Oct. 3, 1939. H. W. KACHEL 2,174,884

APPARATUS FOR TABLE TENNIS GAMES

Filed Feb. 19, 1937 2 Sheets-Sheet 1

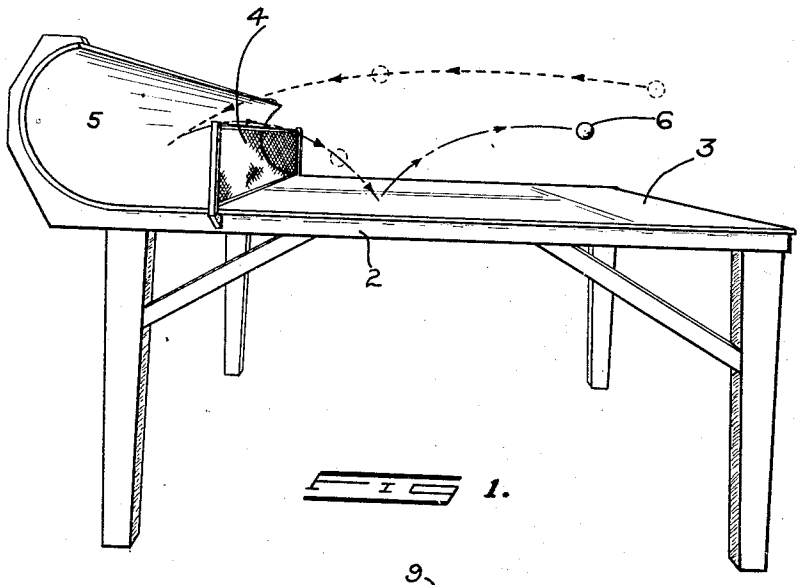

FIG 1.

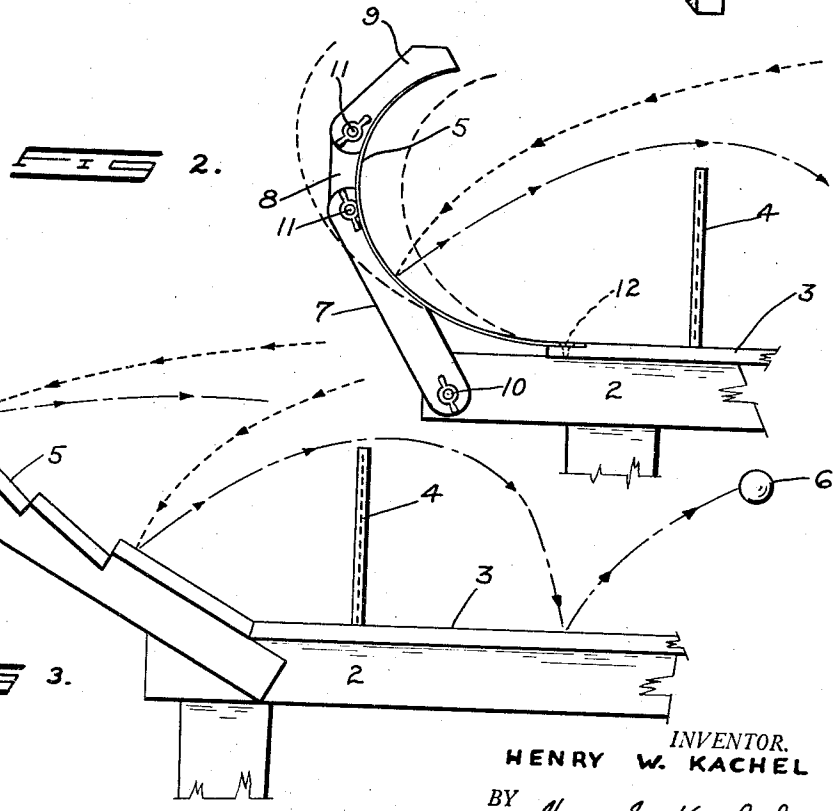

FIG 2.

