. The remaining numbers indicate what numbered playing pieces make up each lane.

The numbers on each piece identify that piece and show how they were put together (on the one hundred twenty-eight pieces the numbers appear on the underside as shown in FIG. 3). The numbers in all the solutions are merely for identification purposes, and normally are not visible from the top. Following are four more different solutions to the solid color group:

Area 24–A—Blue

(1) 12—2—6
(2) 4—11—3—7
(3) 1—3—5—6
(4) 13—9—3—5
(5) 1—6—5—10
(6) 8—14—6—11
(7) 1—10—11—10
(8) 8—9—10—2—11

Area 24–B—Yellow

(1) 1—10—2
(2) 4—5—6—7
(3) 12—3—5—3
(4) 13—9—3—5
(5) 1—6—11—6
(6) 8—11—10—9
(7) 1—10—11—10
(8) 8—14—6—2—11

Area 24–C—Green

(1) 12—2—6
(2) 13—2—14
(3) 1—6—5—3
(4) 8—5—6—9
(5) 1—6—5—10
(6) 8—9—10—11
(7) 1—10—11—10
(8) 4—7—3—11—3—11

Area 24–D—Red

(1) 1—10—2
(2) 8—7—3—5
(3) 1—6—5—3
(4) 4—14—6—5
(5) 12—6—11—3
(6) 13—11—6—9
(7) 1—10—11—10
(8) 8—9—10—2—11

Solid color puzzles can be played by one, two, three or four persons. If one person plays, he may use one or more playing areas. He should try to assemble each area making a different solution. A solution is considered different even if there are only two lines changed from any other area. To make the game more interesting, the player or players may time themselves if they wish and in any way they choose. There are at least fifty-seven known different solutions to the solid color group (this includes the five solutions submitted). If two or more people play, it will naturally be more challenging if each one tries to find a different solution. Two people may each work on two different areas and time themselves that way.

(2) *Two color puzzle group.*—(Two colors per area.) In FIG. 6, solid color lines alternate, one color every other line. One, two, three or four persons can play. There are five different solutions for each area. FIG. 6 shows

one solution for each area. Area 24–A takes the following pieces:

Red	Green
3 of No. 1	1 of No. 2
1 of No. 2	2 of No. 3
1 of No. 3	1 of No. 4
2 of No. 5	1 of No. 5
3 of No. 6	1 of No. 6
3 of No. 10	1 of No. 7
1 of No. 11	2 of No. 8
1 of No. 12	2 of No. 9
	1 of No. 10
	3 of No. 11
	1 of No. 13
	1 of No. 14
15 red	17 green

15 red and 17 green makes a total of 32 pieces for Area 24–A.

Area 24–B takes the remaining pieces of the reds and greens, which is seventeen reds and fifteen greens, making a total of thirty-two pieces to be put in Area 24–B to solve puzzle.

Area 24–C takes the following pieces:

Yellow	Blue
3 of No. 1	1 of No. 2
1 of No. 2	2 of No. 3
1 of No. 3	1 of No. 4
2 of No. 5	1 of No. 5
3 of No. 6	1 of No. 6
3 of No. 10	1 of No. 7
1 of No. 11	2 of No. 8
1 of No. 12	2 of No. 9
	1 of No. 10
	3 of No. 11
	1 of No. 13
	1 of No. 14
15 yellow	17 blue

15 yellow and 17 blue makes a total of 32 pieces for Area 24–C.

Area 24–D takes the remaining pieces of the yellows and blues, which is seventeen yellow and fifteen blue, making a total of thirty-two pieces to be put in Area 24–D to solve puzzle. Solutions for FIG. 6 are as follows:

Area 24–A

(1) Red 1—10—2
(2) Gr. 13—14—2
(3) Red 1—6—5—3
(4) Gr. 8—11—3—9
(5) Red 12—6—5—6
(6) Gr. 8—11—10—9
(7) Red 1—10—11—10
(8) Gr. 4—11—6—7—3—5

