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R. H. LEE ETAL

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TENNIS SERVE PRACTICE DEVICE

Filed Dec. 13, 1961

2 Sheets-Sheet 1

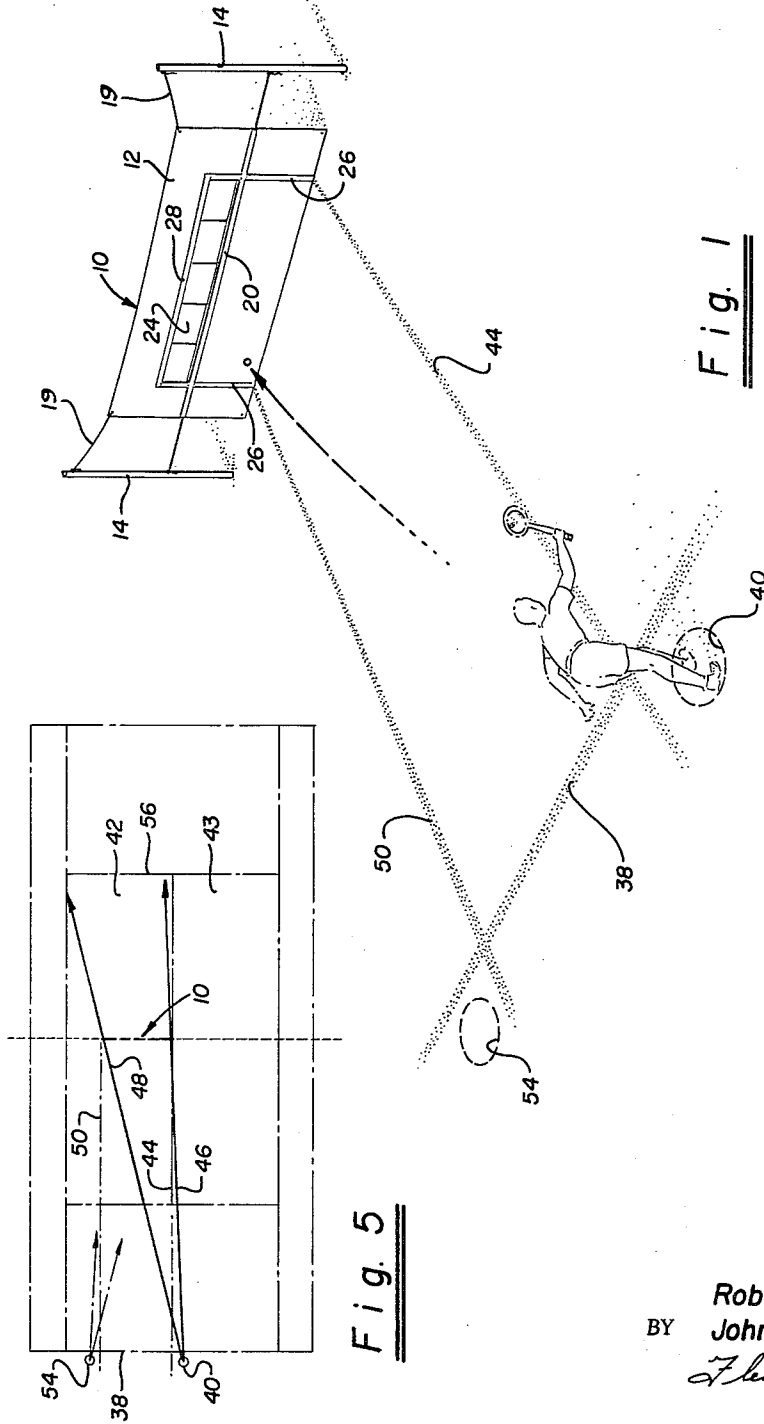


Fig. 1

Fig. 5

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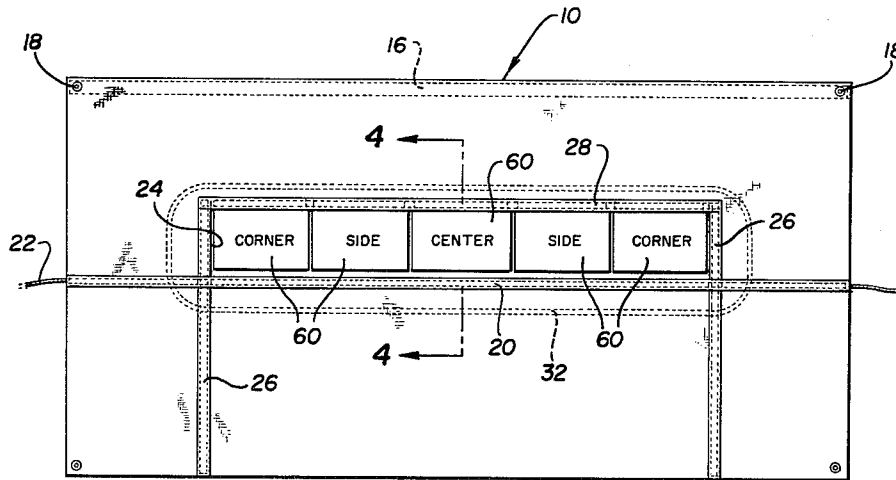


Fig. 2

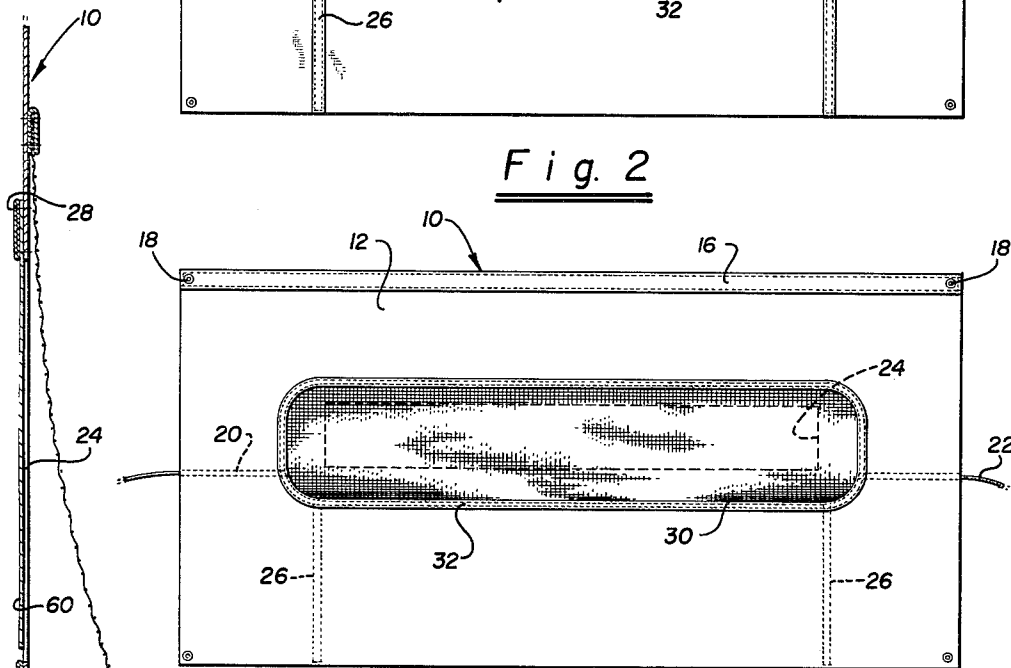


Fig. 3

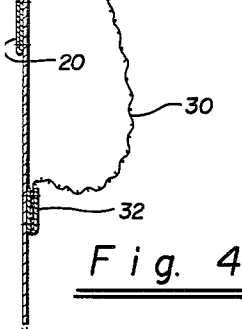


Fig. 4

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TENNIS SERVE PRACTICE DEVICE

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6 Claims. (Cl. 273-29)

This invention relates generally to a device for use in learning, practicing and perfecting the tennis serve, and particularly to such device for use both by amateurs and professionals in back yards, private clubs, public courts, parks, schools, commercial practice ranges, and so on.

In general, it is an object of the invention to provide a practice device of such character which is simple in construction and capable of being used in a workout by a single player.

It is another object of the invention to provide a device of the above type for practicing and perfecting the tennis serve which develops accuracy in the serve, particularly with respect to placement of serves in different areas of the service court, such as center, side or corner areas.

