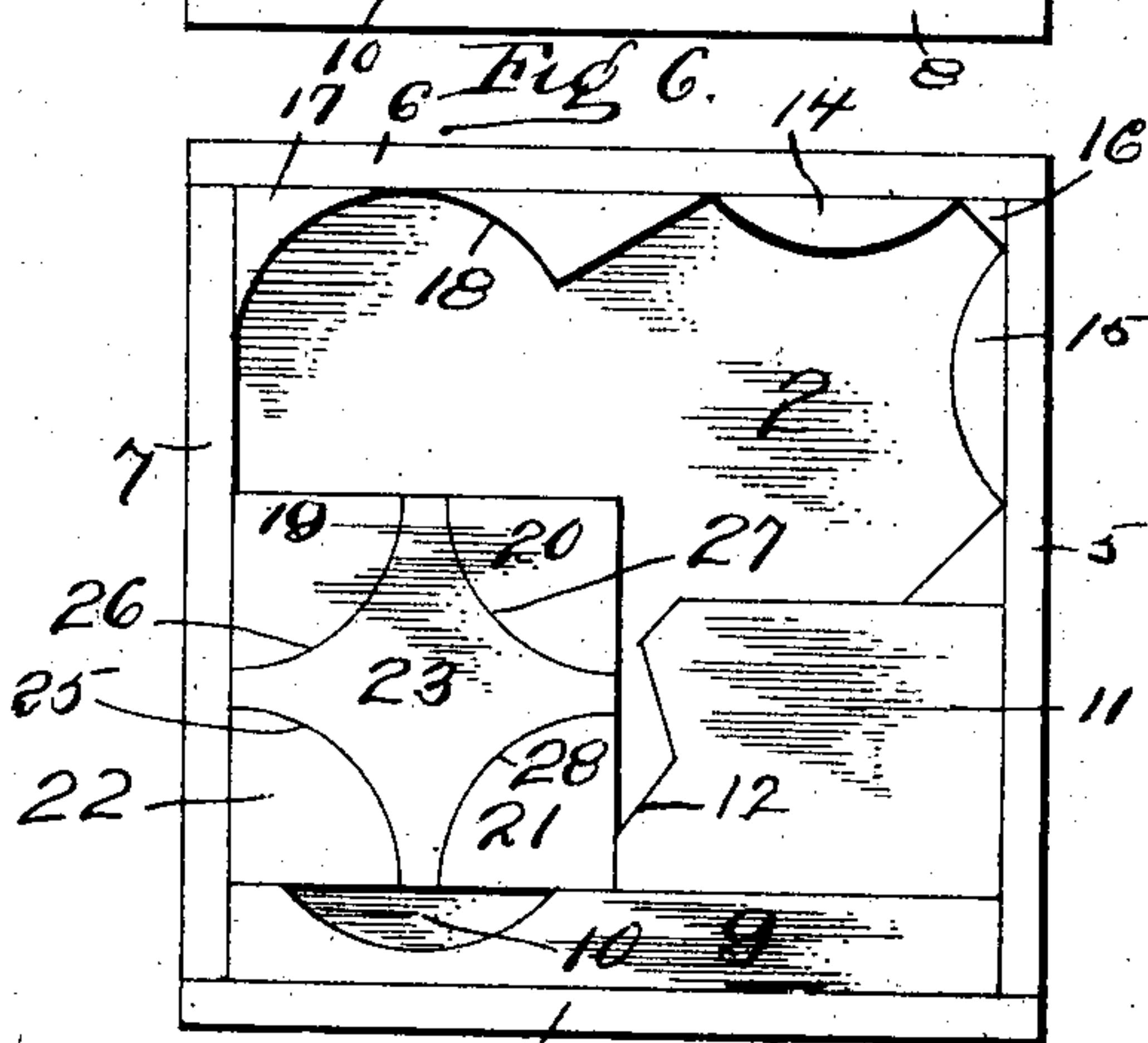