FIG 3.

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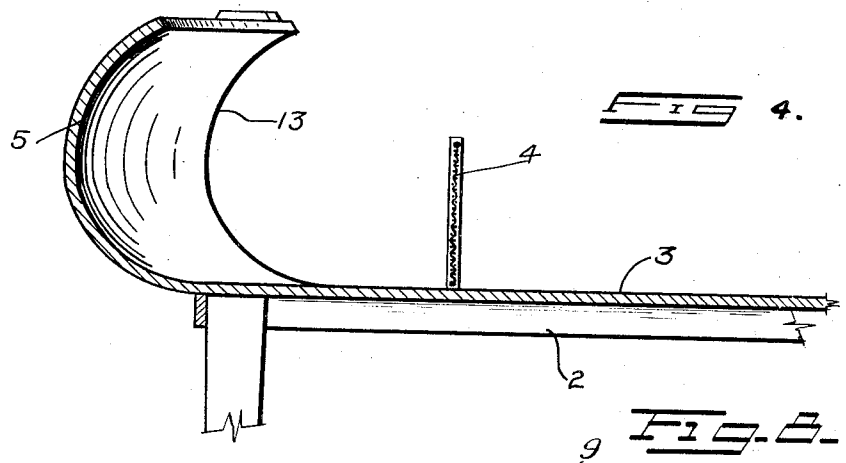

FIG. 4.

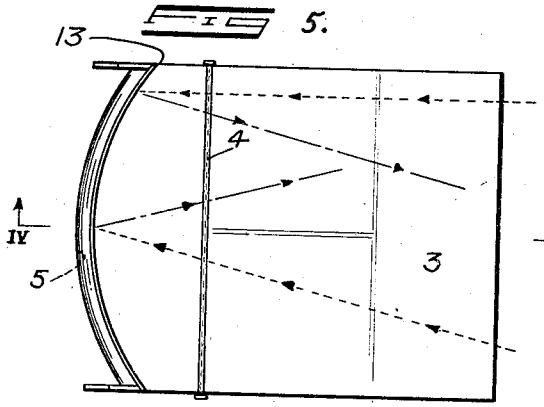

FIG. 5.

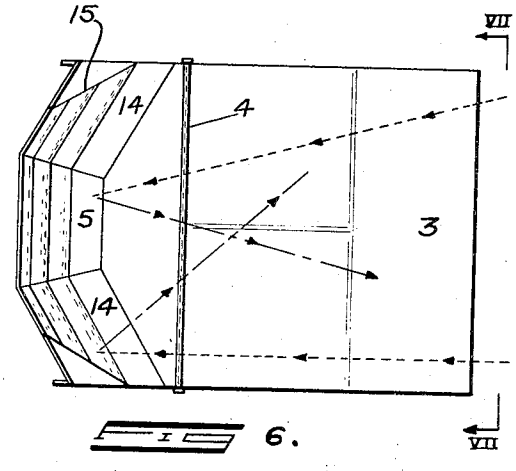

FIG. 6.

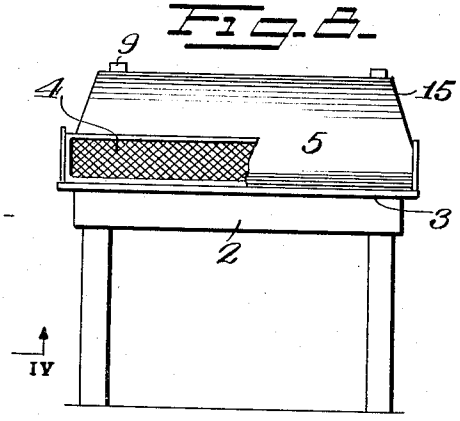

FIG. 8.

