May 8, 1934. C. WHITTON ET AL 1,958,326

RACKET STRINGER

Filed April 20, 1932

Fig. 1.

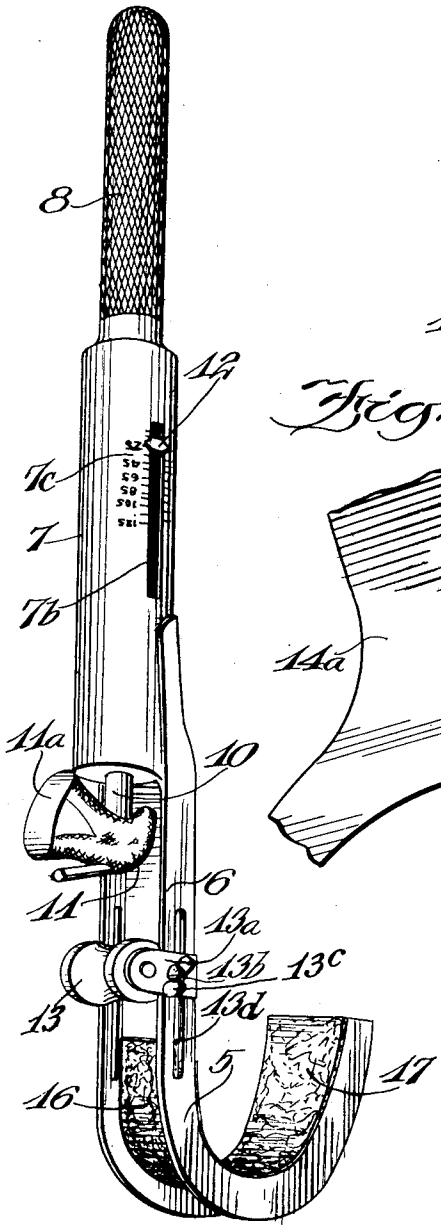


Fig. 2.

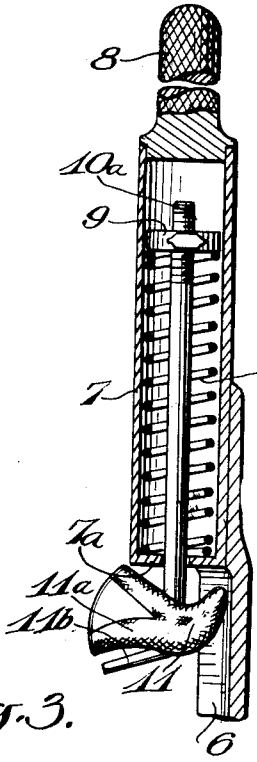
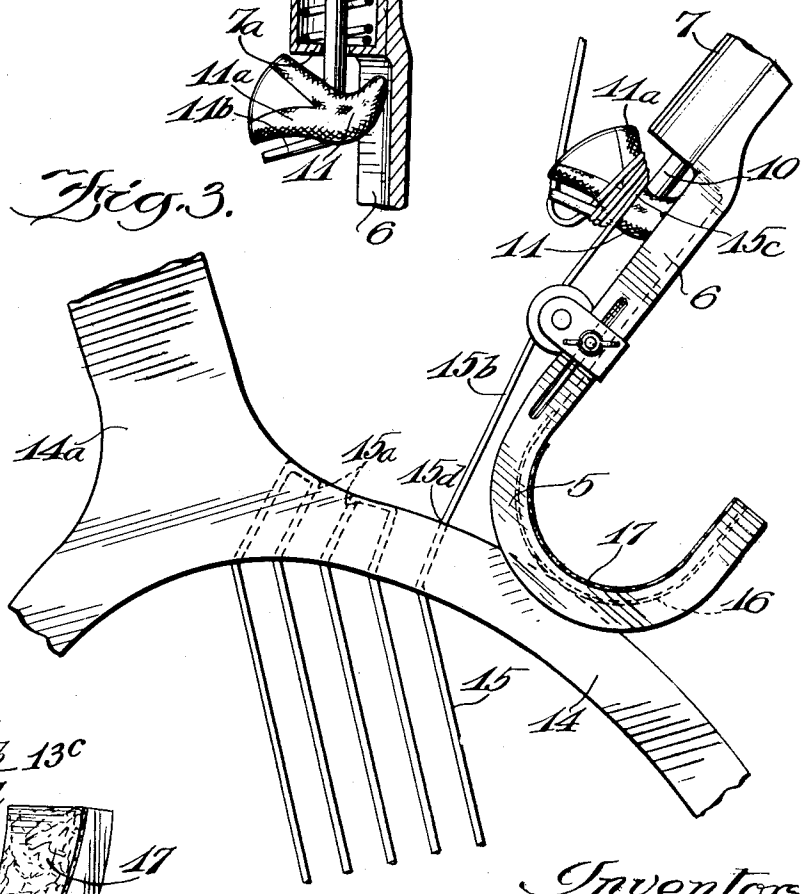


Fig. 3.