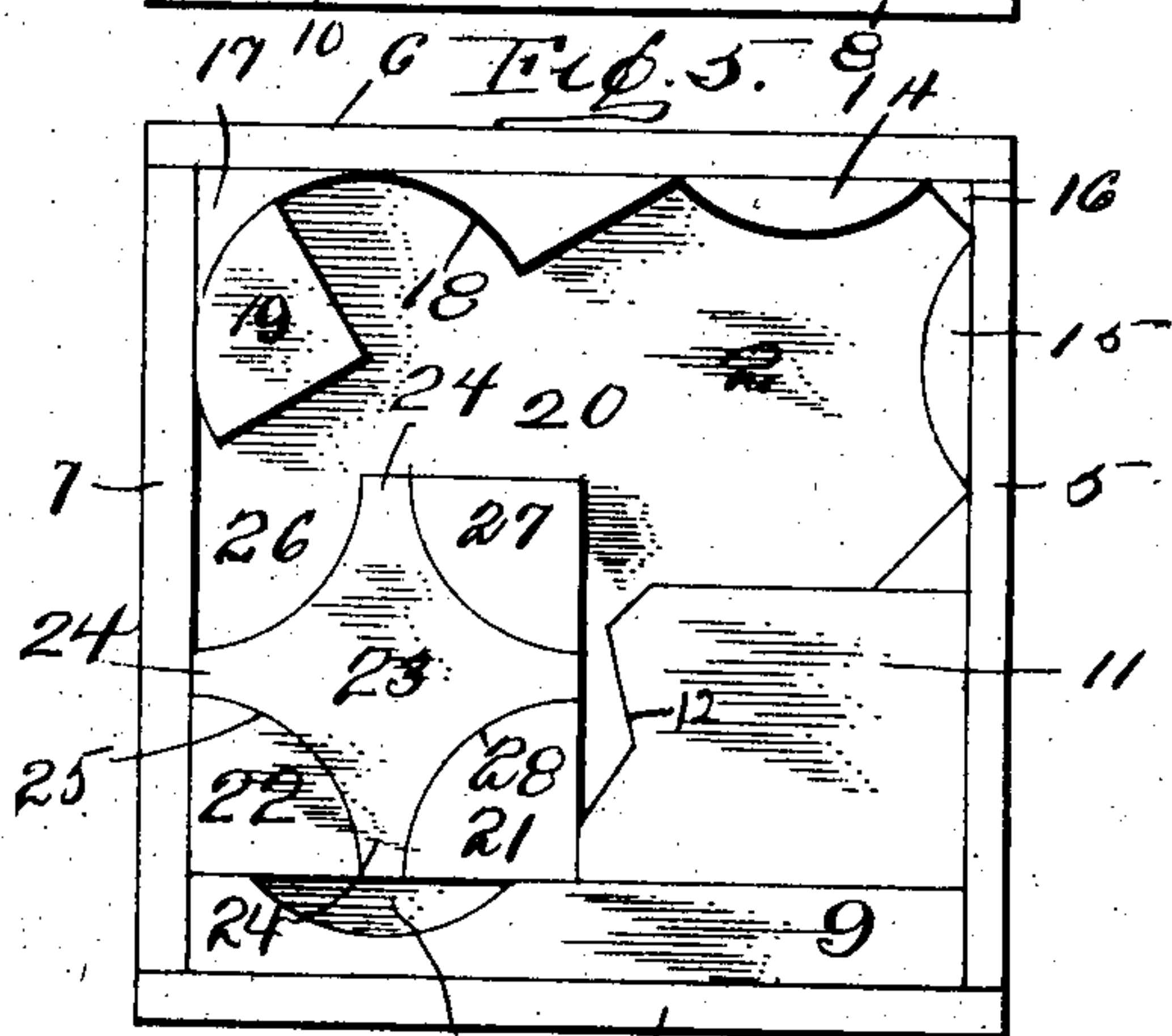
