

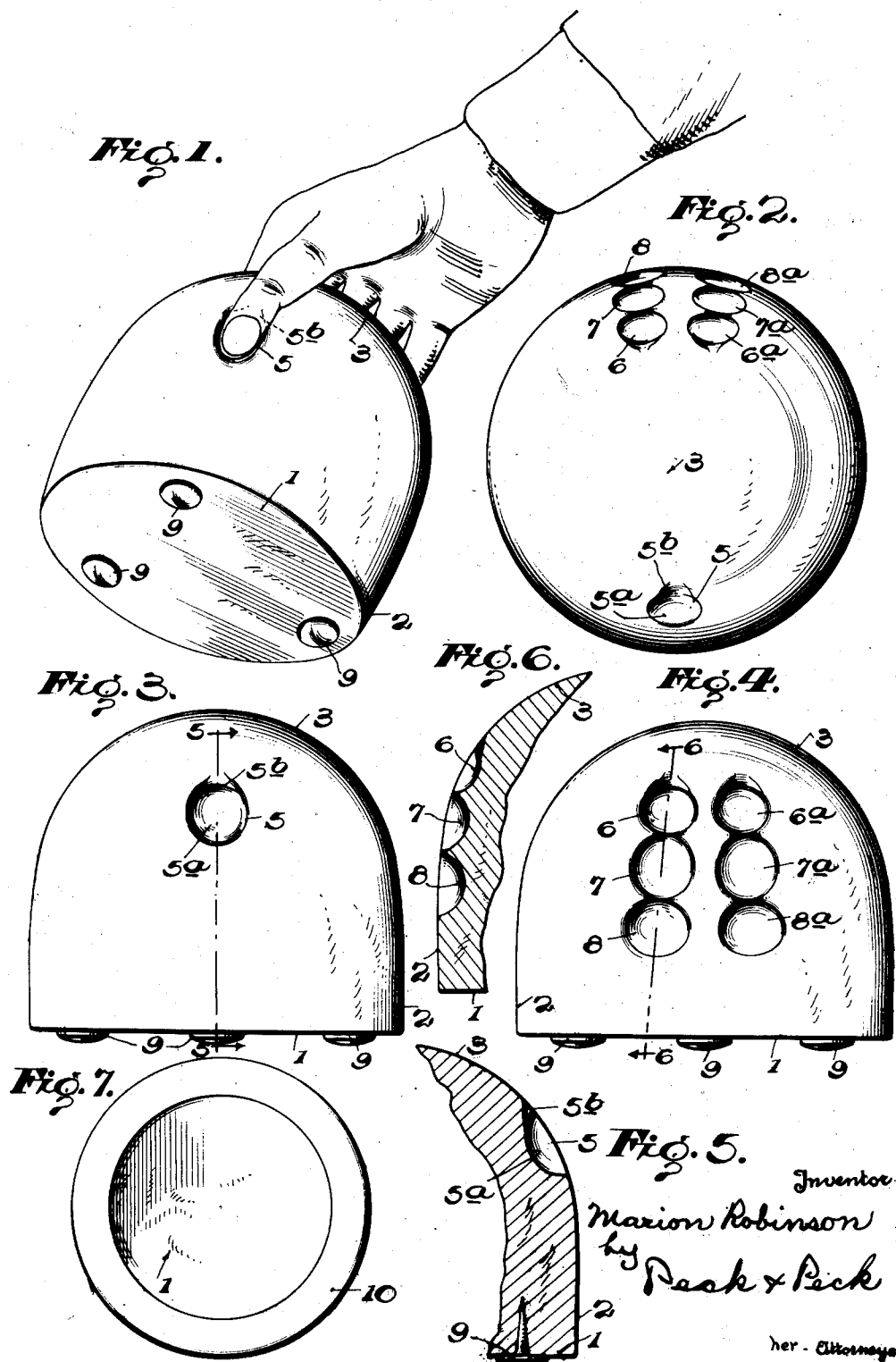
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HAND THROWN GAME ELEMENT

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HAND THROWN GAME ELEMENT

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4 Claims. (Cl. 273—128)

This invention relates to hand thrown game elements; and the objects and nature of the invention will be made clear from the following explanations of the accompanying drawing that illustrates a preferred mechanical expression or embodiment of the invention from among other forms, arrangements, constructions and modifications within the spirit and scope of the invention.