Area 24–B

(1) Gr. 1—2—10
(2) Red 8—7—3—5
(3) Gr. 1—6—5—3
(4) Red 4—11—6—9
(5) Gr. 1—6—11—6
(6) Red 8—9—10—11
(7) Gr. 12—10—5—10
(8) Red 13—2—14—3—11

Area 24–C

(1) Yel 1—10—2
(2) Blu 8—5—3—7
(3) Yel 1—6—5—3
(4) Blu 8—11—3—9
(5) Yel 12—6—5—6
(6) Blu 5—11—10—14
(7) Yel 1—10—11—10
(8) Blu 13—2—9—6—11

Area 24–D

(1) Blu 1—2—10
(2) Yel 13—2—14
(3) Blu 1—6—5—3
(4) Yel 8—11—3—9
(5) Blu 1—10—5—6
(6) Yel 8—9—10—11
(7) Blu 12—6—11—10
(8) Yel 4—11—6—7—3—5

Another solution pattern is with solid color lines alternating, two lines of each color. One, two, three or four persons can play. Following is one solution for each area, and all four are different. There is a total of five solutions per area. However, Areas 24–A and 24–C are solved by the same five solutions and Areas 24–B and 24–D are solved by five other solutions. Area 24–A takes the following pieces:

Yellow	Green
2 of No. 1	1 of No. 1
1 of No. 2	1 of No. 2
1 of No. 3	2 of No. 3
1 of No. 4	2 of No. 5
1 of No. 5	2 of No. 6
2 of No. 6	1 of No. 8
1 of No. 7	2 of No. 9
1 of No. 8	2 of No. 10
2 of No. 10	2 of No. 11
2 of No. 11	1 of No. 12
1 of No. 14	1 of No. 13
15 Yellow	17 Green

15 yellow and 17 green makes a total of 32 pieces for Area 24–A.

Area 24–B takes the remaining pieces of the yellows and greens, which is fifteen green and seventeen yellow, making a total of thirty-two pieces for Area 24–B. Area 24–C takes the following pieces:

Red	Blue
2 of No. 1	1 of No. 1
1 of No. 2	1 of No. 2
1 of No. 3	2 of No. 3
1 of No. 4	2 of No. 5
1 of No. 5	2 of No. 6
2 of No. 6	1 of No. 8
1 of No. 7	2 of No. 9
1 of No. 8	2 of No. 10
2 of No. 10	2 of No. 11
2 of No. 11	1 of No. 12
1 of No. 14	1 of No. 13
15 Red	17 Blue

15 red and 17 blue makes a total of 32 pieces for Area 24–C.

Area 24–D takes the remaining pieces of the reds and blues, which is fifteen blue and seventeen red, making a total of thirty-two pieces for Area 24–D.

Solutions for the above are as follows:

Area 24–A

(1) Yel 1—10—2
(2) Yel 4—7—3—11
(3) Grn 12—3—5—3
(4) Grn 8—9—6—5
(5) Yel 1—6—11—6
(6) Yel 8—5—14—10
(7) Grn 1—10—11—10
(8) Grn 13—11—6—2—9

Area 24–B

(1) Grn 1—10—2
(2) Grn 8—7—3—5
(3) Yel 1—3—11—3
(4) Yel 8—5—6—9
(5) Grn 1—6—11—6
(6) Grn 4—11—10—14
(7) Yel 12—6—11—10
(8) Yel 13—5—2—10—9

Area 24–C

(1) Red 1—10—2
(2) Red 4—7—6—5
(3) Blu 1—3—5—6
(4) Blu 13—9—3—5
(5) Red 1—3—11—10
(6) Red 8—14—6—11

(7) Blu **12—6—11—10**
(8) Blu **8—2—9—10—11**

Area 24–D

(1) Blu **1—10—2**
(2) Blu **8—7—3—5**
(3) Red **1—3—5—6**
(4) Red **13—5—3—9**
(5) Blu **1—6—11—6**
(6) Blu **4—11—10—14**
(7) Red **12—6—11—10**
(8) Red **8—2—9—10—11**

There are at least seven more patterns in the two color puzzle group, which are workable, but are not being included, as it is impractical to include all possible patterns.