Another object of the invention is to provide a practice device of such character which indicates the entire area above a tennis net within which a ball can hit and be expected to land within the intended service court, and which can be used for both right and left service court practice.

Another object of the invention is to provide such a device which will act to stop forward movement of practice serves, without causing appreciable rebound or ricochet, permitting the device to be set up in small areas near houses or buildings having windows.

A further object of the invention is to provide a tennis serve practice device of such character wherein the same is readily and easily erected, adjusted and sustained in a suitable position for the practice of the tennis serve.

A still further object of the invention is to provide such a device which is simple in construction and easily and economically manufactured.

Other objects and advantages of the invention will be apparent from the following description and from the drawings, in which:

FIGURE 1 is a view in perspective of a tennis serve practice device embodying the invention;

FIGURE 2 is an enlarged view in front elevation of the device of FIGURE 1;

FIGURE 3 is a like view in rear elevation thereof;

FIGURE 4 is an enlarged detail view along the line 4-4 of FIGURE 2; and

FIGURE 5 is a schematic view indicating the manner of laying out the practice service area with respect to the practice device.

Generally stated, the tennis serve practice device of the present invention comprises a flexible sheet arranged vertically with respect to a flat practice area to form a ball stop. The device is also provided with a target area or opening above a net height indicator on the sheet, and to one side of a center line indicator. In the use of the device, a tennis service area is accurately positioned in front of the sheet in a predetermined position with respect to the target opening so that a player serving a ball from the service area through the target opening will know that his "serve" would have been correctly positioned had he actually been playing a game of tennis. Preferably, our device also indicates whether the serve would have landed in a center, side or corner area of a simulated service court area, and thereby is uniquely suited for developing accuracy, consistency and tactical placement of the serve. As will appear, our device is also constructed to permit its use in the practice of the

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serve to both left and right service court areas, and to positively indicate when a serve has been made to a particular portion of such service court area.

Referring to the drawings, 10 generally indicates a preferred embodiment of a tennis serve practice device according to our invention. As best illustrated in FIGURE 1, a vertically arranged flexible sheet 12 of canvas duck, synthetic fabric or cloth or netting or other suitable material, is stretched and secured between upright poles or other suitable supports 14. The upper edge of the sheet 12 can be reinforced as at 16 in FIGURE 3, and provided with grommets 18 adapted to receive lengths of cord, ties or other suitable supporting connections 19 with the poles 14. Across the middle of the sheet 12 is stitched a second reinforcing strip 20 (FIGURE 2), which preferably receives a supporting cord or wire support 22 of the type normally employed to support a tennis net. The cord 22 can be suitably supported between the poles 14, as illustrated in FIGURE 1.

It is a feature of the present invention that the transverse strip 20 on the front of the sheet 12 indicates both the net height of a simulated tennis court and the lower edge of a target opening 24 provided in the sheet 12. Vertical reinforcing strips 26 form the sides of the target opening and, as will appear, also indicate the center lines of two separate simulated tennis courts, depending upon whether practice is to the left or right service court. The top of the target opening is formed by a further reinforcing strip 28 which overlaps and joins with the vertical strips 26 at the corners. The reinforcing strips 20, 26 and 28 can be formed of any suitable material stitched or otherwise secured to the flexible sheet 12, but preferably are formed of the same material as the sheet in the manner of conventional "striping" on tennis nets.

In the preferred embodiment illustrated, the device 10 is provided with a ball receiving pocket 30 on the rear side of the flexible sheet 12. As illustrated in FIGURE 3, the ball pocket can be fabricated of netting or other suitable material such as cloth, canvas duck, etc., supported at its edges by a further reinforcing strip 32. This strip can be doubled over the outer periphery of the pocket and stitched or otherwise secured to tension the pocket against repeated impacts of balls passing through the target opening.

