

March 20, 1956

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2,738,979

TRANSFER GAME

Filed March 23, 1954

2 Sheets-Sheet 1

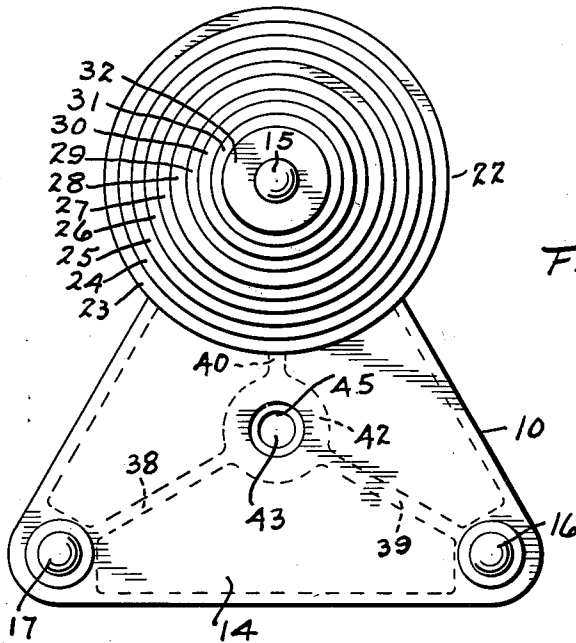


Fig. 1.

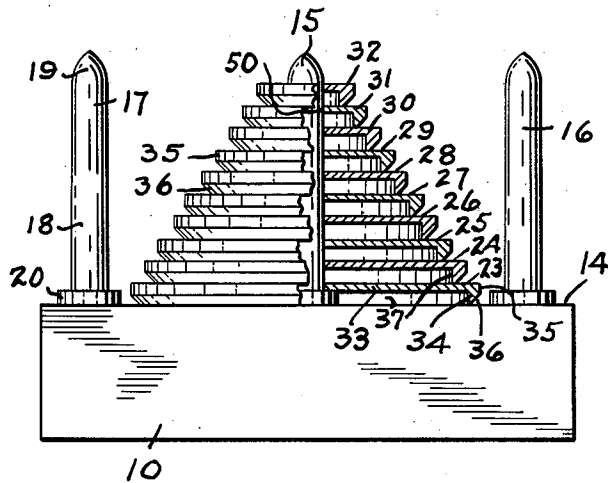


Fig. 2.

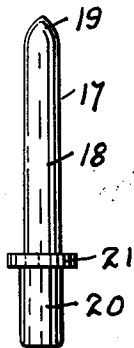


Fig. 3.

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2 Sheets-Sheet 2

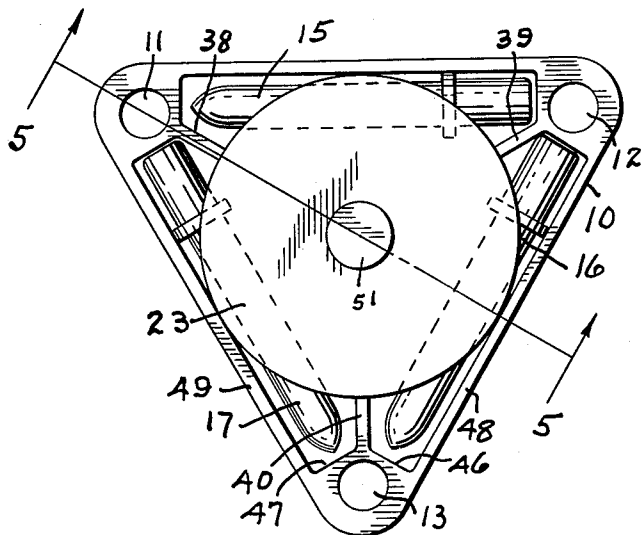


Fig. 4.

Fig. 8.

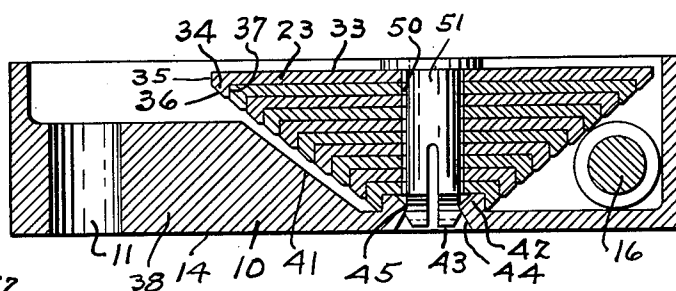
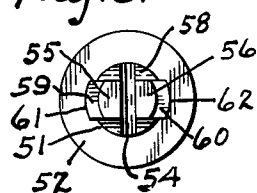


Fig. 5.

