United States Patent

Dederich et al.

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[54] SKILL GAME

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[52] **U.S. Cl.** ..... **273/1 R,** 35/22 A

[51] **Int. Cl.** **A63f 9/00**

[58] **Field of Search** ..... 273/1, 123 R, 123 A, 154, 8, 273/9, 10, 12, 128 CS; 211/14; 272/57 D; 217/26.5; 206/46, 72; 35/22

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[57] **ABSTRACT**

Skill game comprising a base and a ball. Base has a recess which accepts the ball, the diameter of the recess being larger than the ball to prevent binding and close to the same diameter to permit manual grasp on the ball only to the extent the ball extends from the recess. The recess has a depth greater than the ball radius and less than the ball diameter and is of such depth to permit a sufficient amount of the ball to extend above the base to permit manual removal with difficulty of the ball from the recess. Plurality of recesses of different depths may be located in a single base or separate similar bases.

2 Claims, 4 Drawing Figures

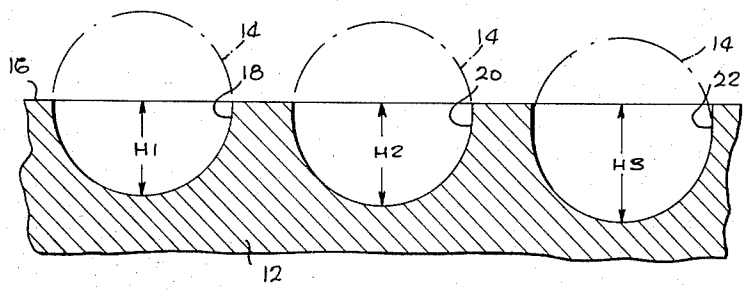


Fig. 1

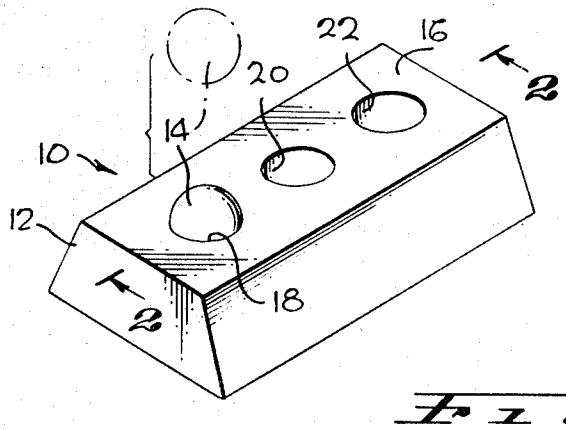


Fig. 3

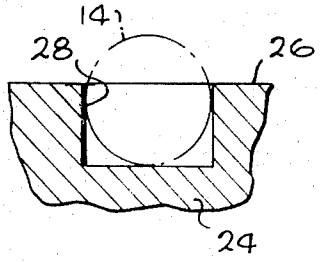


Fig. 2

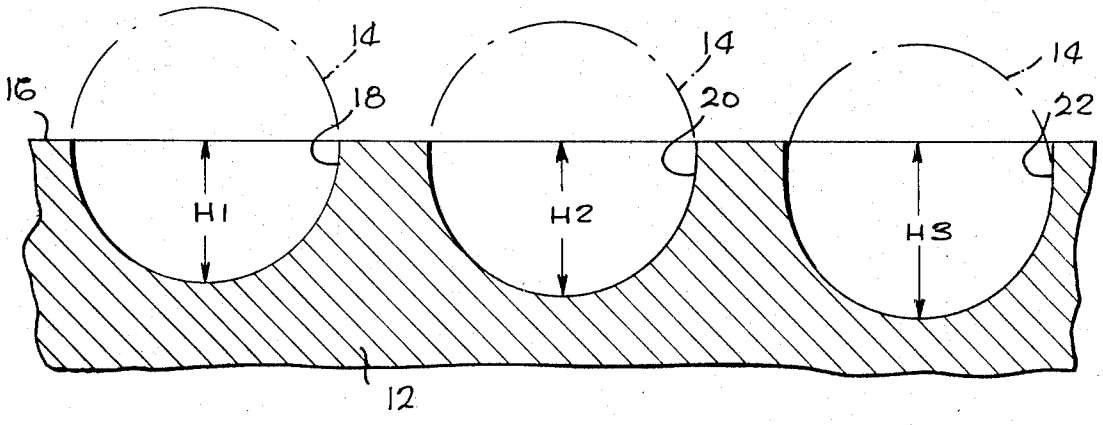
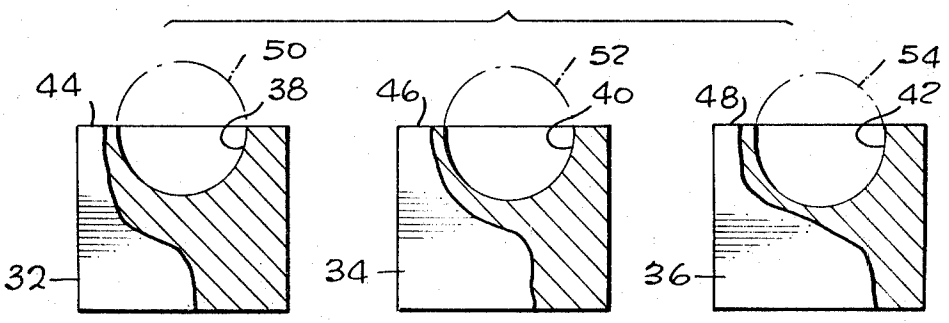


