

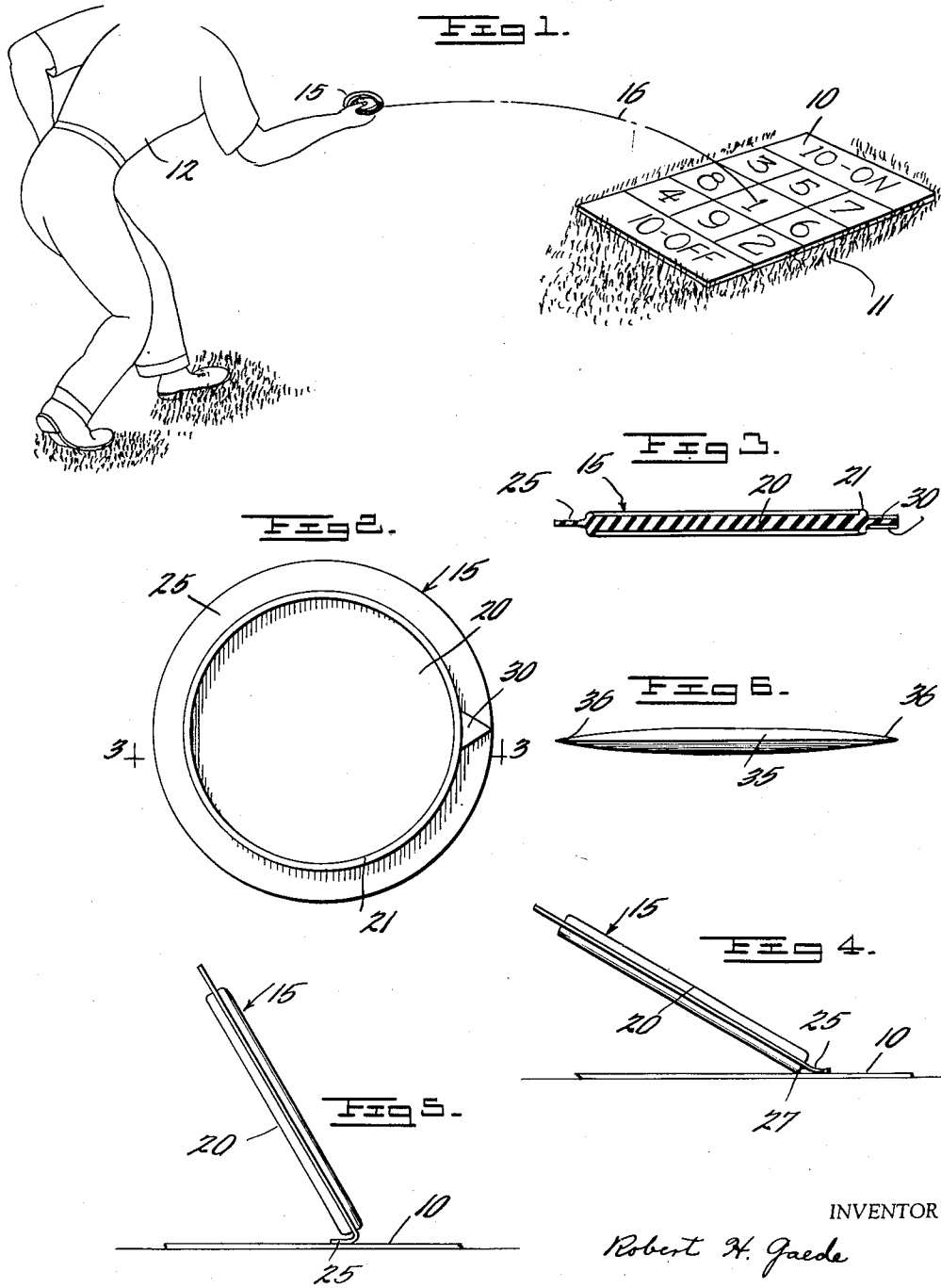
April 14, 1953

R. H. GAEDE
NONSKID PROJECTILE

2,634,982

Filed June 22, 1949

2 SHEETS—SHEET 1



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2 SHEETS—SHEET 2

FIG 2.

