March 8, 1966 M. M. FINN ETAL 3,239,224

HAND RACKET

Filed March 20, 1962 2 Sheets-Sheet 1

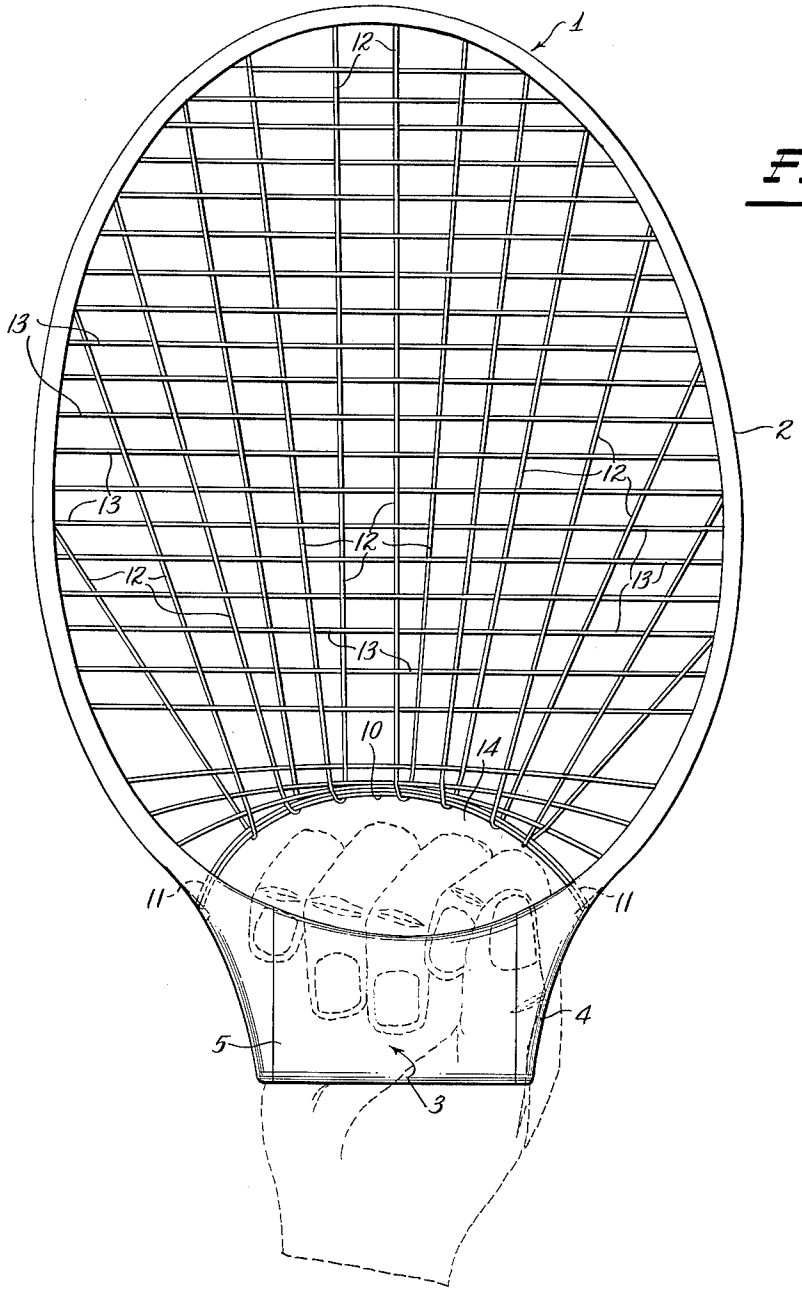


Fig. 1.

