

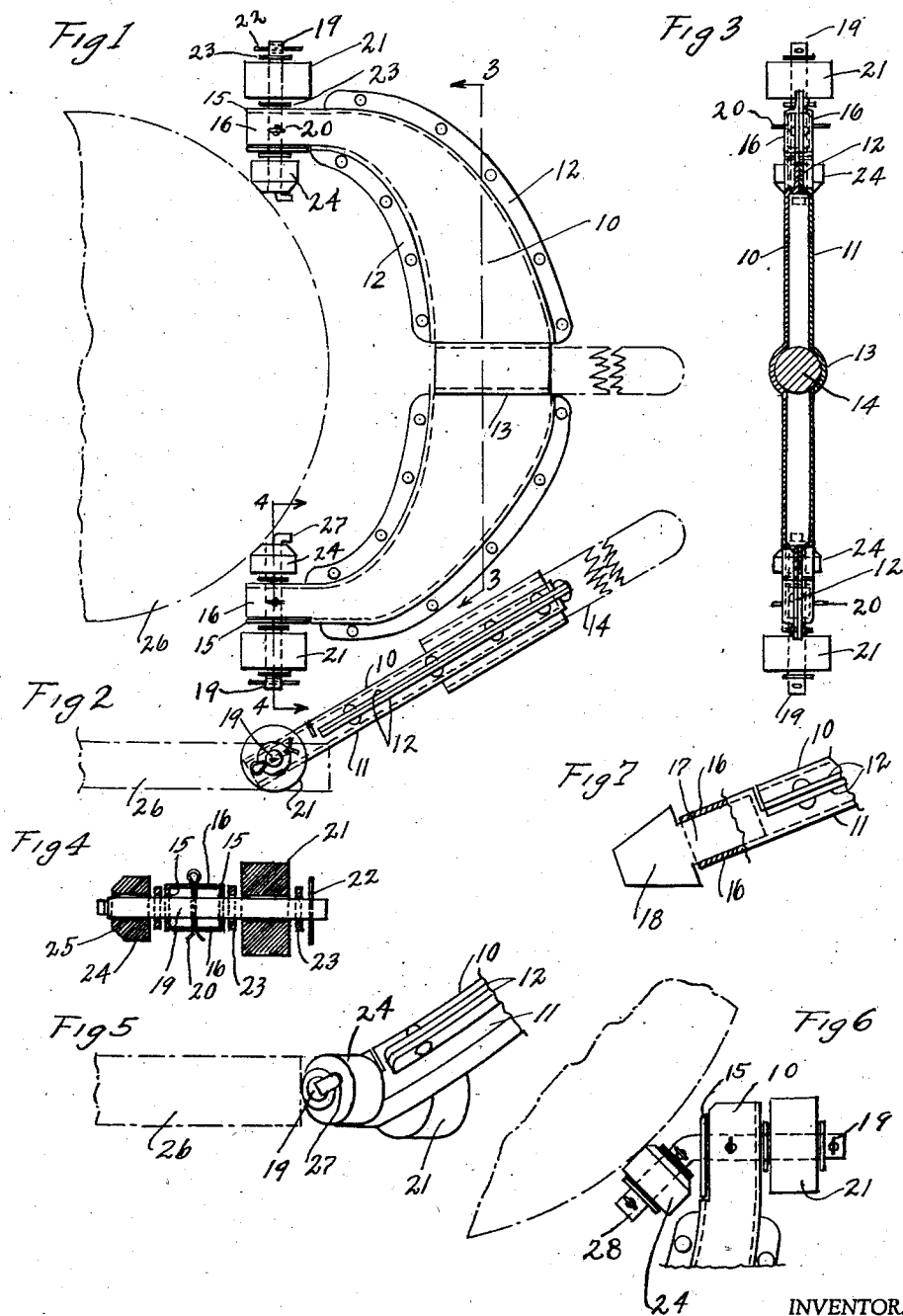
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CUE HEAD

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CUE HEAD

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This invention relates to a cue head and is designed more particularly for a cue of the type used in playing the game "shuffleboard."

The game of shuffleboard is played on a long narrow court having adjacent each end thereof a score diagram which is divided into sections of different values. The play consists in sliding disks from one end of the court toward the scoring diagram at the other end of the court by means of a cue and the purpose is to locate the disk on a high value section of the scoring diagram. The cue comprises a handle or rod, usually about six feet long, and a head having laterally spaced parts to contact the peripheral surface of the disk and thus enable the player to propel the disk and more or less accurately control its movement. In the usual cue the head is of a rigid construction, often a block of wood, having at its sides forwardly projecting parts to engage the disk. These contact parts support the cue head on the surface of the court and due to frictional contact thereof with the court these supporting parts are subjected to severe wear, as well as offering substantial frictional resistance to the movement of the cue head over the surface of the court. As a result the contact parts of the head wear away and the cue becomes useless. In my pending application, Serial No. 509 207, filed November 6, 1943, now Patent No. 2,433,496, there is shown and described a cue head fabricated of light weight material and supported on rollers to facilitate its movement over the court, and the present cue head is an improvement upon the cue head shown in that application.

