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RETURN BALL EQUIPMENT FOR BILLIARD TABLES AND THE LIKE

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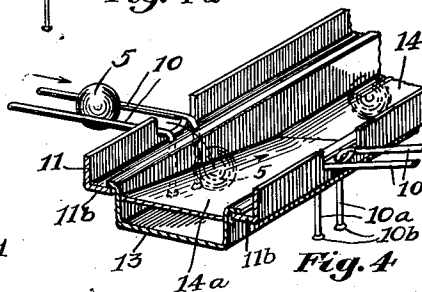
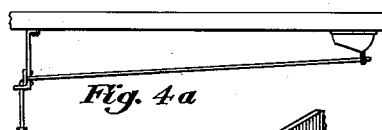
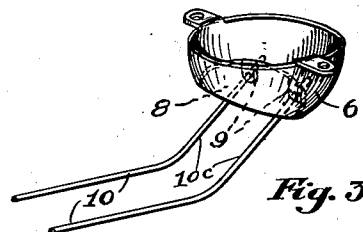
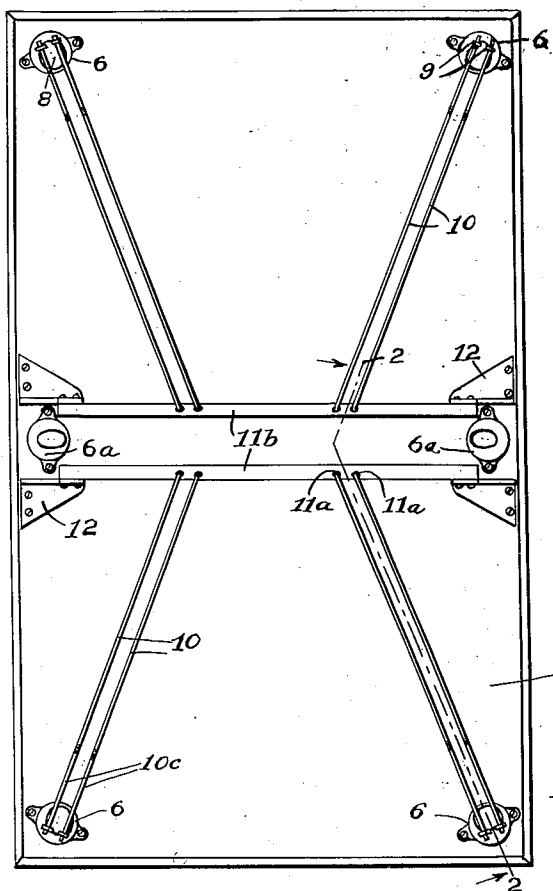


Fig. 1

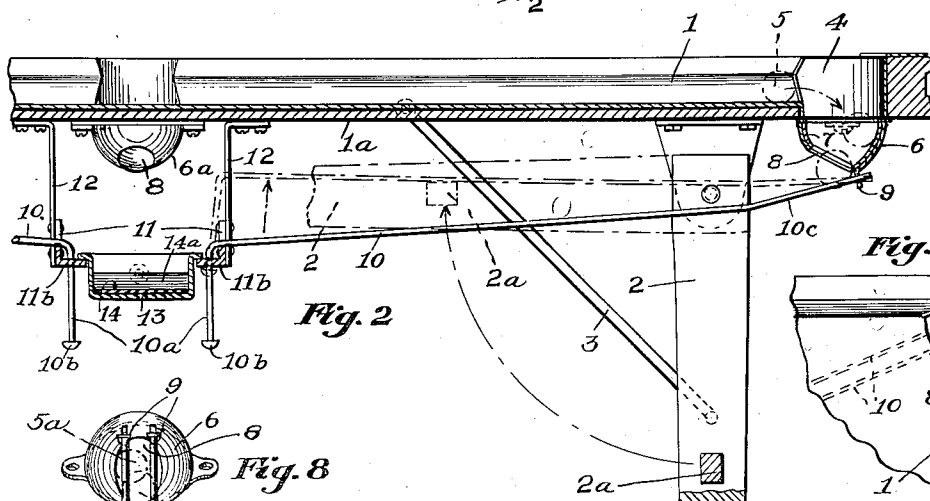
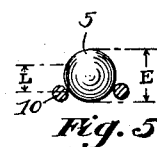


