

[54] **PREFABRICATED TENNIS COURT ASSEMBLY**

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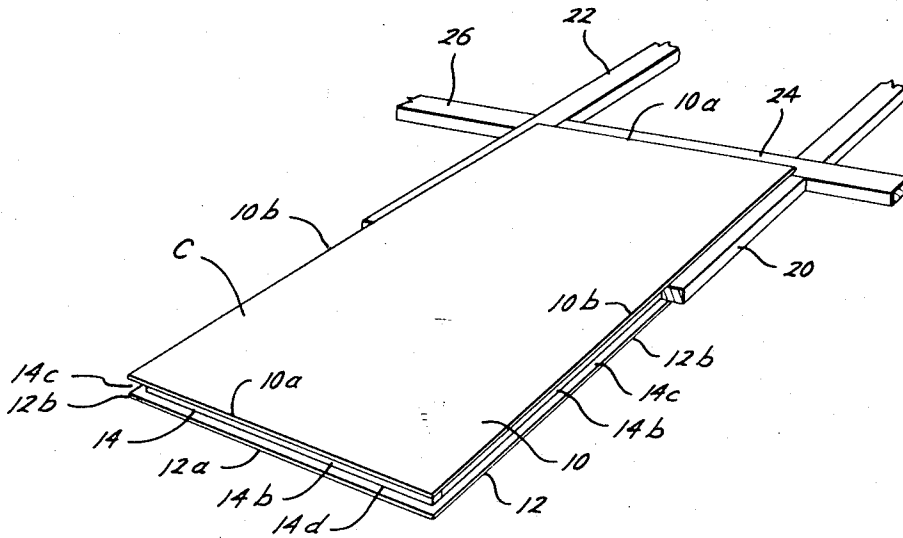
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