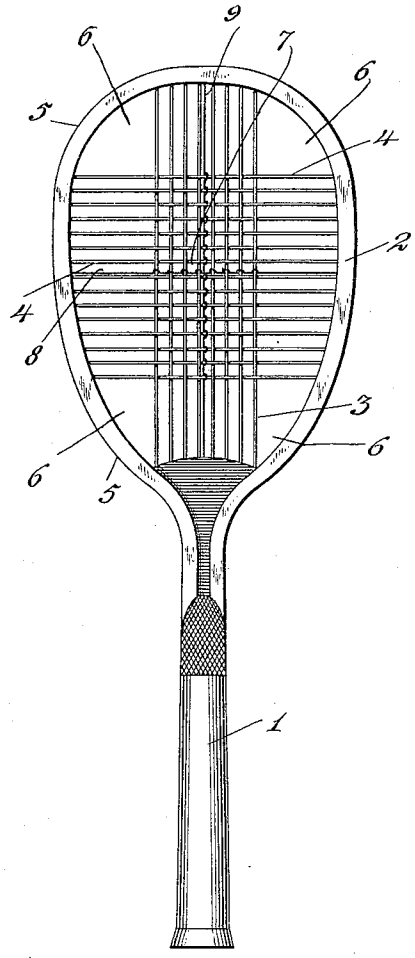
H. D. DU BOIS.

TENNIS RACKET.

APPLICATION FILED NOV. 29, 1915.

1,173,712. Patented Feb. 29, 1916.



WITNESSES

George Du Bois

John A. Tellentnet

INVENTOR

Harry D. DuBois

BY

Bredell Marsh

ATTORNEYS

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HARRY D. DU BOIS, OF WEST ORANGE, NEW JERSEY.

TENNIS-RACKET.

1,173,712. Specification of Letters Patent. Patented Feb. 29, 1916.

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To all whom it may concern:

Be it known that I, HARRY D. DU BOIS, a citizen of the United States, and resident of West Orange, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Tennis-Rackets, of which the following is a specification.

My invention relates to tennis rackets and the like and has for its object to string such rackets in a manner to provide a mesh or cushion at the center thereof having a much higher degree of elasticity than in present arrangements and whereby weakening of the racket frame at those points which are under the greatest strain during use is entirely avoided.

Other objects of my improvement will appear from the description hereinafter and the features of novelty will be pointed out in the appended claims.

The accompanying drawing illustrates a face view of a tennis racket embodying an example of my invention.

In said drawing 1 represents the handle which is attached to or forms a continuation of the frame 2 in the customary manner, the latter being of the usual approximately oval shape and having its major axis in alinement with said handle and its minor axis extending transversely thereto. The net of the racket comprises a series of strings 3 of gut or other suitable material extending parallel to each other and to said major axis and strung through suitable apertures in the frame 2 for instance in the customary manner. The said strings 3 do not extend throughout the entire inner area of the frame 2 as is usually the case, but are arranged in a group which is entirely within a predetermined central space and so as to leave spaces between the outermost strings 3 and the sides of the frame 2. Similar strings 4 extend substantially parallel with each other and with the minor axis of the frame 2 and are strung through suitable apertures formed at the sides of said frame. These strings 4 also form a group which is confined to a predetermined transverse central space less than the entire inner area of the frame so that spaces are also left between the outer strings 4 and the opposite ends of the frame 2. In other words the strings 3 and 4 are connected with the frame 2 only at those sections thereof which are located between the shoulders 5 of said frame and have no connection with the shoulders themselves. This arrangement of strings leaves free spaces 6 of substantially triangular form at the opposite ends of the frame or in other words opposite the shoulders 5 thereof, the said strings 3 and 4 being preferably interwoven at their points of intersection to form an impact cushion or mesh 7 located at approximately the center of the racket frame 2. Those portions of the string which extend beyond the said cushion or mesh 7 constitute a means whereby the latter is attached to the frame as above indicated. This cushion or mesh 7 is adapted to strike the ball and may be said to have its periphery connected with the frame, so that said cushion or mesh 7 presents a surface which has a much greater elasticity with a given tension than the nets of existing tennis rackets, and which will thus effect an extremely speedy return of the ball with much less exertion on the part of the player wielding the racket than is necessary with present constructions. At the same time the said cushion or mesh clearly defines the part of the racket which should strike the ball and thus serve to properly educate the novice and to increase the accuracy and skill of all tennis players using my improved racket. In addition to the above my improved arrangement of strings makes it unnecessary to drill holes in those portions of the frame 2 commonly called the shoulders and indicated as 5 in the drawing so that the initial strength of the frame at these points is retained. As the greatest strain occurs at these points when the racket is in use the danger of injury to or breakage of the frame is practically eliminated and the life of the racket is thus materially increased.

My improved method of stringing also saves material and labor and thus reduces the cost of manufacture while at the same time increasing the efficiency of the racket and minimizing the strength and force necessary to properly wield the same. If desired existing rackets may be strung in accordance with my improvement without any change in said racket as will be readily apparent.

In order that the strings 3 and 4 may be prevented from spreading under the force of the impact of the ball I prefer to include anchoring strings 8 and 9 which are secured to the frame 2 in any suitable manner as by

passing through the same apertures with one of the strings 3 and 4 and which are looped or wound respectively about each of the strings 3 and 4 and preferably close to one of said strings. The anchoring strings 8 and 9 need be under no special tension and simply serve to hold the strings 3 and 4 in substantially their intended positions against displacement. That is the string 8 secures the strings 3 against any substantial movement and the string 9 serves a similar purpose in connection with the strings 4.

Various changes in the specific form shown and described may be made within the scope of the claims without departing from the spirit of my invention.

I claim:

1. A racket comprising a frame, an impact cushion within said frame and of less area than the area inclosed by the frame and means connecting said cushion with those sections of the frame which lie between the shoulders thereof, said cushion having no connection with said shoulders whereby free spaces are formed opposite the latter.

2. A racket comprising a frame, a group of strings extending parallel with each other and longitudinally of the frame, and a second group of strings extending transversely to and intersecting said first group, said strings being connected with those sections of the frame which lie between the shoulders thereof and having no connection with said shoulders whereby an impact cushion is formed within said frame and free spaces are formed opposite said shoulders.

3. A racket comprising a frame, a group of strings extending parallel with each other and longitudinally of the frame, and a second group of strings extending transversely to and intersecting said first group, said strings being interwoven at their points of intersection and connected with those portions of the frame lying between the shoulders and having no connection with said shoulders whereby a woven impact cushion is formed within said frame and free spaces are formed opposite said shoulders.

4. A racket comprising a frame, a group of strings extending parallel with each other and longitudinally of the frame, a second group of strings extending transversely to and intersecting said first group, said strings being connected with those sections of the frame which lie between the shoulders thereof and having no connection with said shoulders whereby an impact cushion is formed within said frame and free spaces are formed opposite said shoulders, and anchoring strings connected with the frame and with each string of said groups whereby the latter strings are prevented from spreading under the impact of the ball.

In testimony whereof I have hereunto set my hand.

HARRY D. DU BOIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."