One object of the invention is to provide a cue head of strong rigid construction and light weight which can be produced at a low cost, and which will be of pleasing appearance.

A further object of the invention is to provide a cue head which is easy to operate and is subjected to minimum of wear in use.

A further object of the invention is to provide a cue head which will have no tendency either to lift the disk or to press the same against the court as the cue moves from one angular position to another angular position during the disk propelling operation.

A further object of the invention is to provide a cue head in which the contact member has a wide contact surface for engagement with the peripheral surface of the disk.

A further object of the invention is to provide a cue head in which the contact members are so arranged and supported that they will engage the disk approximately at the center of the peripheral

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surface thereof in all angular positions of the cue.

A further object of the invention is to provide a cue head having a body which may be equipped with either rotatable contact members or fixed contact members.

Other objects of the invention may appear as the cue head is described in detail.

In the accompanying drawings Fig. 1 is a plan view of a cue head embodying the invention, with the handle partly broken away; Fig. 2 is a side elevation of the cue head, with the handle partly broken away; Fig. 3 is a section taken on the line 3-3 of Fig. 1 and looking in the direction of the arrows; Fig. 4 is a section taken on the line 4-4 of Fig. 1 looking in the direction of the arrows; Fig. 5 is a detail view showing the position of the contact member with relation to the disk; Fig. 6 is a detail view showing a modified arrangement of the contact member; and Fig. 7 is a detail view, partly in section, of one end portion of the cue head showing the same provided with a fixed contact member.

In these drawings I have illustrated one embodiment of the invention and have shown the same as a head for a shuffleboard cue but it is to be understood that the cue head, as a whole as well as the various parts thereof, may take various forms and may be used for any purpose for which it is adapted without departing from the spirit of the invention.

In the form here illustrated the head comprises an elongate body having near its center means whereby a handle may be attached thereto and having forwardly extending laterally spaced parts on which are mounted contact members. The body may be made in one piece, by forming or molding, or it may be fabricated from a plurality of parts, but it preferably comprises two parts in the nature of upper and lower plates 10 and 11 which are of a generally arcuate form and are spaced one upon the other. The lateral portions of each plate are bent inwardly toward the other plate and then outwardly to provide the same with outwardly extending edge portions 12 which have flat engagement with the corresponding edge portions of the other plate and are rigidly connected one to the other, as by riveting, welding or the like. The intermediate portions of the two plates are spaced one from the other and when so connected provide a very strong rigid body of very light weight. The plates may be formed of any suitable material, such as a light weight metal or a plastic material, and may be formed by pressing, molding or the like.

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The handle may be connected to the body in any suitable manner and in the present instance the two plates are provided with opposed transverse recesses which form in the body a socket 13 to receive the end portion of a handle 14. The end portions of the body curve forwardly and decrease in width from the handle connection toward the ends thereof. The laterally extending edge portions or flanges 12 terminate short distances from the extreme forward ends of the body and these end portions are arranged substantially parallel one with the other. The adjacent end portions of the two plates are provided with opposed parts or walls which form supports for contact members. In the arrangement shown the end portions of the two plates are provided with upright parts 15 and with transverse or substantially horizontal parts 16, the corresponding parts of the two plates being arranged in opposed relation, as shown in Fig. 4, to provide a rectangular structure of a strong rigid character which is open at its forward end.

The rectangular structure formed by the opposed parts of the body plates may be utilized as a socket to receive the shank 17 of a contact member 18 of the fixed type which slides upon the court and constitutes the support for the cue head, as shown in Fig. 7. However, I prefer to provide the cue head with rotatable contact members and to support the head for movement about a substantially horizontal axis, adjacent the forward ends thereof, as it moves over the court, this preferably being accomplished by supporting the two end portions of the body on rollers. The contact members and the rollers may be of any suitable form and may be mounted on the cue head in any suitable manner. Preferably the contact members and rollers are arranged on opposite sides of the respective forwardly extending parts of the head. In the present construction each end portion of the body is provided with a spindle 19 which extends through the opposed upright parts 15 thereof and is held against rotation therein, as by a pin 20 extending through the horizontal parts 16 and through the spindle. The spindle projects beyond each side of the end portion of the body and a supporting roller 21 is rotatably mounted on the outer portion thereof and is retained thereon in any suitable manner, as by a cotter pin 22, washers 23 being interposed between the roller and, respectively, the adjacent part 15 and the cotter pin. Rotatably mounted on the inner end portion of the spindle is a contact member 24 which may be of any suitable character but is preferably substantially cylindrical in form and has a substantially frusto-conical inner end portion, as shown at 25, to provide a relatively wide contact surface for engagement with the peripheral surface of a disk, such as shown at 26. The contact member may be retained on the spindle in any suitable manner but, in the arrangement shown, the small end of the frusto conical portion is so close to the edge of the disk that the spindle cannot extend any substantial distance beyond the same. Therefore to avoid the likelihood of the spindle or its retaining means engaging the disk I have cut away a portion of the projecting end of the spindle and have bent the remaining portion across the end of the contact member, as shown at 27.