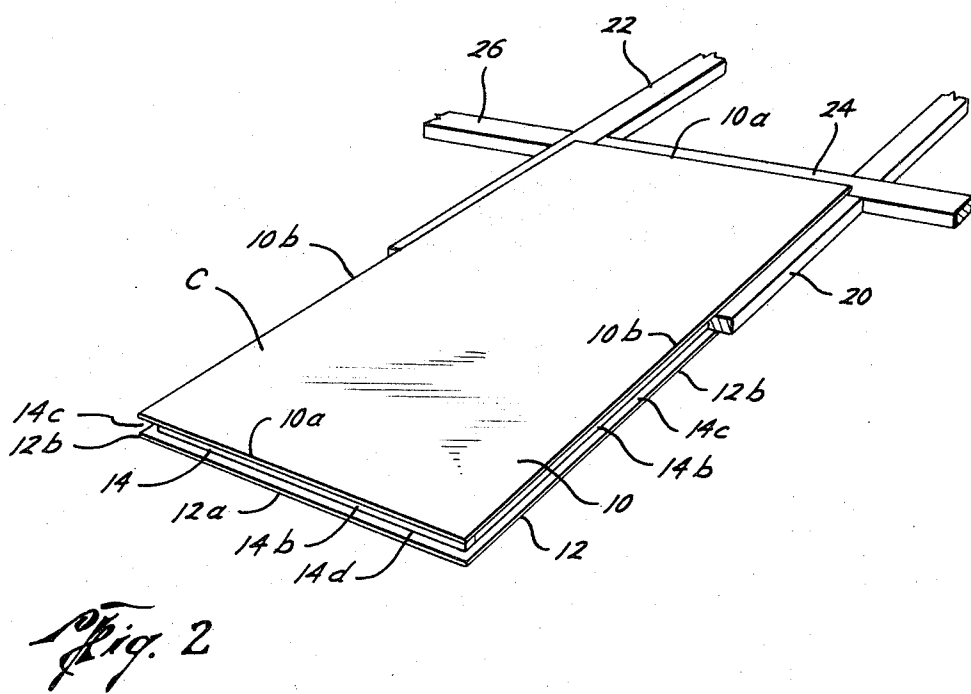
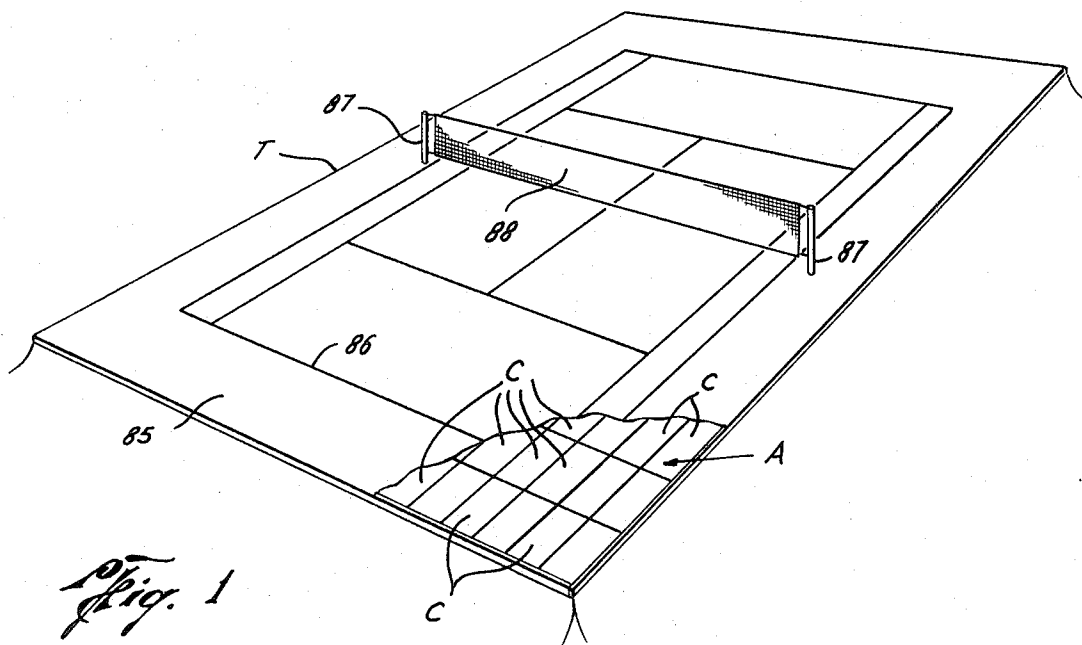
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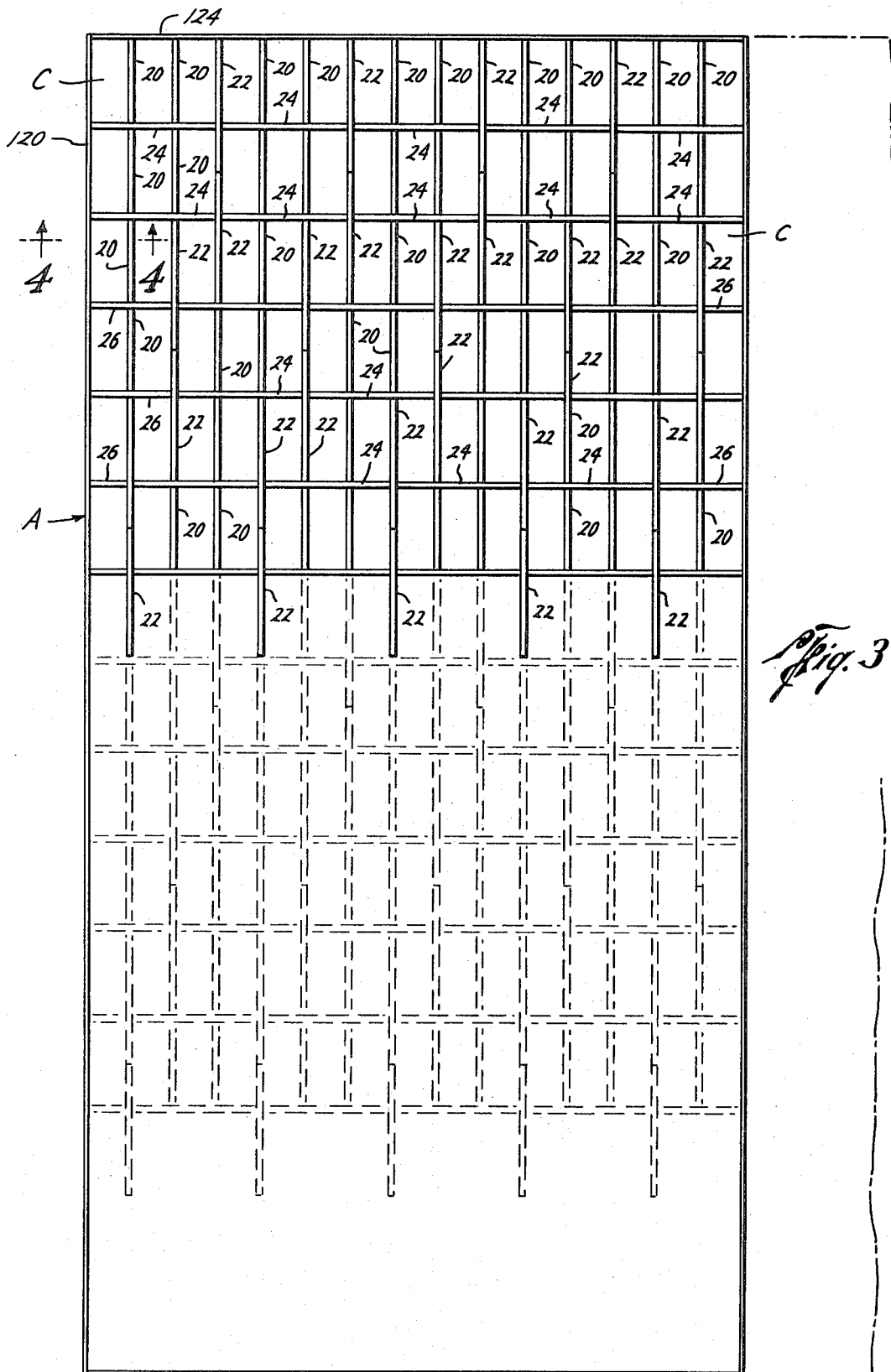
[57] **ABSTRACT**

