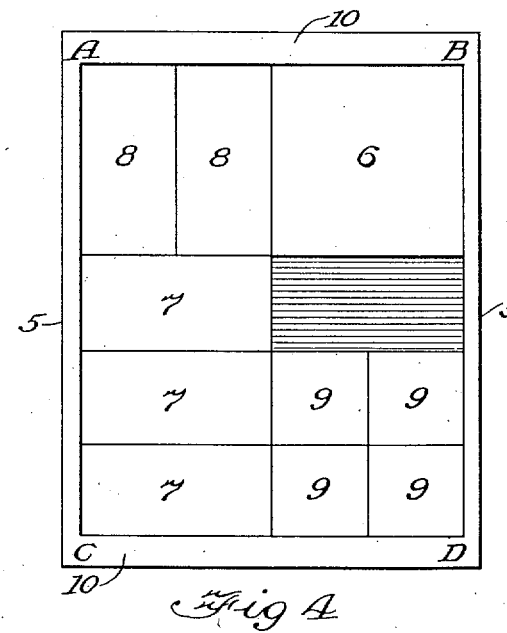
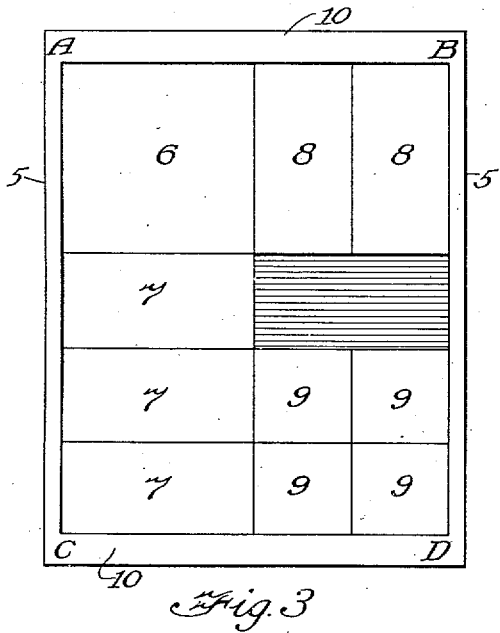
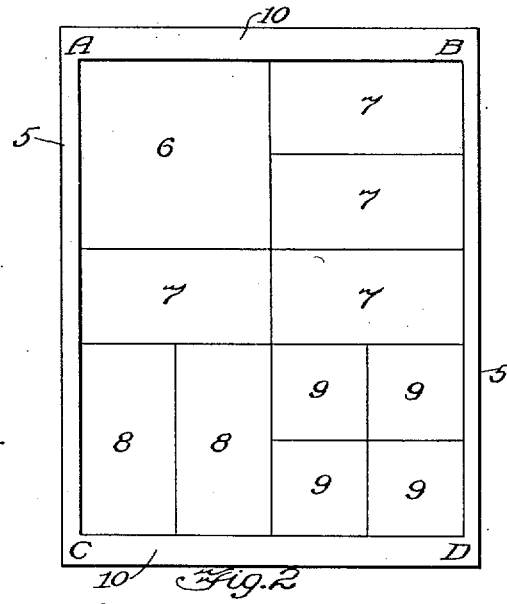
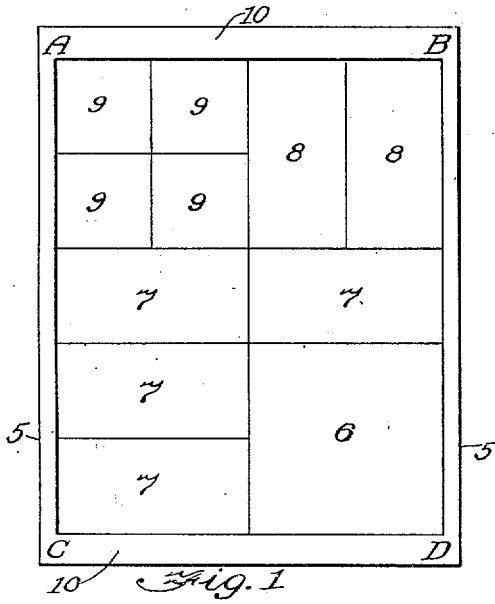


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 PUZZLE.
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1,017,752.