As indicated previously, the purpose of the present invention is to develop consistency, speed, power, and tactical skill in the placement of the tennis serve. It is essential therefore that the target opening 24 be accurately positioned with respect to a tennis-serve related court portion simulated by the markings on the front of the flexible sheet. Referring to FIGURE 5, the positioning of the practice device 10 is represented in heavy dashed lines upon a broken-line representation of a tennis court. Thus, assuming service from a proper position addressing the left hand service court on the other side of the net, the service position of a player can be represented at 40. Our device functions to insure that a player serving a ball from this approximate service position through the target opening 24 will execute a correct placement in the left hand service court 42. Since accuracy is the principal consideration, a preferred arrangement is to make the right hand edge of the target opening, represented by the right hand striping 26, coincident with the center line 44 of the court. This insures that a serve passing just inside the right hand edge of the target opening will fall into the left hand service court, as indicated by the arrow 46. In similar fashion, the left hand edge of the target opening can be determined by the line to the rear left corner of the service court 42. The player can thus be assured that a serve passing just inside the left hand edge

of the target opening will likewise fall into the service court.

Similar considerations will apply to service to the right hand service court 43. In such case, the left hand striping 26 would correspond to the simulated center line represented at 50, and the service area would be to the left of this center line and the base line 38, as indicated at 54 in FIGURES 1 and 5. In the use of the device 10, suitable visual indications could be provided to insure that a player was in the proper service position with respect to both left and right service court practice. This could be done by indicating the positions 40 and 54 or by chalking the lines 38, 44 and 50 as indicated in FIGURE 1.

In the construction of our device, it is also necessary that the vertical height of the target opening be accurately dimensioned to insure a proper longitudinal placement of serves passing through the opening 24. As will be understood by one in this art, a precise dimensioning would require knowledge of the exact height of the person using the device and the particular type of serve employed. However, we have found that such refinement in dimension (although contemplated in extreme cases) is neither necessary nor practical in a device intended for general use. Thus essential accuracy for the vast majority of players can be obtained by assuming an average vertical elevation of the point of impact between the tennis racket and the ball at the instant of the serve, and drawing a line from this point to the rear of the service court (line 56 in FIGURE 5). Since there will be a certain degree of downward deflection of the serve due to gravity, this procedure will insure that a ball passing beneath the upper striping 28 will fall into the service court area.

If desired, of course, it is also possible to mount the upper striping 28 to permit vertical adjustment of the upper edge of the target opening. Such a modification would be useful, for example, to persons of extreme height or to highly skilled professional players intent on obtaining the utmost in control.

As a further feature of our invention, we can employ a series of individual flaps 60 pivotally supported from the upper edge of the target area and depending into the opening 24. As best seen in FIGURES 2 and 4, these flaps can be secured between the upper striping 28 and the material of the sheet 12 so as to hang directly within the opening. In the embodiment illustrated, the center flap is additionally stencilled or marked with the word "center," indicating that a serve displacing this flap and falling into the pocket 30 would necessarily fall into the center of the simulated service court 42. In like fashion, the other flaps can be stencilled "side" and "corner," as particularly shown in FIGURE 2, to indicate that balls deflecting these flaps would fall in the left or right side corner areas of the service court area. If desired, the pocket 30 can also be subdivided to produce a series of individual pockets corresponding to the flaps 60, providing an easier determination of the accuracy of a serve, or a series of serves, and permitting the player to positively check the results of his practice.

The use of our device in a typical practice session to develop and perfect the tennis serve can now be summarized as follows:

Assuming a proper positioning of the device 10 with respect to the service areas 40 and 54, as represented in FIGURE 1, the player takes his position in one of these service areas to commence practice. Service can be made in any desired manner within the rules of the game (i.e., employing the slice, cannon ball, and American twist serves, etc.). The amateur or beginning player will be content to pass a substantial proportion of his services through the target opening 24 into the pocket 30. Should a service miss the target area the "give" or flexibility of the sheet 12, as well as the flexible mounting of the sheet on the poles 14, will tend to stop forward movement of the balls causing them to drop in front of the device

within a comparatively small surface area. This not only prevents dangerous rebounding or ricocheting of the balls such as might cause damage to surrounding structures, but also insures a minimum of effort in retrieving the balls for further practice. The more advanced or professional player will, of course, seek to place his serves through a particular zone of the target area, for example, "right corner," "left side" or "center." He will be able to gauge his success by observing movements of the appropriate flaps. He can also gauge the power of his service by the proportion of balls deflecting the flaps with sufficient force to be retained in the pocket 30. Where individual pockets are provided, he can make a further check as to the proportion of balls passing into the desired pockets.