Fig. 4



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SKILL GAME

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention is directed to a skill game wherein a single individual can test his manual skill in removing a spherical ball from a recess, or can test his skill against other contenders.

2. Description of the Prior Art

A number of prior art games employ spheres as operative elements where spheres are manually engaged and the manual dexterity with the sphere is the critical element of the game. One of the best known games of this nature is the game of marbles wherein the individual spheres are free of constraint, except the constraint as imposed by the substantially horizontal playing surface and by the projection of the sphere by the operator.

While the sphere, a very well known geometrical shape, is employed in many toys and games of skill as a rolling object, it is not employed as anything but the rolling object because its additional features and characteristics have not previously been recognized as significant from a skill game viewpoint.

SUMMARY OF THE INVENTION

In order to aid in the understanding of this invention, it can be stated in essentially summary form that it is directed to a skill game. The skill game employs a base having a recess in the horizontal top surface of the base. A sphere is employed in connection with the recess. The recess is circular where it intersects the base's top surface to define an opening having substantially the same diameter as the diameter of the sphere, and the recess has a depth slightly greater than the radius of the sphere. The player of the game manually attempts to remove the sphere from its recess, when the base is substantially horizontal, by means of only his fingers.

It is thus an object of this invention to provide a skill game which incorporates a sphere or ball residing in a recess in a base, and extending from the recess a sufficient distance so that the ball or sphere can be manually removed from the recess. It is a further object of this invention to provide a skill game wherein a base has a recess therein having a depth slightly greater than the radius of a sphere and having a diameter slightly greater than the diameter of the sphere so that the sphere may be placed in the recess to extend from the base. It is still another object to provide a recess of such depth that it is difficult to manually remove the sphere from the recess to accordingly provide for the opportunity to acquire skill in the removal of the ball or sphere from the recess. It is a further object to provide a plurality of recesses having different depths, each slightly greater than the radius of the ball or sphere so that gradations of difficulty in ball-from-recess removal is provided. It is still another object to alternatively provide a plurality of bases, each having a recess therein with the recesses having different depths, each slightly greater than the ball radius so that the different bases can be differently relatively oriented in a game of skill.

Still other objects, features and attendant advantages of the present invention, together with various modifications, will become apparent to those skilled in the art from a reading of the following detailed description of the preferred embodiment constructed in accordance therewith, taken in conjunction with the accompanying drawings wherein like numerals designate like parts in the several figures.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a skill game in accordance with this invention.

FIG. 2 is an enlarged fragmentary vertical section taken generally along the line 2—2 of FIG. 1.

FIG. 3 is a vertical sectional view through a recess, showing a modified form of recess for the skill game of this invention.

FIG. 4 is a side elevational view with parts broken away, of a further embodiment of the skill game of this invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, and initially to FIGS. 1 and 2 in particular, a skill game of this invention is generally indicated at 10. Skill game 10 comprises base 12 and spherical ball 14. Base 12 has a substantially planar top surface 16 which is horizontally disposed when the base is resting on a horizontal object. Recesses 18, 20 and 22 are formed in the base below top surface 16. The recesses are arranged with respect to top surface 16 of the base in such a manner that there is at least some of substantially planar top surface 16 around each of the recesses.