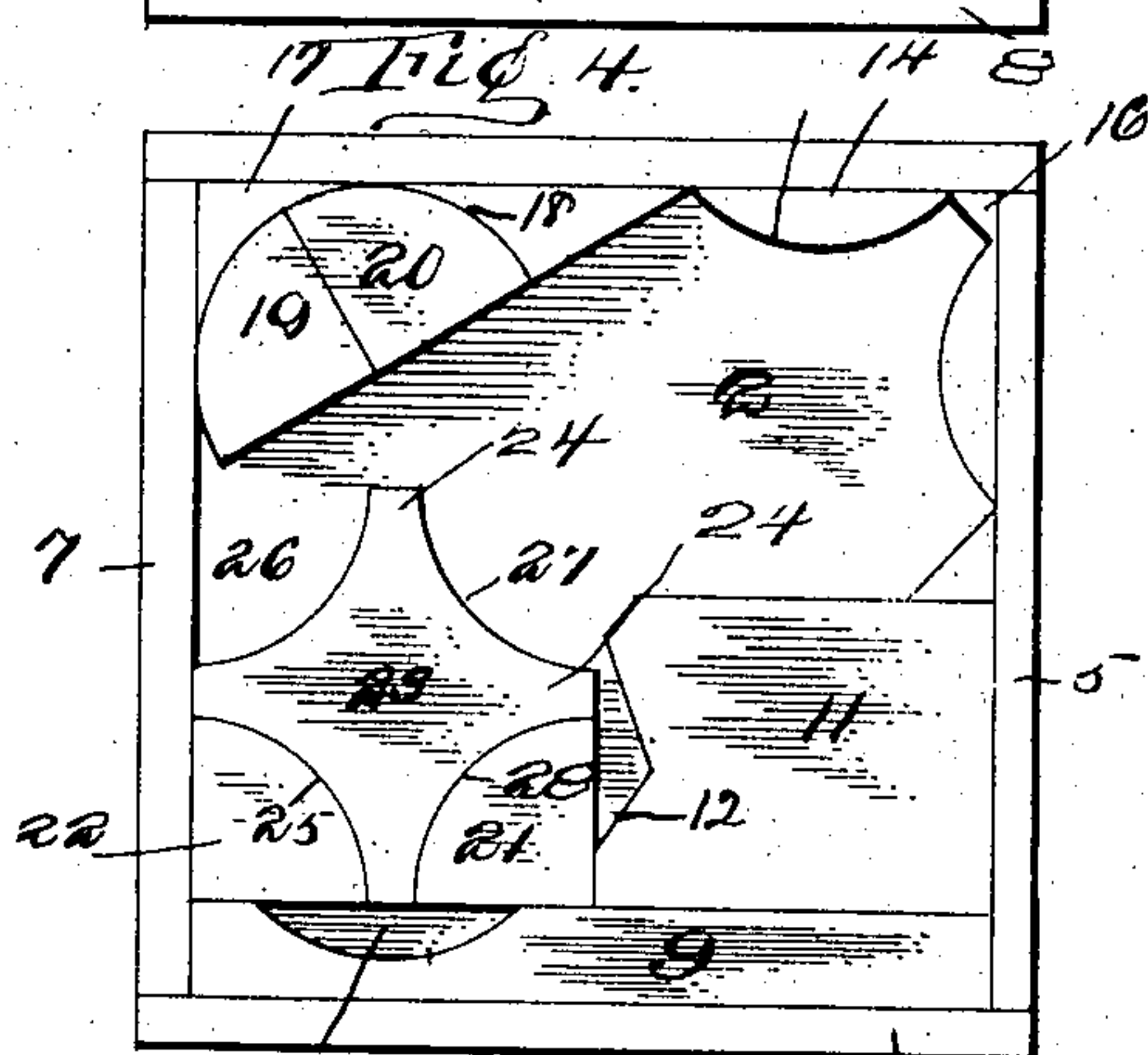
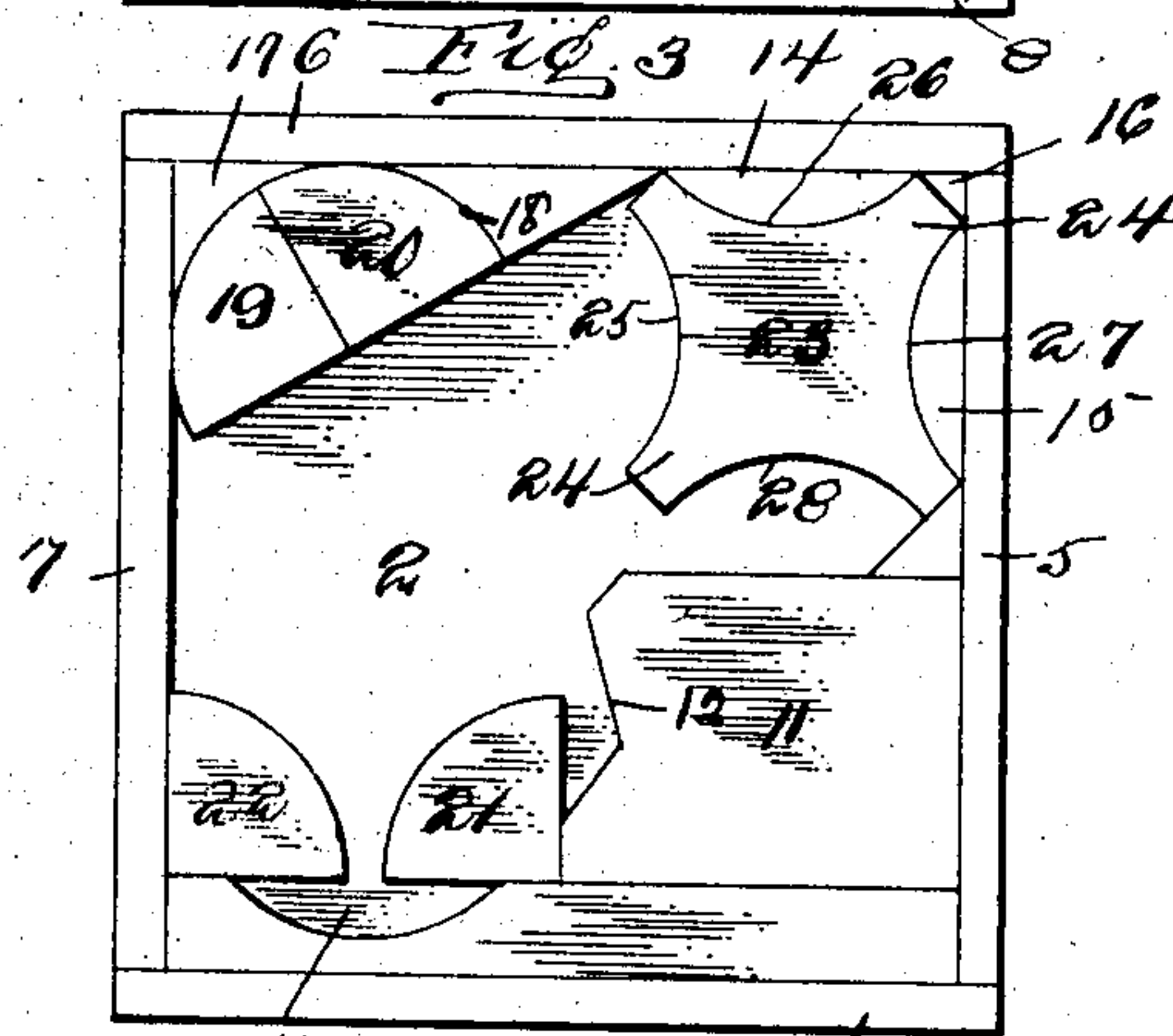
