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TENNIS RACKET AND METHOD OF STRINGING SAME

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Fig. 1.

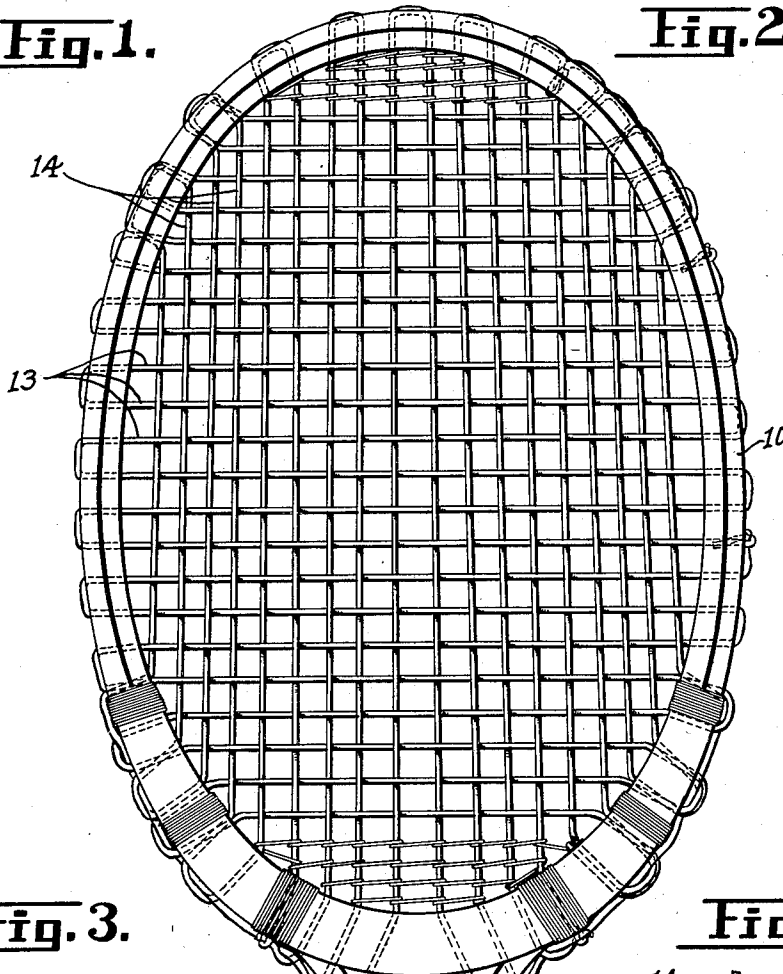


Fig. 2.

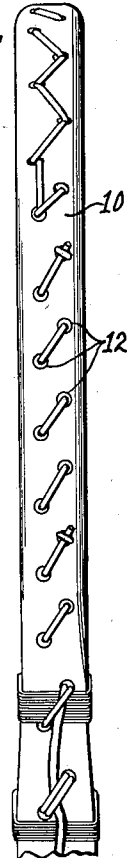


Fig. 3.

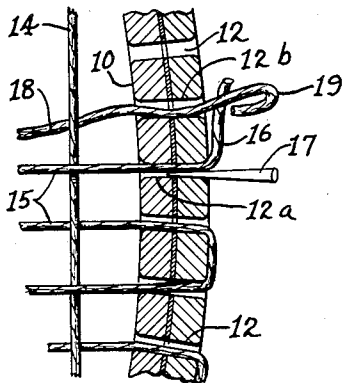
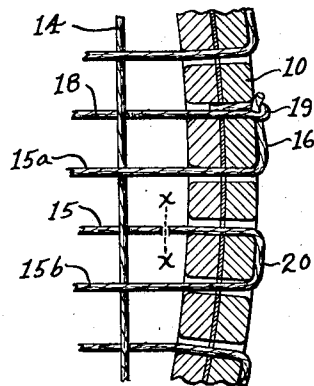


Fig. 4.



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TENNIS RACKET AND METHOD OF
STRINGING SAMEHoward A. Cook and Stanley T. Cook, Southfield,
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3 Claims. (Cl. 273-73)

This invention relates to rackets for tennis, squash, Badminton, etc., and to a method of stringing same, the invention being more particularly directed to a racket employing an improved type of string constructed of rawhide.

One object of this invention is to provide a racket string of the above nature which will be extremely resilient and durable, which cannot unravel or become frayed in use, and which will be practically unaffected by changes in weather conditions.

A further object is to provide a novel method of stringing a racket by means of which a plurality of relatively short strands may be utilized instead of the long strings now generally required.

A further object is to provide a racket of the above nature in which the ends of each adjacent pair of strings are interlocked in such a manner that in case of breakage, a single string or section may be replaced without requiring the entire racket to be restrung.