(3) *Three color puzzle group.*—(Three colors per area): FIG. 7 is a solid color line pattern. One, two, three or four persons can play. There is one solution for each area only, as per the following distribution of pieces per area: Area **24**–A takes the following pieces:

Red	Blue	Yellow
1 of No. 1	1 of No. 1	1 of No. 2
1 of No. 2	1 of No. 5	1 of No. 4
2 of No. 3	2 of No. 6	1 of No. 5
1 of No. 4	1 of No. 7	1 of No. 6
2 of No. 5	1 of No. 8	1 of No. 9
2 of No. 6	1 of No. 10	3 of No. 10
1 of No. 9	1 of No. 11	2 of No. 11
1 of No. 12	—	1 of No. 12
—	8 Bule	1 of No. 13
11 Red		1 of No. 14
		—
		13 Yellow

Total of 32 pieces for Area 24–A.

Area 24–A solution

(1) Red **12—2—6**
(2) Red **4—5—3—9**
(3) Red **1—3—5—6**
(4) Blu **8—7—6—11**
(5) Blu **1—10—5—6**
(6) Yel **13—11—6—9**
(7) Yel **12—10—5—10**
(8) Yel **4—2—14—10—11**

Area **24**–B takes the following pieces:

Red	Blue	Green
1 of No. 1	2 of No. 1	1 of No. 1
1 of No. 3	1 of No. 2	1 of No. 2
1 of No. 6	3 of No. 3	1 of No. 6
1 of No. 7	1 of No. 4	1 of No. 7
1 of No. 8	1 of No. 5	1 of No. 8
1 of No. 10	1 of No. 9	3 of No. 10
2 of No. 11	1 of No. 10	3 of No. 11
—	1 of No. 11	1 of No. 13
8 Reds	—	1 of No. 14
	11 Blues	—
		13 Greens

Total of thirty-two pieces for Area 24–B

Area 24–B Solution

(1) Blu **1—2—10**
(2) Blu **4—5—3—9**
(3) Blu **1—3—11—3**
(4) Red **8—11—6—7**
(5) Red **1—3—11—10**
(6) Grn **13—7—10—11**
(7) Grn **1—10—11—10**
(8) Grn **8—2—14—6—11**

Area **24**–C takes the following pieces:

Green	Yellow	Blue
1 of No. 1	1 of No. 1	1 of No. 2
1 of No. 2	1 of No. 3	1 of No. 5
2 of No. 3	2 of No. 6	2 of No. 6
1 of No. 4	1 of No. 8	1 of No. 8
2 of No. 5	1 of No. 9	1 of No. 9
2 of No. 6	2 of No. 11	2 of No. 10
1 of No. 9	—	2 of No. 11
1 of No. 12	8 Yellow	1 of No. 12
—		1 of No. 13
11 Green		1 of No. 14
		—
		13 Blue

Total of 32 pieces for Area 24–C

Area 24–C solution

(1) Grn **12—2—6**
(2) Grn **4—5—3—9**
(3) Grn **1—3—5—6**
(4) Yel **8—11—3—9**
(5) Yel **1—6—11—6**
(6) Blu **13—14—6—5**
(7) Blu **12—6—11—10**
(8) Blu **8—2—9—10—11**

Area **24**–D takes the following pieces:

Yellow	Green	Red
2 of No. 1	1 of No. 1	1 of No. 1
1 of No. 2	1 of No. 3	1 of No. 2
2 of No. 3	1 of No. 5	1 of No. 5
2 of No. 5	1 of No. 6	1 of No. 6
1 of No. 6	1 of No. 8	1 of No. 8
1 of No. 7	1 of No. 9	1 of No. 9
1 of No. 8	1 of No. 10	3 of No. 10
1 of No. 10	1 of No. 11	2 of No. 11
—	—	1 of No. 13
11 Yellow	8 Green	1 of No. 14
		—
		13 Red

Total of 32 pieces for Area 24–D

Area 24–D solution

(1) Yel **1—10—2**
(2) Yel **8—7—3—5**
(3) Yel **1—6—5—3**
(4) Grn **8—11—3—9**
(5) Grn **1—10—5—6**
(6) Red **8—14—6—11**
(7) Red **1—10—11—10**
(8) Red **13—2—5—10—9**

Another pattern is alternating three colors on each line in each area. Colors of end pieces on both ends of all lines in one area must be different from the color of end pieces they meet on corresponding lines of both adjoining areas. The puzzle must be assembled so that the pieces of one color do not touch each other on the same line and also do not touch each other on a line below or above. The following solution is the same for all four areas. However, the sequence of colors is different in each area.