10 An object of the invention is to provide an element or projectile formed for spanning, grasping, and carrying by the hand, and adapted to be thrown and projected by the hand for use in various games, for example, those of the bowling type among others; that will possess certain novel advantageous features; reduce to the minimum possibility of injuries to the hand and digits thereof; be capable of easy spanning and grasping by hands of various sizes and dimensions and of being accurately projected or thrown by the hand with possibility of the element accidentally slipping or changing its position during discharge thereof from the hand, reduced to the minimum; that will be slidable in an upright position when thrown by the hand, along a slide-way, lane or the like toward the objective as distinguished from rolling ball like elements; and that possesses characteristics reducing to the minimum possibility of such element advancing in a substantially straight line by rolling, and yet rendering said element capable of being accurately directed and propelled by the hand grasping and throwing the same for straight line sliding to the objective to there perform its intended function.

35 And a further object of the invention is to provide a hand projected game element or projectile of novel characteristics rendering the same capable of successful employment in games, say of the bowling type, without requiring such expensive installations as the common bowling alleys and the like, by reason of the formation of said element against abnormal rolling, and for hand throwing and forward sliding in its normal upstanding position, on any suitable substantially smooth straight flat surface, such as a lane of slideway leading to an objective, and marked off by paint, strips, or other means, on a floor, flat court, or other supporting base, with such element formation rendering the same capable of accurate straight-line sliding travel according to the accuracy of the hand grasping and throwing the element.

50 With the foregoing objects in view, and others that will be hereinafter developed, the invention

consists in certain novel function-performing features, structures and formations, as more fully hereinafter explained and specified and defined by the appended claims.

In the accompanying drawing, forming a part hereof:

Fig. 1 shows the element in perspective looking at the front or thumb-receiving side thereof, indicating a hand spanning the semi-spherical exterior of the element with the straightened out thumb and fingers having the inner pads of the thumb and finger tips pressed in appropriate gripping depressions.

Fig. 2 is a top plan.

Fig. 3 is a front elevation.

Fig. 4 is a rear elevation.

Fig. 5 is a detail vertical section on the line 5—5, Fig. 3.

Fig. 6 is a detail vertical section on the line 6—6, Fig. 4.

Fig. 7 is a bottom plan showing a modified form of sliding surface or shoe.

This hand projectile, in the example embodiment illustrated for purposes of explanation, comprises a preferably, hard block of wood, molded plastic, or any other material of suitable characteristics, and preferably of the substantial weight required for a hand thrown slidable element designed for straight line forward sliding along a lane or the like, for forcibly striking an objective, such as a game object or group of such objects to displace or overturn the same, for example ten or duck pins such as commonly employed in bowling, and for other game purposes where such a hand thrown slidable element can be employed. This element or projectile is elongated vertically to upstand on its substantially flat transverse bottom base face 1, formed for free sliding on a flat surface, said face being perpendicular to the central vertical longitudinal axis of the projectile. The center of gravity of this vertically-elongated projectile, is preferably located along said vertical axis, at a point below a transverse plane midway between the bottom face 1, and the top surface of the projectile. Preferably, but not necessarily, the center of gravity is approximately located in the base portion 2. The longitudinal base portion 2, is preferably exteriorly substantially cylindrical and may be of uniform exterior diameter throughout its length, and the exterior diameter of the bottom face 1, is preferably substantially the same as that of base portion 2.

The circumferential surface of base portion 2, throughout its length is preferably concentric,

substantially, with said central longitudinal axis of the projectile, and is, preferably, smooth and hard to provide the striking surface of the element or projectile for forcible engagement with the game pins, etc.

The hand-grasped upper end 3, of the projectile, is upwardly and centrally domed or rounded, preferably, of substantially semi-spherical formation concentric with said longitudinal axis of the projectile, and the maximum diameter of said semi-spherical top 3, is preferably substantially the same as the diameter of the upper end of the base portion 2, where the cylindrical circumferential surface of the portion 2, smoothly merges upwardly into the substantially hard smooth circular surface of the spherical upstanding top or dome 3. The radius of the semi-spherical top or dome 3, is preferably, although not necessarily, substantially equal to the radius of the base portion 2, and this radius is of such length as to permit the hand of the player, whether small or large within certain limits, to downwardly span and grasp the dome like top more or less snugly by and between the substantially straightened out thumb depending and fitting on one side of said top and the spread substantially straightened-out fingers depending along and fitting on the opposite side thereof.

