Aug. 24, 1948. W. G. DIETER 2,447,743

GLASS TOPPED TENNIS TABLE

Filed April 6, 1944

2 Sheets-Sheet 1

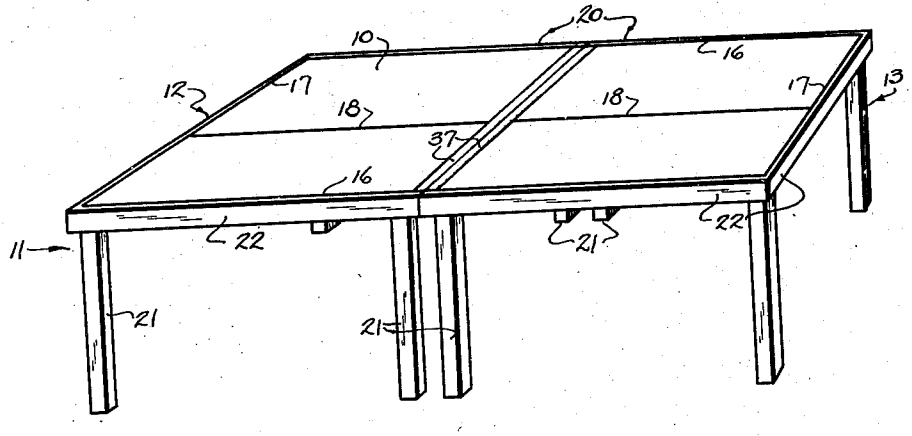


FIG. 1

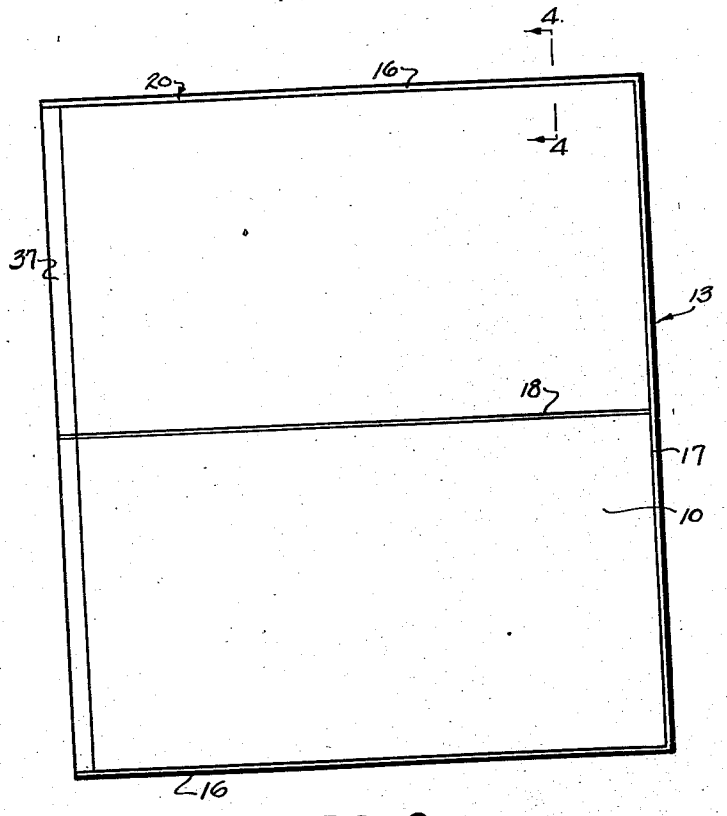


FIG. 2

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GLASS TOPPED TENNIS TABLE

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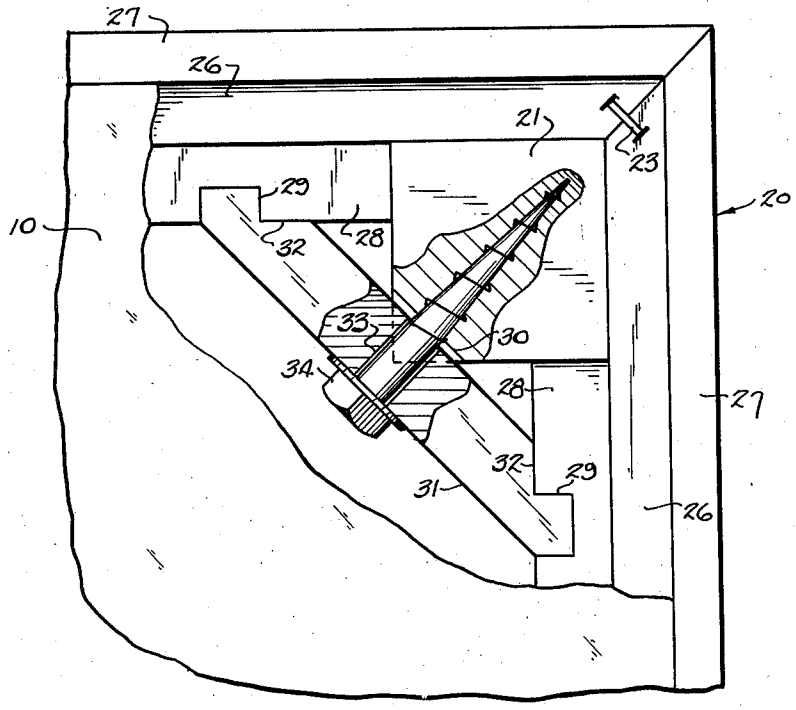