A further object is to provide a racket of the above nature, which will be simple in construction, inexpensive to manufacture, easy to string, and very efficient in use.

With these and other objects in view there has been illustrated on the accompanying drawing one form in which this invention may be conveniently embodied in practice.

In the drawing:

Fig. 1 represents a front view of a tennis racket embodying the invention.

Fig. 2 is a fragmentary end view of the same.

Fig. 3 is an enlarged sectional view through a portion of the racket frame, illustrating how the ends of a pair of adjacent strings are interlocked or spliced.

Fig. 4 is a view similar to Fig. 3 showing the splice completed.

Referring now to the drawing in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates a tennis racket frame of the usual oval construction, and having a handle 11 suitably attached at the bottom thereof. The oval frame 10 is provided around its periphery with two rows of transverse holes 12 arranged in staggered relationship, as clearly shown in Fig. 2.

As is usual in tennis rackets, provision is made of a series of transverse strands 13, and a series of longitudinal strands 14, which are stretched tightly across the interior of the frame and are meshed or interwoven with each other, as shown in Fig. 1. Instead of employing the customary "cat gut" strings, the present invention contem-

plates the use of a special construction made from rawhide which has been previously subjected to a special process of manufacture. The rawhide used is preferably taken from India water buffalo hide which is cut into solid strips of rectangular cross-section, and generally varying from one to seven feet in length. While the strips of rawhide are still wet, they are tightly twisted by suitable means, not shown, until they assume a smooth cylindrical condition, and at the same time are pulled longitudinally to remove practically all of the "stretch" but without removing the elasticity. In this process of twisting, substantially all of the water will be pressed out of the wet rawhide, and the natural glue therein will cement the twisted portions together to form a practically waterproof string. The twisted strips will then be air-dried at a temperature of from 100 to 120 degrees F., after which they will be kiln-dried at a temperature of from 125 to 150 degrees F. The strips will then be ground to a uniform diameter throughout their entire length.

After the grinding process, the strips will be treated with neat's-foot oil or other suitable lubricant, and after the excess of said oil or lubricant is wiped off, a coating of water-proof finish, such as varnish, will be applied. The strings will then be ready to be interwoven and fastened in the racket frame. If desired, the strings may be lubricated and waterproofed after the racket has been strung.

It has been customary in the past when stringing tennis rackets to employ long strings of cat gut of 17 to 21 feet in length, one continuous string being employed to form all of the longitudinal strands, and another continuous string being used for the transverse strands of the racket. Since strong rawhide strings are not commercially fabricated in such long lengths, it has been hitherto considered impossible to employ this desirable material for racket stringing. By means of the present invention, a method has been discovered, whereby relatively short, commercially available rawhide strings may be employed for this purpose as will now be described.

In this method, the ends of each pair of strings are connected together in the manner shown in Figs. 3 and 4. Thus, for example, a lower transverse string 15 is shown looped around through the holes 12 and strung back and forth across the frame 10 in the usual manner. After the string 15 has been tightened to the desired amount, the extremity 16 thereof will be threaded through the hole 12a and bent upwardly at right-angles,

causing it to lie flat against the outside of the frame 10. The string 15 will be temporarily locked in such tightened condition by driving a conical peg 17 or other suitable tool in the hole 12a so that it will become tightly wedged against the string 15 therein.

In order to splice or interlock the next adjacent string 18 thereto, the extremity 19 of said string 18 will be inserted through the next adjacent hole 12b and then bent back upon itself to form a loop 19. The loop 19 will then be caused to embrace the bent up extremity 16 of the first string 15 and pulled back through the hole 12b as far as it will go until it assumes the position shown in Fig. 4. The extremity 16 of the string 15, when caught by the loop 19, will lie across the opening of the hole 12b and the stiffness of the rawhide will be sufficient to prevent it from being pulled into said hole 12b, as would be the case if the more flexible cat gut were used. With the splice thus completed, the temporary peg 17 may then be removed.

One of the advantages of this invention is that the adjacent strings will not loosen when one string is broken, because of the fact that after the rawhide string has been looped around through the holes 12 in the process of stringing, the stiffness thereof will cause them to retain their right-angle bends or loops and to prevent them from slipping around through the hole 12. For exam-

ple, if the string should break at the point indicated by X—X, as shown in Fig. 4, the adjoining parallel strands 15a and 15b would still retain their original tension.

While there has been disclosed in this specification one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosure but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new and for which it is desired to secure Letters Patent, is:

1. A tennis racket string comprising a single water-proofed strand of rawhide twisted into cylindrical shape.

2. A string for a game racket comprising a single strand of rawhide twisted into cylindrical shape and hardened.

3. In a game racket, a frame having a ball impact medium of interwoven strings of tightly stretched rawhide extending across said frame, each string comprising a single strand of twisted hardened rawhide.

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