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STABLE GRIP TENNIS RACKET HANDLE

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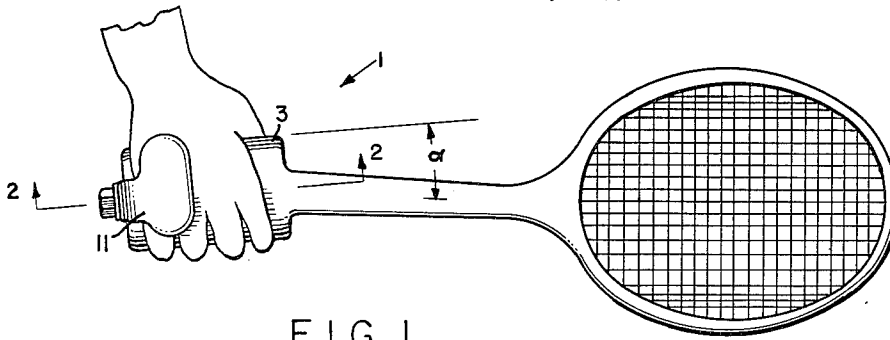
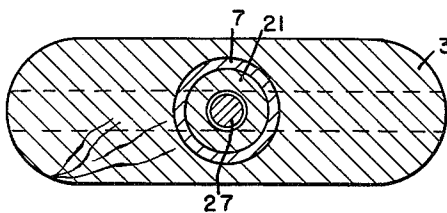
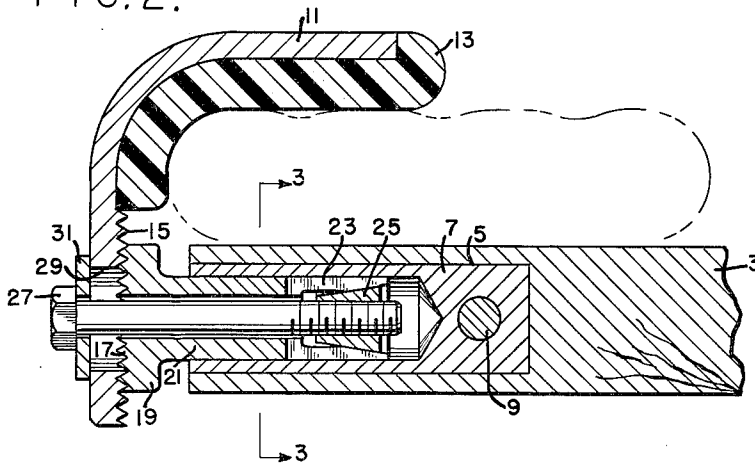


FIG. 2.



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STABLE GRIP TENNIS RACKET HANDLE

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This invention relates to a tennis racket handle.

The problems in the art to which this invention appertains are the need for a tennis racket handle that will not slip in a circular direction within the hand; the need for a handle that will not fly out of the hand due to the centrifugal force arising out of a fast and powerful stroke; the need for a handle that will permit the racket to be held in a constant position; the need for a handle that will permit of manipulation of the racket by a player having a weak grip; the need for a handle that can be comfortably gripped by the player; the need for a handle which will help eliminate blisters and calluses on the player's hand; the need for a handle assembly that is adjustable in a longitudinal direction relative to the longitudinal axis of the handle; the need for a handle assembly that is adjustable in a radial direction relative to the longitudinal axis of the handle; and a handle assembly having a support member for the hand that is adjustable in radial directions relative to the longitudinal axis of the handle.

In understanding the contribution to the art of this invention, it would be helpful to digress and delineate some of the disadvantages of the conventional tennis racket handle. The conventional handle has a circular or semi-circular cross section which varies from circular to octagonal or hexagonal shape.