Solution

(1) **1—10—2**
(2) **8—5—3—7**
(3) **1—6—5—3**
(4) **4—11—6—9**
(5) **1—10—11—3**
(6) **8—9—10—11**
(7) **12—10—11—6**
(8) **13—5—6—2—14**

This is a non-competitive puzzle, for one person only.

When the ends of two pieces of the same color on adjoining lines meet to form a diagonal break, they are not considered to be touching, as is shown in FIG. 9. There are at least three more patterns in the three color puzzle group which are workable, but not herein shown.

(4) *Four color puzzle group.*—(Four colors per area):

In FIG. 8 a pattern is shown of solid color lines alternating all four colors. One, two, three or four persons can play. There is one solution for each area, and they are all different.

Solutions for FIG. 8:

Area 24–A

(1) Red 1—10—2
(2) Blu 8—5—3—7
(3) Yel 1—6—5—3
(4) Grn 8—11—3—9
(5) Blu 1—6—11—6
(6) Red 8—11—6—14
(7) Grn 1—10—11—10
(8) Yel 13—11—10—4

Area 24–B

(1) Yel 12—2—6
(2) Grn 4—9—3—5
(3) Red 12—3—5—3
(4) Blu 13—9—3—5
(5) Grn 1—10—5—6
(6) Yel 8—11—10—9
(7) Blu 1—10—11—10
(8) Red 13—2—9—6—11

Area 24–C

(1) Blu 12—2—6
(2) Yel 8—5—3—7
(3) Grn 1—3—5—6
(4) Yel 4—11—6—9
(5) Red 1—10—5—6
(6) Grn 13—7—10—11
(7) Red 1—10—11—10
(8) Blu 8—2—9—10—11

Area 24–D

(1) Grn 12—2—6
(2) Red 8—7—3—5
(3) Blu 1—3—5—6
(4) Red 4—11—6—9
(5) Yel 1—6—5—3—2
(7) Blu 4—11—10—14
(7) Yel 1—10—11—10
(8) Grn 8—2—14—6—11

Breakdown for FIG. 8:

Area 24–A—total of 31 pieces

Red	Blue	Yellow	Green
1 of No. 1	1 of No. 1	1 of No. 1	1 of No. 1
1 of No. 2	1 of No. 3	1 of No. 3	1 of No. 3
1 of No. 6	1 of No. 5	1 of No. 5	1 of No. 8
1 of No. 8	2 of No. 6	1 of No. 6	1 of No. 9
1 of No. 10	1 of No. 7	1 of No. 10	2 of No. 10
1 of No. 11	1 of No. 8	1 of No. 11	2 of No. 11
1 of No. 14	1 of No. 11	1 of No. 13	—
—	—	1 of No. 14	8 Green
7 Red	8 Blue	—	
		8 Yellow	

Area 24–B—total of 32 pieces

Yellow	Green	Red	Blue
1 of No. 2	1 of No. 1	1 of No. 2	1 of No. 1
1 of No. 6	1 of No. 3	2 of No. 3	1 of No. 3
1 of No. 8	1 of No. 4	1 of No. 5	1 of No. 5
1 of No. 9	2 of No. 5	1 of No. 6	1 of No. 9
1 of No. 10	1 of No. 6	1 of No. 9	2 of No. 10
1 of No. 11	1 of No. 9	1 of No. 11	1 of No. 11
1 of No. 12	1 of No. 10	1 of No. 12	1 of No. 13
—	—	1 of No. 13	—
7 Yellow	8 Green	—	8 Blue
		9 Red	