The vertically elongated element or projectile, when in its normal operative upstanding position, is so formed that it can be easily picked up by the depending substantially straight digits of the downwardly facing hand spanning the top of and grasping the depending sides of the semi-spherical dome, and then be overturned with the dome resting down in the upwardly facing hand and the projectile upstanding therefrom, preparatory to swinging the arm to reverse the projectile and deliver the projectile right side up, with the required propelling force and accuracy to cause the upstanding projectile to slide forward with its base on the floor, in a straight line toward the objective at which aimed.

The downward elongation of the projectile beyond the semi-spherical dome grasped by the hand, by reason of its base portion provides mass weight and inertia to nicely balance the projectile in the hand for convenient accurate swing and throwing or discharge, as well as delivery by the hand in upright position for straight-line sliding along the floor without lateral falling or rotary movement on its longitudinal vertical axis. The element or projectile is so formed as to permit a straight line free forceful forward delivery of the projectile from the throwing hand, without the digits of the hand during such delivery accidentally slipping from the projectile or catching in or on the dome or otherwise imparting to the discharging projectile an abnormal or other twisting or rotating movement or any other influence tending to cause the discharge projectile to depart from its intended upright sliding straight-line travel along the floor toward its objective.

I have attained this result by a formation that permits the hand to span and grasp, lift, and reverse the projectile solely by the inward holding pressure of the pads or balls of the finger tips on one side of the dome and the opposing inward pressure of the ball or pad at the inner side of the thumb tip on the other side of the dome, while said tips of the digits of the grasping hand remain as substantially straight longitudinal continuations of the remaining portions of the digits. Thus, while the substantially straight digits tightly grasp and hold and direct the projectile

during the throwing swing of the arm, a slight pressure releasing movement of the thumb or of all the digits, instantly frees the thrown projectile from digit contact, without possibility of injury to the digits, the element or projectile being delivered in position for forward sliding in the straight-line direction in which delivered.

Where the top of the upstanding projectile is thus pinched between the thumb on one side and two or more fingers on the other side and thus lifted, carried, swung, and thrown, I find that accuracy in aiming, delivery and proper release in an upright position for straight line forward sliding on its base, are attained where the grasping thumb is located at the front side of the projectile at delivery, and the fingers at the rear side thereof. When thus arranged, it is only necessary at the point of delivery of the thrown projectile, to relax or release the thumb from its gripping pressure on the front of the projectile, and when thus released by the relaxed thumb, the projectile will move accurately forward from the fingers at the rear of the projectile, and said fingers can during the initial delivery impart a final guiding contact and forward push to the projectile in following the forward movement thereof during the forward swing of the projectile throwing arm.

To definitely locate the points at which the fingers and thumb tips should grip the projectile and to render more effective the described method of thus grasping and delivering the projectile by the tips of three or more digits of the projectile throwing hand, I provide at the center of the front of the projectile dome a fixed exterior depression or abutment located at a predetermined distance below the top extremity of said dome, to receive the pad or ball at the inner side of the tip of the thumb. For example, I show for this purpose a depression 5, in the front surface of the dome. This depression is of a diameter or transverse dimensions, to receive or partially receive the inner side pad of the thumb tip with a projectile upholding grip under the inward pressure of the thumb tip thereon.

The depression is preferably shallow with a more or less concentrically concaved floor 5a, against which the inwardly pressing pad of the thumb tip bears.

The depression 5, is preferably continued upwardly centrally at the top thereof at 5b, with a bevelled floor, to avoid edges or projections on which the thumb tip pad can catch and to avoid slipping of the projectile against the thumb at or during discharge, and the edges surrounding the depression 5, can be rounded for the same purpose.

Whatever the size of the hand that spans the projectile top, or the lengths of its fingers, the pad or ball of the tip of the thumb is pressed in the front side depression 5, and hence the fingers of such hand extend down the rear side of the projectile dome, various distances according to the finger lengths or the size of the particular hand. Where the hand and digits are of adult sizes or of the necessary strength, the projectile dome can be properly grasped, carried and thrown because of the location of the thumb tip pad in depression 5, on its equivalent, and the inwardly pinching pressure of the pads of the tips of the thumb and fingers, on the floor of depression 5, and against the rear surface of the dome, respectively, whether or not gripping or non-slipping holds are provided for the finger tips on the rear side of the projectile dome.