This type of bar handle allows the racket to slip in a circular direction within the hand and also allows the racket to fly out of the hand due to the centrifugal force of a fast stroke. The conventional handle does not afford a constant racket position with respect to the hand of the tennis player because of its cross-sectional configuration. Accordingly, with the speed of play, concentration of foot movement and on the position on the court with which the mind of the tennis player is occupied, the tennis player must rely on instinct and experience for purposes of racket position and these factors usually result in the incorrect position of the racket during the stroke. The player's grip on the handle is quite unstable during a forehand drive for a hand which is not strong and powerful. This factor is attributable to the circumference of the cross-section of a conventional handle being approximately $4\frac{1}{2}$ inches. With the fingers and thumb wrapped around the handle, the grip around the outer section of the hand defined by the thumb and forefinger is stable inasmuch as the thumb and forefinger together can overlap the circumference of the handle; however, the grip is unstable at the inner section of the hand defined by the little finger because the little finger alone cannot overlap the circumference of the handle. Consequently, the grip of a less than powerful hand can loosen and open a gap between the palm and the handle at the inner section of the hand during an attempted fast forehand drive.

Therefore, it is an object of this invention to provide a tennis racket handle that will not slip in a circular direction with the hand.

It is another object of this invention to provide a tennis racket handle that will not fly out of the hand due to the centrifugal force that arises out of a fast and powerful stroke.

A further object of the invention is to provide a tennis racket handle that will permit the racket to be held in a constant position.

A still further object of this invention is to provide a

tennis racket handle that will permit of manipulation by a player having a weak grip.

Another object of this invention is to provide a tennis racket handle that can be comfortably gripped by the player.

A further object of the invention is to provide a tennis racket handle which will help eliminate blisters and calluses on the player's hand.

A still further object of the invention is to provide a tennis racket handle that has a handle assembly adjustable in a longitudinal direction relative to the longitudinal axis of the handle.

Another object of the invention is to provide a tennis racket handle that has a handle assembly adjustable in a radial direction relative to the longitudinal axis of the handle.

A still further object of the invention is to provide a tennis racket handle with a handle assembly having a support member for the hand that is adjustable in radial directions relative to the longitudinal axis of the handle.

These and other objects of the invention should be appreciated from the detailed specification taken in conjunction with the drawings, wherein like reference numerals refer to similar parts throughout the several views, in which:

FIG. 1 is a view of the invention wherein the handle is shown gripped by a player;

FIG. 2 is a partial sectional view taken along the line 2-2 of FIG. 1;

FIG. 3 is a sectional view taken along the line 3-3 of FIG. 2.

Reference numeral 1 generally refers to the invention having a wooden handle 3 having rounded end portions and conformable to the flat palm portion of the hand and whose longitudinal axis is tilted at an angle α of approximately $2\frac{1}{2}$ degrees relative to the longitudinal axis of the racket itself. Understandably, the flat elliptical configuration of the handle permits of easier gripping and manipulation by the player. The grip of the player's hand on the handle 3, as shown in FIG. 1, is known as the continental grip. In the continental grip, the longitudinal axis of the tennis racket is raised upwardly in comparison to the longitudinal axis maintained on the tennis racket in the eastern grip. This angular upward movement of the tennis racket is compensated for by the angular declination α of the longitudinal axis of the handle 3 relative to the longitudinal axis of the racket itself. To provide maximum stability of the hand in the gripping of the racket handle 3, one should utilize the continental grip.

A hole 5 suitably formed in the outward end of handle 3 receives therein a metal cylindrical insert 7 open at the outward end, as shown. Cylindrical insert 7 is suitably secured to the wooden handle 3 by a suitable metal through pin 9.

An L-shaped support member 11 of light metal is padded over the inside surface of member 11 as indicated at 13 with the padding suitably covered by non-irritating material. The inside padded surface of member 11 rests against the player's hand as shown and is adjustable for the comfort of the player and use of same while playing as will be hereinafter described.

It should be appreciated that the stability of the individual's grip on a tennis racket handle varies from a condition of instability from the inner section of his hand defined by the little finger to a condition of stability at the outer section of the hand defined by the thumb and forefinger. Accordingly, with reference to and as shown by FIGS. 1 and 2, it should be noted and appreciated that the construction of the support member 11, and the arrangement and disposition of the support member 11, is an added stability factor in addition to the flat elliptical handle 3 because the support member 11 rests or abuts

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against the exterior lateral portion of the proximal phalanx of the little finger, rests or abuts against the upper peripheral portion of the proximal phalanx of the little finger, rests or abuts against the upper peripheral portion of the proximal phalanx of the ring finger, rests or abuts against the exterior lateral portion of the fifth metacarpal, rests or abuts against the upper peripheral portion of the fifth metacarpal, rests or abuts against the upper peripheral portion of the fourth metacarpal, thereby providing stability and strength to the individual's grip where most needed.