FIG. 3

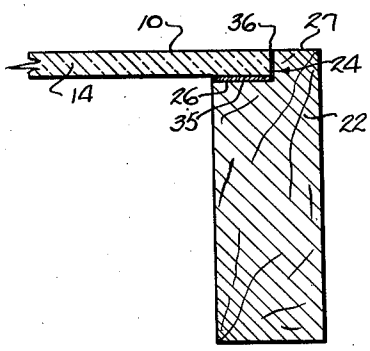


FIG. 4

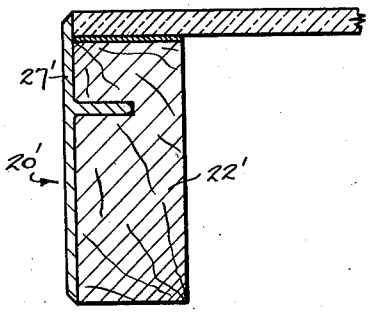


FIG. 5

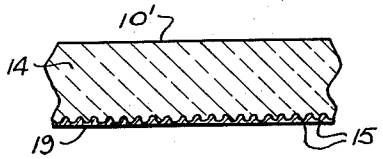


FIG. 6

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2,447,743

UNITED STATES PATENT OFFICE

2,447,743

GLASS-TOPPED TENNIS TABLE

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Application April 6, 1944, Serial No. 529,708

3 Claims. (Cl. 311—106)

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The present invention relates to table tennis equipment and more particularly to a novel type of tennis table having a glass playing surface.

The primary object of the invention is to provide a table for the game of table tennis that will conform to all of the regulations of the United States Table Tennis Association, but which is provided with a special kind of top that is remarkably suited for this particular purpose. Specifically, I have discovered that when one side of a regular plate glass blank is ground in the usual manner but not polished, the resulting ground glass face makes an ideal playing surface for table tennis.

Heretofore, most tennis tables have been made entirely of wood. In the better tables, tops of plywood were used and up until now plywood tops have been generally considered to be the best. However, there are a number of disadvantages even with these multilayer wood tops. In the first place, the bounce of the ball from their surfaces is not always consistent and may vary slightly on different tables or from one area to another on the same table.

Then too, it is difficult to obtain a surface on the top ply that is absolutely uniform and of such complete smoothness and flatness throughout its over-all area that there will be no slight deflection of the ball while it is in play. Because of warping, checking and general wear, the average life of plywood tops in table tennis centers is only one or two years, and of course their playing surfaces are growing progressively less and less satisfactory during the entire life of the top.

Furthermore, these wooden playing surfaces must be painted to provide the proper colored playing "field." As the paint wears off, it adheres to the ball, which is objectionable, and in addition the color of the table top will vary from glaring brightness to a dull and worn shade, depending on the length of time that it has been in use.

In contrast, the special playing surface on the tennis table of the present invention has the permanency, uniformity and flatness of a sheet of plate glass. At the same time, it has a translucent finish that is satin smooth, without being slippery, and that appears to absorb rather than to reflect light.

From the standpoint of play, the ground glass surface is accurate, fast and responsive. It not only assures consistent and true action of the ball while in play, but it also gives an extra resilience or bounce that is not obtainable on a

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wood top, and English or spin that is put on the ball by "cuts," "chops" or "stuff," takes better on this special glass playing surface.

Other objects and advantages of the invention will become more apparent during the course of the following description, when taken in connection with the accompanying drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the same:

Fig. 1 is an isometric view of a tennis table made in accordance with the invention;

Fig. 2 is a plan view of one section or half of the table of Fig. 1;

Fig. 3 is an enlarged fragmentary view of one corner of the table with the glass top partially broken away to show the supporting framework;

Fig. 4 is a section taken substantially on the line 4—4 in Fig. 2;

Fig. 5 is a view similar to Fig. 4 showing a modified edge construction for the frame; and

Fig. 6 is an enlarged sectional view through the glass top showing its mechanically ground top surface and its unground, ribbed and painted bottom surface.

