Aug. 5, 1952 E. H. TJOMSLAND 2,606,030

SHUFFLEBOARD WEIGHT WITH COVERED EDGES

Filed July 23, 1949

FIG.1

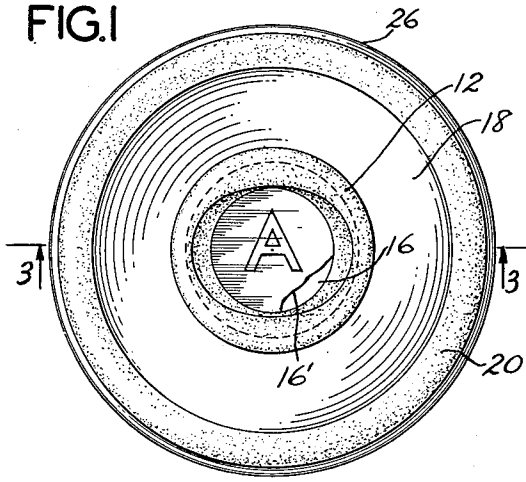
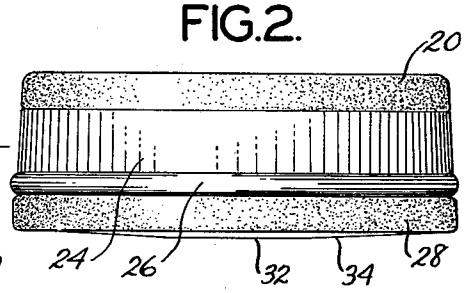


FIG.2.



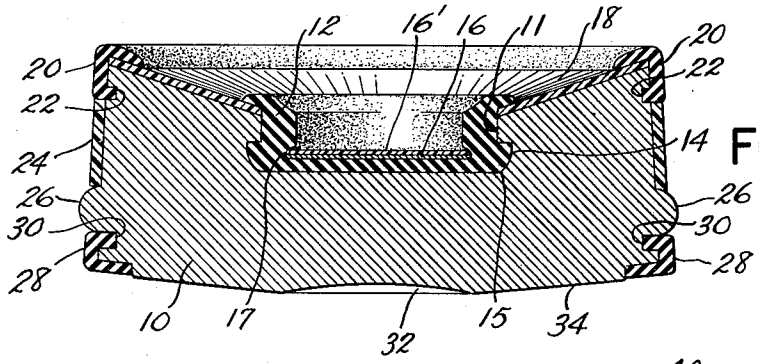


FIG.3.

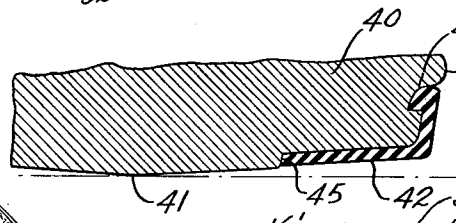
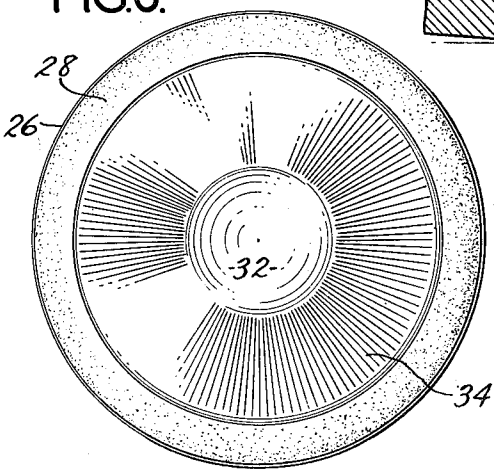


FIG.4.

FIG.6.



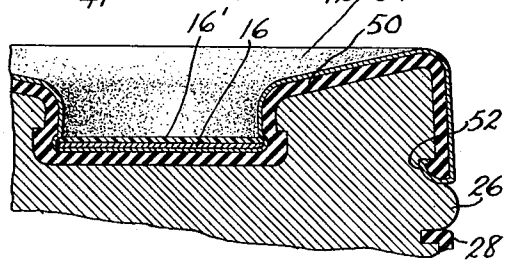


FIG.5.

