June 28, 1960 I. M. POMRANZ 2,942,358

GAME INSTRUCTIONAL DEVICE

Filed March 25, 1959

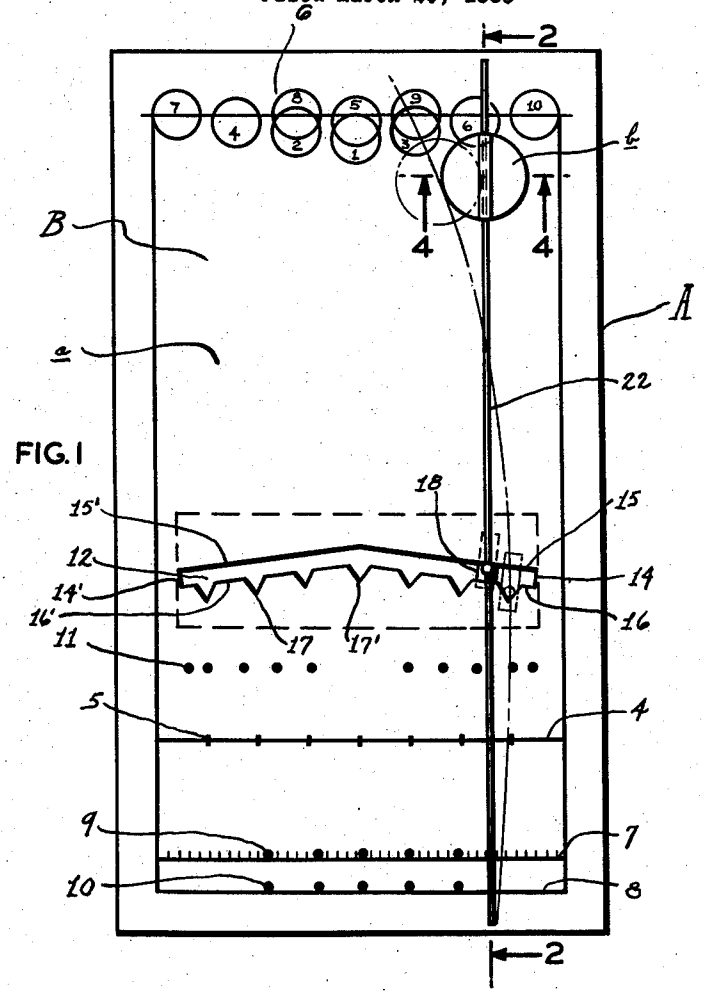

FIG. 1

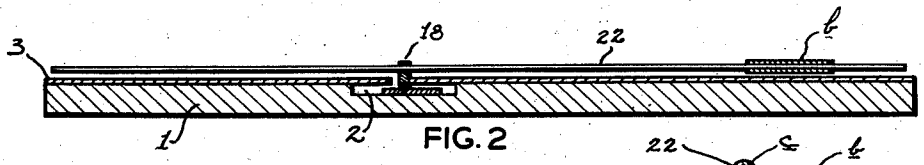

FIG. 2

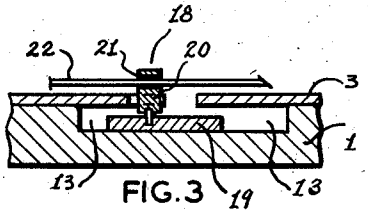

FIG. 3

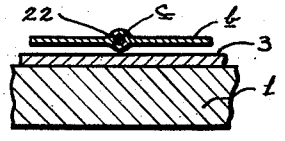

FIG. 4

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GAME INSTRUCTIONAL DEVICE

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8 Claims. (Cl. 35—29)

This invention relates in general to game instructional devices or playing guides and, more particularly, to a hand-operable aid for bowling.

In the art of bowling, a player attempts by rolling a ball down an alley to knock down as many bowling pins as possible of the ten which are arranged in a triangular formation at one end of the alley. Each player is entitled to two bowls per turn and thus, the primary object is to knock down all of the pins in one bowl, if not in the two bowls permitted, as in either case a scoring premium is provided. The majority of expert bowlers are so-called "spot" bowlers, which means that they utilize a system of prearranged markings on the alley for sighting purposes. Thus, a "spot" bowler will, as a result of experience, select a certain clearly defined point on the alley, and concentrate his aim thereon so that his ball will pass over such point in its path to the pins. This particular point of aim or "spot" should at all times remain unchanged or constant, but the bowler's position at the point of delivery, or release, of the ball will vary depending on which pin or group of pins he wishes to knock down. However, since each bowler through his or her individual style, ability, or physical competency, will cause the ball to normally follow a path peculiar to the bowler, it is desirable that each bowler be fully cognizant of the character and nature of such path whereby he will be enabled to determine the proper delivery point for the ball in order to strike the pin or group of pins forming the momentary target.