Referring now more particularly to the drawings, there has been illustrated in Fig. 1 a tennis table constructed in accordance with the invention and which comprises a glass top or playing surface 10 that is supported on a suitable framework, designated in its entirety by the numeral 11.

As shown, the table is made of two identical halves or sections 12 and 13 which may, or may not, be hinged or otherwise secured together while in use. There are certain advantages in making the table in two or more separate parts in this manner. First, because it can be more easily handled and stored, and also because the individual sections can then be used independently for other purposes if desired.

However, it is to be understood that the top 10, or the framework 11, or both, can just as well be made as single units and in speaking of the table here, the entire assembly as shown in Fig. 1 is meant.

The glass playing surface 10 is preferably the upper surface of a glass plate or slab 14 which may be made up in one or more sections but which in any event presents a substantially continuous playing surface of glass. The glass itself has certain inherent qualities that make it highly suitable for the purpose, such as solidity; resistance to weathering, when used out of doors; ability to take a perfectly smooth flat surface, and so forth. However, the present invention

goes beyond these natural advantages and contemplates the provision of a special kind of glass surface that has proved to be superior to anything heretofore used on a tennis table.

Briefly stated, this special surface corresponds in character to the surface that is formed on a glass blank at one stage of the production of regular commercial plate glass; that is, after one face of the blank has been ground but before it has been subjected to the polishing operation.

In fact, a preferred method of producing the glass tops of the invention is to mechanically grind one face of a large plate glass blank in the usual manner and to then cut the blank up into slabs or sections of the size required for a regulation tennis table.

As is well known, plate glass blanks are ordinarily produced by one or another of the well known rolling methods. Consequently, these blanks are usually translucent and have one or both of their surfaces made up of a succession of tiny, regularly spaced ribs or corrugations, as shown at 15 in Fig. 6, that are the marks left by the forming means. Now in order to produce transparent plate glass from the blanks both of their surfaces must be first ground to a uniform flatness and planity, and then polished to give final smoothness and complete transparency; these grinding and polishing operations being performed on any one of the various types of well known surfacing apparatus. For example, on individual machines as illustrated and described in the patent to Joseph P. Crowley, 1,740,006, December 17, 1929. Or on a so-called continuous line as shown in the patent to Joseph P. Crowley, 1,982,641, December 4, 1941.

However, in producing a tennis table top by my preferred method, the blank is formed in the usual manner and it is then subjected to the usual grinding operation, but on one side only. When this has been done, the blank will still be translucent, but it will have a perfectly smooth, flat upper surface (as shown at 10', Fig. 6) with a finish that resembles delicately frosted glass; and a ribbed or corrugated lower surface 15. It is then only necessary to cut the partially finished blank into sections of the required size and to line and color them in order to provide an ideal top and playing surface for a tennis table.

The regulation table tennis playing surface is green in color and marked with white side, end and center lines (16, 17 and 18 respectively, Figs. 1 and 2). One of the advantages of this invention is the fact that the table top is lined and colored on the underside and because the glass is translucent the markings and colorings will be plainly visible therethrough. At the same time, the translucency of the glass will prevent the colors from being glaringly bright even when newly applied, and since they are protected by the glass they will never become worn, faded or discolored. Nor can they be knocked off by, or adhere to, the ball during play.

Under certain circumstances, it may be found desirable to color the glass itself, by introducing a coloring material into the batch or otherwise, but so far the best all around results have been had by first painting the white lines or stripes in their proper locations on the underside of the glass slab, and then covering the entire under-surface with a coat of green paint as indicated at 19 in Fig. 6.

The glass slab as just described, either in one piece or in sections, when supported in any suitable manner in a horizontal plane, will provide

an unusually satisfactory playing surface for table tennis. However, in order to meet tournament regulations and to provide the most desirable form of the invention, it is preferred that a supporting framework, such as is shown in Figs. 1 to 5, form a part of the complete table.

This framework comprises two separate halves or sections and, since they are identical, only one will be described in detail. Primarily each half of the table consists of a frame 20, within which the glass slab is received, and four legs 21, for supporting the frame at the desired height from the floor. The frames 20 are rectangular, being made up of four stringers or sides 22, mitered at the corners and held together in any suitable manner as by gluing and with the clamp nails 23. The sides of the frame are rabbeted as at 24 (Fig. 4) to provide a glass slab reeciving ledge 26, and a top marginal portion 27 that is adapted to lie flush with the top of the glass slab 14.