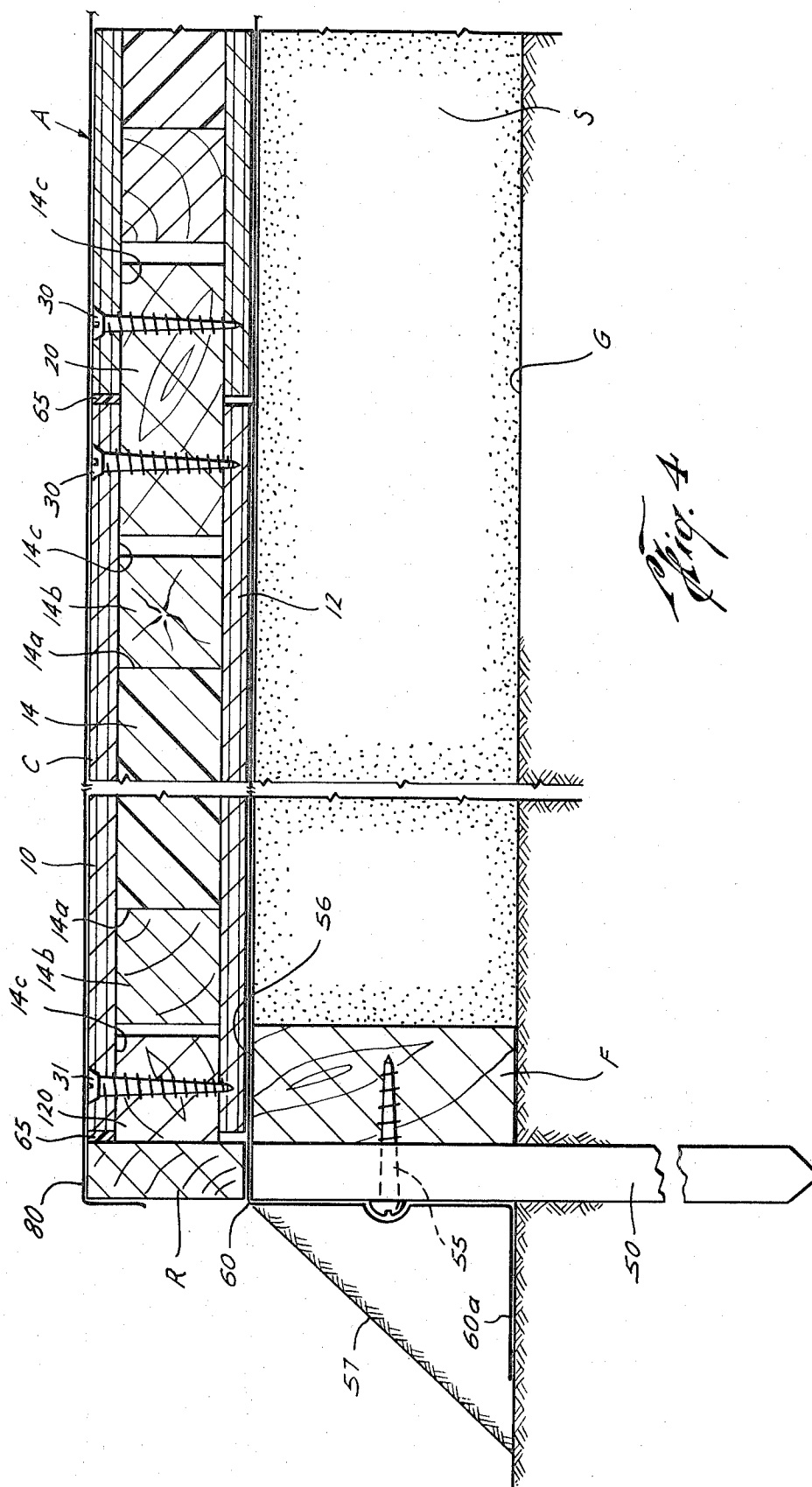
Prefabricated court units and assembly, wherein each of the units is of a convenient size for transportation, handling and installation at a site for the tennis courts, whereby a plurality of said units may be assembled and a finished tennis court provided by inexperienced personnel with a minimum of special equipment.