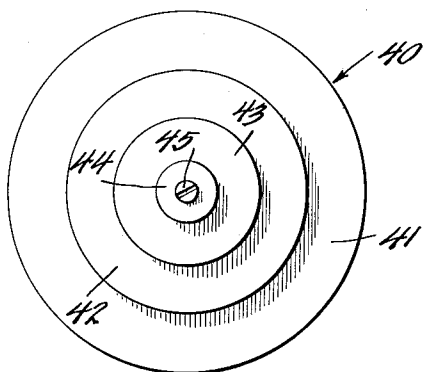


FIG 9.

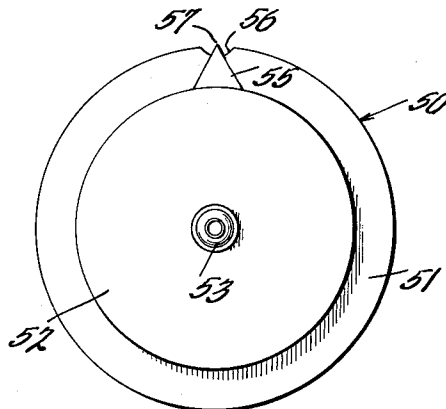


FIG 8.



FIG 10.

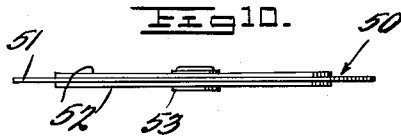


FIG 12.

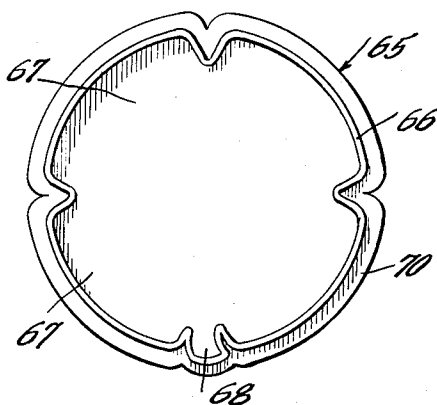


FIG 11.

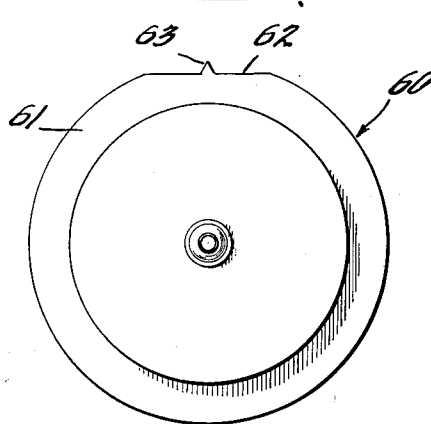
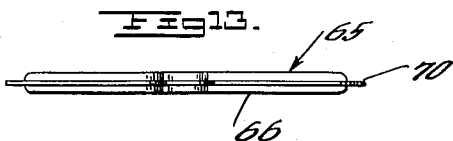


FIG 13.



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NONSKID PROJECTILE

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9 Claims. (Cl. 273-106)

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This invention relates to games and more particularly to projectiles employed in games of skill adapted to be played either indoors or in the open air.

This application is a continuation-in-part of my copending application Serial No. 621,045, filed October 8, 1945 and now abandoned.

The general object of the invention is to provide a novel and improved disk-like projectile of this class which is safe to use, easy to toss with a great degree of accuracy, and one which will retain its general configuration during use but which will land on the target area without substantial bouncing or skidding.

More particularly it is an object of the invention to provide a projectile disk of either circular or somewhat irregular outline which is for the greater portion of its area fairly stiff although preferably resilient, but with a marginal or rim portion which is not so stiff but rather flexible, soft, or limp. This effect may be attained either by reducing the thickness of the marginal area, by making it of a different and more flexible material, or by making it of the same material but treating the two portions differently to attain the relative degree of flexibility.

