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TENNIS RACKET

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2 Sheets-Sheet 1

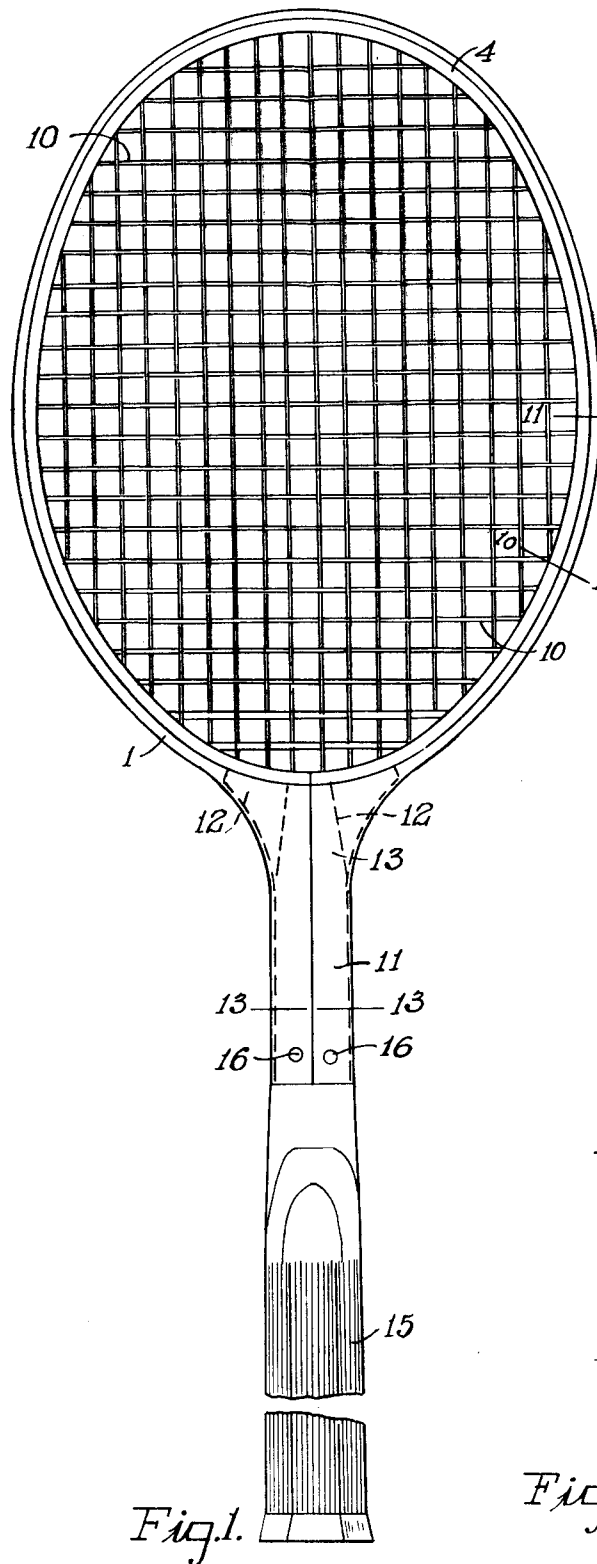


Fig. 1.

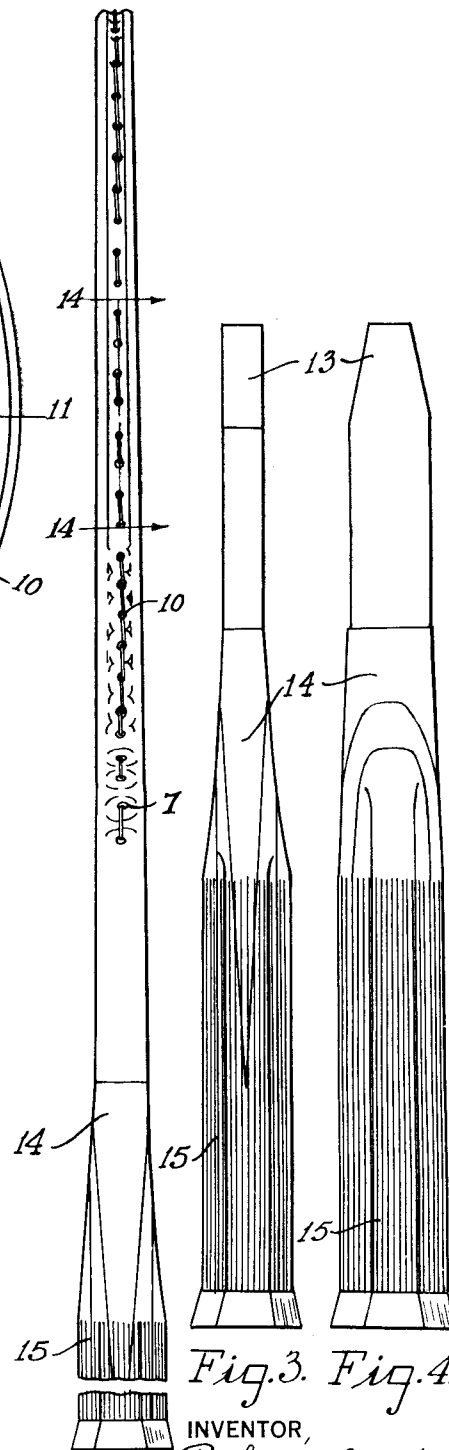


Fig. 2.