Fig. 2

Fig. 6

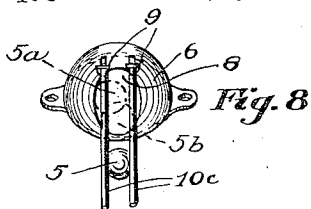


Fig. 8

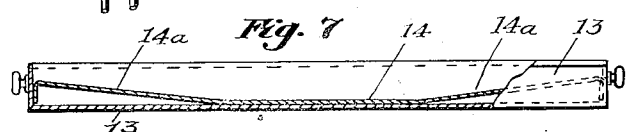


Fig. 7

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RETURN-BALL EQUIPMENT FOR BILLIARD
TABLES AND THE LIKEWilliam B. Sawyer, Kennebunkport, Maine, as-
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5 Claims. (Cl. 273—11)

This invention relates, in general terms, to billiard and pool tables but deals more particularly with improvements in equipment for assembling the balls in a common receptacle and carrier after they have passed into and out of the various pockets of the table.

I am aware of the fact that apparatus for returning the balls to some designated station has heretofore been employed on standard or regulation size billiard tables, and also that attempts have been made from time to time to supply a satisfactory outfit for the purpose named for folding-leg tables, with which type the present invention is principally concerned.

But to the present time, insofar as I have knowledge, no equipment of this character has been evolved which has fully met the requirements or been acclaimed by public approval.

In my return-ball equipment I have discarded the fabric or yieldable pockets and substituted therefor substantially non-elastic ones. This gives more or less of a rebound to the ball and assists in quickly clearing the pocket.

The ball-runway extending from each of the four corner pockets comprises two spaced rods, their ends adjacent the pocket being somewhat steeply inclined to give the ball an initial impetus sufficient to carry it to the ball-receiving member, in this instance a drawer which can be removed from either side of the table.

The inner ends of the run-ways are vertically movable in drawer-supporting angle members and provision is made whereby they yield to permit of the legs of the table being folded closely.

The drawer which receives the balls as they pass from the pockets is so constructed that the complete set of balls finally dispose themselves on the central, longitudinal portion of the drawer bottom.

The opening out of each pocket element is preferably elliptical in shape. The central portion of the opening provides ample space through which to enter the ball, and the constricted ends thereof serve to centrally align the ball with the two rods of the ball run-way.

Other features of the invention will be disclosed in the detailed description following, and in the drawing accompanying and made a part of this application a preferred embodiment thereof is illustrated.

In the drawing,—

Fig. 1 is an inverted plan view of a billiard or pool table with my equipment installed thereon, the folding legs being omitted from this view;

Fig. 2 is a fragmentary transverse sectional ele-

vation of the table and equipment, the section being taken on line 2—2, Fig. 1;

Fig. 3 is a perspective view of a corner pocket element showing a portion of the ball run-way;

Fig. 4 is a perspective view showing a portion of the ball-receiving drawer and ball runways;

Fig. 4a shows an alternate method of constructing the run-way rods;

Fig. 5 shows a ball disposed on the rods of the ball run-way, the rods being in section;

Fig. 6 is a plan view of one corner of the billiard table;

Fig. 7 is a side elevation, partly in section, of the ball-receiving drawer, showing the false bottom, and

Fig. 8 is a view illustrating certain features having to do with the centralizing of the ball over the ball run-way, the view being in inverted plan.

Similar reference characters are employed to identify like parts in all the different views of the drawing.

Referring to the drawing, 1 represents, for the sake of illustrating the invention, either a billiard or a pool table, 2 one of the four folding-legs therefor, and 3 a brace for locking the leg in extended position.

Cut through the table at each of its corners is an opening 4 through which the balls 5 pass to the substantially semi-spherical pocket element 6.

These elements 6 may be made of any rigid or semi-rigid material, but preferably are constructed of pressed steel, which is in contrast to the conventional method in which some fabric, knit or woven material, is employed.

On the side portions of the table are disposed pocket elements 6a, similar to pockets 6 except as will hereinafter be pointed out.