The effect of this flexible margin is to cause the edge of the disk to buckle when it strikes the playing surface at an angle, permitting the projectile to land "limp," instead of bouncing, skidding, or rolling.

The practical embodiments of the invention may take many forms, only a few of them being shown herein. The materials of which the projectiles are made may differ, but the rim portions should be of the approximate consistency and flexibility of rather soft vulcanized sheet rubber.

Other objects and features of novelty will be apparent from the following specification when read in connection with the accompanying drawings in which several embodiments of the invention are illustrated by way of example.

In the drawings:

Figure 1 shows a player tossing one of the projectiles so as to fall upon a typical target;

Figure 2 is a plan view of one embodiment of the novel projectile;

Figure 3 is a transverse sectional view taken on line 3-3 of Figure 2;

Figure 4 is a somewhat diagrammatic view in elevation of the projectile of Figures 2 and 3, as it falls upon the target area at a rather acute angle to said surface;

Figure 5 is a similar view showing the projectile contacting the playing surface at a greater angle;

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Figure 6 is a side view of a modification of the projectile;

Figures 7 and 8 are plan and sectional views respectively of another form of the invention employing a plurality of laminations of sheet material in its construction;

Figures 9 and 10 are similar views of still another modification in which fewer layers of sheet material are used, and in which a novel pointer or indicator is cut in the rim of the projectile;

Figure 11 is a plan view of a projectile showing another form of indicator; and

Figures 12 and 13 are plan and elevational views of a projectile which is suggestive of numerous variations in form and appearance of which the projectiles are susceptible, not only from the standpoint of ornamentation but also as a means of identifying the projectiles of the several contestants.

The number and variety of tossing games are legion, but it would appear that they are all derived from the ancient game of discus throwing and of course the more recent games of quoits or the typical American game of horseshoes. The novel projectiles presented by the instant invention are therefore susceptible of being used in a very wide variety of different games, some of which are quite similar to familiar tossing games and others being unique and ingenious adaptations of other games such as shuffleboard, darts, baseball, dice casting, lawn bowls, and many others.

While the projectile itself may be modified or selected in accordance with the game to be played, the differences will lie chiefly in the nature of the target area or surface upon which the projectiles are tossed.

In most applications or uses of the novel projectiles, they are intended to be thrown or tossed in a generally horizontal position, and either with a spin or with a purely translatory motion, similar to the way in which horseshoes or quoits are thrown. However, unlike the latter projectiles, the applicant's novel missiles or playing pieces are so designed that they are not likely to bounce, skid, or roll when they land upon the playing surface.

Further, according to the method of play which may be chosen, the novel projectiles may be tossed to a line, a peg, or some other small spot marking or indicating device, such as for example a small round disk or "coin" of the approximate diameter of a horseshoe-pitching peg. The novel playing pieces comprising the present invention afford amusement and exercise for

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both indoor and outdoor use under all conditions which require a safe and harmless projectile. The particular construction of the pieces prevents harm to bystanders or surrounding objects, or to the playing surfaces themselves whether they be prepared targets, floors, floor coverings, lawns, or other landscaped or well-ordered outdoor surfaces.

In Figure 1 of the drawings there is illustrated, solely by way of example, a target area 10 which is marked off in squares and rectangles suitably designated, in simulation of a shuffle-board game or the like. In this case the target board or mat is laid upon the lawn 11 and the participant 12 is shown in the act of tossing one of the projectiles 15 which will follow the trajectory 16 toward the target. Of course, the distance between the target and the point from which the projectiles are tossed will be determined by the nature of the game and the age or ability of the participants.

The targets 10 may conveniently be made of rubber mats made of the material commonly employed as rug anchors. Other modifications of the target areas will be mentioned as the description of the various projectiles proceeds.

