Nov. 12, 1968 T. E. MURCH 3,410,555

CUE BALL AIMING DEVICE

Filed Oct. 21, 1965

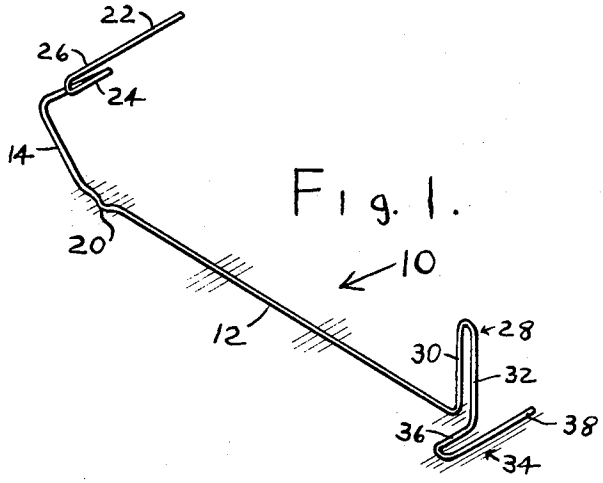


Fig. 1.

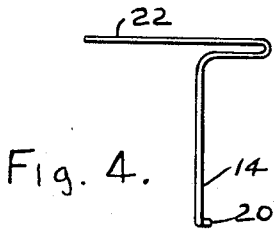


Fig. 4.

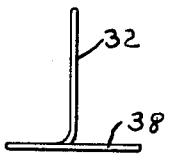


Fig. 5.

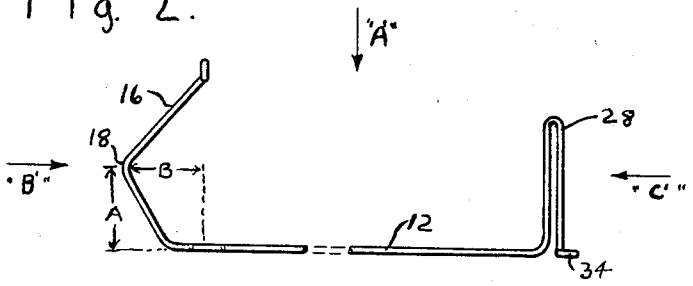


Fig. 2.

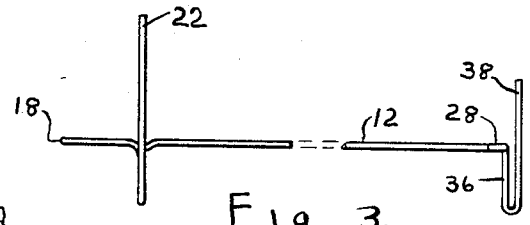


Fig. 3.

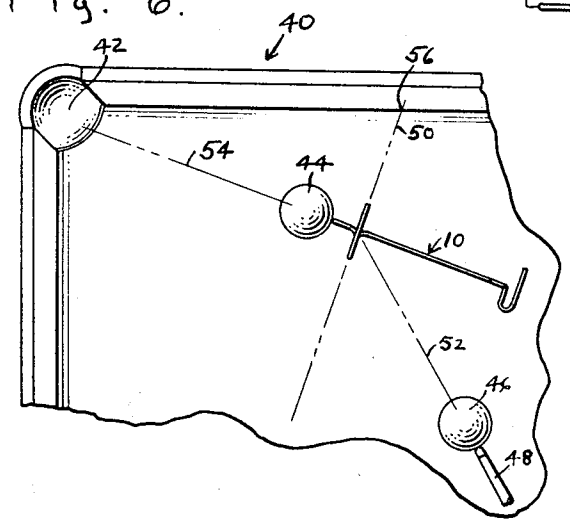


Fig. 6.

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CUE BALL AIMING DEVICE

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ABSTRACT OF THE DISCLOSURE

A cue ball aiming device for determining the direction in which a cue ball must be projected in order to strike and propel an object ball in a predetermined direction.

In playing billiards or pool the point of aim on the object ball and the carom angle of the cue ball off the object ball are the most variable and difficult factors to determine. These factors present an imposing and often discouraging problem to the beginner. This problem also perplexes the experienced player who has not engaged in the game for a period of time. The game often requires months or years of trial and error before one is able to determine these factors.

With the device presented herein, both the beginner and one who wishes to improve his game can learn the important principles in a short time.

With the use of the device disclosed herein in a matter of seconds a player can determine the exact point at which to aim the cue ball to cause the object ball to be pocketed in each instance. The device will also reveal the exact direction the cue ball will take after it caroms off the object ball, which is very important to know in preventing "scratch" shots in "position play" and in the play of straight carom and three cushion billiards.

The principal object of this invention, therefore, is to provide a device which will allow the user to determine the point at which to aim a cue ball to cause the object ball to be pocketed.

It is another object of this invention to provide a device which will reveal the direction the cue ball will take after it caroms off the object ball.

It is still a further object of this invention to provide an inexpensive device which can be used by both experienced players and beginners in playing billiards and pool and which will enable the user to make combination shots with accuracy.

A cue ball aiming device and the method of using the same is described herein with references to the drawings in which:

FIG. 1 is a perspective view from above and to the rear of a cue ball aiming device constructed in accordance with the teachings of this invention;

FIG. 2 is a side view thereof;

FIG. 3 is a top view thereof;

FIG. 4 is a front view thereof;

FIG. 5 is a rear end view thereof; and

FIG. 6 is a segmentary view of a billiard table, object ball, cue ball, and cue ball aiming device constructed in accordance with the teachings of this invention in position.