In my preferred construction I line these pockets, 6 and 6a with a soft material, as for instance felt, 7, which acts to greatly reduce the noise which would otherwise be caused by impact of the ball against the metal pocket elements.

In the bottom of each pocket element is an opening 8 preferably of elliptical contour, and straddling this opening and disposed on the outer side of each element 6 are two ears 9, the elements 6a not being equipped with the latter. These ears serve to support one end of each of the two rods 10, horizontally spaced and constituting a ball run-way.

Transversely disposed beneath the table 1 are two angle bar members 11 secured to the under side of the table bottom 1a by brackets 12. The inner ends of the members 10 each have a comparatively long off-set portion 10a which pass

through holes 11a, respectively, in the horizontal legs 11b of the angular members. The extreme ends of the off-set portions 10a have heads 10b which prevent complete withdrawal of the run-way members from the angle members 11.

Slidably disposed on the legs 11b of the angle members 11 is a ball-receiving drawer 13 having an inner false bottom divided into three sections, a central, horizontal portion 14 lying flat on the bottom of the drawer 13, merging into an inclined portion 14a on each end of the drawer. It is obvious that this false bottom might be incorporated in the drawer itself, or made a part thereof, but for manufacturing reasons I prefer the structure as shown.

By reference to Figs. 1 and 4 it will be observed that the two sets of run-ways 10 on the respective sides of the angular members 11 connect with the latter at widely separated points thereon.

It will also be noted that the balls, rolling off the run-ways drop on to the inclined portions of the false bottom, 14a. Thus the balls from the corner pockets, as well also as those from the side pockets gravitate toward the center of the drawer, on the portion 14, and while there disposed they do not interfere with the reception of the balls to the drawer from any one of the pockets.

The rods 10, for a short distance from the pockets 6, are bent downwardly at a somewhat steeper pitch than obtains for the rest of their lengths. This gives the ball an initial forward urge and insures its reaching the ball-receiving drawer without too forcibly driving it.

There is, however, a diminution in the speed of travel of the ball as it proceeds along the slightly inclined portion of the run-way, due not alone to the natural and gradual exhaustion of the energy it has acquired by falling from the pocket on the rods 10, but also by reason of the fact that it contacts with the rods on a latitudinal circle L which is of much smaller diameter than the equatorial circle E on which it would travel were a trough substituted for the two rods. It is as though the ball had short, small diameter trunnions projecting from its opposite sides and that these trunnions travelled along and rolled on the rods. The initial momentum stored up in the ball would keep it revolving quite rapidly but its advance would be slowed-up by the rolling contact of the small trunnions. And for this reason the balls enter the drawer with less impact force and noise. Fig. 5 illustrates the speed-retarding effect resulting from the ball rolling on its sides rather than on its bottom. It is possible, of course, and I may elect to construct the rods 10 straight, or without the bent portion 10c, as shown in Fig. 4a.

As has hereinbefore been stated the openings 8 are preferably made elliptical in shape.

By reference to Fig. 8 it will be noted that the ball is shown in two dot and dash line positions within the opening 8. In the position indicated as 5a the ball has dropped from the pocket and entered the opening at its larger part, but in this position it does not align with the two rods 10.

As it continues downwardly it engages the narrower part of the opening and is drawn into the position marked 5b, directly over the rods and in central alignment therewith; but until the ball reaches this position (5b) it cannot "jump" from the pocket or off the rods on to the floor.

In Fig. 2 the rods 10 are depicted in two positions, one in full and the other in dot and dash lines. In the full line position the apparatus is in working order, but when it is required to fold the

legs 2, incident to laying the table aside, the cross-bars 2a, transversely interconnecting the legs 2, would interfere with the folding operation were the rods fixed and unyielding on their inner ends.

For this reason the portions 10a are made to retract through the holes 11a, the cross-tie 2a abutting on the rods 10 lifting them into the position shown in dotted lines, Fig. 2.

It is therefore never necessary to detach any part of the apparatus when folding the legs, and the complete table and return-ball equipment, after the legs are folded, may be inserted in the shipping carton which was originally designed for the table alone.

The prime object of my equipment, as is apparent, is to assemble the balls in a conveniently handled receptacle so that they may be transferred, after the game has been finished, to the frame or rack on the billiard table.