In Figures 2 and 3 of the drawings the projectile 15 is shown as comprising a relatively flat disk having a fairly thick body portion 20 which may, if desired, be slightly flanged or beaded as indicated at 21. Preferably, the consistency or stiffness of the disk 20 is such that when supported at one edge by the fingers of the contestant, it will not bend or droop to any substantial extent but will retain its flat disk-like shape as it flies through the air and lands upon the target. Except as defined in certain of the subjoined claims, the disk comprising the projectile may be made of any suitable material. In its more particular aspects, however, the invention contemplates the making of the disks of vulcanized rubber, and they may be stamped or embossed to shape in any desired or known way.

The body portion 20 of the disk is surrounded by an annular flap, lip, or fringe portion 25. Preferably the flap is disposed in the central or median plane of the body portion 20 and may be formed of the same material of which the body portion 20 is formed, and may be integral therewith as in the case of the embodiment shown in Figures 2 and 3.

Due to the fact that the flap or marginal portion 25 is considerably thinner than the body portion, this marginal portion is more flexible and is subject to buckling or bending under impact. Consequently, as clearly shown in the diagrams of Figures 4 and 5, when the projectile does not land upon the target area absolutely flat, the margin or flap 25 will be the first to strike the target area 10 and it will be buckled or crumpled, thus interposing a softened retarding effect upon the whole projectile, preventing bouncing and skidding and causing the projectile as a whole to collapse limply upon the target surface without rolling or moving any substantial distance from the point of fall.

In Figure 4 the projectile has struck the target area 10 at a rather acute angle, and therefore the contacting portion of the flexible flap or rim 25 will be bent in the way clearly shown in the figure, and the corner edge 27 of the body portion 20 of the projectile will then strike the target 10 and the projectile 15 will fall toward the left in the figure.

In the case illustrated in Figure 5 the projectile

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has fallen through a rather high trajectory and the flap 25 has been buckled or crumpled in the opposite direction from that shown in Figure 4. In this case the projectile stops dead and falls limply upon the target areas, and it may fall either to the right or to the left in Figure 5 depending upon the directional components of the projectile upon landing. However, the projectile will not skid or roll any appreciable distance.

In playing certain games in which large target scoring spaces are used or where the significant point turns upon the over-all distance of the projectile from a line, a point, or an opponent's projectile, no further indicating markings on the projectiles are necessary, other than its own margins or edges. However, when certain games are played, in which smaller significant target areas or markings are used, such as in simulated baseball games or dart games employing a "twenty point target," with radiating wedge-like areas, a finer indicating means on the projectile is desirable. For this purpose, there is provided on the projectile 15, as clearly shown in Figures 2 and 3, the triangular arrow-heads 30, these pointers may be molded upon the marginal or flap portion 25 without seriously interfering with the flexibility of these portions.

In Figure 6 of the drawings there is illustrated the streamlined projectile 35 which is made of flexible material, for example rubber, having the margins 36 tapered to fairly thin edges, in order to increase the flexibility. Of course, the relative flexibility of the margins and the main central portions of the projectiles may be attained in different ways. In cases where these portions are integral or made of the same material, the relative thickness will determine the relative degree of flexibility. On the other hand, the nature of the treatment of the material may determine this factor. For example, in the case of the projectile 35 in Figure 6 if made of rubber, the greater central portion thereof may be vulcanized to a greater degree than the marginal portions, rendering the central portion stiffer and allowing the marginal portions to remain flexible for the purposes described.

The projectile shown in Figures 7 and 8 of the drawings and designated generally by the reference numeral 40 is made up of a plurality of layers or laminations of rubber-like material, the central or median layer 41 being of the greatest diameter and successive laminations 42, 43, and 44 both above and below this central layer are of decreasing diameters. The laminations may be held together by a suitable bolt or rivet suggested at 45. Thus, even though the individual laminations are of the same degree of flexibility, the projectile as a whole possesses the relative marginal flexibility required for the purposes of the invention, and the projectile will land in a limp manner without rolling or skidding when the margins of the central layer 41 buckle as described.