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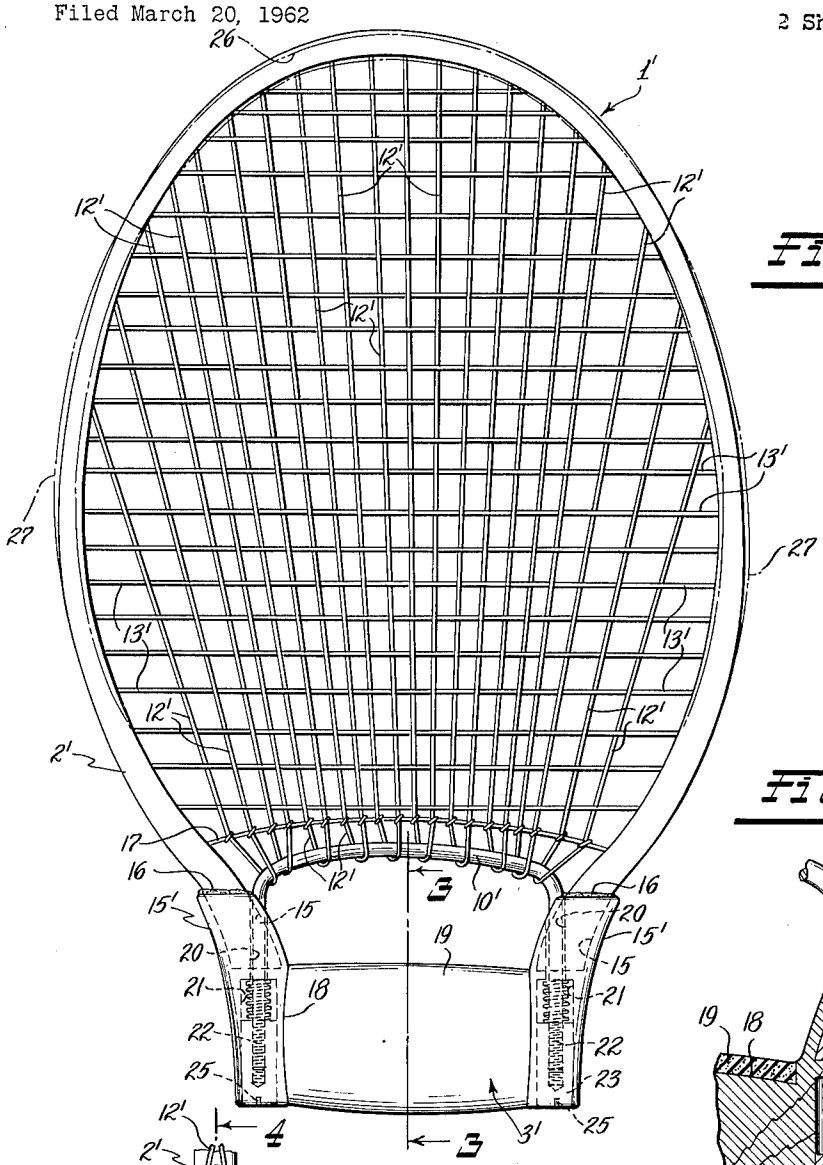


Fig. 2.

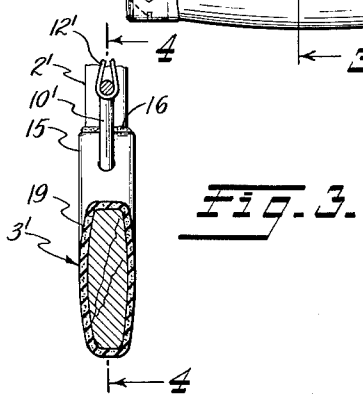


Fig. 3.

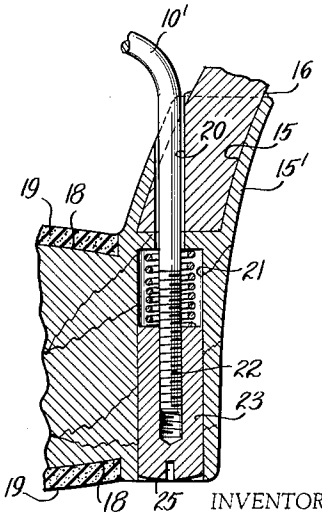


Fig. 4.