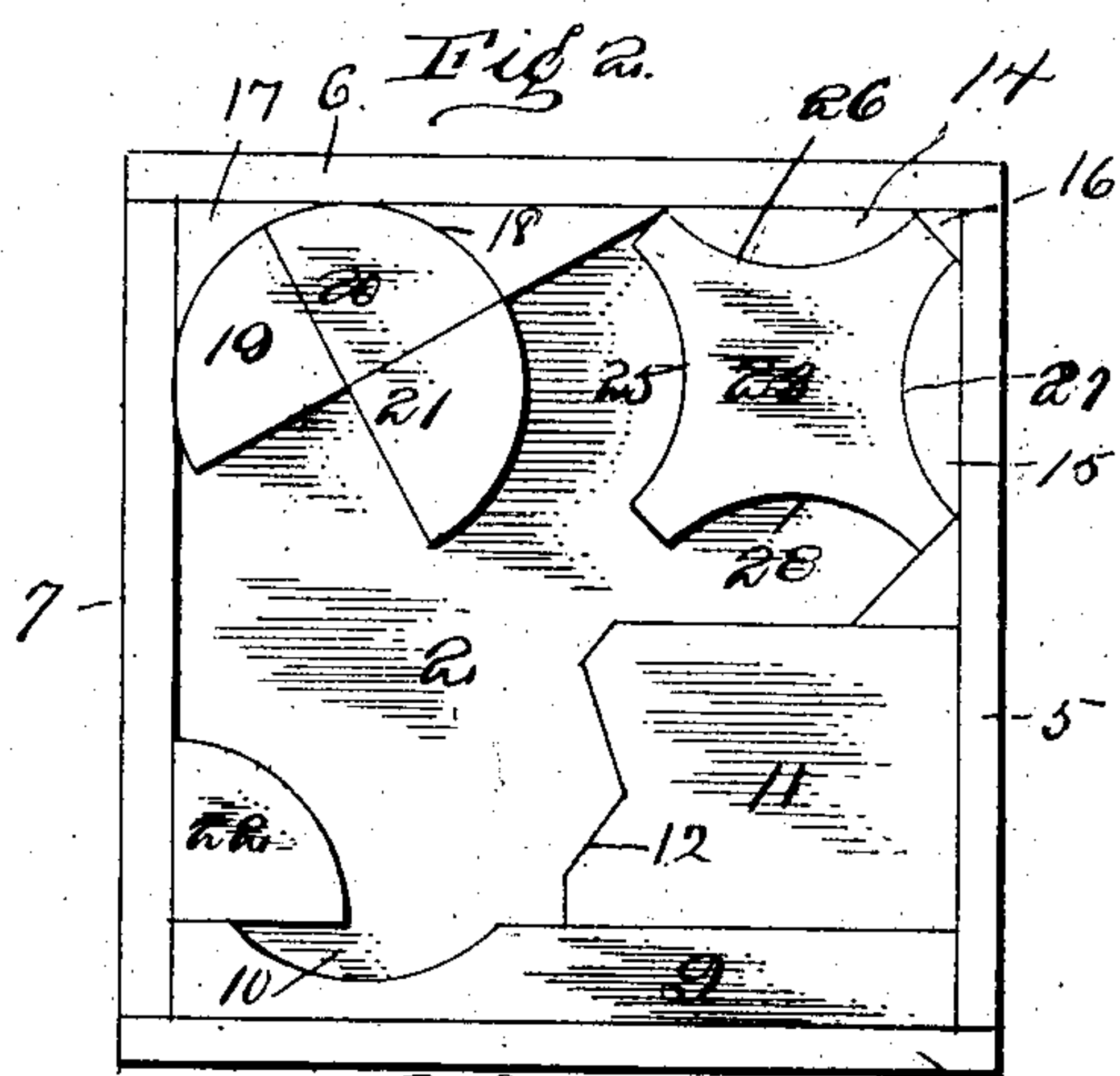