The rollers 21 are of greater diameter than the rotatable contact members and support the latter in such a position that they will contact the peripheral surface of the disk substantially

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midway between the upper and lower edges thereof. The rollers and contact members being independently rotatable about a common axis, which is also the pivotal axis about which the head moves from one angular position to another, the contact members will engage the disk at the same central portion of the peripheral surface thereof in all angular positions to which the cue head may be moved as the player's arm changes positions during the propelling of the disk. Further, the rotation of the rollers does not tend to impart rotation to the contact members and the engagement of the contact members with the disk does not tend to retard or otherwise affect the rotation of the rollers. It will also be apparent that due to the rotatable mounting of the contact members the body can move with relation thereto and consequently when the contact members are in engagement with the disk the movement of the head about its pivotal axis will not impart any rotary movement to the contact members and the latter will not tend to lift the edge of the disk when the cue handle is moved downward during the propelling movement of the cue, and thus cause the disk to vibrate or chatter as it moves over the court after it leaves the cue head. Neither will the upward movement of the cue handle during the propelling movement cause the contact members to exert a downward pressure on the edge of the disk, and thus increase the frictional resistance to its movement.

Instead of providing the cylindrical contact member with a beveled or frusto-conical end portion it may be mounted on an inclined axis extending rearwardly from the transverse pivotal axis about which the head moves, as shown at 28 in Fig. 6, and in this position the cylindrical surface of the contact member will engage the peripheral surface of the disk.

The two plates of which the body is formed are identical in character with the exception of the opposed parts at the end portions thereof. To enable both the plates to be formed on the same dies or in the same mold it is only necessary to provide each end portion of each plate with an upright part 15 at each edge of the horizontal part 16. The plates are then identical and, prior to assembling the two plates to form the body, one upright part of each end member of each plate is removed, as shown in Fig. 4. The ability to form both plates from the same dies or mold not only reduces the initial cost of equipment for manufacturing the cue head but expedites production and otherwise cheapens the manufacture of the head.

It will be apparent from the foregoing that I have provided a cue head which is of a strong rigid construction, is easy to operate and can be produced at a relatively low cost; that changes in the angular position of the cue head have no effect upon the engagement of the contact members with the disk and will not tend to either lift the edge of the disk or press the same downwardly; and that the contact members have relatively wide contact surfaces for engagement with the disk. It will also be apparent that the body of the head may be equipped, interchangeably, with either the rotatable contact members or with fixed contact members.

While I have shown and described one embodiment of my invention, with minor modifications thereof, I wish it to be understood that I do not desire to be limited to the details thereof as var-

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ious modifications may occur to a person skilled in the art.

Having now fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A head for a cue comprising a body having forwardly extending parts spaced laterally one from the other, disk engaging contact members rotatably supported by the respective forwardly extending parts, and means for movably supporting said body and said contact members on and out of engagement with the surface over which said head moves.

2. A head for a cue comprising a body having forwardly extending parts spaced laterally one from the other, disk engaging contact members rotatably supported by the respective forwardly extending parts, and means carried by said body for supporting the same for movement about a substantially horizontal axis adjacent the forward ends of said forwardly extending parts.

3. A head for a cue comprising a body having forwardly extending parts spaced laterally one from the other, disk engaging contact members rotatably supported by said body on the inner sides of the respective forwardly extending parts, and members connected with said body and arranged on the outer sides of said forwardly extending parts to pivotally support said body and to maintain said parts and said contact members out of engagement with the surface on which said supporting members rest in all operative positions of said head.

4. A head for a cue comprising a body having forwardly extending parts spaced laterally one from the other, disk engaging contact members rotatably supported by the respective forwardly extending parts, and rollers having supporting connection with said body and arranged to support said forwardly extending parts and said contact members out of engagement with the surface on which said rollers rest in all operative positions of said body.

5. A head for a cue comprising a body having forwardly extending parts spaced laterally one from the other, disk engaging contact members rotatably supported by said body on the inner sides of the respective forwardly extending parts, and rollers having supporting connection with said body and arranged on the outer sides of said forwardly extending parts.