Therefore, it is an object of the present invention to provide a portable, readily manipulated aid or hand-indicator for instructing the bowler as to the proper starting position and delivery point to be utilized, with the preselected "spot," or point of aim on the alley, for achieving the desired results for any specified pin condition.

It is a further object of the present invention to provide an instructional aid for bowling which may be most economically manufactured; which may be easily and accurately used, not requiring any advanced skill on the part of the user, so that beginners as well as experts may utilize same with equal facility; which is reliable and durable in usage; and which is readily adaptable for use in other games of skill.

Other objects and details of the invention will be apparent from the following description, when read in connection with the accompanying drawing (one sheet) wherein—

Figure 1 is a top plan view of a game instructional device constructed in accordance with and embodying the present invention.

Figure 2 is a vertical transverse section taken on the line 2—2 of Figure 1.

Figure 3 is an enlarged fragmentary vertical transverse section taken substantially on the line 2—2 of Figure 1 but showing the positional member within a dart-forming indentation.

Figure 4 is a horizontal transverse section taken on the line 4—4 of Figure 1.

Referring now by reference characters to the drawing which illustrates the preferred embodiment of the present invention, A generally designates a game instructional device or playing guide which comprises a flat, rectangular base member 1 constructed preferably of any suitable, relatively stiff or rigid material, such as wood, plastic, cardboard, metal, pressed paper, or the like, and which is of such size for ready manipulation and for facile transportability, as in one's pocket. Said base member 1 is provided in its intermediate portion, and proximate its transverse center line, with an enlarged, transversely extending, generally rectangular, upwardly opening recess 2 for purposes presently appearing. Fixed coveringly upon the upper base of face member 1 by such adhering means as may be indicated by the nature of the materials of construction utilized, is a sheet-forming top or facing member 3 being coextensive with base member 1 and having delineated, inscribed, imprinted, or otherwise displayed upon its upwardly directed surface, the pictorial representation B of a regulation bowling alley wherein the constituent elements thereof are in predetermined, scalar, longitudinal-wise relationship; the particular scale being dependent upon the desired size of device A. Thus, upon said representation B there is indicated the bowling pin approach space *a*; the foul line 4 having spaced apart delivery markers 5 therealong; the bowling pin positions 6 wherein the same are numbered consecutively from 1 to 10 in correspondence to the actual pins; the forward starting line 7, and the rearward starting line 8 along which latter two lines thereof are respectively presented a series of spaced spots 9, 10. Adjacent, and on the bowling pin side of, foul line 4, there is presented a transversely aligned, series of dot-like markings 11 which correspond to the forward guides of an alley. As readily noted, the starting line spots 9, 10, the foul line markers 5, and forward guide markings 11 relate directly to specific markings on a regulation bowling alley which has been properly adapted for "spot" bowling.

The bowling pin representations 6 are presented in normal or customary triangular relationship, but such formation will be necessarily compacted in view of the particular scale adopted.

Forwardly, or to the bowling pin side of, forward guide markings 11, top member 3 is provided with a transversely extending aperture or opening 12, overlying recess 2 of base member 1; the longitudinal extent of said aperture 12 being less than that of said recess 2 whereby the latter will extend both forwardly and rearwardly of the related edges of aperture 12 to form what might be considered undercut portions, as shown at 13; (it being noted, for purposes of orientation, that forwardly will be considered as toward the bowling pin end of device A, while rearwardly will be considered as toward the opposite end thereof).

Aperture 12 is of shallow, V-shaped contour, with short, straight sides 14, 14', and having unbroken, equal lengths, forward edge sections 15, 15' meeting at their inner ends at the apex of the V which is located on the longitudinal center line of top member 3, and with the rearward edge being of like extent and having sections 16, 16' respectively parallel to forward edge sections 15, 15'. Each rearward section 16, 16' is provided with a spaced apart, series of rearwardly extending V-shaped or dart-forming indentations 17. The apices or closed ends of which are directed toward foul line 4; there being a central indentation as at 17' provided in the area of juncture of said rearward edge sections 16, 16'; said indentations each opening at their forward relatively wide ends into aperture 12 for communication therewith. Said indentations 17, including central indentation 17' total seven in num-

ber and are respectively aligned with the seven front line or exposed bowling pins; said pins being Nos. 7, 4, 2, 1, 3, 6, 10 progressing from left to right of Figure 1. Indentations 17 correspond to the alley sight members or commonly called "darts" painted or otherwise set forth on regulation bowling alleys and presented in a V-forming arrangement, as is well known to all "spot" bowlers. It is to be recognized that, if desired, said indentations 17 may extend from the forward edge sections 15, 15' of aperture 12, as the primary criterion is the correspondence between the indentations and the alley darts.