Each of the recesses has a circular cross section in the plane of the top surface 16 of the base. This circular section of each of the recesses is slightly larger than the diameter of the ball 14 so that the ball can lie in the recess, but is only slightly larger so that access to the ball is restricted to that portion of the ball which extends above the top surface 16. The depth of each of the recesses is the determining or critical factor in the difficulty in manually removing spherical ball 14 from each of the recesses. In each case, the depth of the recess is such that, when the spherical ball rests therein, it extends into the recess a greater distance than the radius of the ball, i.e., the depth of the recess exceeds the radius of the ball. Furthermore, recess 18 is the most shallow recess, recess 20 is of intermediate depth, and recess 22 is the recess of the greatest depth of the three recesses.

The depth of the recess also defines the shape of the recess in the embodiment shown in FIGS. 1 and 2, wherein the recesses 18, 20, 22 hemispherically engage or support the ball 14. However, since in each case the ball extends below top surface 16 a distance greater than the radius, the bottom portion of the recess is hemispherical while the wall portion of the recess above the center point of the ball is cylindrical. In any event, the recess is formed so that the ball closely fits therein but does not bind in the recess. There is a small amount of space between the recess wall and the exterior of the spherical ball so that frictional engagement on all sides of the ball by the recess cannot occur at the same time to thus restrain the ball within the recess. Ball 14 is shown in broken lines in FIG. 2 disposed in each of the recesses to indicate relative relationships. A particular example of suitable dimensions is given below.

Referring to FIG. 3, modified base 24 is shown therein. Base 24 has a top surface 26 and a recess 28 therein. Ball 14 is shown in broken lines as occupying the recess. Recess 28 is of circular cross section in any plane passing through the recess parallel to planar top surface 26. Thus, recess 28 is a cylindrical bore of appropriate diameter and appropriate depth to contain the ball 14 at the desired depth in accordance with the required skill for the game of this invention. This depth is again slightly greater than the ball radius, and the diameter of the cylindrical recess is slightly greater than the diameter of the ball. Thus, ball 14 can rest in the recess 28 and extend above top surface 26 as with like recesses 18, 20 and 22, except for the fact that recess 28 contacts ball 14 only at its diameter, and at the point of contact with the hole bottom, rather than the hemispherical engagement substantially provided for the ball 14 in any one of the holes or recesses 18, 20 and 22.

Referring to the embodiment shown in FIG. 4, bases 32, 34 and 36 are respectively the equivalent of severing base 12 into three portions, each having a recess therein. Thus, bases 32, 34 and 36 respectively have recesses 38, 40 and 42 corresponding to recesses 18, 20 and 22 of FIGS. 1 and 2. THese recess respectively extend below top surfaces 44, 46 and 48 corresponding to surface 16. The recesses respectively shown balls 50, 52 and 54 in broken lines as being engaged in the recesses. Accordingly, recesses 38, 40 and 42 are of respectively increasing depth so as to provide an increasing order of difficulty in manually removing the balls 50, 52 and 54. This construction provides the recesses of three different depths,

together with the versatility of being able to arrange the recesses in any order or any relative position. This enhances the competitive game aspect of the skill game, whether one is competing against himself or competing against another participant.

As a specific example of the construction, which example is not limitative but for the purpose of teaching the invention, a size of spherical ball suitable for manual engagement is necessary. For example, the diameter of the spherical ball **14** can successfully be anywhere from ½ inch to 1 and ½ inches. Three-quarters of an inch is a suitable intermediate value and is eminently suitable in the skill game for digital engagement for the normal human size of finger. In this specific embodiment, the ball diameter is approximately 0.750 inches, and the recess opening at the plane of top surface **16** is a few thousandths of an inch larger than the ball diameter. When three holes or recesses are provided, the recess depths, H1, H2 and H3, as seen in FIG. **2** for recesses **18**, **20** and **22**, respectively, are 0.385 inch, 0.425 inch, and 0.490 inch. It must be noted that in each case the depth of the recess from the top surface **16** is larger than the 0.375 radius of the spherical ball **14**.

