No. 631,737. Patented Aug. 22, 1899.

L. COMPTON & H. M. HOUCK

PUZZLE.

(Application filed Feb. 7, 1899.)

(No Model.)

Fig 1.

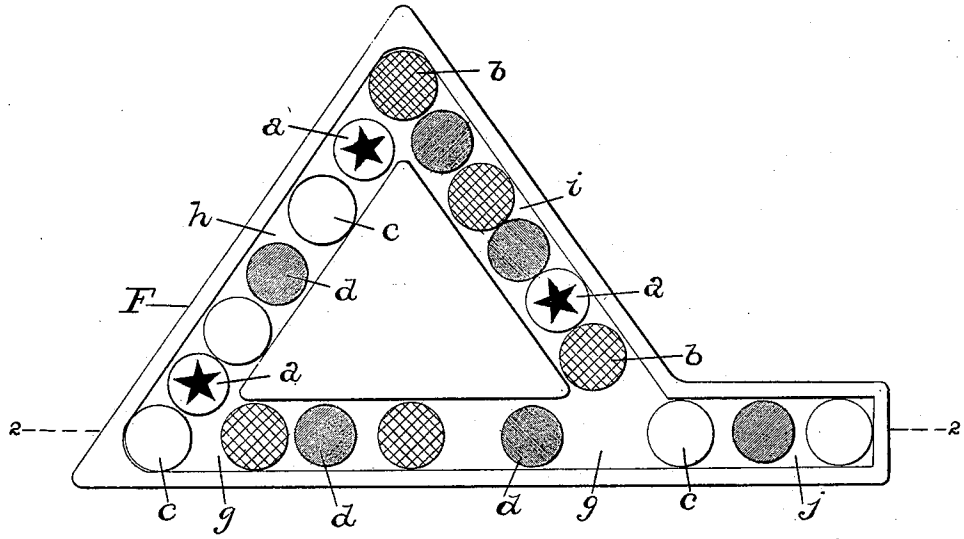


Fig.2.

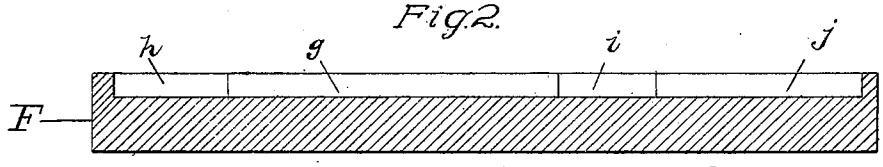


Fig.4

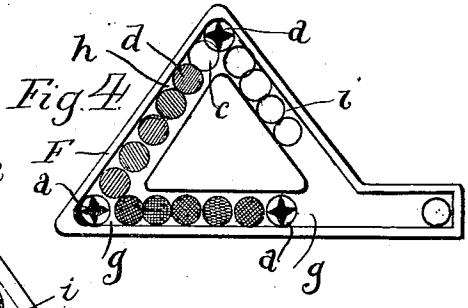


Fig.3.

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UNITED STATES PATENT OFFICE.

LAWRENCE COMPTON AND HOWARD M. HOUCK, OF BALTIMORE, MARYLAND, ASSIGNORS TO THE ATLANTIC MANUFACTURING COMPANY OF BALTIMORE CITY, OF MARYLAND.

PUZZLE.

SPECIFICATION forming part of Letters Patent No. 631,737, dated August 22, 1899.

Application filed February 7, 1899. Serial No. 704,773. (No model.)

To all whom it may concern:

Be it known that we, LAWRENCE COMPTON and HOWARD M. HOUCK, citizens of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Puzzles, of which the following is a specification.

The object of this invention is to provide an amusement in the form of a puzzle.

The drawings illustrate the puzzle.

Figure 1 is a plan view of the puzzle, in which the movable disks are indiscriminately placed or mixed up on the grooved plate. Fig. 2 is a cross-section of the grooved plate on the line 2 2. Fig. 3 is a plan view of the puzzle, showing all the movable disks in the "worked out" or solved position. Fig. 4 is a plan view of the puzzle, in which the movable disks are shown in the key position or the position they must assume before the puzzle can be worked out.

Four distinct kinds of movable disks are employed—to wit, three star-disks and three series of disks which in the drawings are differently shaded to represent three colors—red, white, and blue, respectively. Also it may be stated at the outset that while all the disks are approximately of the same size, yet in fact the disks of several of the series vary in size—that is to say, the star-disks *a* are the smallest, the series of blue disks *d* are next in size, slightly larger, though the star-disks and the blue disks may be the same size, and the series of red disks *b* and white disks *c* are both the same size, but slightly larger than the star-disks *a* and blue disks *d*. There are three of the smallest or star disks *a*, six of the next size, slightly larger, blue disks *d*, and five each of the largest, being the red disks *b* and white disks *c*.