The drawer 13 qualifies in this respect as an excellent transferring medium and in operation can be withdrawn from the angle members on which it is slidably mounted from either side of the table. The false bottom on the inclined portions may be disposed high enough in the drawer to enable the balls to easily roll out in making transfer to the triangular rack (not shown but always used on billiard or pool tables) on the table top, requiring little if any manual handling of the balls themselves.

The equipment is extremely light, which is a desideratum in portable tables, compact in form, quiet and efficient in operation. Moreover the cost entailed in equipping a billiard table is not comparable with the convenience and pleasure experienced by the players in using my apparatus.

What I claim is:

1. A return-ball device for folding-leg billiard tables and the like comprising a non-elastic, semi-spherical ball pocket element having through its bottom portion an elliptical aperture, a ball-receiving drawer, a ball run-way leading to said drawer from said pocket element, said run-way starting from said pocket element at a sharp downward incline for a relatively short distance and continuing to said drawer at a slight declination from horizontal, and means whereby the inner end of said run-way may be retracted for the purpose of preventing conflict with the legs of said table when folded.

2. In a device of the character described adapted for use on a billiard table to assemble the balls for convenient racking, comprising a plurality of rigid ball pocket elements arranged at the corners and at the two sides of said table, each of said pocket elements having an opening through its bottom end, a slide-way disposed intermediate the ends of said table, a ball-receiving drawer mounted in said slide-way and adapted to be withdrawn from either side thereof, a bottom in said drawer having inclined ends merging into a central, horizontal depressed portion, said drawer being constructed and positioned to receive the balls directly as they drop from the said side pocket elements, and a ball run-way interconnecting each of the corner pocket elements with said slide-way, the connecting points of the respective run-ways with said slide-way being located abreast of either one or the other of the inclined portions of the bottom of said drawer when in operative position in said slide-way.

3. A return-ball equipment adapted for use on a billiard or a pool table comprising a semi-

spherical shape pocket element secured to and disposed beneath said table, at each corner thereof, said element having an elliptical opening in its bottom, cut obliquely with its axis, a slide-way secured to and on the under side of said table, a drawer slidable in and removable from said slide-way, a bottom element for said drawer, having three defined but merging surfaces, including a central, horizontal portion and two end portions each inclined upwardly from said central portion, and a ball run-way, including two horizontally spaced rods, connecting each of said corner pocket elements with said slide-way, the points of connection of each of said run-ways with said slide-way being abreast of either one or the other of the said inclined portions of said bottom element when said drawer is in position in said slide-way.

4. A return-ball equipment for a folding-leg billiard table having a plurality of openings therein comprising a non-elastic substantially semi-spherical pocket element having an elliptical opening disposed obliquely to the axis of said element, said opening being at the bottom of said element and for the purpose of discharging a billiard ball therefrom, one of said elements being secured to said table beneath each of said table openings, a ball-receiving drawer, two horizontally spaced rods for conducting the billiard balls from each of the corner pockets of said billiard table to said drawer, said rods being more steeply inclined for a short distance from each of said pockets than for the remainder of the distance to said ball-receiving drawer and means in said drawer

whereby the balls are automatically assembled in the longitudinally central portion thereof.

5. A return-ball equipment for folding-leg billiard tables having openings at the corners and at the sides thereof, comprising a semi-spherical, non-elastic ball pocket element one of which is secured to the under side of said table beneath each of the said openings therein and having through its lower portion an elliptical aperture cut obliquely to its axis, a drawer slide-way, including two angular members, having holes therein, disposed beneath and transversely of said table, means to suspend said slide-way from the under side of said table, a ball-receiving drawer operable in said slide-way, two downwardly extending ears on the pocket elements located at the corners of said table, a run-way which balls may traverse after being discharged from said pocket elements, said run-way including two horizontally spaced rods the outer ends of which engage and are supported by said ears, said rods extending from said ears for a relatively short distance at a comparatively steep pitch, and continuing to said slide-way at but a slight decline from horizontal, a downwardly offset portion on the inner ends of each of said slightly declining portions of said rods, said offset portions adaptable of vertical movement, respectively, in the holes in said angular member, whereby they may retract for the purpose of folding the legs of said table, and a head on each offset portion to hold said rods against displacement from said angular member.

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