7 Claims, 4 Drawing Figures









PREFABRICATED TENNIS COURT ASSEMBLY

BACKGROUND OF THE INVENTION

The field of this invention is courts for tennis and the like and the assembly thereof.

Tennis courts have customarily been made at the site, using materials such as clay, asphaltic bases, synthetic resin bases and concrete, which are poured and essentially completely fabricated at the site. Such prior courts have been relatively expensive and usually have required professional experienced personnel with special equipment for the installation.

SUMMARY OF THE INVENTION

The present invention relates to prefabricated court units for tennis and the like, and the assembly of same to form a court, wherein each of said units is of a convenient size for transportation, handling and installation, and wherein the assembly of such units into a court may be effected by inexperienced personnel without requiring special equipment.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an isometric view of the completed tennis court using the tennis court units and the assembly thereof, with a portion of the tennis playing surface removed for illustration of the tennis court assembly;

FIG. 2 is an isometric view of a tennis court unit of this invention, with representative locking members therewith;

FIG. 3 is a plan view, illustrating the arrangement of the locking members for locking together tennis court units to form the tennis court assembly of this invention, with the solid lines representing a representative number of the units in which a predetermined pattern of the locking members is employed, and with the dash lines representing a continuation of such pattern; and

FIG. 4 is a sectional view taken on line 44 of FIG. 3, illustrating the final tennis court assembly at a site with the installation for usage of the assembly as a tennis court.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the drawings, the letter A designates generally the court assembly of this invention which is adapted to be assembled and installed at a particular site for the formation of a court such as tennis court T. The court assembly A is formed from a plurality of court units C (FIG. 2) which are adapted to be interlocked and interconnected at the site for the tennis court T. As will be explained more in detail, each of the units C is prefabricated and may be transported, handled and installed readily without special equipment and without the use of professional or skilled labor.

Each of the court units C is formed with a substantially rigid upper surface sheet 10 which is preferably formed of plywood. A similar lower base sheet 12 is disposed below the upper surface sheet 10, and a core layer 14 is disposed therebetween. The dimensions of the lower base sheet 10 are identical to the dimensions of the upper surface sheet 10 and the sheets 10 and 12 are aligned with each other as illustrated in FIG. 2. Thus, with the sheets 10 and 12 in a horizontal position, the edges of the sheets 10 and 12 are in vertical alignment with each other at the ends 10a, 12a and at the

sides 10b, 12b. The base sheet 12 is preferably also relatively rigid and is formed of plywood or similar material.

In the preferred form of the invention, the surface sheet 10 and the base sheet 12 are rectangular as shown in FIG. 2 and are formed from plywood sheets which are 4 feet wide and 8 feet long. However, it should be understood that the invention is not limited to such dimensions, but sheets of such size are desirable since they produce each unit C which is of a convenient size for one person to readily handle at the time of installation of the assembly A at the site for the tennis court T.

The central core layer 14 is formed substantially entirely of a relatively yieldable material such as a cellular or foam material, an example of which is foam, polyurethane. Preferably the polyurethane layer 14 is surrounded at its vertical edges 14a (FIG. 4) by a plurality of core spacer strips 14b which are preferably formed of wood or other similar relatively rigid material capable of protecting the edges of the polyurethane layer 14 from damage.