Inventors.
Charles Whitton
By Alonzo H. Walker
Stevens & Batchelor Attys.

Patented May 8, 1934 1,958,326

UNITED STATES PATENT OFFICE

1,958,326

RACKET STRINGER

Charles Whitton and Alonzo H. Walker,
Chicago, Ill.

Application April 20, 1932, Serial No. 606,333

18 Claims. (Cl. 273—73)

Our invention relates to the art of stringing tennis rackets and the like, and deals more particularly with means for drawing the strings taut, and one object of the invention is to provide a device of this kind which enables the strings to be drawn taut with ease.

A further object of the invention is to provide a device which is so adapted for the operation mentioned that a racket may be strung much faster than by ordinary methods.

Another object of the invention is to incorporate in the novel device a gage for the measurement of the string tension as the strings undergo the drawing operation, whereby to enable them to be drawn to the proper tension without extra effort or attention.

A still further object of the invention is to construct the novel device on simple and rugged lines.

With the above objects in view and any others that may suggest themselves from the specification and claims to follow, a better understanding of the invention may be gained by reference to the accompanying drawing, in which—

Fig. 1 is a perspective view of the improved stringing device;

Fig. 2 is a section of a portion thereof, showing its interior; and

Fig. 3 is a side view showing its operation.

In the work of stringing tennis rackets and the like with the usual gut or wire strings, two difficulties are principally experienced, being the laborious work of drawing each string taut, and the extreme care required to give the strings the proper tension at one part of the racket or another. The stringing of rackets is commonly done either by hand alone or with the aid of small tools or make-shift devices, and the process usually involves a considerable amount of time and effort.

The stringing device which is the subject matter of the present patent application is in the nature of a complete tool which may be easily carried about, handled and operated. As seen in Fig. 1, the tool generally comprises a rounded foot 5, a vertical shank 6 rising from the latter, a tubular body 7 carried by the shank, and a handle 8 extended upwardly from the body.

Within the tubular body 7, a plunger 9 is disposed for free vertical travel, this plunger being carried by a central rod 10 upon which it is threaded as indicated at 10*a*. The body 7 has a bottom 7*a*, and the compression spring is disposed about the rod 10 between the plunger 9 and the bottom 7*a*. The latter is perforated to permit the downward passage of the plunger rod 10 to receive a head piece 11 having a flared extension 11*a*. The head piece also has a lug 11*b* spaced from the bottom thereof and making an acute angle with the latter. The tubular body 7 has opposed longitudinal slots 7*b* in its wall to permit an indicator 12 in each instance to project therethrough from the plunger 9 and cooperate with a downwardly progressive scale 7*c* marked on the body 7 alongside each slot.

The shank 6 is of channel design and continues with this design in the form of the foot 5, the channel being outside the curvature of the foot. The shank 6 also carries a guide roller 13 by means of a bearing frame 13*a* which is adjustable lengthwise along the shank by being made with a cross screw 13*b* receiving a wing nut 13*c* and cooperating with longitudinal slots 13*d* cut in the side of the shank. The foot 5 is lined on the outer side of its base with a length of fabric 16 and similarly lined with a length 17 on the inner side.

Figure 3 shows the application of the novel stringing device, 14 representing a fragment of a typical tennis racket, and 15 the strings thereof. Usually, these are in a single length and are looped back and forth as indicated at 15*a* as the stringing progresses, each string being drawn taut for itself before the next one is threaded. After a string has been threaded, the practice is to insert the point of an awl in the stock of the racket to wedge the string and keep the string from loosening while the next one is strung across the racket.

In our instance, the string just strung across is led as indicated at 15*b* over the guide roller 13 and further to be wrapped about the head piece 11, as indicated at 15*c*. The length is then wedged fast between the head piece and the lug 11*b* and with the foot 5 straddling the frame of the racket, the handle 8 is drawn toward the right. This action exerts a pull upon the string, the latter drawing in the opposite direction upon the plunger 9. Thus, the further the handle 8 is pulled, the greater the tension upon the string will be and the recession of the plunger 9, so that the scale at 7*c* will indicate the amount of tension given to the string. When this tension is of the proper degree, the awl is applied to the issue point 15*d* of the string in accord with the established practice in order to retain the string at the given tension while the balance of the length is unwound from the tool and strung to form a new string.

The features of the novel stringing device are

of vital importance. First, the tool is elongated and has a pivotal action about its base, furnishing a considerable leverage and thus making it easy to manipulate. Further, the foot of the tool is rounded to enable it to easily roll upon the racket frame during the stringing action. Also, the foot of the tool is channeled to permit it to straddle the racket frame and thus maintain its alinement and engagement with the latter. The external lining 16 of the foot prevents the racket from being marred and the slipping of the tool along the same. The interior lining 17 of the foot serves to protect the neck 14*a* of the racket when the tool is hung on the same while the awl is handled.