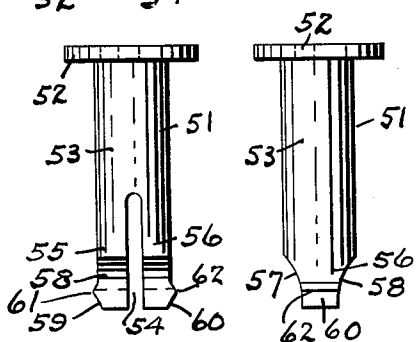


Fig. 6.

Fig. 7.

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TRANSFER GAME

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1 Claim. (Cl. 273—132)

This invention relates to a game which might be called a geometric progressive puzzle wherein the object is to move a stack of discs from one post to another post, moving only one disc at a time, and without placing a larger disc on a smaller disc. Where ten discs are employed, there will be a minimum of 1023 moves.

The invention involves a structure comprising a base largely hollow from the underside and triangular in shape as viewed from the top side; a post removably carried at each corner of the base to extend normally upward; a plurality of discs, ten being shown in the accompanying drawing and description; these discs being so shaped as to nest one with another to give a minimum height when stacked one over the other, and when reversed in position one on top of the other, to give an increased height. A purpose of having an increased height from the minimum height of nesting is to permit easy handling and picking up of the individual discs from a stack. The minimum height is desired for storage purposes, since the invention involved is in the structure in the stacking of the individual discs in the reduced height condition within the base from its underside, and also the invention provides for the placing of the pins in this space to be held therein under the stacked discs by any simple means, such as a pin passing through the discs and engaging with the base.

Also there is the purpose involved in this invention of making the discs available for ready picking up by placing them initially on a post at the corner of the base whereby the discs overhang the base by major areas, at least of the larger diameter discs, no two discs being of the same diameter. Thus, the invention involves a structure which may be exceedingly simple in form, and which may be reduced from a playing condition to a storage or transporting position to occupy the minimum amount of space.

These and many other objects and advantages of the invention will become apparent to those versed in the art in the following description of one particular form of the invention as illustrated in the accompanying drawings, in which:

Fig. 1 is a view in top plan of a structure embodying the invention and set up for playing;

Fig. 2 is a view in side elevation and partial section;

Fig. 3 is a view in side elevation of a post;

Fig. 4 is a bottom plan view of the structure in a disassembled and nested condition;

Fig. 5 is a view on an enlarged scale in section on the line 5—5 in Fig. 4;

Fig. 6 is a view in side elevation of a securing pin;

Fig. 7 is a similar view of the pin revolved 90° from the position shown in Fig. 6; and

Fig. 8 is a view in bottom plan in reference to Figs. 6 and 7.

A base 10 is formed to be generally triangular in shape, Figs. 1 and 4, and is provided with three vertically disposed holes therethrough, these holes being indicated by the numerals 11, 12 and 13. The top side 14 of the

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base 10 is preferably planar in shape, and, for playing, the base 10 carries three posts 15, 16, and 17. Each of these posts 15—17 is identical in shape, and size, and is formed to have the shape as indicated in Fig. 3, wherein there is a cylindrical upper portion 18 having preferably a rounded upper end nose 19. The lower end portion 20 has a diameter which will permit it to be received in any one of the base holes 12—13 with a rather free sliding fit. The penetration of the base end 20 into these holes is limited by a flange 21 surrounding the post intermediate the portions 18 and 20. Flange 21 rests upon the top face 14 of the base 10.

There is a plurality of discs generally designated by the numeral 22, the exact number of the discs not being critical, but it is desirable that there be up to at least 10 discs as are shown in the present form of the invention. The practical minimum amount of time to complete the game with 10 discs would be right around 20 minutes. The time required to complete the game is a decided measure of the skill and ability of the player. These discs are numbered from 23 through 32.

Each of these discs is shaped in the same manner, but varies one from the other by decreasing diameters ranging from the major diameter for disc 23 to the smallest diameter for disc 32. Furthermore, each of these discs is shaped to have a central planar area 33 from the outer periphery of which there is a downturned flange 34 having an initial cylindrical surface 35 from the lower end of which there is a frusto-conical surface 36. The inside diameter of one flange 35 as at the surface 37 is made to be such that the cylindrical surface of the flange of the next diameter disc will fit freely therewithin as indicated in Fig. 5. By reason of the inclined surface 36 on each disc, each disc when stacked as indicated in Fig. 2 is readily picked up by the player's fingers by engaging that inclined surface. Also it is to be noted when the discs 23—32 are stacked in the arrangement shown in Fig. 2, a maximum overall height is obtained, whereas when the discs are stacked as arranged in Fig. 5, a minimum overall height is obtained. Also when the arrangement is had as shown in Fig. 5, there is no tendency for the discs to slide laterally one over the other.