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3,239,224

HAND RACKET

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7 Claims. (Cl. 273—73)

This invention relates generally to a hand racket or paddle and, more specifically, to a racket or paddle for use in badminton, deck tennis and other games of this general type.

The racket of this invention was developed originally for use in a game called "Slam" where two players stand in spaced zones, each approximately seven feet square, and volley a shuttlecock back and forth endeavoring to hit the opponent with the shuttlecock or to land it in the zone which he is protecting. It was found that a conventional badminton racket, with the handle projecting in a radial direction from the striking surface, was not necessary for this game and that, in fact, such a racket was undesirable because of the preponderant frequency of shots which must be played at a low level and/or close to the body.

It is therefore a primary object of the present invention to provide a hand racket that is particularly well adapted to hit shuttlecocks or the like at a low level and/or close to the body of the user.

Another object is to provide a hand racket which may be firmly and comfortably held by the user and one which is susceptible of precise control.

Still another object is to provide a hand racket of limited overall dimensions to enable various games to be played in relatively small areas and to promote safety when groups of people are playing.

A related object is to provide a racket which is convenient to package, ship and store.

It is also an object of the invention to provide a stringed racket incorporating means whereby the user can conveniently adjust or correct the tension on the strings and where professional skills and equipment are therefore not necessary to string or re-string the racket with the required amount of tension.

A further object is to provide a hand racket which is novel and attractive in appearance, economical to manufacture, and sturdy in construction.

Other objects and advantages will be apparent from the following descriptioin when taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a front elevational view of a hand racket incorporating the principles of the present invention;

FIG. 2 is a view similar to that of FIG. 1 but illustrating here a modified form of the invention;

FIG. 3 is a fragmentary sectional view taken on the line 3—3 of FIG. 2; and

FIG. 4 is an enlarged fragmentary sectional view taken on the line 4—4 of FIG. 3.

Referring now more specifically to the drawings the racket, generally indicated by the numeral 1 in FIG. 1, comprises a peripheral frame 2 which may be formed of wood in the conventional ovate configuration. A handle 3 is formed in the lower portion of the frame, as by a depending extension 4 formed along the lower periphery of frame 2, and the opposite ends of the handle merge directly into the remainder of the frame. The handle 3 may be covered with tape 5 or the like to provide a more comfortable and less slippery gripping surface.

A bridge 10 is mounted within frame 2 with the ends thereof secured to said frame on either side of handle 3. In this instance the bridge 10 is formed by a plurality of nylon strands extending through generally radial openings

11 in frame 2 and knotted at their outer ends. The frame 2 is provided with a plurality of other openings and with peripheral grooves between adjacent openings but these have not been illustrated here because they are of a conventional type well known in the art, and form no part of the present invention. Such an arrangement is shown, for example, in applicants' co-pending design application, Serial No. D-67,301, now abandoned, filed October 30, 1961. Thus the racket 1 may be strung with nylon, gut, or the like to provide a plurality of interwoven longitudinal strings 12 and lateral strings 13 all disposed above bridge 10. In the embodiment illustrated, longitudinal strings 12 extend downwardly and inwardly from spaced points around all but the lower portion of the frame and are passed under the bridge 10. A space 14 is left between bridge 10 and handle 3 for the user's fingers.

The embodiment of FIGS. 2–4 is generally similar to that of FIG. 1. Accordingly, corresponding parts have been given the same numbers, distinguished by a prime mark, and will not be discussed again in detail. In this embodiment the handle 3' is not integral with the rest of the frame 2' but is provided at either side thereof with arm members 15' having upwardly directed sockets 15. The free ends of frame 2' are received in sockets 15 and secured by adhesive cement 16 or the like.