Area 24—C—Total of 32 pieces

Blue	Yellow	Green	Red
2 of No. 2	1 of No. 3	1 of No. 1	2 of No. 1
1 of No. 6	1 of No. 4	1 of No. 3	1 of No. 5
1 of No. 8	1 of No. 5	1 of No. 5	1 of No. 6
1 of No. 9	1 of No. 6	1 of No. 6	3 of No. 10
1 of No. 10	1 of No. 7	1 of No. 7	1 of No. 11
1 of No. 11	1 of No. 8	1 of No. 10	—
1 of No. 12	1 of No. 9	1 of No. 11	8 Red
—	1 of No. 11	1 of No. 13	
8 Blue	—	—	
	8 Yellow	8 Green	

Area 24–D—Total of 33 pieces

Green	Red	Blue	Yellow
2 of No. 2	1 of No. 3	1 of No. 1	2 of No. 1
2 of No. 6	1 of No. 4	1 of No. 3	1 of No. 2
1 of No. 8	1 of No. 5	1 of No. 4	1 of No. 3
1 of No. 11	1 of No. 6	1 of No. 5	1 of No. 5
1 of No. 12	1 of No. 7	1 of No. 6	1 of No. 6
1 of No. 14	1 of No. 8	1 of No. 10	2 of No. 10
—	1 of No. 9	1 of No. 11	1 of No. 11
8 Green	1 of No. 11	1 of No. 14	—
	—	—	9 Yellow
	8 Red	8 Blue	

Another pattern is provided by alternating four colors on each line in each area.

The puzzle must be assembled so that pieces of one color do not touch each other on the same line and also do not touch each other on a line below or above. Colors of end pieces on both ends of all lines in one area must be different from the color of end pieces they meet on corresponding lines of both adjoining areas. The following solution is the same for all four areas, however the sequence of colors is different in each area:

Solution

(1) 1—2—2—3
(2) 4—5—6—7
(3) 1—6—5—3
(4) 8—5—6—9
(5) 1—10—11—3
(6) 8—12—10—9
(7) 12—10—11—6
(8) 13—11—10—14

This is a non-competitive puzzle for one person only.

When the ends of two pieces of the same color on adjoining lines meet to form a diagonal break, they are not considered to be touching, as shown in FIG. 9. There are six additional patterns in the four color puzzle group which are workable.

There has thus been disclosed a sufficient number of different patterns and their solutions to constitute a complete disclosure of the invention, and additional solutions are possible as above set forth, and the player can work out such additional solutions and, using the numbers on the playing pieces, can record such additional solutions, for future use, in the manner above set forth. However, it is obviously impossible to herein set forth all possible solutions, as there well may be many more solutions than known at present, but coming within the invention.

As shown by the above examples, all solutions provide a similar pattern in each of the four areas. In some, all the areas use the same number of playing pieces; in other solutions, some areas use more playing pieces than others, but in every solution, all the one hundred twenty-eight pieces must be used up, for each playing lane is equal in length to the added length of the pieces to be played thereon, and the added length of all the playing lanes in the four areas adds up to the same total length of the one hundred twenty-eight playing pieces.

In the drawings, like numbers refer tol ike parts, and

for the purposes of explication, marshaled below are the numbered parts of the improved Puzzle Game:

20—puzzle game
22—game board
24–A—isosceles trapezoid playing area
24–B—isosceles trapezoid playing area
24–C—isosceles trapezoid playing area
24–D—isosceles trapezoid playing area
26—shortest playing lane numbered 1
28—next longer playing lane numbered 2
30—next longer playing lane numbered 3
32—next longer playing lane numbered 4
34—next longer playing lane numbered 5
36—next longer playing lane numbered 6
38—next longer playing lane numbered 7
40—next longer playing lane numbered 8 (longest playing lane)
42—longest spaced apart ledge (on outer frame 58)
44—next shorter ledge
46—next shorter ledge
48—next shorter ledge
50—next shorter ledge
52—next shorter ledge
54—next shorter ledge
56—spaced apart outer ledge
58—outer frame
60—shortest ledge (on inner frame 62)
62—inner frame
64—non-playing area within 62
66—diagonal alleys
68—imprinted design of ends of playing pieces to be played thereon