Within recess 2 of base member 1 for slideable movement and selected disposition along aperture 12 and indentations 17 is a positional element 18 having a flat base 19, the long axis of which extends generally lengthwise of base member 1, and the extent of which is greater than the distance between the forward edge of said aperture 12 and the rearward end portion of the proximate indentation 17 so that the end portions of base 19 of said element 18 would at all times be disposed within the undercut portions 13 to thereby prevent inadvertent or accidental dislodgement of said element as the same is moved about within aperture 12 or indentations 17. Upstanding from, and pivotally mounted at its lower end upon said base 19 of element 18 is a vertical arm 20, the upper end of which extends beyond the upper surface of top member 3 and in its projecting portion is provided with a longitudinal opening 21, axially parallel to said arm 20 and extending from the forward face to the rear face thereof, for snug reception therein, as by jam fitting, or the like, of a flexible, elongated member 22, being preferably of easily deformable, yet shape-retaining material, such as wire. Said elongated member 22 is slightly longer than said bowling alley representation B. At its end overlying the bowling pin position 6, said elongated member 22 mounts a disk *b*, representative of a bowling ball, being fabricated preferably of a transparent plastic and having a central bore *c* through which said elongated member 22 extends and whereby said disk *b* is rendered axially slideable of said member 22 for selected positioning thereon.

Said element 18 may be freely moved along aperture 12 and may be drawn or shifted rearwardly into a preselected indentation 17 for disposition of arm 20 within the apex or closed end thereof (see Figure 3) in which position said element 18 coincides with, or locates, a specific alley sight or "dart" for indicator purposes, as will be more fully described hereinbelow.

The use of the game instructional device of the present invention is predicated upon a bowler being cognizant of the particular path that his ball will normally follow down an alley. This knowledge of the ball's course of travel will only be gained after the individual has undertaken a series of turns wherein he has noted most carefully the particular starting and delivery points used, and the specific pin being struck, while causing the ball to pass over, or as near as possible to, the preselected alley sight or "dart"; however, it should be recognized that a bowler may not aim for a specific dart, but may use a particular "spot" between a pair of adjacent darts. Thereby, a bowler, knowing the aforesaid three points, gains knowledge as to the character of the path traversed by the ball. Such path may be substantially linear or may be curvate, such as, wherein a bowler may habitually inject a "hook"-like character to his ball. The degree of curvature will depend entirely upon the individual delivery style of the bowler.

With such knowledge, the bowler will then turn to device A and bend elongated member 22 appropriately so as to represent the peculiar path of travel of his ball. This bending action is accomplished as follows: The user will suitably dispose positional element 18 within the indentation 17 corresponding to the dart or alley sight he utilized on his determining bowls or he may merely dispose same at the appropriate juncture in aperture 12, if he uses a "spot" intermediate any pair of darts. Then, with element 18 positioned the user will cause the rearwardly extending portion of elongated member 22 to be bent so that the same will overlie the starting point and delivery points corresponding to such actual points as used. Similarly, the user will bend or deform the forward end portion of the elongated member 22 and position disk *b* thereon so that the latter will be presented accurately to the particular bowling pin actually struck in the course-determining bowls; thus, said disk *b* will be disposed with respect to the bowling pin position in the same relation as the ball to the pin contacted whereby the precise area of impact therebetween is demonstrated. In Figure 1, in dotted lines, there is shown elongated member 22 so bent, as to indicate the various points on representation B defining a ball path, as in this instance, the bowling pin 3, right hand end indentation 17, and the right hand end marker 5 of foul line 4 which will thus serve as an example of the presentation of elongated member 22 for indicating purposes; the disk *b* at the forward end of flexible member 22 being presented to the particular point of contact with the associated pin.

Thus, the present device in connecting any three specific points on the alley will inherently indicate to the user certain other "spots" or points of the alley which are of equal importance. For instance, with flexible member 22 passing over the particular delivery point on foul line 4, the rearward extreme end portion thereof will overlie the associated locations on forward and rearward starting lines 7, 8 so that the user will be informed from what points thereon he might make his approach to the foul line; it being evident that any point along the line defined by member 22, rearwardly of foul line 4, may be used as a starting point, should the bowler prefer to adopt any initial location not on said lines 7, 8. Also, the portion of the flexible member 22 intermediate foul line 4 and aperture 12 will overlie, precisely or proximately, the particular forward guide marking 11 over which, or by which, the ball should preferably pass. Therefore, it will be seen that the particular deformation of elongated member 22 will determine all necessary points, although only three specific points may be used to accomplish the requisite bending.