The provision of the guide roller 13 is for the spacing of the string length 15*b* from the tool and also for the alinement of the plunger rod 10. The pull on the plunger rod must be straight for the latter purpose and the roller provides this condition irrespective of the angle which the length assumes during the action of the tool, eliminating any binding tendency on the part of the rod and a false reading of the gage as a result. The flared portion 11*a* is so formed to prevent the climbing and dislodgement of the string length as it is wrapped; and the lug 11*b* forms a simple agent for the temporary fastening of the same. The head piece 11 is practically round and forms a safe anchor for the length, having no element which will injure or cut the material of the same. The guide roller 13 is adjustable longitudinally to adapt it to racket frames of different curvatures. Finally, it is seen that the novel tool is composed of few parts which are simple and durable.

We claim:—

1. A racket stringer comprising an elongated handle formed at one end with a hook-shaped foot portion, and means for securing a string extended from the racket to said handle, the latter being swingable by rolling the said foot portion over the edge of the racket frame adjacent the point of extension of the string whereby to draw upon the latter, said foot portion being outwardly flanged at its sides to overlie the sides of the racket frame.

2. A racket stringer comprising an elongated member to which a string extended from the racket is adapted to be applied, channeled means extending from the member and adapted to fit over the sides of a racket frame and also adapted for pivotal movement relative to the racket, an element to which the string is attachable, resistant spring means between the element and the member and yieldable as the latter is given its pivotal movement, and means indicating the yielding extent of the spring means.

3. The structure of claim 2, said member including a hollow body portion, said element comprising a rod backed by a plunger movable in said body portion, and said spring means comprising a coil spring between the plunger and one end of the said body portion.

4. A racket stringer comprising an elongated member to which a string extended from the racket is adapted to be applied, means extended from the member to adapt it for pivotal movement relative to the racket, an element to which the string is attachable, said element comprising a base from which a conically flared headpiece projects and forms a retainer for the wrapping of the string, and a lock to secure the free end of the string after it is wrapped.

5. The structure of claim 4, said lock comprising a lug projecting at an acute angle from the side of the headpiece and providing a fissure in which the said free end of the string may be wedged.

6. A racket stringer comprising an elongated member having a portion adapted to place the member in pivotal relation with the racket in the zone of a string extending therefrom, a spring backed plunger carried by the member, a rod extending from the plunger through a bearing formed in the member, a headpiece carried by the rod and adapted to have secured to it a string extended from the racket, a guide for the string enabling the latter to exert a straight pull on the plunger rod against the resistance of the spring irrespective of the angle of the string between the guide and the racket, and an indicator of the resistance of the spring carried by the plunger.

7. The structure of claim 6, said guide comprising a roller mounted on the member.

8. The structure of claim 6, said guide comprising a clamp adjustably mounted along the member, and a roller carried by the clamp.

9. The structure of claim 6, said member being made with longitudinal slots, said guide comprising a U clamp, a bolt passed through said slots and receiving a nut to adjust the position of the clamp along the member, and a roller carried by the clamp.

10. A racket stringer comprising a member to which a string extended from the racket is adapted to be secured, said member having a rounded channeled foot portion to engage the racket, and said channeled portion being provided with yielding material to effect such engagement without slippage on or injury to the surface of the racket.

11. A racket stringer comprising a hollow handle portion and a hook-shaped foot portion, means within said handle for indicating the stress on a string, means for attaching a string to said last named means, there being a channeled periphery on said foot portion for engaging the sides of a racket frame.

12. A racket stringer comprising an elongated handle portion, and a hook-shaped racket frame engaging portion, the periphery of said frame engaging portion being channel-shaped in cross section, means carried by said handle for attaching a string thereto and means associated with said last named means and within said handle for determining the degree of tenseness of said string when stretched taut.

13. A racket stringer comprising an elongated member having a portion adapted to place the member in pivotal relation with the racket in the zone of a string extending therefrom, string stress indicating means carried by said member, and having a portion adapted for attaching a string thereto, and guide means between said last named portion and said racket pressing portion to cause said string to exert a straight pull on said indicating means irrespective of the angle of said string between said guide and the racket.

14. A racket stringer comprising a hollow handle portion and a hook-shaped racket frame engaging portion, string stress indicating means carried within said handle, string attaching means carried by said indicating means and a string guide between said handle and said hook-shaped portion.

15. The structure of claim 14, said guide being adjustable.

16. The structure of claim 10, and string guide means arranged on said member.

17. A racket stringer comprising a member to

which a string extended from the racket is adapted to be secured, a rounded portion carried by said member to engage the racket, and string guide means located on said member.

18. A racket stringer comprising a member to which a string extended from a racket is adapted to be secured, said member having a rounded and channeled foot portion to engage the racket, a string attaching element carried by the member, said foot portion forming a pivot for the member to draw on the string, and means carried by the member for indicating the tension of said string when said foot portion is pivoted to draw on the same.

CHARLES WHITTON.
ALONZO H. WALKER.