However, I find that certain advantages are gained by providing at the rear side of said dome-non-slipping grips or holds for the pads of the fingers tips, and hence, particularly where three digit grasping and holding of the projectile is desired, I prefer to provide a pair of laterally spaced usually substantially-similar shallow depressions 6, 6a, in the rear side of the projectile dome, formed to receive the pads or balls at the inner sides of the tips of the middle and ring finger, respectively, of the hand spanning and grasping the projectile dome with its thumb pressed in depression 5. Each such finger tip depression is preferably shallow with a concave floor against which the finger tip pad fits, and a central upwardly bevelled or sloping shallow extension, substantially as described in connection with the thumb tip depression 5, and for the same purposes.

These finger tip depressions 6, 6a, are preferably so arranged with respect to the thumb depression 5, located on the opposite side of the projectile dome, that the vertical diametrical plane common to the vertical longitudinal axis of the projectile and the central axis of the thumb depression 5, passes midway between the central parallel axes of the two laterally-spaced finger depressions 6, 6a.

I have discovered that the projectile can by simple means, be adapted for proper or effective grasping and throwing by hands of different sizes or dimensions or by hands differing in finger lengths, while providing or retaining but the one thumb tip depression, such as 5. To accomplish this result where but one thumb tip depression 5, is employed, I take care of the differences in hand dimensions or finger lengths or sizes, by providing two upwardly converging laterally spaced rows of vertically spaced finger tip depressions so arranged that the said vertical plane common to the projectile axis and the center of the thumb tip depression 5, is located centrally between said two vertically extending rows of finger depressions. For example, I show one row of finger tip depressions that includes vertically spaced depressions 6, 7, 8, of increasingly larger diameters and possibly depths, downwardly, and another row including corresponding vertically spaced depressions 6a, 7a, 8a, likewise of correspondingly larger diameters and possibly depths downwardly, to accommodate increasingly longer and larger finger tips. The lateral spacings, between the pairs of finger tip depressions 6—6a, and 7—7a, and 8—8a, also increase downwardly to accommodate the wider spacings between the larger size fingers. Thus with hands of small size, such as the hands of youth and the female, the hand will span the projectile dome and the pad of the thumb tip will seat in the thumb depression, while the pads of the middle and ring fingers will seat, say in the finger tip depressions 6, 6a, or one in either 6, or 6a, and the other in 7, or 7a. The thumb tip of a larger hand will also seat in the thumb depression 5, and the appropriate finger tips in the depressions 7, 7a, or 8, 8a, in part or in both.

The longitudinal upwardly converging rows of shallow finger tip depressions 6, etc. and 6a, etc. in effect constitute two longitudinal shallow grooves, each divided at intervals by depressed cross ribs or ridges that divide the groove into the row of non-slipping shallow finger tip gripping seats.

The transverse bottom face of the projectile base is preferably of the maximum diameter of

the projectile, perpendicular to the central vertical axis of the projectile, and is arranged to constantly tend to maintain the projectile in its normally upright position and against tilting from such position, and is also formed to provide a horizontal or level smooth friction-reducing sliding surface to freely slidably advance along the surface of the game lane. This smooth surface can be provided by the extensive-area horizontal bottom surface of the block that forms the projectile. If so desired, the sliding projectile supporting surface can be formed by symmetrically arranged horizontal convexed smooth metal or other hard domes 9, fixed to the bottom face of the projectile, or by a downwardly-projecting smooth surface metal or other hard ring 10, secured to the projectile bottom or around the lower end of the projectile, or otherwise.

The formation of the game projectile of the instant invention tends to maintain the same in vertical upright position sliding forwardly along the game lane in a straight line, when properly thrown, and said formation prevents straight line forward rolling of the projectile, should the projectile be so improperly thrown as to assume a substantially horizontal position on said lane. In fact, in the games for which the projectile is particularly designed, a thrown projectile that does not slide forward in upright position, constitutes a foul.

The upstanding or elongated projectile of this invention is preferably concentrically and symmetrically arranged around its central vertical axis and gradually reduces in transverse diameter upwardly substantially from its large transverse bottom to its reduced rounded or dome-like upper end, whether or not the lower end or base portion is literally longitudinally cylindrical and of uniform diameter throughout its length, and whether or not the rounded upper end is literally semi-spherical.