A plate F is provided in its top surface with two inclined grooves *h* and *i*, whose upper ends join at the top and form the apex of a triangle, and a straight horizontal base-groove *g* has one end connecting the lower end of one of the inclined grooves, and the other end of said base-groove projects laterally beyond the lower end of the other inclined groove, and said projecting end of the base-groove forms a switch *j*, and all of said grooves have the same breadth.

The disks are to be moved only by sliding along the grooves and pass each other at the junction of the grooves *g i* and the switch-groove *j*. Starting with the disks of the several series mixed up—as shown, for instance, in Fig. 1—the problem is to adjust the disks by sliding them until they assume the position shown in Fig. 3, where a star *a* is at each corner or angle-point and all the disks of the same series or color are in line in a different one of the triangular grooves between two of the stars, and the disks of that series having the greatest number, in this instance six, being the blue disks *d*, will finally occupy the base part *g* of the triangular groove.

The successive steps for working out the puzzle are substantially as follows:

First. The disks being indiscriminately placed in the grooves, commence by retaining a white disk in the switch.

Second. Move the disks around until a star confronts the switch. Then move the star in the switch.

Third. Move all the disks around, except the star and white disk, in the switch until all the white disks by shifting at the switch are in line in the groove *i*, except the one retained in the switch.

Fourth. Now move all the disks, except the star and white disk, in the switch, and by means of the switch arrange all the red disks in the base-groove *g* and all the white disks, except the one in the switch, in the groove *i*.

Fifth. Move all the disks around, except the two in the switch, keeping each series or color together and arrange all the blue disks in the same groove.

Sixth. Now move all the disks, except the two in the switch, around until a star-disk confronts the switch. Then move said star-disk in the switch, thus making two star-disks and a white disk in the switch.

Seventh. Now move the disks until the blue series in the base-groove *g* confront the first star-disk in the switch. Then move one of the star-disks out of the switch ahead of the blue series and move all the disks, except the two

in the switch, until the six blue disks occupy the groove *h* in a zigzag line, with a star-disk at either end, as in Fig. 4. This latter position is the key to the working out of the puzzle, and the special construction in our puzzle by which this position is obtainable is that the disks of the series *d* having the largest number are slightly smaller in size than the disks of the other two series *b c*, whereof the number is smaller. This fact permits the assembling of the disks of the series having the largest number in a groove-space *h*, which will only receive the disks of either of the other series having a smaller number, and thereby make room in the groove *g* adjacent the switch for the passage into the groove *i* of the disk that has been retained in the switch. There are no disks now in the switch. At this point we have the blue disks all in groove *h*, the red disks in base-groove *g*, and the white disks in groove *i*, and a star-disk separating each series.

Eighth. Now move the star-disk confronting the switch back into the switch and then continue to move all the disks to the right or from the base-groove *g* along the groove *i* until a star-disk arrives at the angle of the grooves *g* and *h*. Then leave the star-disk in the angle between the said grooves *g* and *h*.

Ninth. Now move the disks around (leaving the star-disk in the angle between the grooves *g* and *h* and one star-disk in the switch) until the second star-disk confronts the switch. Then move said star-disk into the switch. Now move all the colored disks until the red disks in the base-groove confront the switch. Then move one of the stars from the switch between the red disks *b* and the white disks *c*. Then move all the disks (except the one star in the switch and the star in the angle between the grooves *g* and *h*) around until the blue disks *d* are lined up in the base-groove and confronting the switch *j*. Now move the star-disk from the switch to separate the blue disks *d* and the red disks *b*, and the puzzle is accomplished.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

A puzzle consisting of a plate having two inclined grooves, *h*, *i*, whose upper ends join at the top; and a straight horizontal base-groove, *g*, one end of which joins the lower end of one of the inclined grooves and the other end of which projects laterally beyond the lower end of the other inclined groove, said projecting end forming a switch, *j*, all of said grooves having the same breadth; four series of different-colored disks, all those in two series, *b*, *c*, being the same size and the same number in each series, those of the third series, *d*, being slightly smaller in size but greater in number, and those of the fourth series being three star-disks as small in size as the disks of the series having the greatest number, as set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

LAWRENCE COMPTON.
HOWARD M. HOUCK.

Witnesses:
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GEO. KOETHER.