

(No Model.)

I. T. TOWNSEND.

RACQUET BAT.

No. 344,422.

Patented June 29, 1886.

FIG. 1.

FIG. 2.

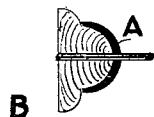


FIG. 3.

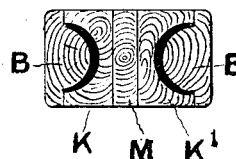


FIG. 4.

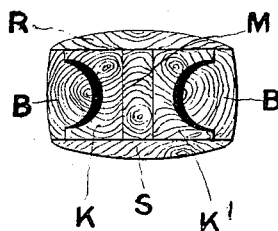


FIG. 7.

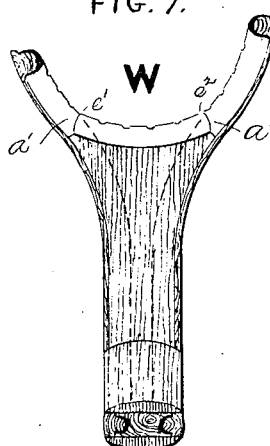


FIG. 5.

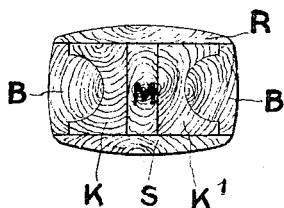
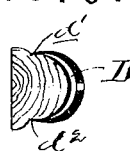


FIG. 6.



Witnessed:
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UNITED STATES PATENT OFFICE.

ISAAC THOMAS TOWNSEND, OF COVENTRY, COUNTY OF WARWICK,
ENGLAND.

RACQUET-BAT.

SPECIFICATION forming part of Letters Patent No. 344,422, dated June 29, 1886.

Application filed April 20, 1886. Serial No. 199,466. (No model.) Patented in England November 27, 1885, No. 14,576.

To all whom it may concern:

Be it known that I, ISAAC THOMAS TOWNSEND, of Coventry, in the county of Warwick, England, tricycle-manufacturer, and a subject
5 of the Queen of Great Britain, have invented certain new and useful Improvements in Racquet-Bats, (for which I have received Letters Patent in Great Britain, No. 14,576, dated November 27, 1885;) and I do hereby declare that
10 the following is a sufficient description of the invention to enable those skilled in the art to which it appertains to carry the same into practical effect.

This invention has for its object improvements in racquet-bats, which enables me to make them both light and strong, combined with a very elegant appearance.

In order that my invention may be clearly understood and more easily carried into practice, I have appended hereunto a sheet of drawings, upon which is illustrated the frame-work of a bat made according to my invention.

Figure 1 is a front view of the frame and handle of the bat. Fig. 2 is a section through
25 the frame on line 1 2. Fig. 3 is a section through the root of the handle on line 3 4. Fig. 4 is a section through the upper part of the handle on line 5 6, showing how the head and handle are united. Fig. 5 is a section
30 through the lower part of the handle on line 7 8. Fig. 6 represents a section of a modification, in which a space is left between the inner and outer parts of the frame. Fig. 7 represents a detail view showing a modified form
35 of bridge.

The inner part, A, of the frame of the bat is made from light steel or other very tough metal, which is bent round into the required shape, and finishing at any convenient part of the handle in the bat shown at the dotted lines *c* and
40 and *c'*, just below the line 5 6; but it must always extend sufficiently down to connect the bow and handle well together. The shape is maintained, and the ends are firmly united together by means of the bridge E, which is of the same section of steel as the frame A, and this bridge is nicely fitted at the ends *e'* and *e''* against the frame, where it is firmly brazed or otherwise secured in a substantial manner,
45 which keeps the two ends *a'* and *a''* a set distance apart. It may, however, follow the curve downward, as shown in the modifica-

tion at W, Fig. 7, instead of rising, as shown by Fig. 1. This metallic felly or frame is stiffened and solidified by the cane, ash, or
55 other band or outer strap, B, which may be made from a round cane split down the middle, the round part or back being laid against the inside or hollow part of the metal frame. Of course in cases where the metal frame is not
60 quite circular inside, or is of different section, the cane has to be worked to fit and properly bed therein, though it is not so absolutely necessary that it should in some sections fit quite so solidly at the bottom—as, for instance, in
65 the section shown by Fig. 6, where the space D is left; but care must be taken to obtain a sufficiently good bearing and hold inside the wings at *d'* and *d''*, in which case some economy in material and weight can be obtained; but I
70 prefer to fit the cane, timber, or other band to the bottom of metal. This band B is of sufficient length to extend around the frame and down both sides of the handle to the bottom. Two short pieces, *f* and *f'*, are fitted inside the
75 bridge, when it curves upward, and then two pieces of light strong material, K and K'—such as willow-wood—are fitted inside and bedded against the round face of the frame A, the hollow being continued to the bottom of the handle, as will be seen in the sections, Figs. 3, 4,
80 and 5. When these are well fitted, the center piece of cane, M, is firmly driven or fixed between these pieces K and K', which beds them tightly inside the ends *a'* and *a''* of the frame
85 A. The pieces K, K', and M may be of one piece of walnut or other timber or material, according to the weight required. The whole is now cleaned off, and the two pieces R and S, which we make preferably of cedar, but they
90 may be of other timber or material, are put on to make up the proper shape of handle required.

The various pieces are all united together with glue, and may be finished in a hot-iron press or otherwise, so as to bring out all the
95 glue and to make the joints fine and tight.

The quantity of cane, willow, and metal used will be according to the weight of the bat required, as more or less of each may be used, and even a variation in the material—such, for
100 instance, as the pieces K or M, whether separate or one piece being made of ash.

The holes for stringing are made through the metal A and the cane or other binder B,

is nearly buried in a groove in the back of B or left outside.

I am aware that it is not new to construct the frame of a racquet-bat of metal, wood, &c., and provided with an interior band or hoop of cane, wood, metal, or other material, the same being secured to the outer frame by screws or nuts and bolts, and I therefore do not claim the same; but,

10 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The improvements in racquet-bats of a head formed with a metallic inner frame, A, united

to the handle, and having the outer binder, B, 15 bent around the bow in one continuous band, and continuing down sufficiently low to unite with or to partly form a handle, which is made up with other pieces, substantially as herein set forth. 20

In testimony that I claim the foregoing as my own I affix my name in the presence of two witnesses.

ISAAC THOS. TOWNSEND.

Witnesses:

GEORGE BARKER,
GEORGE PRICE.