Fig. 3. Fig. 4.

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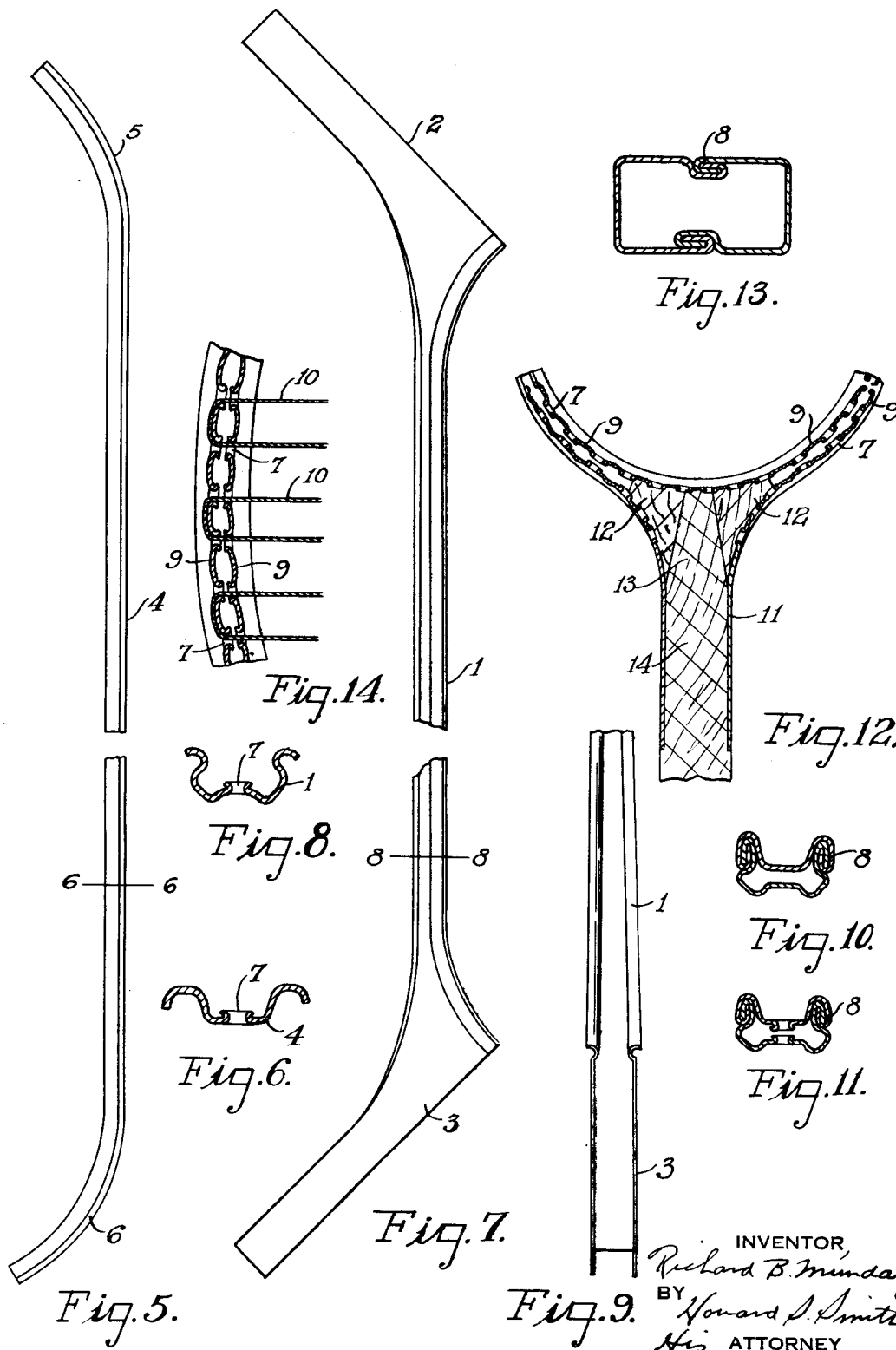
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TENNIS RACKET

Application filed July 2, 1931. Serial No. 548,311.

This invention relates to new and useful improvements in tennis rackets.

It is one of the principal objects of my invention to provide for tennis rackets, a frame which is punched and formed from one or more pieces of suitable metal. Before the section or sections comprising the frame are put together, it is easily possible to burr the holes which have been punched in the head portion thereof to receive the strings, so that the latter will not be cut by sharp edged holes. The forming operations also make the material between the holes, round to present a large seating surface to the bends in the strings, thereby assisting in preserving them against being cut by sharp edges.