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PUZZLE.

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To all whom it may concern:

Be it known that I, LEWIS W. HARDY, a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Improvement in Puzzles, of which the following is a specification.

This invention relates to movable block puzzles. Its principal objects are to produce by simple means and at slight expense a durable puzzle which is not only highly entertaining, but instructive as well, and which gives opportunity for the propounding of a number of puzzling tasks of varying degrees of difficulty as to solution.

Figure 1 is a plan view of the flat movable blocks comprised in my invention, in their preferred arrangement, before one of the blocks is removed, confined in a flat box of preferred construction, Fig. 2 is a plan view of the same blocks, in the same box, at the end of the solution of the most difficult task involved in the solution of my puzzle; and Figs. 3 and 4 are plan views of the same blocks (except the one removed at the beginning of the game), in the same box, at the end of some of the simpler tasks involved in the solution of my puzzle.

Referring to the drawings, box 5 is a flat box of a depth preferably equal to the thickness of blocks 6, 7, 8, and 9 all of which are of substantially equal thickness, preferably about $\frac{1}{8}$ ". Box 5 as well as all of the blocks can be made of metal, wood, or any other suitable substance; but cardboard is ordinarily preferred. A suitable cover can be provided of the same material, the outside of which is preferably provided with a suitable label, while its inside offers a suitable place for the publication of instructions for the use of the puzzle. The cover, not being essential, nor requiring illustration, is not shown in the drawings.

The rims 10 of the short sides of box 5 are preferably made of a width sufficient for the printing thereon of letters, like A, B, C and D, or other suitable designations for the four corners of the box, for use in giving instructions with reference to the shifting of the blocks to the several corners. The widening of these rims is likewise of use in stiffening and strengthening box 5.

The inside of box 5 is made substantially

parallelogram shaped and adapted to make a reasonably close fit for all of blocks 6, 7, 8 and 9, when assembled as shown in Fig. 1, but not close enough to bind.

In lieu of a box a flat pasteboard or the like, with the area for the movement of the blocks marked off by mere lines, might be used; though such flat board would be less convenient.

Blocks 6, 7, 8 and 9 together are made to substantially fill the inside area of box 5, in the following proportions for each:—One block (6) occupies one-fifth of said area, measuring preferably one-half of the inside width of box 5 one way, and two-fifths of its inside length the other way; four blocks (7) occupy each one-tenth of said area, measuring preferably each one-half of the inside width of box 5 one way, and one-fifth of its inside length the other way; two blocks (8) likewise occupy each one-tenth of said area, but measure preferably each one-quarter of the inside width of box 5 one way, and two-fifths of its inside length the other way; four blocks (9), finally, occupy each one-twentieth part of said area, measuring preferably each one-fourth of the inside width of box 5 one way, and one-fifth of its inside length the other way.

In the preferred construction, shown in the drawing, wherein the inside of box 5 is one and one-quarter times as long as its width, and all corners are rectangular, the above described distribution of area among the several blocks results in blocks 6 and 9 being each square, and blocks 7 and 8 being of equal size to each other. This relation however is not essential, as the puzzle can be worked about as well, and in the same manner, as in the preferred construction, if length and width of the inside of box 5 are of different proportions than $1\frac{1}{4}$ to 1. Even the corner angles of the box and blocks need not necessarily be rectangular, though it is decidedly preferable to have them so. Blocks 9 might even be made round. These and similar deviations from the preferred forms are intended to be covered as equivalents.

In all forms of construction my puzzle is operated by the removal of preferably one of blocks 7 (which block therefore is not essential to the puzzle) from box 5, and the

subsequent shifting of the relative position of the remaining blocks by sliding them about, without lifting or turning. Probably the most difficult task to be accomplished in this manner, is such shifting of the blocks from the position indicated in Fig. 1 to the position indicated in Fig. 2, while easier tasks involve a like shifting from the position indicated in Fig. 1 to those indicated in Figs. 3 and 4 respectively.