In order to provide a solid supporting framework and yet one that can be readily assembled and disassembled, there is secured to the inner sides of each of the frame stringers 22, below the ledges 26, blocks or strips 28 (Fig. 3). These strips 28 are spaced from the corners of the frame 20 a distance substantially equal to the thickness of one of the legs 21, in order to permit the legs to fit into each of the four corners of the frame, between two adjacent strips 28, as shown in Fig. 3.

The strips 28 are notched as at 29 and the top of each of the legs 21 has one corner notched as at 30, to receive a brace 31. The ends of the braces 31 are also notched as at 32 to fit into the notches 29 in the strips 28, while the middle portion of each brace 31 is received within the notch 30 in one of the legs 21. The brace 31 is also provided with an opening 33, opposite the notch 30 in its respective leg, for the reception of a lag-screw 34, that is adapted to be threaded into the leg.

It will be noted that with this arrangement the framework of each half of the table can be quickly assembled by simply putting the frame 20 in position relative to the legs 21 and tightening four lag-screws 34. Similarly, in order to dismantle the framework it is only necessary to remove the lag-screws.

In erecting the entire table, after the framework 11 of each half has been put together and the screws 34 tightened sufficiently to secure the various parts in assembled relation, a layer of mastic cement 35 is placed on the ledge 19 of the frame 20. The glass slab is then embedded or set in the frame by forcing it down into the cement to a point where the upper surface of the slab will be flush with the margins 27 on the sides of the frame. At the same time, cement will be forced up past the edge of the slab to fill the space between it and the frame, as at 36, the excess cement being subsequently scraped or leveled off. For this reason it is desirable to use a green cement that will harmonize with the color of the playing field.

In Fig. 5 there has been shown a slightly modified type of frame 20'. As there shown, the stringers 22' are not rabbeted but instead support the glass slab on their upper edges, while the slab is framed by a metal or plastic edging 27' carried by the stringer 22' and covering both the stringer and the edge of the slab.

With the construction of Fig. 4, the stringers 22 may be made of a white material so that the marginal portions 27 provide the end and side

lines for the court. On the other hand, with the form shown in Fig. 5, the end and side stripes, as well as the center stripe, will be painted on the underside of the glass slab.

It will be noted in Figs. 1 and 2 that one of the marginal portions **37** on the frame **20** is considerably wider than the other three and that when the two halves of the table are put together this is done with the two side margins adjoining one another, to provide a relatively wide band across the middle of the table to which the net clamps can be secured.

As explained above, the tennis table described here has been found to have a playing surface that is surprisingly fast, accurate and responsive as compared to the surfaces that have heretofore been considered to be best suited for the purpose. Furthermore, this mechanically ground translucent surface, marked and colored on the underside, is always uniform in appearance, the lines stand out sharply and distinctly against the field and yet there is no glare whatever. In fact, even very bright light directed onto the table seems to be absorbed and diffused by the ground glass surface without being reflected back into the eyes of the players.

There is a noticeable solidity and freedom from vibration about the playing surface and it will resist blows from the paddles during play that would nick or dent a plywood top. When the glass table tops are tempered after grinding, by first heating them to substantially the softening point of the glass and then suddenly chilling them to place the outer surfaces of the slab under compression and its interior under tension, they will be found to be practically indestructible under any ordinary treatment.

Although it is preferred to produce the glass playing surface of this invention by grinding one surface of a rough glass blank, it will be understood that a similar surface will result when a face of a transparent glass sheet is ground in the same manner. It is also appreciated that the table top might be made by a relatively thin layer of glass on a base of some other material, and that a somewhat comparable surface finish might be produced by etching, sandblasting or some similar treatment as well as by mechanical grinding.

It is to be understood that the form of the invention herewith shown and described is to be taken as the preferred embodiment of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

I claim:

1. A tennis table of the character described, comprising a supporting framework, a slab cut from a rough plate glass blank and carried by said framework, a smooth flat playing surface mechanically ground but unpolished on the top of said blank, and a layer of coloring material on the bottom of the blank.

2. A tennis table of the character described, comprising a supporting framework, a glass slab carried by said framework, a flat smooth but translucent and unpolished playing surface on the top of said slab, a corrugated surface on the bottom of said slab, and a layer of coloring material applied to said corrugated surface.

3. A tennis table of the character described, comprising a supporting framework including a frame, a glass slab carried within said frame, a mechanically ground but unpolished playing surface on the top of said slab, a corrugated surface on the bottom of the slab, a white line down the middle of said corrugated surface, and a coating of coloring material completely covering the corrugated surface.

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