It is another object of my invention to provide a tennis racket frame in which welding is eliminated, since the parts are easily and firmly held together by lock seams or other simple means and methods.

Another object of my invention is to strengthen the throat portion of the frame by the insertion of tapered blocks, which also receive between them the inner wedge end of the handle.

It is another object of my invention to provide a well balanced handle through the use of a hard wood section which is wedged into a light wood section. The entire racket is well balanced and may be economically manufactured.

Other important and incidental objects will be brought out in the following specification and particularly set forth in the subjoined claims.

In the accompanying drawings illustrating my invention, Figure 1 is a side elevational view of a two-piece metal head racket. Figure 2 is a longitudinal side view thereof. Figure 3 is an end view of the two-piece wood handle. Figure 4 is a side view of the same.

Figure 5 is a longitudinal view, broken away at the center, of the inner section of metal head before it is formed to oval shape. Figure 6 is a cross sectional view taken through the same on the line 6—6 of Figure 5. Figure 7 is a longitudinal view, broken away at the center, of the outer head section before it is formed to oval shape. Figure 8

is a cross sectional view taken through the outer section on the line 8—8 of Figure 7. Figure 9 is an inside view of one foot portion of the outer section of the metal head. Figure 10 is a cross sectional view taken through one side of the metal head, on the line 10—10 of Figure 1, showing how the two head sections are connected together by a lock seam. Figure 11 is a cross sectional view taken on the line 11—11 of Figure 1, showing the registering string-receiving holes in the two head sections. Figure 12 is a side view showing how the inner wedge end of the handle is fitted between the tapered re-inforcing blocks at the throat portion of the metal head. Figure 13 is a cross sectional view taken through the metal socket and enclosed handle portion of the racket on the line 13—13 of Figure 1. And Figure 14 is a longitudinal sectional view taken through one side of the head of the racket, showing the burred holes which receive the strings in a non-cutting manner.

In the accompanying drawings, the numeral 1 designates an elongated strip of metal suitable for a tennis racket head, formed in a punch press to channel shape with two inclined foot portions 2 and 3. (See Figure 7.) If the head is to be made of two pieces of metal, an inner head section is likewise formed to channel shape with two curved ends 5 and 6. (See Figure 5.)

In each one of the head sections 1 and 4 string-receiving holes 7 are punched for registry when the two sections are secured together by the lock seams 8 shown in Figures 10, 11 and 13. After these holes are punched in them, easy access is had to the channel sections to burr these holes so that the raw edges of the metal will be turned outwardly from their axes.

Between the holes 7 in the channel head sections 1 and 4, the metal is rounded to provide curved seats 9 for the strings 10, thus eliminating all sharp corners which might otherwise cut the strings, and more particularly when they are made of gut.

After the string-receiving holes 7 are punched and burred in the two channel head sections 1 and 4, the latter are secured to-

gether by the lock seams 8, or in any other suitable way, with the holes in registry. The joined sections are then bent to the shape shown in Figure 1, to form the oval head, and the tapered socket portion 11, of the racket.

Secured within the extreme rear end of the socket portion 11 are two wood blocks 12, 12 whose contours conform substantially to that of the inner wall of the throat portion of the frame which they reinforce or strengthen. The inner sides of these blocks form together an inwardly tapering recess to tightly receive the inner wedge shaped end 13 of a handle section 14 of strong wood like ash or hickory. At its outer end this hard wood section 14 is formed to wedge into a section 15 of lighter wood to insure a well balanced handle for the racket.

Glue is preferably applied to the inner wedge shaped end 13 of the handle to firmly secure it between the reinforcing blocks 12, 12. Rivets 16 driven through the socket portion of the frame, which is also tapered, assist in firmly securing the handle to the metal head portion of the racket.

My improved tennis racket frame may be made in one piece, if desired, by omitting the inner section 6.

It is thus seen that I have provided a tennis racket whose frame portion may be economically constructed of one or more pieces of suitable metal by punching and forming operations in a press. The channel sections not only lend themselves to a firm connection by lock seams or kindred means, but afford easy access for punching and burring the

string-receiving holes to round out all sharp edges of the metal which might otherwise cut the strings. The hard and soft wood sections of which the handle is made, as well as other features of construction described above, make for a well balanced racket having excellent playing qualities.

Having described my invention, I claim:

1. A tennis racket head comprising an inner channel section and an outer channel section, means for securing said sections together, said sections adapted to be bent to form an oval string-receiving portion, with the free ends of the inner section engaging each other at the throat of the frame, and inclined foot portions having curved inner ends, on the outer section, said foot portions adapted to be brought together to form a handle-receiving socket portion, with the curved inner ends of said foot portions engaging the inner channel section to close the throat portion of said frame.

2. A tennis racket comprising an inner section and an outer channel section, each section formed in a punch press to shape and with string-receiving holes, means for securing said sections together, with said holes in registry, said connected sections adapted to be bent to form an oval string-receiving portion, and inclined foot portions on the outer section adapted to be brought together to form the handle-receiving socket portion when said outer section is bent to form the oval string-receiving portion.

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