With elongated member 22 now in proper conformation to the bowler's particular ball path, the user can readily determine which starting point and foul line marking to adopt for striking any particular bowling pin. It is assumed that positional element 18 will have been first disposed at the particular point along aperture 12, or within the appropriate indentation 17 corresponding to the user's chosen alley "dart" or point within the dart configuration on the alley.

For example, if the bowler desired to strike the No. 4 pin he would merely rotate the arm 20 of positional element 18 until the forward end, disk-carrying portion of elongated member 22 was in overlying relationship to bowling pin 4; it being noted that the mobility of disk *b* along member 22 assures proper addressing thereof to the related pin. Thereon, the rearward portion of elongated member 22 would be superimposed to the particular foul line marker 5 indicating the point of delivery, and the starting point for the intended bowl.

From the foregoing, it will be seen that the user, in effect, anchors positional element 18 and then merely pivots or turns arm 20 thereof on its axis to present the forward end of member 22 to the selected pin so that starting and delivery points will be indicated.

Device A may also be used effectively if the user prefers to change his dart or "spot" for each turn. Thus, after having properly bent member 22 for ball-path-conformation, the user, in order to strike any particular pin may maintain arm 20 in stationary, non-rotated relation to base 19, and then simply shift positional element 18 along aperture 12 until the forward end of member 22

is disposed in desired relation to the selected pin with disk *b* having been positioned, whereby the user will be instantly informed as to the particular alley dart or dart zone to make his point of aim, the requisite foul line delivery point, and starting point. Consequently, the present invention is equally useful for bowlers who use the same dart for all turns, as well as for those who may change darts with each turn.

In view of the peculiar habits of bowlers, it is recognized that many prefer to commence their delivery from a place forwardly or rearwardly of starting lines 7, 8. But, elongated member 22 will overly such areas to show the user the associated starting point for such preference so that the bowler may initiate his stroke at his usual distance from the foul line.

It is to be observed that the principle of the present invention is readily adaptable for incorporation in indicator devices or guides for other games of skill, as the same permits of the integration of various values or indicator points into a system to conduce to accuracy in performance. The present invention may be most economically manufactured and is designed for ready transportability by the user. The actual operation of the device does not require any advanced skilled on the part of the user so that it is amenable to utilization by youngsters as well as adults and the adsorption of the same will serve to materially increase one's scoring ability and pleasure.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the game instructional device may be made and substituted for those herein shown and described without departing from the nature and principle of the present invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. An instructional device for bowling comprising a flat body having upon its upper surfaces a pictorial representation of a regulation bowling alley including bowling pin positions, foul line, and starting line, said body having a transversely extending, upwardly opening, groove-like aperture between the representation of the bowling pin positions and the foul line, a positional element slideably disposed in said aperture and projecting upwardly above the upper surface of said body, a flexible elongated member secured to the upper, projecting portion of said positional element for extension lengthwise of said body in superimposed relationship thereto, said member being substantially coextensive with said pictorial representation for overlying predetermined points on the bowling pin positions and starting line thereon on either side of said aperture.

2. An instructional device for bowling as described in claim 1 wherein there is provided a plurality of spaced apart recesses along one side of said aperture for communication therewith and being of such size as to receive said positional member, each of said recesses being aligned with a bowling pin position.

3. An instructional device for bowling as described in claim 2 wherein said aperture is V-shaped with the apex thereof directed toward the bowling-pin positions, and said recesses are V-shaped with the apices thereof directed toward the foul line, said recesses being seven in number and located in corresponding relation to the sights or "darts" of a bowling alley.

4. An instructional device for bowling as described in claim 3 wherein a series of transversely aligned markers are provided on said pictorial representation longitudinally spaced from recesses.

5. An instructional device for bowling as described in claim 1 wherein said positional element is adapted for rotation about a vertical axis for permitting disposition of said elongated member in selected attitude within a horizontal plane.

6. An instructional device for bowling as described in claim 5 wherein a flat disk member is slideably mounted on said elongated member, for movement axially therealong, for overlying relationship with respect to the bowling pin positions.

7. An instructional device for bowling as described in claim 6 wherein said disk member is fabricated of transparent material.

8. An instructional device for bowling comprising a flat, four-sided body having upon its upper surface a pictorial representation of a regulation bowling alley including bowling pin positions, foul lines, and starting lines, a pivot-forming member engaged to said flat body for projection above the upper surface thereof, said pivot forming member being located between the bowling pin positions and the foul line, an indicator member engaged upon said pivot-forming member for swingable movement above the upper surface of said body within a plane parallel thereto, said indicator member being substantially as long as the length of said flat body for overlying relationship, at one of its ends, with respect to preselected bowling pin positions, and, at its other end, with respect to preselected starting line points.

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