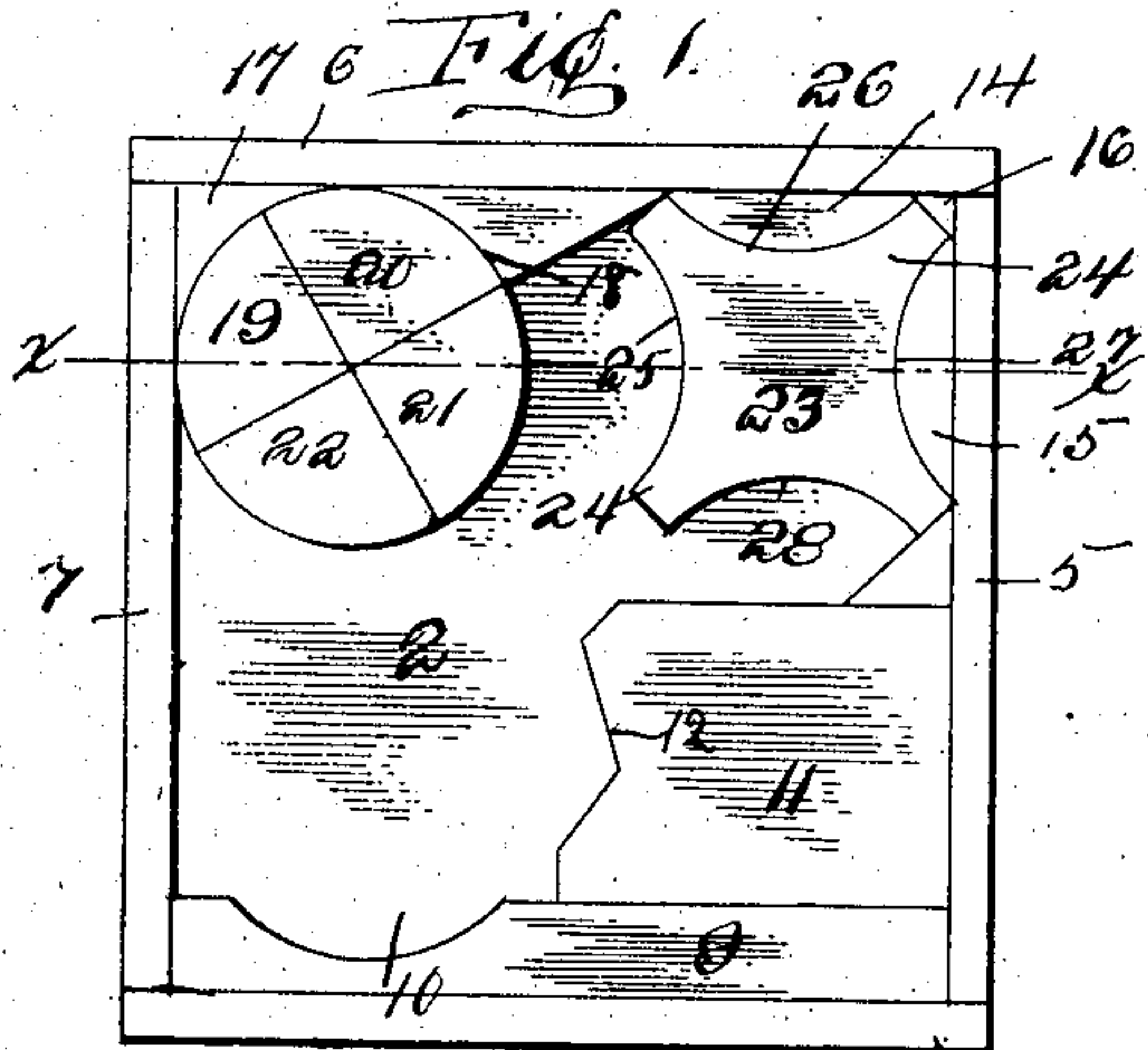