6. A head for a cue comprising a body having forwardly extending parts spaced laterally one from the other, disk engaging contact members rotatably supported by said body on the inner sides of the respective forwardly extending parts, and rollers having supporting connection with said body and arranged on the outer sides of said forwardly extending parts to support said parts and said contact members out of engagement with the surface on which said rollers rest.

7. A head for a cue comprising a body having forwardly extending parts spaced laterally one from the other, disk engaging contact members supported on the inner sides of the respective forwardly extending parts, and rollers arranged on the outer sides of said forwardly extending parts and having supporting connection with said body, said contact members and said rollers being separately rotatable about a common axis and said rollers having a diameter greater than the diameter of said contact members.

8. A head for a cue comprising a body having forwardly extending parts spaced laterally one

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from the other, spindles mounted on the respective forwardly extending parts, projecting beyond the respective sides thereof and held against rotation, supporting rollers rotatably mounted on the outer end portions of said spindles, and disk engaging contact members rotatably mounted on the inner portions of said spindles.

9. A head for a cue comprising a body having forwardly extending parts spaced laterally one from the other, means for supporting said body for movement about an axis transverse to said forwardly extending parts, and contact members rotatably supported on the respective forwardly extending members and each having a relatively wide surface arranged to engage the peripheral surface of a disk.

10. A head for a cue comprising a body having forwardly extending parts spaced laterally one from the other, means for supporting said body for movement about an axis transverse to said forwardly extending parts, and substantially cylindrical disk engaging contact members supported on the respective forwardly extending parts for rotation about axes substantially parallel with said transverse axis and each having a frusto conical inner surface to engage the peripheral surface of said disk.

11. A head for a cue comprising a body having forwardly extending parts spaced laterally one from the other, means for supporting said body for movement about an axis transverse to said forwardly extending parts, and substantially cylindrical disk engaging contact members supported on the respective forwardly extending parts for rotation about axes inclined rearwardly with relation to said transverse axis.

12. In a head for a cue, a body comprising two superposed plates, each plate having laterally extending edge portions in flat contact with and rigidly secured to the corresponding edge portions of the other plate, the intermediate portions of said plates being spaced one from the other, said plates having at their adjacent ends opposed portions extending forwardly beyond the connected edge portions thereof and constituting a support for a disk engaging contact member.

13. In a head for a cue, a body comprising two superposed plates, each plate having laterally extending edge portions in flat contact with and rigidly secured to the corresponding edge portions of the other plate, the intermediate portions of said plates being spaced one from the other, said plates having at their adjacent ends opposed portions extending forwardly beyond the connected edge portions thereof, and disk engaging contact members rotatably supported on said forwardly extending portions at the respective ends of said body.

14. In a head for a cue, a body comprising two superposed plates, each plate having laterally extending edge portions in flat contact with and rigidly secured to the corresponding edge portions of the other plate, the intermediate portions of said plates being spaced one from the other, said plates having at their adjacent ends upright opposed portions extending forwardly beyond the connected end portions thereof, spindles mounted in said forwardly extending portions at the respective ends of said body, and rotatable disk engaging contact members supported by the respective spindles.

15. In a head for a cue, a body comprising two superposed plates, each plate having laterally extending edge portions in flat contact with and rigidly secured to the corresponding edge portions

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of the other plate, the intermediate portions of said plates being spaced one from the other, said plates having at their adjacent ends upright opposed portions extending forwardly beyond the connected edge portions thereof, a spindle mounted in the forwardly extending portion of each end of said body, and a supporting roller and a disk engaging contact member rotatably mounted on said spindle.

16. In a head for a cue, a body comprising two superposed plates, each plate having laterally extending edge portions in flat contact with and rigidly secured to the corresponding edge portions of the other plate, the intermediate portions of said plates being spaced one from the other, said plates having at their adjacent ends opposed portions extending forwardly beyond the connected edge portions thereof and forming a socket to receive the shank of a disk engaging contact member and support the latter in fixed relation to said body.

17. In a head for a cue, a body comprising two superposed plates, each plate having laterally extending edge portions in flat contact with and rigidly secured to the corresponding edge portions of the other plate, said body having means whereby a handle may be connected therewith and decreasing in width from said connecting means toward the respective ends thereof and having its end portions substantially parallel

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one with the other, the adjacent end portions of said plates having opposed parts spaced one from the other to form a support for a contact member.

18. In a head for a cue, a body comprising two superposed plates, each plate having laterally extending edge portions in flat contact with and rigidly secured to the corresponding edge portions of the other plate, said body having means whereby a handle may be connected therewith and decreasing in width from said connecting means toward the respective ends thereof and having its end portions substantially parallel one with the other, each end portion of each plate having an upright part and a substantially horizontal part arranged in opposed relation to the corresponding parts of the other plate.

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