What I claim as my invention, and intend to secure by Letters Patent, is:—

1. In a movable block puzzle the combination of a suitably confined, substantially parallelogram-shaped field for movement of the blocks, with ten movable blocks of dimensions substantially as follows: one block measuring one-half of the width of said field one way, and two-fifths of its length the other way; three blocks measuring each one-half of the width of said field one way, and one-fifth of its length the other way; two blocks measuring each one-fourth of the width of said field one way, and two-fifths of its length the other way; and four blocks measuring each one-fourth of the width of said field one way, and one-fifth of its length the other way.

2. In a movable block puzzle the combination of a suitably confined, substantially parallelogram-shaped field for movement of the blocks, with ten parallelogram-shaped movable blocks of angles corresponding to those of the confined field aforesaid, and of dimensions substantially as follows: one block measuring one-half of the width of said field one way, and two-fifths of its length the other way; three blocks measuring each one-half of the width of said field one way, and one-fifth of its length the other way; two blocks measuring each one-fourth of the width of said field one way, and two-fifths of its length the other way; and four blocks measuring each one-fourth of the width of said field one way, and one-fifth of its length the other way.

3. In a movable block puzzle the combination of a suitably confined parallelogram-shaped field for movement of the blocks, with one parallelogram-shaped block covering one-fifth of said field; five parallelogram-shaped blocks covering each one-tenth of said field; and four parallelogram-shaped blocks covering each one-twentieth of said field.

4. In a movable block puzzle the combination of a parallelogram-shaped box of suitable depth with a group of ten blocks which practically fill nine-tenths of the confines of said box, said group consisting of three different units in size, each a divisional or multiple part of the other, all arranged as and for the purposes substantially as specified.

5. In a movable block puzzle the combina-

tion of a parallelogram-shaped box of suitable depth with a group of ten blocks which practically fill nine-tenths of the confines of said box, said group being composed of a major block and two groups of lesser size blocks, said lesser blocks being divisional units of said major block, all arranged as and for the purposes substantially as specified.

6. In a movable block puzzle the combination of a parallelogram-shaped box with a group of ten blocks made to practically fill nine-tenths of the confines of said box, said group being composed of one major block, five half major blocks, and four quarter major blocks, arranged as and for the purpose substantially as specified.

7. In a movable block puzzle, the combination of a suitably confined parallelogram shaped field for the movement of the blocks, with a system of three groups of blocks; the blocks of each group being equal in shape and size to each other, but differing from those of the other groups in constituting divisional or multiple units thereof, and the field being large enough to accommodate all of said blocks, and to furnish, in addition, space for movement of the blocks within the field by sliding shift.

8. In a movable block puzzle, the combination of a system of more than two groups of blocks, the blocks of each group being equal to each other in shape and size, but constituting divisional or multiple units of the blocks of the other groups, with a suitably confined parallelogram-shaped field, for the movement of the blocks, of such size as to accommodate all of said blocks, and to furnish just enough additional space to make possible the transfer, by sliding shift exclusively, within said field, of the largest unit of said blocks to all portions of said field.

9. In a movable block puzzle, the combination of a suitably confined parallelogram shaped field for the movement of the blocks, with a system of three groups of blocks; the blocks of the first group being of double the size of the blocks of the second group; the blocks of the third group being of half the size of the blocks of the second group; the blocks of the second group being in part disposed vertically, and in part horizontally, in the field; and the field being large enough to accommodate all of said blocks, and to furnish, in addition, space for movement of the blocks by sliding shift within the field.

10. In a movable block puzzle, the combination of a suitably confined parallelogram shaped field for the movement of the blocks, with a system of three groups of blocks; the first group consisting of a single block; the second group consisting of blocks half as large as the block of the first group;

the third group consisting of blocks one
quarter as large as the block of the first
group; the blocks of the second group being
in part disposed vertically, and in part hori-
zontally, in the field; and the field being
5 large enough to accommodate all of said
blocks, and to furnish, in addition, space

for movement of the blocks by sliding shift
within the field.

LEWIS W. HARDY.

In presence of—
EDWARD I. BUCKLIN,
CHAS. M. PORTER.