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SHUFFLEBOARD WEIGHT WITH COVERED EDGES

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20 Claims. (Cl. 273—128)

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This invention relates to shuffle board weights, and more especially to improvements that make the colors of the weights more easily visible and that prevent the weights from damaging the board on which they are used and from damaging each other.

The weights of the opposing teams are distinguished by different colors. When these colors are on the tops of the weights only, it is sometimes difficult to see them from the opposite end of a long shuffle board. Color bands placed on the sides of the weights have presented a number of difficulties. If the weights are painted on their circumferential surfaces, the paint is easily cracked off by the impact of the weights with one another during play. Some weights have been made with grooves in which the paint was placed to protect it from being cracked, but when such grooves are provided in shuffle board weights made of hardened steel, the edges of the grooves themselves become chipped in play.

It is an object of this invention to provide an improved shuffle board weight having a colored covering which identifies the weight without interfering with the way in which the weight is used in play. In the preferred construction of the invention, the weights have a circumferential portion of maximum diameter at which there is no covering over the metal so that the weights strike against each other with metal to metal contact in the same way as conventional weights.

It is another object of the invention to provide a soft covering over the upper and lower edges of the weights so that they do not damage the surface of the table when they are accidentally or carelessly dropped on the surface. Wooden tables are damaged by having depressions indented in their surfaces by weights dropped upon them, and tables made of composition material sometimes have their surfaces cracked by the impact of weights that are dropped on the surfaces, particularly if near an edge or corner of the composition material.

Still another object of the invention is to provide a shuffle board weight having a depression in its top surface with a generally elliptical shape so that the weight can be conveniently held and controlled by the player's thumb, particularly while making shots along the side of the playing surface.

Other objects, features and advantages of the invention will appear or be pointed out as the description proceeds.

In the drawing, forming a part hereof, in which like reference characters indicate corresponding parts in all the views,

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Figure 1 is a top plan view of a shuffle board weight embodying this invention.

Figure 2 is a side elevation of the shuffle board weight shown in Figure 1.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary sectional view showing a modified construction for the bottom of the weight.

Figure 5 is a fragmentary sectional view showing a modified construction for the top and side of the weight.

Figure 6 is a bottom view of the weight shown in Figures 1–3.

The shuffle board weight shown in Figures 1, 2 and 3 includes a body portion 10 having a top surface that slopes downwardly to a center recess 11. There is an insert 12, preferably made of rubber, soft plastic or similar material, and this insert fits securely in the center recess, being held firmly in place by friction and by a projection 14 near the lower end of the insert in position to fit into an annular undercut 15 in the lower end of the side wall of the center recess 11.

The center portion of the insert 12 is depressed and contains an identification disk 16 which is covered by a transparent window 16'. The disk and window are held in place by an undercut recess 17 into which the edges of the disk extend at the bottom of the side wall of the depression in the insert.

The upper side of the undercut 15 is substantially straight, that is, normal to the axis of the weight so as to lock the projection 14 and the insert 12 against moving out of the center recess 11. This feature of a straight wall at the end toward which the inserted projection pulls in service is used in all of the grooves and undercuts that hold the covers of this invention. The projection 14 is opposite the recess 17 which holds the identification disk 16 so that the outward pressure of the disk 16 and window 16' hold the projection 14 in the undercut 15.

Some players hold their thumb against the top of the weight for better control, particularly when making shots along the side of the playing surface of the shuffle board; and the depression in the insert 12 has a generally elliptical shape, best shown in Figure 1, and a rounded or tapered upper end portion on the sides of the insert depression to enable the thumb to fit comfortably into the depression for controlling the weights when making any shots with the thumb held against the top of the weight.

In the construction shown in Figures 1 to 3, there is an annular cover 18 over the top of the

body portion 10 beyond the center recess. This annular cover is preferably made of plastic material having a bright color, and the inner edge of the cover 18 is held in place by a bead around the periphery of the insert 12.