Without intending to limit the invention to any particular dimensions, sizes or proportions, it may be of interest to note that in the particular example embodiment illustrated, the maximum transverse diameter of the upstanding game projectile block is substantially from about $5\frac{3}{4}$ inches to about 8 inches, and the maximum vertical length of said block along its central longitudinal axis is substantially from about 5 inches to about 8 inches, and the center of the front side thumb tip depression 5, and the centers of the rear side finger tip depressions 6, 6a, are substantially in a common horizontal plane, and the centers of finger tip depressions 7, 7a, are in a horizontal plane about 1 inch below said plane of depression 5, with the transverse plane of finger tip depressions 8, 8a, about one inch below said plane of depressions 7, 7a; the finger tip depressions 6, 6a, can be spaced apart laterally about $1\frac{1}{2}$ inches, and depressions 7, 7a, say spaced apart about $1\frac{3}{4}$ inches, and depressions 8, 8a, about 2 inches, more or less. The front depression is about 1 inch diameter with maximum depth from about $\frac{3}{8}$ " to about $\frac{3}{4}$ ". The finger tip depressions in the projectile rear side are about $\frac{7}{8}$ " in maximum diameter and about from $\frac{3}{8}$ " to about $\frac{3}{4}$ " in maximum depth. However, my invention is not so limited.

The disclosure hereof is for purposes of explanation and not for purposes of limitation, except where so required by the following claims.

What I claim is:

1. A slidable game projectile of substantial weight having a substantially cylindrical lower

end portion of relatively enlarged exterior diameter, the projectile center of gravity being located in said portion, said portion providing the exterior laterally-striking surface of the projectile and a transverse base on which the projectile upstands and slides forward; the exterior circumferential surface of said projectile reducing in diameter upwardly and providing the projectile with a domed substantially semi-spherical top surface formed for receiving the downturned hand with the thumb depending therefrom on one side of the projectile below said top surface and the fingers extending down at the opposite side of the projectile, said projectile below said top surface and above said lower end portion having a depression to receive the inner pad of the inpressed tip of the thumb, and the other side of the projectile having laterally-spaced depressions to receive the inner pads of the inpressed tips of several fingers.

2. A hand-thrown slidable game projectile the circumference of which throughout the length of the projectile is substantially concentric with its vertical axis, the lower part of said projectile being of relatively enlarged exterior diameter, the center of gravity of the projectile being substantially located in said part, said part providing the projectile base, the top of said projectile being of reduced transverse dimensions for spanning by the downturned projectile-grasping hand having its approximately-straightened-out fingers and thumb depending therefrom along the projectile-circumferential surface below said top, said projectile having a shallow exterior-surface thumb-pad-gripping depression located above said lower part and below said top to receive the inner pad of the inpressed tip of the thumb, the side of said projectile opposite said thumb-pad-gripping depression being provided with laterally spaced shallow exterior-surface finger-pad-gripping de-

pressions, located below said top and above said lower part to receive, respectively, the inner pads of the inpressed tips of the spread middle and ring fingers.

3. A hand-thrown game projectile of substantial weight-mass having a base portion on which the projectile upstands and slides, said projectile reducing in external diameter upwardly with a substantially semi-spherical top formed to be spanned by the downturned projectile-throwing hand with the thumb depending at one side of the projectile and the fingers at the opposite side thereof, said projectile formed in its circumferential surface with a thumb-positioning substantially round shallow surface depression providing a gripping portion at its upper side to receive the inner pad of the inpressed tip of the thumb; the opposite side of the circumference of the projectile provided with shallow laterally-spaced shallow surface gripping depressions for the inner pads of the tips of several fingers.

4. A hand-thrown slidable game projectile having a lower end base portion providing a horizontal base on which the projectile upstands and slides, the top of said projectile being substantially domed for spanning by the downturned throwing hand having its thumb extending down on one side of the circumferential surface of said projectile and its fingers extending down on the circumferential surface of the opposite side of said projectile, said circumferential surface having a shallow approximately concaved thumb-tip-pad receiving and gripping depression, and the circumferential surface at the opposite side of said projectile having downwardly diverging spaced rows of vertically spaced shallow fingertip-pad receiving and gripping depressions to receive the finger tip pads of certain spread fingers, for the purposes substantially as described.

MARION ROBINSON.

CERTIFICATE OF CORRECTION.

Patent No. 2,223,271.

November 26, 1940.

MARION ROBINSON.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: In the grant, line 13, for the words "his heirs" read --her heirs--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 31st day of December, A. D. 1940.

(Seal)

Henry Van Arsdale,
Acting Commissioner of Patents.