Since bridge rod 10' is relatively smooth, the longitudinal strings 12' should be spaced at the lower end thereof by a conventional spacer strand 17. The handle 3' may be recessed as indicated at 18 and a layer of sponge rubber 19 applied thereover for added comfort.

A vertical bore 20 is provided on either side of the handle 3' extending through the inner wall of arm member 15' and the respective free end of frame 2'. Bores 20 pass into handle 3' to meet vertical counterbores 21 extending from the bottom of handle 3' at either side thereof.

In this instance the bridge 10' is preferably a stiff wire or rod of inverted U-shaped configuration, with threads 22 provided on its opposite ends. Cap members 23 are inserted into counterbores 21 and threaded onto the ends of bridge 10'.

Helical springs are mounted at the inner ends of counterbores 21, surrounding bridge rod 10', and react against the upper surface of cap members 23. Thus bridge 10' is urged downwardly, and tension is applied to longitudinal strings 12'. A screw-driver slot 25 or the like may be provided on the undersurface of cap members 23 to facilitate rotation thereof for increasing or decreasing tension, and the size of cap members 23 may be gauged so that their lower extremities lie flush with the undersurface of the handle 3' when the proper degree of tension has been achieved.

It is important to recognize that the tensioning means described above also serves to tighten the lateral strings 13'. Due to the flexibility of frame 2' the upper portion thereof is drawn downwardly under tension, as indicated in phantom lines at 26, and the side portions of frame 2' are thereby bowed outwardly, as indicated in phantom lines at 27, and the strings 13' are placed under increased tension.

It will be readily seen that the two embodiments described above fulfill the objects of the invention as stated in the preamble of this specification. They have, however, been disclosed by way of illustration only and not by way of limitation. For example, applicants specifically contemplate the use of integral plastic models with solid or perforated striking surfaces.

Numerous other changes may be made in the materials, design, construction, and arrangement without departing from the spirit of the invention or the scope of the annexed claims.

We claim:

1. A hand racket, comprising: a peripheral frame, one portion of said frame being adapted to serve as a handle, said one portion being generally straight and of sufficient length to permit the same to be gripped as a handle and being substantially normal with respect to the radius of said frame which bisects said one portion; a bridge disposed inwardly of said one portion and extending across said frame from points adjacent the opposite ends of said one portion of said frame; and taut string means disposed between said bridge and the remaining portion of said frame to provide a striking surface in generally coplanar relation with said frame, said frame being open between said bridge and said one portion of said frame to provide space for the fingers when gripping said one portion.

2. The hand racket of claim 1 wherein said bridge comprises a rigid U-shaped member having its opposite ends extending into said frame on either side of said one portion and adjustably secured therein.

3. The hand racket of claim 2 wherein said ends extend through vertical bores and terminate in vertically adjustable caps situated in aligned counterbores in said frame, spring means being provided in said counterbores to urge said caps downwardly therein.

4. A racket comprising: a peripheral frame; a bridge member disposed within said frame at one end thereof with the opposite ends of said bridge member secured to said frame on either side of one portion thereof; string means disposed between said bridge and the remainder of said frame to provide a striking surface, said frame being open between said bridge member and said one portion of said frame to provide a space for the user's hand; and means for moving said bridge toward said one end to add tension to said strings.

5. The racket of claim 4 wherein said peripheral frame is resilient and wherein said string means comprises longitudinal strings connected between said bridge and said remainder of the frame and lateral strings extending across said frame and secured respectively between opposed points on the opposite sides thereof, said longitudinal strings being tensioned by moving said bridge towards said one end of said frame and said other end being drawn downwardly thereby to force the sides of said frame outwardly and thereby tension said lateral strings.

6. The racket of claim 1 wherein said one portion is an enlarged shaped handle provided with padding.

7. The racket of claim 1 wherein said string means includes longitudinal strings stretched in a diverging pattern between said bridge and points spaced along the major portion of said remainder of said frame, and also includes lateral strings interwoven therebetween.

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