Although this invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. A puzzle game comprising a game board and a plurality of playing pieces to be placed thereon, said gameboard havig four playing areas, each playing area being in the shape of an isosceles trapezoid, said areas touching each other along their non-parallel sides and providing a rectangular figure with their longest sides outermost and their shortest sides innermost, each playing area having a plurality of elongated playing piece receiving playing lanes progressively increasing in length from said innermost shortest side to its outermost longest side, said playing pieces being a group of various elongated shapes and lengths with the length of the longest pieces being no longer than the length of the shortest playing lanes, the added length of all said playing pieces being equal to the added length of all said piece receiving lanes.

2. The puzzle game of claim 1, the length of each lane being equal to the added length of a subgroup of selected pieces.

3. The puzzle game of claim 2, the added length of all the subgroups being equal to said added length of all of said lanes.

4. The puzzle game of claim 3, said pieces being depicted in a plurality of colors, each different color being applied to at least one piece of each different shape and length, each piece having a single color thereon, each piece having forty-five degree angular recesses or projections on its opposite ends, some of said recesses and some of said projections extending from the side edges of some of said piece at their end, the other recesses and projections extending from the end edges, the playing pieces having a plurality of groups of fourteen individual pieces, each piece in one group being of the same color, there being at least four subgroups each with a color different from the colors of the other three groups, and certain pieces being further duplicated in each of the four different colors, there being thirty-two pieces of each color thus making a total of one hundred twenty-eight playing pieces, said playing lanes being provided by slots between upstanding parallel spaced apart intermediate ledges on said gameboard, each playing piece being of a width to extend into substantial contact with a piece in an adjacent lane, and having a depending foot on its underside to extend into the slot between said ledges, each intermediate ledge stopping short at each end of its lane thereby providing a diagonal alley extending at forty-five degrees thereto, and an identical series of designs in each alley corresponding to the complementary end shapes of the contacting pieces to be used at the ends of said playing lanes, each of the fourteen individual pieces having different identifying indicia on the bottom thereof, there being eight playing piece receiving lanes provided by an outer frame ledge, an inner frame ledge, and seven intermediate spaced apart parallel ledges.

5. The puzzle game of claim 1, said piece being depicted in a plurality of colors, each different color being applied to at least one piece of different shape and length.

6. The puzzle game of claim 5, each piece having a single color thereon.

7. The puzzle game of claim 5, the playing pieces having a plurality of groups of fourteen individual pieces, each piece in one group being of the same color, there being at least four subgroups each with a color different from the colors of the other three groups.

8. The puzzle game of claim 7, and certain pieces being further duplicated in each of the four different colors.

9. The puzzle game of claim 8, there being thirty-two pieces of each color thus making a total of one hundred twenty-eight playing pieces.

10. The puzzle game of claim 7, each of the fourteen individual pieces having different identifying indicia on the bottom thereof.

11. The puzzle game of claim 1, each piece having forty-five degree angular recesses or projections on its opposite ends.

12. The puzzle game of claim 11, some of said recesses and some of said projections extending from the side edges of some of said pieces at their ends, the other recesses and projections extending from the end edges.

13. The puzzle game of claim 1, said playing lanes being provided by slots between upstanding parallel spaced apart intermediate ledges on said gameboard, each playing piece being of a width to extend into substantial contact with a piece in an adjacent lane, and having a depending foot on its underside to extend into the slot between said ledges.

14. The puzzle game of claim 13, each intermediate ledge stopping short at each end of its lane thereby providing a diagonal alley extending at forty-five degrees thereto, and an identical series of designs in each alley corresponding to the complementary end shapes of the contacting pieces to be used at the ends of said playing lanes.

15. The puzzle game of claim 13, there being eight playing piece receiving lanes provided by an outer frame ledge, an inner frame ledge, and seven intermediate spaced apart parallel ledges.

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ANTON O. OECHSLE, *Primary Examiner.*