There is a cover 20, preferably made of molded rubber, over the upper circumferential edge of the weight. This cover 20 overlaps the annular cover 18 and holds the upper edge of the annular cover in position. The edge cover 20 is held in position by a bead 22 which fits into a complementary, circumferential groove in the side surface of the weight.

Below the cover 20 there is a sleeve 24 that fits snugly around the weight and that is preferably made of plastic having the same color as the annular cover 18. It will be understood that in each set of weights, the cover 18 and sleeve 24 will be of one color on half of the weights and of another color on the other half for identifying the weights of the two competing teams.

One feature of the invention is the inclusion in the materials of the covers and the sleeve 24 of pigments that become fluorescent when exposed to certain kinds of radiation. The pigment used is preferably one that glows under "black light." There are a number of such materials, such as calcium sulfide, strontium sulfide, sulfide of alkaline earths containing impurities as manganese, dysprosium, strontium, yttrium, thallium, samarium. If colors that become brighter under white light are desired, pigments can be used which are made of anthracene, eothine, esculine, fluorescein, zinc sulphide, naphthalene red, quinine sulphate.

Below the sleeve 24 the weight has an annular contact ring 26 which is of one piece construction with the body of the weight and preferably of a rounded cross section, the construction shown in the drawing being substantially half round. The side wall of the body portion 10 is preferably tapered above the annular contact ring 26 so that the diameter increases progressively downward.

The contact ring 26, at its region of maximum diameter, extends radially beyond the cover 20, sleeve 24, and beyond another cover 28 which is located at the lower circumferential edge of the weight. The maximum diameter of the annular contact ring 26 is preferably in the same plane with the center of gravity of the weight. This feature eliminates the tendency of weights to turn up on edge and roll when subjected to impact with other weights.

The annular contact ring 26 is of sufficient breadth and strength so that it will not chip in use. Experience has shown that by having the contact ring 26 of rounded cross section, the appearance of the weight is more attractive than when an effort is made to obtain a uniform abutment between straight side edges of a contact ring and the confronting edges of the sleeve 24 and lower edge cover 28.

The lower edge cover 28, which is preferably made of rubber, is held in place by a bead 30 which fits into a complementary circumferential groove of the side wall of the body portion 10 immediately below the contact ring 26. In order to have the weight slide freely on the shuffle board, it is necessary to provide a construction in which a metal surface of the weight rests on the shuffle board.

In the construction shown in Figure 3, the shuffle board weight has a bottom which comprises a center concave area 32 and a frustro-conical area 34 surrounding the center area 32. The concave area 32 may be of larger or smaller radial extent within a reasonable range, and is preferably from ¼ to ½ of the radius of the weight.

In the preferred construction the frustro-conical area 34 slopes upward at an angle of ¾ degree, such angle being measured from a horizontal plane on which the shuffle board weight rests. The concave area 32 merges with the frustro-conical area 34 around an annular surface which comprises the bearing surface on which the weight slides when moving over the shuffle board. At the region where the frustro-conical area 34 meets the side of the weight, the body 10 is preferably recessed to make the bottom surface of the lower edge cover 28 substantially flush with the surface of the frustro-conical area 34. Substantially mechanically equivalent constructions can be obtained by having the concave area conical for a portion of its extent, or by having a portion of the area 34 convex, the purpose of the upward slope of the area 34 being merely to limit the bearing surface of the weight to a smaller area near the center of the weight without substantially raising the center of gravity.

Although shuffle board weights having annular sliding surfaces, such as the weight shown in Figure 3, are becoming increasingly popular because of the truer courses which they follow and their ability to respond to spins placed upon the weights by good players, some manufacturers still make the older style of weight in which the bottom of the weight has substantially point contact with the surface on which it rests. When such weights are sliding along a shuffle board, they tilt in the direction in which they are moving and the actual bearing is not only the center point but a radial line extending from the center point to the front of the weight. This invention can be used in such weights, and such a modification of the invention is illustrated in Figure 4.