Serrations 15 formed on the inside surface of a leg of member 11 engage complementary serrations 17 formed on the end portion 19 of seat 21 slidable within insert 7. In excess of one-third of the longitudinal dimension of cylindrical seat 21 is slotted as indicated at 23 to permit thereby radial expansion of this slotted portion 23 of seat 21 and locking engagement by engagement of the periphery of the slotted portion 23 with the inside surface of insert 7 effected upon inward movement and engagement interiorly by nut 25 configured in the shape of a truncated right circular cone with the interior surface of the slotted portion of the seat of which a substantial portion is complementary to the truncated shape of the nut 25.

A cap screw 27 extends through an oversized hole 29 formed in member 11, the hole formed in seat 21 and engages the nut 25, as shown. A thrust washer 31 is interposed between head of screw 27 and the outer surface of one of the legs of member 11.

The term handle assembly referred to herein and in the claims comprises member 11, seat 21, nut 25, screw 27 and thrust washer 31.

The handle assembly is positionable in a longitudinal direction relative to the longitudinal axis of handle 3 by loosening screw 27, movement of the handle assembly in the longitudinal direction and tightening of screw 27 until the handle assembly is locked. The handle assembly is positionable in a radial direction relative to the longitudinal axis of handle 3 by similarly loosening screw 27, rotating the handle assembly and tightening screw 27 until the handle assembly is locked. Also the support member 11 may be adjustably positioned in a radial direction, and which movement and positioning may also be referred to as a translatable relationship, by loosening screw 27 sufficiently to allow movement of serrations 15 of member 11 along and relative to the engagement with serrations 17 of end portion 19 of seat 21 and tightening screw 27. Screw 27 can be loosened to permit the serrations 15 to ride over serrations 17 to a desired position and the screw 27 tightened.

It should be appreciated that the handle 3 with its handle assembly has a built-in stable grip. The handle and handle assembly allow positive positioning of the tennis racket during any type of stroke. The tennis player can achieve an accurately constant position with respect to his hand without paying too much attention and concern to his grip allowing concentration to the ball and the game. The flat elliptical cross-section of the handle 3 and the padded support member 11 make it easy for the player to lock his grip around the longitudinal axis of the handle 3 and to maintain thereby a constant grip.

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The padded support member 11 prevents outward slipping of the racket due to the centrifugal force effected by a fast stroke action. And the padded support member 11 provides the additional stabilizing point required at the inner section of the hand grip, thus preventing the opening of a gap between the palm and the handle when accomplishing a fast forehand drive. Accordingly, the grip of the tennis player will be stable throughout the whole width of the hand.

It is within the concept of this invention to utilize this invention for other sports equipment where the needs arise for problems encountered in gripping similar to the problems of the tennis racket.

Having thusly described my invention, I claim:

1. A handle for a tennis racket having adjustably positionable therewith a handle assembly; said handle assembly including an L-shaped support member, seat, screw and nut; said handle having a cylindrical insert inserted in the rear of said handle, said L-shaped support member being attached to said seat by said screw and nut, said cylindrical insert attachably receiving therein said seat whereby one leg of said L-shaped support member is parallel to said handle and the other leg of said L-shaped support member is perpendicular to said handle, said seat being slidable within said cylindrical insert, a portion of said seat being slotted, said nut being disposed interiorly of said seat at said slotted portion of said seat, said screw engaging said nut, said screw and nut therebetween carrying said L-shaped support member, said slotted portion of said seat being in locking engagement with said cylindrical insert upon said nut radially expanding said slotted portion, said support member thusly being discretely movable and positionable in longitudinal, radial and/or translatable directions relative to the longitudinal axis of said handle.

2. A handle in accordance with claim 1, wherein said support member and seat have serrations effecting upon mutual engagement translatable movement and positioning of said support member relative to said handle's longitudinal axis.

3. A handle in accordance with claim 1, wherein said handle in cross-section is of flat elliptical configuration.

4. A handle in accordance with claim 1, wherein said handle is tilted at an angle of $2\frac{1}{2}$ degrees relative to the longitudinal axis of said tennis racket.

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