The base 10 is hollowed out from its underside and preferably reinforced by three ribs, 38, 39, and 40 radiating inwardly toward the center of the base from the corner portions of the base. Each of these ribs 38—40 has an inner sloping surface 41, and the stack of discs 23—32 as nested in Fig. 5 may be received over these surfaces 41 and thus be centrally located from the underside of the housing pin, and the thicknesses of the discs are made to be such that the entire stack will be received within the vertical thickness of the base.

Centrally located within the underside of the base, Fig. 5, is a boss 42 which has that diameter to enter within the surrounding flange of the disc 32 so that the stack is thereby centered over this boss 42. There is a hole 43 entering from the top side 14 of the base 10 and extending through this boss 42. This hole 43 has a frusto-conical surface 44 tapering inwardly from the base 14 to a rather sharp shoulder 45, from which shoulder the hole tapers outwardly therefrom so that the shoulder 45 is well defined.

The posts 15, 16, and 17 have overall lengths which will permit them to be placed in the cavity opening from the underside of the base to have the posts lie between the respective ribs 38 and 39; 39 and 40; and 40 and 38. The corner portions of the base 10 through which the holes 11—13 extend have inner faces 46 and 47 extending between the side walls 48 and 49, for example, to rib 40

in such shape to permit the posts 15—17 to be received therein with the maximum possible length of post.

Each of the discs 23—32 has a central hole 50 therethrough, the hole being of the same diameter in each of the discs.

A pin, Figs. 6—8, generally designated by the numeral 51 has a flat head 52 from which extends a cylindrical length 53 which is bifurcated by means of the slot 54 to define two fingers 55 and 56. These fingers are relieved on opposite sides as at 57 and 58, and their outer ends are bevelled as at 59 and 60 from a shoulder 61 and 62, respectively, the shoulders 61 and 62 extending outwardly from the fingers beyond a diameter of the cylindrical portion 53. The dimensions of the pin 51 are such that the pin may be entered through the holes of the respective discs, Fig. 5, entering from the disc 23 and down through the stack to have the fingers 55 and 56 forced past the shoulder 45 to allow the pin shoulders 61 and 62 to snap over on the surface 44 and thereby cause the pin 51 to be securely retained in position so that the discs are maintained within the base 10, and the pins or posts 15—17 are also retained by extending under the discs as indicated in Figs. 4 and 5. The pin 51 may be readily disengaged from the shoulder 45 by pushing relatively downward from the surface 14 on the exposed fingers 55 and 56.

To play the game, all of the discs 23—32 are superimposed one upon the other, in the order indicated in Figs. 1 and 2 to have the post 15 to extend through the holes 50 of the discs. As will be noted, Fig. 1, the major portions of the stacks of discs extend outwardly from one corner of the base 10. Then the object of the game is to transfer all of the discs from the one post 15 to either the post 16 or 17. This operation may start as follows: Disc 32 to post 17; disc 31 to post 16; disc 32 to post 16; disc 30 to post 17; disc 32 to post 15; disc 31 to post 17; disc 32 to post 17; disc 29 to post 16; disc 32 to post 16; disc 31 to post 15; disc 32 to post 15; disc 30 to post 16; disc 32 to post 17; disc 31 to post 16; disc 32 to post 16; disc 28 to post 17; disc 32 to post 15; disc 31 to post 17; disc 32 to post 17; disc 30 to post 15; disc 32 to post 16; disc 31 to post 15; disc 32 to post 15; disc 29 to post 17; disc 32 to post 17; disc 31 to post 16; disc 32 to post 16; disc 30 to post

17; disc 32 to post 15; disc 31 to post 17; disc 32 to post 17; and disc 27 to post 16.

In like manner, the game may be continued and the moves made in accordance with the skill of the player to effect the eventual transfer of all of the discs in the order of arrangement as the discs are shown in Fig. 2. The sequence of moves may of course be varied, and the present invention is not dependent upon the exact sequence employed.

While I have herein shown and described my invention in the one particular form, it is obvious that structural changes may be employed without departing from the spirit of the invention, and I therefore do not desire to be limited to that precise form beyond the limitations which may be imposed by the following claim.

I claim:

In a game structure, a triangular shaped base having an underside cavity defined by side walls extending downwardly from said base; a plurality of playing discs of uniformly varying diameters from a large to a small diameter disc stacked one upon the other in said cavity with the smallest diameter disc uppermost, each of said discs having a central hole therethrough; a web entering said cavity from each corner thereof, each of said webs tapering upwardly from a lower edge toward the center of the cavity by a slope parallel to the slope of the margins of said stacked discs; a post lying freely in said cavity along each of said walls and between adjacent webs; said stack of discs overlying said posts by largermost diameter discs; said base having a central hole therethrough; and a headed pin abutting by its head the largest diameter disc, extending upwardly through said stack, and detachably engaging a marginal portion of a hole adjacent the face of the base.

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