Figure 4 shows a shuffle board weight having a body portion 40 with a center point 41. The upward slope of the bottom from the center 41 is somewhat exaggerated in Figure 4 in order to make the illustration clearer. Actually the slope of the bottom is usually of the order of about ¾ degree measured from a horizontal surface normal to the axis of the weight.

There is a lower edge cover 42 held in place by a bead 44 which extends into a complementary groove in the circumferential side surface of the body portion 40. The lower edge cover 42 extends around the edge along which the bottom of the weight merges into the side of the weight, and then extends across a recessed portion of the bottom to a shoulder 45. The bottom surface of the cover 42 is set back slightly from the bottom surface that is radially inward from the shoulder 45 so that when the weight is sliding, its contact surface is a radius extending from the point 41 to the shoulder 45, and the surface of the lower cover 42 does not touch the shuffle board. The shoulder 45 is located inward from the side of the weight by a distance which is preferably not greater than one-third of the radius of the weight.

Figure 5 shows another modified construction in which the plastic cover 18 and sleeve 24 of Figure 3 are dispensed with and the side and top of the weight are covered by a single cover 50 which is preferably a one piece, molding of medium soft rubber or other cushioning material. This cover 50 includes a center portion which is similar to the insert 12 of Figure 3, except that it requires no bead around its upper edge, and it includes also an outwardly extending portion which covers the entire top of the weight beyond

the center recess 11, and which also covers the upper circumferential edge of the weight and the side of the weight down to the annular contact ring 26.

The cover 50 is held in place by a bead 52 fitting into a complementary circumferential groove in the side wall of the shuffle board weight. The lower portion of the weight shown in Figure 5 may be the same as that shown in Figure 3 or can be the modified construction shown in Figure 4.

One advantage of the invention is that all of the edges of the weight are covered with soft cushioning material, and the shuffle board is thus protected from damage when weights are dropped, the edges of the weights being the parts that most easily damage the shuffle board. At the same time, the weights have their portions of maximum diameter, the contact rings 26, exposed so that there is the same metal to metal contact, between weights which strike one another, as in conventional weights which have no protection over their upper and lower edges.

Figure 5 shows another feature comprising a glove 54 stretched over the cover 50 and down into the depression at the center of the cover. The edge of the glove 54 is locked into the undercut circumferential groove that receives the projection 52, and the center region of the glove 54 is stretched down into the depression in the insert 50 and held down by the identification disk 16.

The glove 54 is preferably made of transparent plastic material in which there are embedded particles of material that become fluorescent when exposed to radiation, such as infra-red or visible light, depending upon the nature of the particles selected. The use of the glove 54 over the other cover is for the purpose of economy since the transparent plastic material used for the fluorescent particles costs more than the material of the molded covers. The glove 54 is of thin material and not thick enough to provide the cushioning for which the covers on the weight edges are used.

The invention can be made with a cover that extends around the upper and lower edges and across the entire circumferential surface of the weights. Such covers, however, cushion the impact of the weights with one another and change the characteristics of the play to some extent. However, the weights, when so covered, will displace other weights with comparatively good efficiency as long as the bottom surfaces of the weights are not interfered with by the soft covers and the weights have bare metal surfaces in contact with the surface of the shuffle board.

The preferred embodiment and some modifications have been illustrated and described, but various changes and other modifications can be made and some features can be used alone or in different combinations without departing from the invention as defined in the claims.

What is claimed is:

1. A shuffle board weight comprising a metal body having top and bottom surfaces and a side surface that merges with the top and bottom surfaces at upper and lower circumferential edges of the weight, a cover extending over a portion of the top surface around the upper edge and part way down the side of the weight, another cover extending around the lower edge of the weight and across portions of the bottom and side of the weight, a shoulder on the bottom of the weight at the inner edge of the portion of the cover that extends radially inwardly across the bottom, said shoulder extending downward for a distance at least as great as the thickness of the material of the adjacent portion of the cover, and a bearing surface at the bottom of the metal body inward from the shoulder and in position to serve as the bearing on which the shuffle board weight slides along a shuffle board.

