

No. 766,118.

PATENTED JULY 26, 1904.

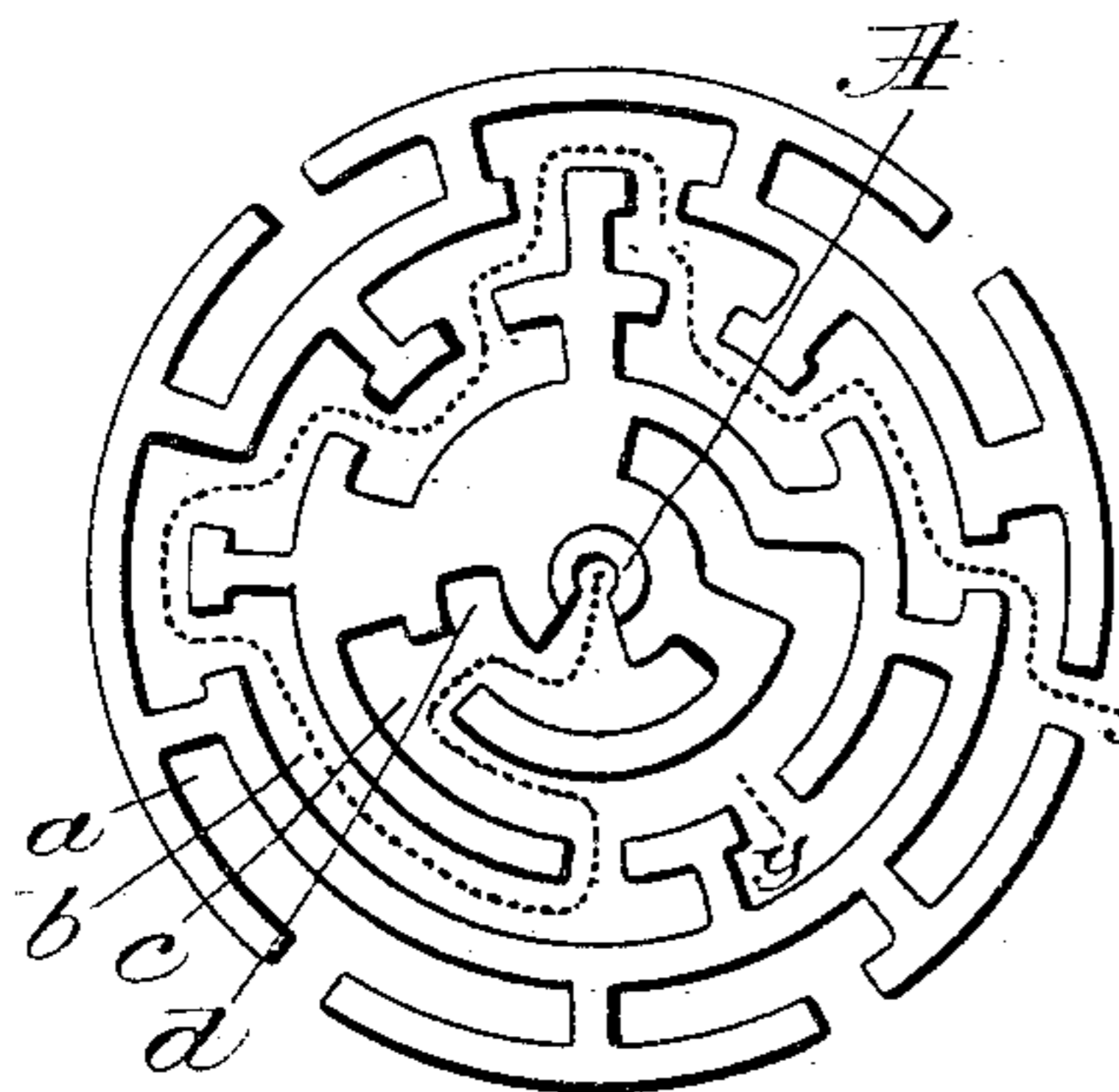
S. L. SAUNDERS.

PUZZLE.