To play the game, as an individual playing alone, and employing the skill game **10** having base **12**, the spherical ball **14** is placed in the recess from which the player believes he can remove it. The player can employ rules of his own making; for example, removing the ball in two out of three tries can be considered successful. Thus, he may choose a recess which is too deep and too difficult for him to achieve that day and he loses the game if he does not remove the ball in two out of three tries. Of course, the player can start with the shallowest recess and work up to the deeper recesses, until he cannot remove the spherical ball **14** in two out of three tries, and thus the level of competency or the depth of the hole from which he can successfully remove the ball is a measure of his ability on that day.

When a steel ball is employed, which ball is polished and has no external surface features beyond that of the smooth sphere, day-to-day variation in individual ability takes place. Changes in the amount of perspiration or skin oil, as well as changes in the judgment and the amount of force to use on the ball vary so that, on different days, different amounts of success are achieved. The most successful method of removing the ball found to date is to place the index finger and thumb parallel and horizontal on opposite sides of the gall and initially resting against top surface **16**. The thumb is axially moved with respect to the forefinger, and the ball is rotated slowly upon a substantially vertical axis. At the same time, substantially radial force clamps the ball between the fingers, and a lifting force hopefully lifts the ball from its recess. The amount of clamping force and the amount of lifting force must be carefully controlled so that the ball is actually lifted. Lifting of the ball is an acquired skill, which is obtained by the application of logical understanding of the mechanical forces involved, the biological activity related to skin oil and muscle action, so that greater success is achieved by one who is educated in the principles involved, and by one who has acquired the skill by extensive practice. In addition to the acquisition of skill, the results vary from day to day, apparently depending on skin oil, atmospheric moisture and the like.

When the skill game is played as a game of proficiency between several persons, they can compete to see which of the persons can more successfully remove the ball from its recess, in the direction of ascending order of difficulty. Thus, the person who successfully removes the ball from the more difficult recess, perhaps in two tries out of three, is the winner over the person who is unsuccessful at that task.

Another version of the game of skill presents itself when the structure of FIG. **4** is employed. When all three of the bases are empty of balls, or all three of the bases have a ball in their corresponding recesses, the bases can be shuffled and moved around so that the difficulty or amount of skill and experience required in the removal of the ball from a particular recess is unknown, because the depth of the recess is unknown until the removal of the ball is attempted. It will be noted that the variations in depth are so slight as generally to be unobservable visually. Accordingly, a game employing such bases can be played by shuffling the bases and then having a player attempt to choose the base from which he can easily remove the ball. Then the second contender would attempt, not having the opportunity to try the first chosen ball and recess combination. Thus, various rules can be devised to create either an individual or a group competitive skill game from the skill game structure of this invention.

It now should be clear that the ball and base preferably are composed of smooth, hard, non-porous materials to maximize the effectivity of the game skill aspects.

This invention having been described in its preferred embodiment, and several alternative embodiments disclosed, it is clear that it is susceptible to numerous modifications and embodiments within the ability of those skilled in the art and without the exercise of the inventive faculty.

What is claimed is:

1. A skill game comprising:

a spherical ball having a substantially smooth, hard, non-porous surface;

a base, said base being composed of hard material and having an exposed planar top surface;

a plurality of recesses extending into said base from said top surface, the intersections of said recesses and said top surface lying in the plane of said top surface, said recesses each being circular in said plane and being of larger diameter than said spherical ball to accept said ball therein without binding and said recesses each being of sufficiently small diameter in said plane to prevent manual access to said ball below said plane, said recesses each forming a continuous surface within said base, said recesses each having a depth greater than the radius of said ball and less than the diameter of said ball so that, when said ball is in said recess, said ball extends less than a ball radius out of said recess, but extends sufficiently far out of said recess to permit manual removal of said ball out of said recess, each of said recesses having a depth differing from that of each of the others, the smallest depth recess having a ratio of recess depth to ball diameter of about 0.385/0.750, the largest depth recess having a ratio of recess depth to ball diameter of about 0.490/0.750, whereby manual removal of the ball differs in difficulty with each recess.

2. The skill game of claim **1** wherein:

said base consists of a plurality of separable base portions corresponding in number to said plurality of recesses, and said recesses are respectively formed in said base portions, whereby said base portions are movable with respect to each other for both random and selected positioning relative to each other.

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