2. A shuffle board weight comprising a metal body having top and bottom surfaces and a side surface that merges with the top and bottom surfaces along the upper and lower edges, respectively of the curved side, a cover of soft material extending around the upper edge and across the portions of the top and side that are adjacent to the upper edge, another cover of soft material extending around the lower edge and part way across the bottom of the weight, a circumferential surface on the side of the weight between the upper and lower covers and of greater diameter than the upper and lower covers for contact with the corresponding surface of a similar weight on a shuffle board, a shoulder on the bottom of the weight at the inner edge of the portion of the cover that extends radially inwardly across the bottom, said shoulder extending downward for a distance at least as great as the thickness of the material of the adjacent portion of the cover, a bearing surface on the bottom of the weight inward from the shoulder at a level below the bottom of the lower cover.

3. A shuffle board weight comprising a metal body having a top and bottom joined by a circumferential side that meets the top and bottom at upper and lower edges, a cover of different material from the body including soft resilient material that covers the upper and lower edges of the weight and that extends radially inwardly across portions of the top and bottom of the weight, a shoulder on the bottom of the weight at the inner edge of the portion of the cover that extends radially inwardly across the bottom, said shoulder extending downward for a distance at least as great as the thickness of the material of the adjacent portion of the cover, and a bearing surface on the bottom of the weight inward from the shoulder and in position to provide the only bearing surface of the weight when the weight is sliding on a shuffle board.

4. A shuffle board weight including a metal body having a bottom and a circumferential side that meets the bottom along the lower edge of the side, a cover of soft material extending downward along the side and around the lower edge and across a portion of the bottom of the weight, the bottom surface of the weight being recessed for a distance somewhat greater than the thickness of the cover so that the portion of the cover extending across the bottom is recessed back from the bottom on which the weight slides.

5. A shuffle board weight having a metal body with a bottom and a substantially circular side wall that meets the bottom along a lower circumferential edge, said bottom having a center concave portion and an annular area around the center concave portion sloping upward toward the side of the weight so as to leave an annular bearing surface on which the weight slides when used on a shuffle board, a shoulder extending upward from the bottom around the outer limit of said annular bearing surface to provide an annular recessed portion of the bottom, a cover of less height than the shoulder and extending downward over a portion of the side wall and around the bottom edge and across the recessed

portion of the bottom outside of the annular bearing surface on which the weight slides.

6. A shuffle board weight comprising a metal body having a bottom and a substantially circular side wall that meets the bottom along a lower edge, a center region of the bottom on which the weight rests when placed on a horizontal surface, a cover extending downward along the side wall and around the lower edge and across a portion of the bottom for a distance not greater than one-third of the radius of the bottom, the portion of the bottom across which the cover extends being set back to prevent the cover from extending below the exposed surface of the bottom.

7. A shuffle board weight having a top and bottom and a side wall extending between the top and bottom and meeting said top and bottom along upper and lower edge portions, soft material covering the upper and lower edge portions of the weight but leaving an intermediate section of the side wall exposed, said side wall being so shaped that the diameter of the exposed portion is the maximum diameter of the weight for impact with similar weights during shuffle board play.

8. A shuffle board weight as described in claim 7 and in which the section of maximum diameter is in the same plane with the center of gravity of the weight so as to eliminate overturning moments when the weights strike against a similar weight during shuffle board play.

9. A shuffle board weight comprising a metal body having a top and bottom and a side wall extending between the top and bottom and merging with the top and bottom along upper and lower edge portions, a cover extending along a portion of the side wall and around at least one of the edge portions and then radially inwardly across a portion of the weight, an annular contact ring adjacent the cover and projecting from the body of the weight for a radial distance greater than the radial extent of the cover so as to provide the maximum diameter for the weight, said contact ring having a cross section normal to its circumferential extent and curved along the region of the contact ring that confronts the adjacent edge of said cover.