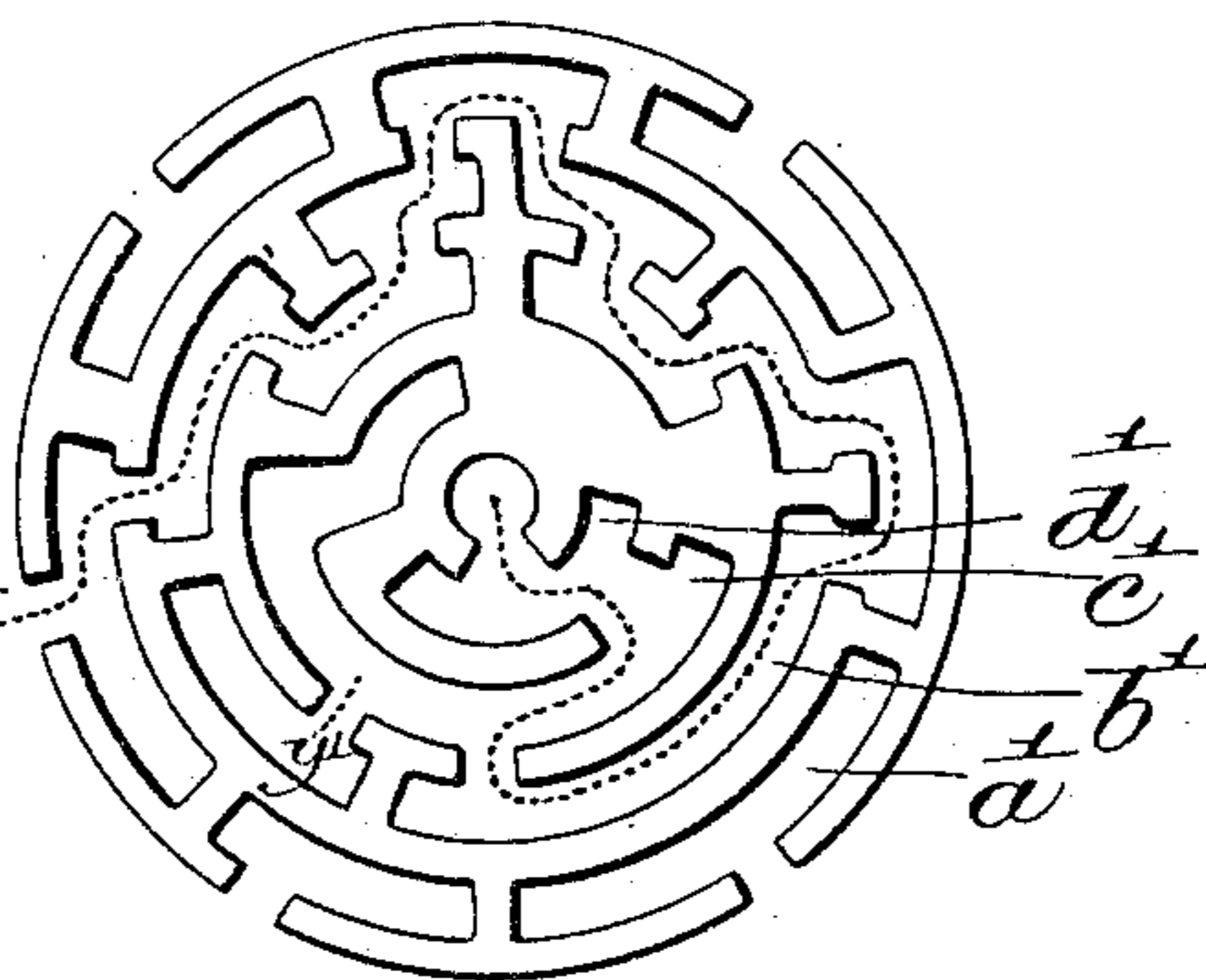
APPLICATION FILED DEC. 2, 1903.

NO MODEL.