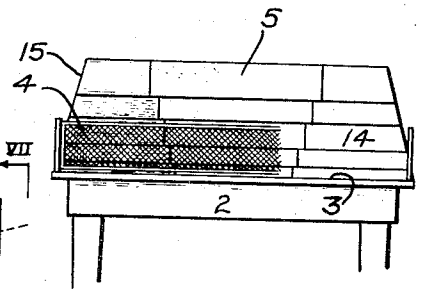

FIG. 7.

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UNITED STATES PATENT OFFICE

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APPARATUS FOR TABLE TENNIS GAMES

Henry W. Kachel, Youngstown, Ohio

Application February 19, 1937, Serial No. 126,685

3 Claims. (Cl. 273—30)

This invention relates to tables for playing table tennis and the like, in which game a ball is propelled over a net from one playing surface to another. Generally my invention comprises a table having at one end a plane playing surface, a vertically disposed net extending across said table, the other end of the table being curved upwardly so as to cause the ball to rebound over the net back to the first playing surface.

It is an object of the present invention to provide a table or playing board on which table tennis and the like can be played in a shorter space than is now possible with such playing equipment.

It is a further object to provide such equipment so that a solo game can be played by one participant.

Another object of the invention is to provide a playing surface which can be adjusted to various angles from the plane of the table.

It is still a further object of the invention to provide a curved surface with the ends thereof shaped inwardly so that the ball striking near the ends of the curved surface will be caused to rebound over the net and back upon the opposite playing surface.

Another object of the invention is the production of an apparatus which can be placed on present tables and thus attain the advantages of this invention.

Other objects and advantages will be obvious and in part pointed out in the following description.

In the accompanying drawings like references are used for corresponding parts in the various figures.

Figure 1 is a perspective view showing one form of my invention;

Figure 2 is a fragmentary side elevation showing the adjusting mechanism for changing the angle of the rebounding surface;

Figure 3 is a fragmentary side elevation of a modified form of the invention;

Figure 4 is a fragmentary cross-section of still another embodiment;

Figure 5 is a plan view of the modification shown in Figure 4;

Figure 6 is a plan view of another modified form;

Figure 7 is an end elevation of the form of the invention shown in Figure 6 looking from the right hand end of the table toward the net; and

Figure 8 is an end elevation of the form showing a curved rebounding surface having cut away upper portions.

Referring to Figure 1 of the drawings, 2 indicates a table for playing table tennis and the like having a plane playing surface 3 of standard dimensions and shape and being marked in the usual manner. A net 4 is provided, over which the ball or other object is propelled by the player. A curved surface 5 at the opposite side of the net 4 from the plane surface 3 is constructed of such a shape so that the pellet 6 upon striking the surface 5 is caused to rebound over the net 4 onto the surface 3.

The end 5 may be constructed of metal, ply wood, fibre board or other suitable material, depending upon the desire of the builder. It is apparent from the construction just described that a single player can play the game or two players can play in opposition to each other.

In Figure 2 the curved end 5 is held in position by means of braces 7, 8 and 9, the lower brace 7 being attached to the table 2 by means of a rod or bolt and screw 10. Sections 8 and 9 of the brace are in turn connected in like manner by rods or bolts 11. By these means the surface 5 can be adjusted to any position, such as shown by the broken lines in Figure 2. This construction can be easily made up and quickly applied to existing tables, or can be built into new tables, whichever is desired. If put on an existing table the member forming the surface 5 will be fastened to the table top as shown at 12 and the brace 7 will be fastened to a side member of the table.

In Figure 3 the surface 5 is shown as made up of straight sections placed at various angles to the plane surface 3, preferably of increasing angularity as the construction proceeds upwardly. The uppermost straight section can be vertical as shown, or slightly tilted toward the net corresponding to the upper edge of the surface as shown in Figure 1.

This form is easily constructed and the angularity of the various sections will be different in order to get the proper rebound of the ball in its different flights.