The embodiment shown in Figures 9 and 10 is designated generally by the reference numeral 50 and comprises somewhat fewer laminations than the ones shown in Figures 7 and 8, the intermediate layer 51 being of greater diameter than the upper and lower layers 52, the latter comprising the stiffer body portion of the projectile. A rivet or grommet 53 secures the layers together. An arrow-head or triangular pointer device 55 is provided which may be either molded onto the projecting edge of the layer 51 or may be

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suitably inscribed thereon. The margin of the projecting layer is cut away upon the arc 56 leaving the tip 57 of the pointer exposed and very readily readable with relation to the target.

The projectile 60 in Figure 11 is made in the same way as the one just described in relation to Figures 9 and 10 with the exception that the margin of the outer layer 61 is cut away on the straight line 62 but leaving a projecting point 63 as an indicator.

In Figures 12 and 13 of the drawings there is shown a modification of the projectile illustrated in Figures 2 and 3 of the drawings, this form of the device being designated generally by the reference numeral 65. In this case the central body portion 66 is stamped, embossed, or molded in the form of a four leaf clover design, leaves being suggested at 67 and the stem at 68. The marginal flap 70 is provided for the purpose already described and it will be readily understood how this form of projectile fulfills the objects of the invention as in the other modifications. This configuration is merely suggestive of a wide variety of other forms which could be used, simulating flowers, animals, or other familiar objects. Not only do such modifications provide ornamental features, but they may also serve as means for identification of the projectiles of the several participants in the games.

In addition to the forms illustrated herein, the novel missile or projectile may be in other configurations such as square, hexagonal, or other polygonal shapes, and it is further understood that various other modifications may be made in the embodiments illustrated and described without departing from the scope of the invention as determined by the following claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A game projectile of the class described, which comprises a substantially flat somewhat flexible and resilient disc adapted to be tossed manually onto a playing surface, said disc having a body portion constituting the central and major part of the disc, which portion is relatively stiff and rigid substantially to retain its flat disc-like shape to facilitate its throwing, and is substantially unyielding and resistant to buckling under impact of the projectile upon the playing surface, said projectile disc also including a soft, yieldable, relatively limp, narrow, marginal lip or fringe portion normally projecting radially outwardly from said rigid body portion, said fringe portion being therefore substantially more flexible than the said major part of the projectile, the flexibility of said disc changing abruptly at the line of junction of said portions, said fringe portion being collapsible and adapted to readily buckle upon impact with said surface thus dissipating the shock of landing and causing the projectile to fall dead upon said surface without bouncing, rolling or skidding.

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2. The projectile as set forth in claim 1 in which the projectile is made of rubber and the fringe portion is of the same material but thinner.

3. The projectile as set forth in claim 1 in which the projectile consists of flexible material hardened throughout its inner main portion only.

4. The projectile as set forth in claim 1 in which the projectile comprises a plurality of laminations, the main portion having more laminations than the lip portion.

5. The projectile as set forth in claim 1 which comprises a plurality of layers of flexible sheet material secured together adjacent the center: an intermediate layer being of the greatest diameter and the layers above and below it being of successively diminishing diameters; the wider, extended peripheral portion of said intermediate layer constituting said lip portion.

6. The projectile as set forth in claim 1 which comprises a plurality of layers of flexible sheet material secured together adjacent the center: an intermediate layer, a layer above said intermediate layer and a layer below said intermediate layer; said upper and lower layers being of smaller diameters than that of the intermediate layer, the wider, extended peripheral portion of said intermediate layer constituting said lip portion.

7. The projectile as set forth in claim 6 in which the layers comprise sheets of rubber.

8. A game projectile of the class described, which comprises a substantially flat disk of rubber-like material of such stiffness throughout the major and central portion of its area to sustain itself and substantially retain its flat configuration when manually supported at a point near its margin, a soft flexible peripheral flap projecting radially outwardly from said disk, and a pointer formed at one point on the margin of said flap.

9. A game projectile of the class described, which comprises a substantially flat disk of rubber-like material of such stiffness throughout the major and central portion of its area to sustain itself and substantially retain its flat configuration when manually supported at a point near its margin, a soft flexible peripheral flap projecting radially outwardly from said disk, and a pointer cut in the margin of said flap at one point on its periphery.

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