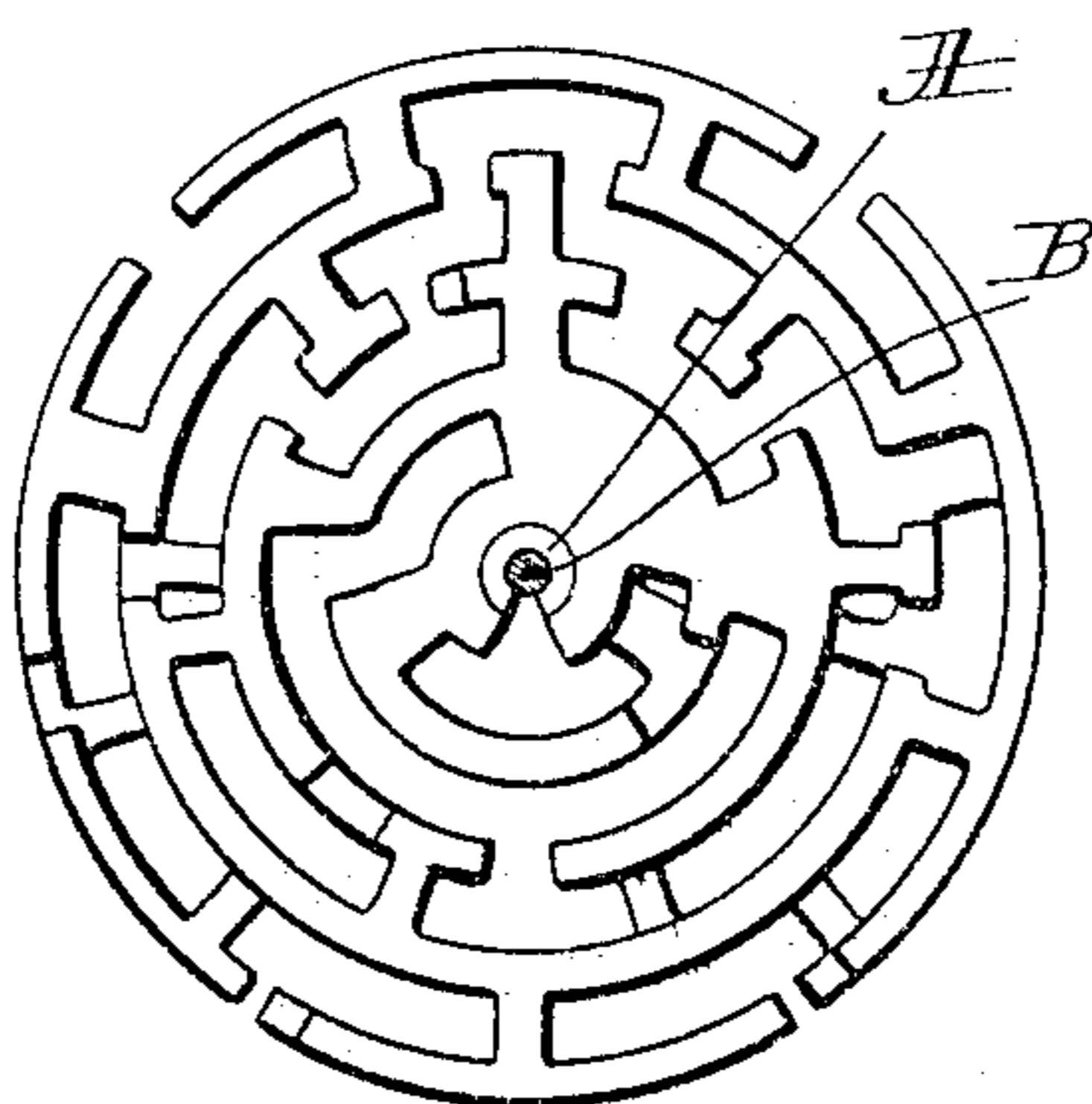
*Fig. 1.*



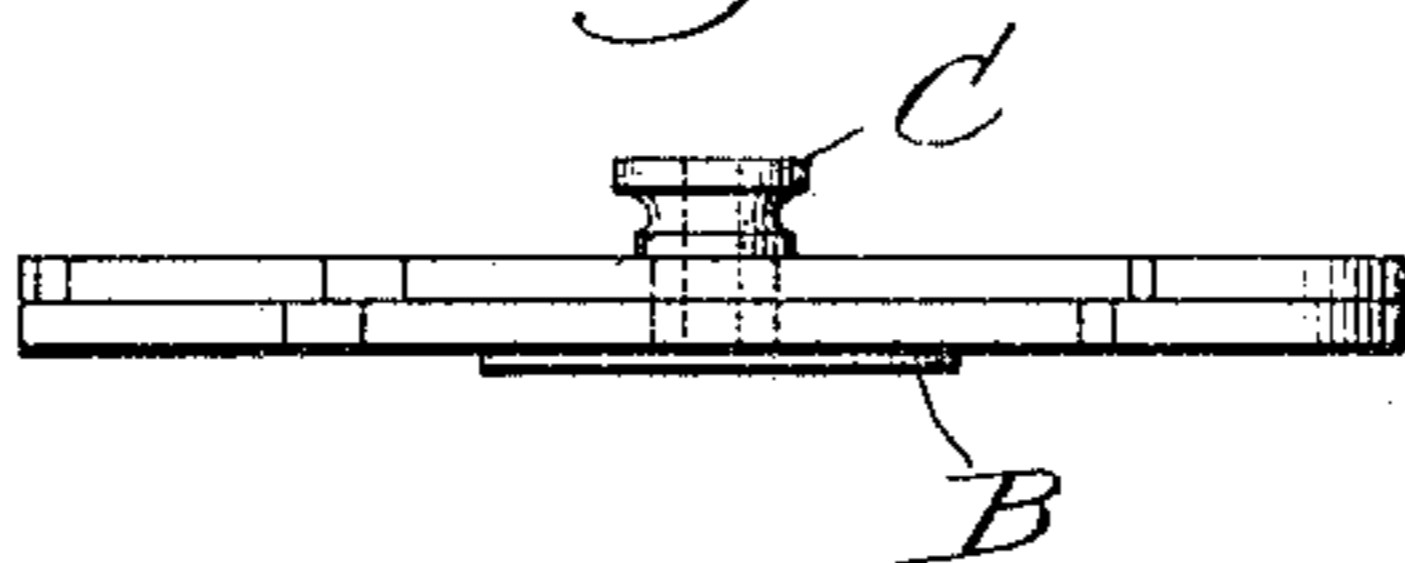
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:

Fred S. Grumbaf.  
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Inventor.  
Samuel L. Saunders,  
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# UNITED STATES PATENT OFFICE.

SAMUEL L. SAUNDERS, OF WINTHROP, MASSACHUSETTS.

## PUZZLE.

SPECIFICATION forming part of Letters Patent No. 766,118, dated July 26, 1904.

Application filed December 2, 1903. Serial No. 183,452. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL L. SAUNDERS, a citizen of the United States, residing at Winthrop, county of Suffolk, State of Massachusetts, have invented an Improvement in Puzzles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to a puzzle designed to afford amusement and entertainment and to cultivate patience and perseverance. The nature of the puzzle will be clear from the following description, and the invention will be defined in the appended claims.

Figure 1 is a plan view of the bottom disk forming a portion of the puzzle. Fig. 2 is a plan view of the top disk forming a portion of the puzzle. Fig. 3 is a plan view of the two disks shown in Figs. 1 and 2 in superimposed condition. Fig. 4 is a side elevation of the disks as shown in Fig. 3 with the connecting member in place.

In constructing the puzzle I provide two or more disks of sheet metal, pasteboard, or any other suitable material and provide each of the said disks with concentric arc-shaped slots, the series of concentric arc-shaped slots in each disk having radii corresponding to those of each of the other disks, so that when the disks are superimposed the arc-shaped slots in all the disks coincide in radial position. Each of the disks is further provided with a series of openings extending from the center of the disk from one arc-shaped slot to another out through the peripheral edge of the disk in such a manner that a clear passage is afforded for a pin from the center to the exterior of the disk. Each disk is further provided with a number of openings from one arc-shaped slot to another so arranged that there is no continuous path out through the periphery of the disk, these latter being for the purpose of complicating the operation of the puzzle.