The cue ball aiming device **10** as shown herein in the figures is a unitary metal member of uniform circular cross-section bent and folded to provide a plurality of angular relationships of extreme importance.

The base portion is indicated by the numeral **12** and raised at its front end so that front end bottom portion **14** forms an angle therewith. Front end top portion **16** forms an angle with front end bottom portion **14**, the apex of which is indicated by the numeral **18** and which is displaced one and three-sixteenths "X" units from the projection of the axis of base portion **12**, front end bottom **14** and front end top portion **16** lying in the same plane which

for purposes of description herein will be referred to as the vertical plane. Where "X" is the radius of the cue ball, it being assumed that the other balls in play are of the same radius as the cue ball. Hence, if the radius of the cue ball is measured in inches, the distance between the projection of base portion **12** and point **18** is one and three-sixteenths "X."

A marking point **20** which is a slight deformation of base portion **12** is displaced one and three-sixteenths "X" from point **18** rearwardly. In the figures the distance of point **18** above the projection of base portion **12** is indicated by the letter A and the distance of marking point **20** rearwardly from point **18** is indicated by the letter B. Front end top portion **16** projects rearwardly to a point directly above marking point **20** where carom sight **22** is provided perpendicularly to the vertical plane or the plane in which front end bottom portion **14** and front end top portion **16** lie. Carom sighting member **22** is in the form of a U with a short side **24** extending from front end top portion **16** and long side **26**. Sides **24** and **26** lie in the same plane which is a second vertical plane forming a right angle with the plane of portions **14** and **16**.

A rear sighting member **28** is provided in the form of a U with side **30** extending from bottom portion **12** and perpendicularly thereto forming one side of the U and side **32** forming the other side of the U. Sides **30** and **32** lie in the same plane as do front end bottom portion **14** and front end top portion **16**.

A stabilizing member **34** in the form of a U having short side **36** extending from side **32** of rear sight **28** and long side **38** is provided for balance or stabilization of the cue ball aiming device.

Hence a device is provided having a bottom portion **12** lying in a plane which is the plane of the front end bottom and top portions and the plane of the rear sight **28**. This can be considered as the vertical plane which is perpendicular to the horizontal plane determined by the sides **36** and **38** of the stabilizing portion, bottom portion **12** and marking point **20**. Carom sight **22** lies in a second vertical plane perpendicular with the horizontal plane and also perpendicular with the first vertical plane in which front end bottom and top portions **14** and **16** lie.

In FIG. 6 a portion of a billiard table **40** is shown with the corner pocket **42** in view. The object ball **44** is shown as is cue ball **46**, a portion of cue stick **48** and cue ball aiming device **10**. It is desired to place the object ball **44** in corner pocket **42** by striking cue ball **46** with the end of cue stick **48** and driving the cue ball **46** into contact with object ball **44** to move the object ball into the corner pocket. The cue ball aiming device is set up with point **18** touching cue ball **44** and the aiming device is maneuvered by use of rear sight **28** and observation until sight **28**, front end top portion **16** and pocket **42** are aligned. The user then marks in chalk a spot on the table, which is the marking point **20**, and removes the cue ball aiming device. Ball **44** will be placed in pocket **42** if cue ball **46** is projected across the mark made at the marking point. The cue ball will strike object ball **44** driving it into pocket **42** if the long axis by sighting has been lined up with the center of the corner pocket and the center of the object ball and the shot is made from anywhere on the table behind crossbar line **50—50**. The direction of the cue ball is indicated by the line **52** and the direction of the object ball is indicated by the line **54**. The crossbar determining line **50** shows the carom angle which will show exactly the direction cue ball **46** will take after striking object ball **44** so that cue ball **46** will strike the side of billiard table **40** at point **56**.

It is seen, therefore, that with the use of this device a beginner or an expert can successfully pocket an object ball and at the same time determine the direction the cue

ball will take after impact with the object ball. If it is desired to make a combination shot so that the binal ball goes in a predetermined pocket, it is necessary only to line up the final ball, then chalk, take up the device and do this continually with each of the balls involved, setting up the combination shot.

Thus, among others, the several objects in the invention, as specifically aforenoted, are achieved. Obviously, numerous changes in construction and rearrangement of parts might be resorted to without departing from the spirit of the invention as defined by the claims.

I claim:

1. A cue ball aiming device for use in the game of billiards for determining the direction in which a cue ball must be projected upon the surface of a billiard table to strike an object ball in order to propel said object ball in a predetermined direction comprising a base provided to be supported upon said surface, a point portion on said device above said surface a distance of one and three sixteenths times the radius of said object ball when said base is supported by said surface, a second point portion on said device, a vertical plane defined by said first and second point portions lying therein and perpendicular to said surface when said base is supported by said surface, said second point portion being beneath and vertically displaced from said first point portion a distance of one and three sixteenths times the radius of said object ball, said cue ball and said object ball having the same diameter, and sighting means for sighting the horizontal projection of said vertical plane whereby said cue ball passing over the zone on said surface determined by said second point portion will strike said object ball and project it in the direction of the projection of said vertical plane.

2. A cue ball aiming device in accordance with claim 1 in which said sighting means consists of horizontally displaced vertical projections of said device.

3. A cue ball aiming device in accordance with claim 1 in which second sighting means are provided on said device for indicating the direction of roll of the cue ball after it caroms off the object ball.

4. A cue ball aiming device in accordance with claim 3 in which said second sighting means consists of portions of said device lying in a plane perpendicular to said vertical plane.

5. A cue ball aiming device in accordance with claim 1 which is unitary and consists of a substantially rigid wire bent upon itself to form said base, said first and second point portions and said first and second sighting means.

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T. ZACK, *Assistant Examiner.*