The polyurethane layer 14 and the spacer strips 14b may together be considered the core layer, or the polyurethane may be used for the core layer by itself. In any event, the core layer whether it includes the spacer strips 14b or not, has a length and a width which is less than the length and the width of the sheets 10 and 12 so as to form longitudinal locking recesses 14c and end locking recesses 14d (FIG. 2).

The spacer strips 14b and the yieldable layer 14 forming the core layer are bonded by adhesive or other suitable means to both the upper surface sheet 10 and the lower base sheet 12 so as to form the complete tennis court unit C.

The assembly A of the plurality of units C is formed and is locked together by means of a plurality of longitudinal locking members 20 which are of the same length as the longitudinal locking recesses 14c, and other longitudinal locking members 22 which are of a length approximately equal to 1½ times the length of the longitudinal locking recesses 14c, the purpose of which will be hereinafter more fully explained. The units C are further locked together with lateral locking members 24 which are of a length equal to the width of about three of the units C, and other lateral locking members 26 which are of a length equal to about one or two widths of the units C as will be more fully explained.

In the usual instance, the locking members 20-26 are wooden two by fours and they are arranged in a predetermined relationship, the arrangement of which is illustrated in solid lines in FIG. 3, and with the repetition of such arrangement being illustrated by the dotted lines in FIG. 3.

The locking recesses 14c and 14d at the outermost units C forming the assembly A are interconnected with one half width longitudinal locking members 120 and lateral locking members 124 (FIGS. 3 and 4). All of the locking members 20-26 are connected to the adjacent units C by fastening means such as screws 30 which extend through the surface sheet 10, the locking member, and the base sheet 12 of the adjacent unit C (FIG. 4). Likewise screws or other fastening means 31 are used for securing the outer locking members 120 and 124 to the adjacent units C (FIG. 4). The width of the units C thus interconnected and locked together

form the assembly A, with the top surface of each of the surface sheets 10 lying in the same plane as the top surface of the other sheets 10 so as to form a flat upper surface which is substantially continuous and which has dimensions large enough to provide for the typical tennis court with extra width on the sides and length on the ends for the out of bounds playing area.

The interlocking of the units C is shown in the preferred embodiment in FIG. 3, wherein the units C are basically associated in sets of three units C which are side-by-side such as the first three units C in the upper left hand corner of FIG. 3. It will be observed that for each set of three units C, there are two longitudinal locking members 20 which are of substantially the full length of each unit C and there is one locking member 22 which is disposed in the longitudinal recess but extends beyond the ends of the units C. Normally, such locking member 22 is 1½ times the length of each unit C so that it cooperates with a similar member 22 as illustrated in FIG. 3 to tie together the first nine units in the upper left hand corner of FIG. 3.

In the third set of three units C starting from the upper left hand corner of FIG. 3, it will be observed that there are two locking members 22 with such set, with one locking member 22 extending in one direction from the set and with the other locking member 22 extending in the other direction from the set. The same situation exists with the fifth set of three units C from the upper left corner as shown in FIG. 3. In any event, each set of three units C has at least one longitudinal locking member extending beyond the ends of the three units so as to interconnect with the adjacent set of three units and this serves to maintain the sets of units in the same plane with each other.

The lateral locking members 24 are likewise in a staggered relationship so that they abut the longer longitudinal members 22. Such staggered arrangement of the lateral members 24 can be observed by noting their location with respect to the longitudinal members 22 in FIG. 3, which staggering results in a lateral interlocking of the units C from each set to the other, thereby further assuring the alignment of all of the units C in the same plane with each other.

Before assembling the units C into the tennis court assembly A, the site is prepared, preferably by laying out a support framework F which includes vertical stakes 50 driven into the ground G and which are secured to the framework F by screws 55 or other suitable securing means. The framework F is preferably made of two by four wooden boards or similar members which are disposed in the rectangular shape having the final dimensions of the assembly A. Sand or other filler S is disposed within the framework F so as to be level with the upper surface 56 of the framework F. A water proof sheeting 60 of polyethylene or vinyl material is disposed above the sand or other similar material S and the framework 56 and preferably extends downwardly over the outer edge of the stakes 50 and the framework F to the ground G. A retainer soil 57 is preferably packed around the outer edge 60a of the sheeting 60 to hold same in position and to cover it to provide a waterproof surface upon which to position the assembly A. The outermost lower surfaces of the outer units C forming the assembly A are supported on the framework F with the sheeting 60 therebetween. The soil or sand S also provides a certain amount of resilient support for the intermediate portion of the assembly A.