10. A shuffle board weight having a side wall with a contact ring bulging outward at a region of the side wall to provide the maximum diameter of the weight, said ring having a cross section curved in a plane that passes through the longitudinal axis of the weight, a colored sleeve overlying a substantial area of the side of the weight and having an edge confronting the bulge provided by the side wall ring, said sleeve having a substantially flat annular face confronting the curved side of the contact ring.

11. A shuffle board weight comprising a metal body portion with an annular ring bulging from a side wall of the body portion intermediate the upper and lower ends of the weight, said ring being of curved cross section in a plane that passes through the longitudinal axis of the weight, a cover over-lying at least a portion of the side wall of the weight and terminating at the juncture of the ring with the remainder of the side wall, said cover having an edge face that diverges from the surface with the ring in a direction away from the longitudinal axis of the shuffle board weight.

12. A shuffle board weight having a top surface and a side wall, a central recess in the top surface, an insert held in said recess, a cover extending upward along the side wall and around the upper edge of the side wall and inward for a limited radial distance across the top of the weight, and an annular element over-lying the portion of the top surface between the insert and said cover, the inner and outer edges of said annular element extending under portions of the insert and the edge cover, respectively, for securing the annular element in position.

13. The shuffle board weight described in claim 12 with pigments in the annular element that become fluorescent when exposed to radiation from a source above a shuffle board on which the weight is used.

14. A shuffle board weight having a side wall and a top surface in which there is a center recess, an annular element over-lying the portion of the weight between the recess and the side wall, an insert and an edge cover, one of which extends over a portion of the annular cover and holds the annular cover in place, means holding said insert securely within the recess in the weight, said cover being securely held by the weight in a position adjacent to and surrounding the upper edge of the side wall.

15. A shuffle board weight having a top and bottom and a side wall extending between the top and bottom, said top having a center recess, an insert extending downward into the recess, means locking the insert against displacement from the recess, and a bead at the upper portion of the recess extending radially for a limited distance across the top of the weight, said insert having a depression of substantial depth in its top surface, and in which identification marking can be placed at a location protected from damage by the striking of other weights against the insert.

16. The shuffle board weight described in claim 15 with the depression in the top of the insert of substantially elliptical shape in a plane normal to the longitudinal axis of the weight, and with upper edges of the depression diverging so that a player's thumb fits conveniently into the depression in the direction of its maximum length for controlling the direction of movement and turning of the weight during shuffle board play.

17. A shuffle board weight comprising a metal body having a top surface as a center recess therein, an insert of different material from the body of the weight, said insert being held in the recess and having a depression of substantial depth in its top surface, the depression being of greater length than width and having its side wall diverging upwardly throughout at least a portion of its height to provide a socket that fits the thumb of a player for controlling the direction of movement and turning of the weight during shuffle board play.

18. A shuffle board weight comprising a metal body portion having a top surface with a center recess therein, a rubber insert located within the recess, means holding the insert firmly in the recess, a depression in the rubber insert, and an identification disk located at the bottom of the depression and held in place by the side of the depression.

19. A shuffle board weight having a top surface that slopes downwardly toward the axis of the weight, other surfaces that extend substantially parallel to the longitudinal axis of the weight, a colored annulus over-lying a substantial portion of the top of the weight and extending downward toward the center in the same way as the weight, and means for holding the colored annulus

against the weight, said means comprising a resilient cover that overlies an edge portion and only an edge portion of the colored annulus and that extends into a depression in one of the surfaces of the weight which is substantially parallel to the longitudinal axis of the weight for preventing movement of the annulus and cover in the direction of said axis.

20. A shuffle board weight comprising a metal body having top and bottom surfaces and a side extending between the top and bottom at upper and lower edges respectively, cushion covers extending around said edges, and a glove of plastic material over-lying at least the cushion cover that extends around the upper edge, said glove having embedded therein particles that become fluorescent when exposed to a preselected radiation.

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