Sept. 13, 1927. 1,642,236

E. E. FOSTER

PUZZLE

Filed Dec. 12, 1924

Fig. 2

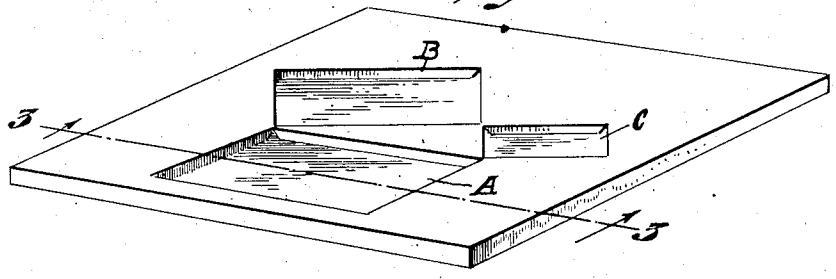


Fig. 3

Fig. 1

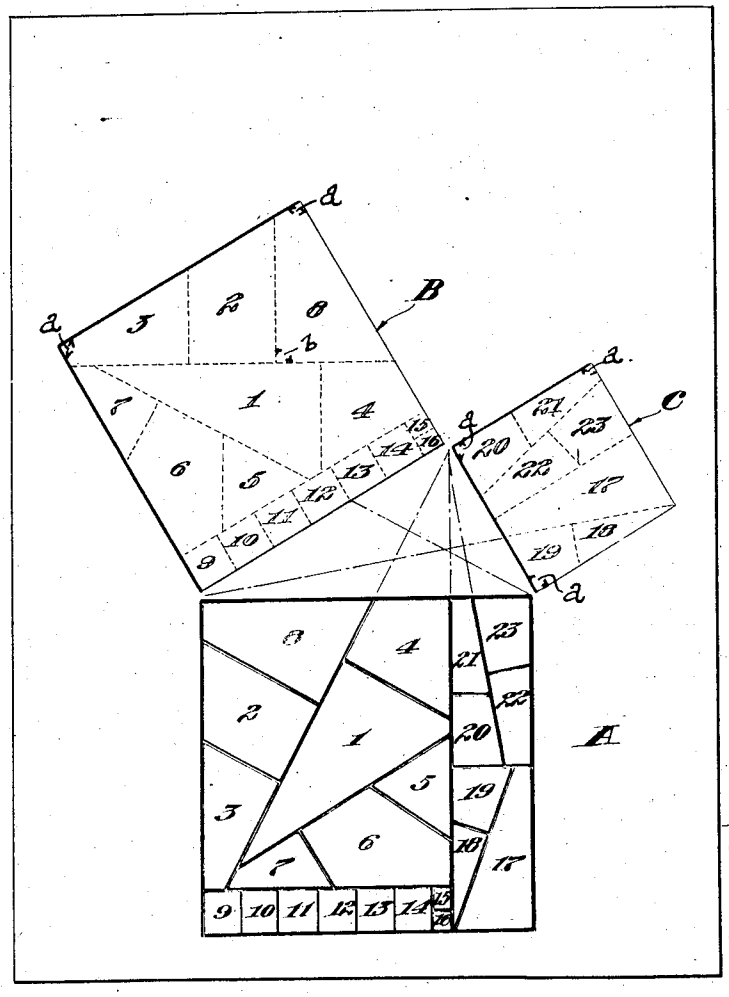
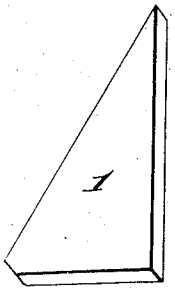


Fig. 4



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UNITED STATES PATENT OFFICE.

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PUZZLE.

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This invention relates to a game and more particularly to a puzzle.

The object of the invention is to provide a novel and improved puzzle which is highly interesting, difficult to solve, and which may be easily manufactured and sold at a reasonable price.

To this end the improved puzzle comprises three puzzle surfaces, which may be in the form of hollow retaining members, preferably square in shape, and which are of a predetermined size with relation to one another, such that the area of the surface of the largest member equals the sum of the areas of the other two members. The three hollow retaining members are preferably arranged so that adjacent sides thereof form the sides of a right triangle, and a plurality of preformed individual puzzle pieces are provided which are capable of being fitted into and filling the largest square retaining member, and are also capable of being fitted into and filling both of the other two squares. In negotiating the puzzle, the operator may either attempt to fit the pieces into the smaller retaining members, after which the pieces are removed and the attempt is made to assemble them in the larger square retaining member, or he may proceed in the reverse order. These and other features of the invention will be hereinafter described and particularly defined in the claims at the end of this specification.