In Figures 4 and 5 the surface 5 is curved in both a vertical direction and a horizontal direction so that the side portions 13 of the surface lie closer to the net 4 than do the middle portions of the surface. That is, a vertical plane passing through the surface 5 and the net 4 will cut points on the surface, which will be at varying distances from the plane of the net and a horizontal plane will cut points on the surface, which

also will be at varying distances from the plane of the net. By this construction a pellet hitting at or near the edge of the curved surface will be caused to rebound toward the middle portion of the playing surface **3** rather than rebounding to a position off the surface.

In Figures 6 and 7 a further modification of the invention is illustrated, this being a modified form of the invention shown in Figure 3 and has the plane upwardly curved surfaces **14** constructed so that the ends thereof near the edge of the table are brought nearer to the net than the middle portion of the rebounding surfaces, the ends **15** thereof being cut away to simulate a playing table having flat surfaces on opposite sides of the net; that is, so that a ball being hit over the net that would go out of bounds on a standard flat surface table will not hit the rebounding surface **5** of my invention.

It is apparent to those skilled in the art that this invention provides a tennis table top which will allow playing of the game in a much smaller space than is practicable with the present known apparatus and will thus allow many more participants to enjoy the advantages, exercise and health-building qualities of this game. It can either be played by one player or two or more persons, each taking his turn in returning the ball. It is the intention that when the "ball" is spoken of throughout this specification that it not be limited to the Celluloid balls generally used, but that the term is used in its generic sense to include a disk, ball or other device regardless of its construction.

I do not limit myself to the specific apparatus shown in the drawings and described in the specification, as it will be evident to those skilled in the art that modifications may be made without departing from the scope of my invention. It will further be understood that my invention may be utilized in games similar to table tennis and for any other similar games and any other purposes for which it may be employed. The rebounding curved surface of my invention may be a true curve or may comprise a series of straight sections which taken together form a curved rebounding surface.

It is also to be understood that the invention is not limited to a table in the strict sense, and can be applied to detachable tops and that detachable ends such as shown in Figure 2 can be made up and applied to present existing tables.

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

1. Apparatus for playing table tennis and similar games, comprising a playing surface, a net, a surface on the opposite side of said net from said first mentioned playing surface, the last mentioned surface being shaped upwardly out of the plane of the first mentioned surface and having the upper ends of said upwardly curved surface cut away so as to be of less width at the top than said first mentioned playing surface.

2. Apparatus for playing table tennis and the like comprising a member having a generally horizontally disposed playing surface with one end thereof curved upwardly to provide a ball rebounding surface concave about a horizontal axis extending at right angles to the principal axis of the said generally horizontally disposed playing surface, said horizontally disposed playing surface adapted to support an upwardly extending net positioned adjacent to, but spaced from the upwardly curved portion, the curvature of said portion being such that a ball properly driven over said horizontally disposed surface and said net will rebound over said net and onto said horizontally disposed surface, an adjustable support for said upwardly curved surface whereby the curved relation between said portion and said horizontally disposed playing surface may be varied to alter the rebound characteristics of said portion.

3. Apparatus for playing table tennis comprising a member spaced above a floor and having a generally horizontally disposed playing surface with one end thereof curved upwardly and outwardly to provide a ball rebounding surface concave about a horizontal axis extending at right angles to the principal axis of said generally horizontally disposed playing surface, said concave rebound surface being arranged so that different elements thereof are at different angles to the horizontal playing surface, the element near the horizontal surface being substantially tangent thereto and adjacent succeeding elements increasing in angularity to said horizontal surface until said curved surface is tangent to a perpendicular to said horizontal surface, the adjacent succeeding elements being at different radii of curvature than the element substantially tangent to the horizontal playing surface, said horizontal surface being adapted to support an upwardly extending net positioned adjacent to, but spaced from said upwardly curved portion, said space to the outermost curved portion being greater than the height of said net.

HENRY W. KACHEL.