A retainer R (FIG. 4) completely surrounds the assembly A, but it is not attached to the assembly A so that there can be a contraction or expansion of the assembly A relative to the retainer R, while limiting the extent of movement of the assembly A within the retainer area.

Although the sides and ends of the adjacent units C may be in abutment with each other, it is preferable to leave a slight amount of space therebetween to facilitate the alignment thereof and also, it should be observed that the width of each of the locking members 20 is preferably less than the width of the combined adjacent locking recesses 14c or combined locking recesses 14d so that there is no problem in getting the units C interconnected and properly spaced with respect to each other. A waterproof sealer of asphalt or vinyl material or any other suitable waterproofing material 65 is preferably disposed between the upper edges of the surface sheets 10 at each of the joints (FIG. 4) and also at the outer edges adjacent to the retainer R so as to inhibit moisture and water from entering the internal area of the units C.

The upper surfaces of the units C may be provided with a precoated finish which is suitable for a tennis court playing surface, and with the filler material 65 between the adjacent units C, the upper surface of the assembly A is flat and continuous so that it may be used without any further addition to the upper surfaces of the units C. However, it may be desirable to add an upper sheet 80 of a vinyl plastic material or other suitable waterproof wear resistant and otherwise suitable material for a tennis court playing surfaces. Such sheet 80 may be bonded or otherwise adhered to the assembly A. In addition, an asphaltic or vinyl homogeneous layer may be poured or spread over the entire upper surface of the assembly A as indicated at 85 in FIG. 1 to form the tennis court playing surface. Any conventional material used for a tennis court playing surface may be thus applied to the assembly A as desired. After the surface 85 is applied, the tennis court lines 86 are laid out in the usual manner, and the tennis net posts 87 are installed for supporting the net 88 in the usual manner.

From the foregoing, it is believed evident that the present invention provides a practical portable type tennis court which may be transported, handled and installed conveniently by a minimum number of persons, and even one person under certain circumstances, without the need for professional skilled labor or special equipment. Furthermore, the tennis court is economical and it eliminates the need for expensive foundation work customarily required for a tennis court foundation. Although it is not contemplated that the assembly A is to be disassembled frequently for movement to other locations, the assembly A may be disassembled and removed unit by unit and reinstalled at another location.

Although the invention has been described for use as a tennis court, it should be understood that the present invention may be useful for any type of court such as a handball court, paddle tennis court, volley ball court, basketball court, and even such uses as putting greens and football fields. In other words, the present invention is applicable to any usage wherein a playing surface is desired.

The foregoing disclosure and description of the invention are illustrative and explanatory thereof, and

various changes in the size, shape, and materials as well as in the details of the illustrated construction may be made without departing from the spirit of the invention.

I claim:

1. A court assembly, comprising:

a plurality of court units, each of which has a locking recess on each of its sides and ends, said plurality of court units being arranged in sets of three units side-by-side; and

a locking member adapted to be disposed in each pair of adjacent locking recesses on said units for positioning said units with all of their upper surfaces in the same plane, and at least one of said locking members for each of said sets in the longitudinal locking recesses being of the same length as said recesses, and another of said locking members being positioned in one of said locking recesses and extending therebeyond for positioning in a fourth unit in another set of units aligned therewith.

2. The assembly set forth in claim 1, wherein each of said court units comprises:

an upper surface sheet;

a lower base sheet of substantially the same size of said upper sheet and disposed directly in alignment therebelow;

a core layer secured between and to said upper and lower sheets; and

said core layer having a lesser length and width than said upper and lower sheets for forming a locking

recess between said sheets at each end of each side thereof.

3. The assembly set forth in claim 2, wherein:

said surface sheet and said base sheet are relatively rigid for withstanding the weight of humans without indentation by their shoes; and

said core layer is relatively yieldable for providing yieldability of the surface sheet when subjected to the weight of humans playing thereon.

4. The assembly set forth in claim 3, wherein:

said surface sheet and said base sheet are plywood; and

said core layer is substantially entirely cellular material.

5. The assembly set forth in claim 1, wherein:

each set of three units has at least one lateral locking member in the lateral locking recesses for two of the adjacent units.

6. The assembly set forth in claim 1, including:

a support framework adapted to receive and support the outermost units, whereby the entire assembly of units is supported through the interconnection of said units by said locking members.

7. The assembly set forth in claim 1, including:

an outer retainer surrounding said plurality of units for confining same in a predetermined location but unconnected therewith to provide for said units a confined expansion and contraction area within the retainer.

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