In the drawing illustrating the preferred form of the invention, Figure 1 is a plan of the improved puzzle; Fig. 2 a perspective view; Fig. 3 a sectional view on line 3—3 of Fig. 2; and Fig. 4 a perspective of one of the puzzle pieces.

Referring to the drawings, the improved puzzle therein illustrated comprises three retaining members, A, B, and C, which are hollow and preferably square in shape, and of a size with relation to one another such that the area of the two smaller members B, C, equals or substantially equals the area of the larger square A. In the preferred form of the invention, the squares A, B, and C are arranged so that their adjacent sides form the sides of a right-angled triangle in which the two smaller squares B and C are formed upon the legs of the triangle and the larger square is formed upon the hypotenuse. The puzzle is also provided with a plurality of individual pieces, preferably of cardboard or the like, which are arranged to be capable of being fitted together to form the surface of the square A, that is to completely fill the hollow retaining member A, and are also so arranged as to permit certain of the pieces to be associated together to fit into and completely fill the square B, and the remaining pieces to be associated together to fit into and completely fill the square C. In the illustrated form the present puzzle is based upon the Pythagorean theorem to the effect that the sum of the squares formed upon the legs of any right angle triangle is equal to the square formed upon the hypotenuse thereof.

In order to render it difficult to associate the proper puzzle pieces together in their proper relation to permit the puzzle pieces to be fitted together to form the surface of the squares B and C, and also to permit all of the pieces to be fitted into the square A, the puzzle pieces numbered 1 to 23 inclusive are preferably shaped as illustrated, and are adapted to be associated together as shown in Fig. 3 to fill the square A, and also to be fitted into the squares B and C. In the illustrated puzzle the pieces designated 1 to 16 may be associated together to fill the square B, and the pieces 17 to 23 to form the square C, as represented by the dotted lines in the squares B and C. It will be observed that the puzzle pieces which are adapted to fit into the corners of the squares, such as the pieces 3, 8, 20, 21, 18 and 19, are arranged so that the right angle *a* which normally fits into the corner of the square appears at casual inspection to be an acute angle because of the irregular shape of the pieces. As a result, when a person starts to fit the piece 8 into the square B for example, he naturally starts to fit the right angle *b* into the corner, and is not inclined to fit the piece with the angle *a* in the corner. In addition, the other pieces bordering the sides of the square, such as the pieces 2, 6, 7, are so cut that the angular side is the one properly fitted to form the side of the square. The small pieces 9, 10, 11, 12, 13, 14, 15 and 16 are, it will be observed, arranged so that when filling the square A, their shorter sides form the sides of the square, and when fitted into the square B these pieces are properly fitted with their longer sides forming the sides of the square, in other words it is necessary to turn these pieces at right angles from their natural position in the

square B to fit them into the square A.

While the preferred form of the invention has been illustrated and described, it will be understood that the invention may be embodied in other forms within the scope of the following claims.

Having thus described the invention, what is claimed is:—

1. A puzzle of the character described comprising a base member provided with three hollow retaining members of different areas and such that the area of the largest member is substantially equal to the area of the two smaller members, and arranged to have a side of each of said smaller members form a side of a right angle triangle and have a side of the larger member form the hypotenuse thereof, and a plurality of puzzle pieces constructed and arranged to enable all of them to be assembled in and fill the largest hollow retaining member or to be assembled in and fill both of the smaller hollow retaining members.

2. A puzzle of the character described comprising a base member provided with means for forming on the upper surface thereof three defined areas of different sizes and such that the largest defined area is substantially equal to the two smaller defined areas and arranged to have a side of each of said smaller members form a side of a right angle triangle and have a side of the larger member form the hypotenuse thereof, and a plurality of puzzle pieces constructed and arranged to enable all of them to be arranged within and fill the largest defined area or to be arranged within and fill both of the smaller defined areas on said base member.

3. A puzzle of the character described, comprising a base member provided with three square recesses therein arranged with relation to one another so that their adjacent sides form the sides of a right angle triangle, and a plurality of puzzle pieces capable of being fitted into and to cover the surface of the largest recess and also of being fitted into and to cover the surface of the other two recesses substantially as described.

In testimony whereof, I have signed my name to this specification.

EDWARD E. FOSTER.