No. 834,065.

PATENTED OCT. 23, 1906.

H. H. KNOLL.
PUZZLE.

APPLICATION FILED APR. 19, 1906.



Witnesses:
Jesse C. Miller.

J. C. Miller

Fig. 7.



Inventor:
H. H. Knoll

by H. C. Smith & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

HENRY H. KNOLL, OF PITTSBURG, PENNSYLVANIA.

PUZZLE.

No. 834,065.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed April 19, 1906. Serial No. 312,679.

To all whom it may concern:

Be it known that I, HENRY H. KNOLL, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Puzzles, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in puzzles; and the invention has for its primary object to provide a simple and inexpensive puzzle requiring considerable skill to solve.

To this end I have devised a puzzle in the form of a geometrical problem—namely, the squaring of a circle.

In constructing my improved puzzle a plurality of geometrical-shaped pieces or blocks are employed, some of the blocks when assembled forming a circular figure, while when all of said blocks are properly assembled a square is formed. The skill required in solving my improved puzzle resides in assembling the pieces or blocks in a prescribed number of "moves," the moving of the pieces or blocks being confined to a limited space, and to add further problematic difficulty to my improved puzzle the same must be solved by moving the pieces or blocks in a certain direction.

The detail construction of my improved puzzle, together with the manner in which the same is solved, will be hereinafter more fully described and claimed, and, referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a plan of my improved puzzle, illustrating the pieces or blocks thereof in their normal position. Fig. 2 is a similar view illustrating the first step or move taken in solving my improved puzzle. Fig. 3 is a similar view illustrating the second step. Fig. 4 is a similar view illustrating the third step. Fig. 5 is a similar view illustrating the fourth step. Fig. 6 is a similar view illustrating the puzzle as solved, and Fig. 7 is a cross-sectional view of my improved puzzle, taken on the line $x x$ of Fig. 1.