In Figs. 1 and 2 I have shown two disks, a number which is sufficient to form the puzzle. The concentric arc-shaped slots are shown at *a b c d* in the one disk and *a' b' c' d'* in the other, it being noted that the radii of the slots *a a'* and *b b'* and *c c'* and *d d'* are respec-

tively equal. The length of these slots may be varied at pleasure; but there should be several in each concentric circle. For example, I have shown seven in the outer circle *a*, six in the next circle *b*, three in the next circle *c*, and two in the innermost circle *d*. The openings from one arc-shaped slot to another affording a passage from the center of the disk out through the periphery are indicated by the dotted line *x x'*. These openings have been arranged in the form illustrated in such a manner as to form a sinuous but nevertheless free path from the center to the periphery. The other class of openings is shown at *y y'*. In this class the opening is simply from one arc-shaped slot into the adjacent one.

The number, length, and arrangement of the arc-shaped slots and the number of openings from one slot to another may be varied as desired, provided only that the arc-shaped slots be concentric and at equal distances from the center and on equal radii from the center as those in the other disks and that the openings shall be so arranged as to afford a free path in some way from the center to the periphery in each disk. The arrangement in each disk under these conditions may be varied; but I have found a convenient and simple way to make the disks in duplicate. By this means two or more disks may be punched at one operation. The disks are then reversed and superimposed, since if they were not reversed the free path from the center to the periphery would be readily discovered.

It will be noticed that the disks shown in Figs. 1 and 2 are duplicates when one is reversed.

One of the disks may be provided with a cylindrical collar or sleeve, as shown at *A*, which serves as a pivot for the other disks placed upon it, or any other equivalent means may be used for pivoting the disks together. When they are made of pasteboard or similar material, a small slotted metallic eyelet will be found sufficient.

The pivot or pin is preferably attached to a flat plate *B* of considerable size and may be provided, if desired, with a thumb-screw *C*, whereby the pin and plate *B* can be removed and reset in the central position.

The number of the disks will be of course varied as desired; but it will be generally found sufficient to provide two disks made in duplicate and one reversed, as shown in the drawings.

The nature of the puzzle will be readily apparent from the foregoing description. When the disks have been placed in position, as shown in Figs. 3 and 4, and the pin is in the center, then the operator turns the disks one upon the other until he is able to slide the pin from the center of the disks through the opening into the next concentric slot. He then turns the disks again until he is enabled to slide the pin through another opening into the next concentric slot, and so proceeds until he brings the pin out through the periphery of the disks. In doing this the sinuous arrangement of the openings and the various blind openings provided and the number of the arc-shaped slots all tend to confuse and render difficult the working of the puzzle, thus affording pleasure and amusement and cultivating patience and perseverance.

While the arc-shaped slots have been shown in the drawings as of considerable width, their width may be varied to correspond to the pin used, and the intervening portions may be made wide enough to have stamped or printed thereon advertising matter or helpful or encouraging mottoes. The base-plate B may be made large enough to be utilized for the same purpose.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A puzzle comprising two centrally-pivoted superimposed disks, the said disks when one is in reversed position having a series of coincident concentric arc-shaped slots, and a series of coincident openings from one arc-

shaped slot to another so as to present a free passage from the center through the periphery.

2. A puzzle comprising two centrally-pivoted superimposed disks, the said disks when one is in reversed position having a series of coincident concentric arc-shaped slots, and a series of coincident openings from one arc-shaped slot to another so as to present a free passage from the center through the periphery, additional openings in each disk between adjacent concentric arc-shaped slots affording no continuous free passage.

3. A puzzle comprising a plurality of superimposed disks provided with a hollow, slotted, central pivot, a pin provided with a head and a base for holding said disks together but freely movable radially of said disks, each disk being provided with a series of concentric arc-shaped slots, the slots of each disk having corresponding radii to those of the other disks, openings in each disk from one arc-shaped slot to another so arranged as to afford a free passage for said pin from the center of the disk out through the peripheral edge.

4. A puzzle comprising two superimposed disks provided with a hollow, slotted, central pivot, the said disks when one is in reversed position having a series of coincident arc-shaped slots and a series of coincident openings from the hollow pivot and from one arc-shaped slot to another so as to prevent a free passage from the center through the periphery.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL L. SAUNDERS.

Witnesses:

NATHAN HEARD,  
MABEL PARTELOW.