When a player has practiced sufficiently into one of the simulated service courts, that is, from the service area 40 into the left court 42, he can move to the other service area for practice into the other service court (i.e., to area 54 for practice into court 43). In this way the player can satisfactorily develop accuracy, consistency and tactical placement in the most exacting stroke in tennis, the serve. Since the serve is perhaps the most important and difficult stroke in tennis, calling for special accuracy and consistency in placing the ball with a small service court area, and involving different motions and speed, the device of the present invention is particularly useful to most any tennis player, whether amateur or professional. It is likewise useful as a teaching aid, by professionals, in tennis clinics, and so on.

To those skilled in the art to which the present invention relates, many different applications and embodiments of the invention will suggest themselves without departing from the spirit and scope of the invention. For example, the striping 26 and 28 defining the target area 24 might be painted, or otherwise visually indicated on the surface area of the vertical sheet without requiring separate overlays of the type illustrated and described. In like fashion, the flaps 60 might be made of lightweight metal so as to give a characteristic sound on impact. These and other variations are clearly within the skill of those in this art, and the particular disclosures described should be considered as purely illustrative and not as intended to be in any way limiting.

We claim:

1. For practicing and perfecting the tennis serve, means accurately simulating the inbounds service region of a regulation tennis court for practicing the tennis serve, said means comprising a generally flat horizontal playing surface, means on said playing surface providing a zone defining a right service court serving position for a full dimensioned simulated tennis court and a zone defining a left service court serving position for a full dimensioned simulated tennis court, a sheet arranged vertically of said playing surface to form a ball stop, support means for said sheet, net height indicator means positioned upon a forward side of said sheet to indicate the net height of a simulated full size tennis court, center line indicator means positioned upon said forward side of said sheet to indicate the center line of a simulated full-size tennis court as respects one of said service positions and to indicate the inbounds side line with respect to the other of said service positions, another center line indicator means positioned upon said forward side of said sheet to indicate the center line of a simulated full size tennis court as respects the last named service position and to indicate the inbounds side line with respect to the first named service position, said sheet being disposed with respect to said service positions to locate said net height and both center line indicators in true net height and center line positions of a full dimensioned tennis court with respect to each of said serving positions, and additional means provided on said sheet forming a target zone above said net height indicator simulating the entire inbounds service placement area with respect to a serve from either of said service positions.

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2. A device as in claim 1 wherein said sheet is constructed of relatively flexible material sufficient to stop forward movement of a tennis ball without causing appreciable rebound.

3. A device as in claim 1 wherein said support means includes a horizontal flexible cord-like support corresponding in supporting position to said net height indicator to thereby provide a natural sag.

4. Apparatus according to claim 1 wherein said target zone comprises a target opening in said sheet, the side edges of said target opening serving to define said center line indicators.

5. For practicing and perfecting the tennis serve, means accurately simulating the inbounds service region of a regulation tennis court for practicing the tennis serve, said means comprising a generally flat horizontal playing surface, means on said playing surface providing a zone defining a right service court serving position for a full dimensioned simulated tennis court and a zone defining a left service court serving position for a full dimensioned simulated tennis court, a sheet arranged vertically of said playing surface to form a ball stop, support means for said sheet, net height indicator means positioned upon a forward side of said sheet to indicate the net height of a simulated full size tennis court with respect to each of said serving positions, a pair of spaced marker means on the forward side of said flexible sheet, the spacing between said marker means being so spaced to cause one of said marker means to define, with respect to said first named service position, a center line and the other marker means to indicate substantially the line of flight of a tennis service originating from said first named serving position which would fall just inbounds beyond the net,

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said marker means being disposed on said sheet so that the representation of said marker means is reversed with respect to said second named position whereby the other marker means defines with respect to said second named service position a center line and the one of said marker means indicates substantially the line of flight of a tennis service originating from said second named serving position which would fall just inbounds beyond the net, and additional means provided upon said sheet forming a target zone above said net height indicator simulating the entire inbounds service placement area with respect to a serve from either of said service positions.

6. Apparatus for practicing and perfecting the tennis serve according to claim 5 wherein said target zone comprises an opening in said sheet, the side edges of said opening serving to define said markers, the upper edge of said opening being positioned vertically above said net height indicator a distance simulating and defining, with respect to said service positions, the regulation maximum inbound service placement area longitudinally of a tennis court which includes said service positions.

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