To put my invention into practice, I construct my improved puzzle of wood or a similar material, the puzzle comprising a casing or box 1, consisting of a plate 2 and a lid or cover 3, having depending sides 4,

which are adapted to inclose the plate 2 and the parts carried by said plate. Upon the top edges of the plate 2 are mounted strips 5, 6, 7, and 8. The plate 2, adjacent to the strip 8, is provided with a bar 9, having its inner edge recessed, as at 10. Engaging the inner edge of the bar 9 and the strip 5 is a plate 11, said plate having its inner vertical edge cut away, as at 12. The upper right-hand corner of the plate 2, formed by the strips 5 and 6, is provided with two associate plates 14 and 15, having curved edges which converge toward one another at the left-hand corner of the plate 2, the curved edges of said plates 14 and 15 being connected together by a triangular plate 16. The upper left-hand corner of the plate 2 is provided with a plate 17, having a substantially semicircular curved edge 18.

In connection with the parts of the puzzle just described I use four sector-shaped blocks 19, 20, 21, and 22 and a central block 23, said block conforming substantially to a cross having branches 24, forming four curved edges 25, 26, 27, and 28 in the central block 23.

The normal position of the blocks 19 to 23, inclusive, is illustrated in Fig. 1 of the drawings, the position of these blocks representing the sector-blocks 19 to 22, inclusive, as assembled in the form of a circle or disk in the upper right-hand corner of the puzzle.

Assuming that the puzzle is to be solved, the manner of accomplishing the same is as follows: As one of the rules of the puzzle is to move the blocks to the right to form a square, the puzzle must be held by a person solving the same with the strip 7 nearest the person in order that the blocks may be moved to the right toward the strip 8; but this move really depends on the manner in which the puzzle is being held by a person, and a general rule would be to move the blocks in one direction. The first move made is to slide the sector-shaped block 22 over the plate 1 to engage in the lower left-hand corner of the puzzle, as illustrated in Fig. 2 of the drawings. The next step or move consists in moving the sector-shaped block 21 to engage in the corner formed by the bar 9 and the plate 11, as illustrated in Fig. 3 of the drawings. The central block 23 is then moved downwardly at an angle to engage the sector-shaped blocks 21 and 22, the curved edges 25 and 28 engaging said sector-shaped blocks, while the one branch 24 of the central block 23 lies

between the blocks 21 and 22, the position of the central block 23 when engaging the blocks 21 and 22 being illustrated in Fig. 4 of the drawings. The next step resides in moving the sector-shaped block 20 into engagement with the curved edge 27 of the central block 23. The sector-shaped block 19 is then moved and turned to engage the curved edge 26 of the central block 23, thus forming the rectangular-shaped figure in the lower left-hand corner of the puzzle.

From the foregoing it will be observed that I have devised a simple and inexpensive puzzle which is practically indestructible, at least by constant use. The various plates arranged upon the plate 2 and surrounded by the strips 5 to 8, inclusive, form a limited space in which the various blocks of the puzzle can be moved.

Such changes in the size, proportion, and minor details of construction as are permissible by the appended claims may be resorted to without departing from the spirit and scope of the invention.

What I claim, and desire to secure by Letters Patent, is—

1. A puzzle consisting of a plate, a lid adapted to fit over said plate, a plurality of

plates mounted upon the first-mentioned plate, strips surrounding the outer edges of said plates, movable sector-shaped blocks mounted upon the first-mentioned plate and adapted to form a disk, a central block movably mounted upon the first-mentioned plate, and together with said sector-shaped blocks is adapted to form a rectangular figure, substantially as described.

2. A puzzle consisting of a casing, a plurality of sector-shaped blocks movably mounted in said casing and adapted to form a disk, a central block mounted in said casing, and together with said sector-shaped blocks is adapted to form a rectangular figure, substantially as described.

3. A puzzle consisting of a casing, a plurality of movable blocks mounted in said casing, said blocks being shaped to form a disk and a rectangular figure, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

HENRY H. KNOLL.

Witnesses:

A. M. WILSON,
E. E. POTTER.