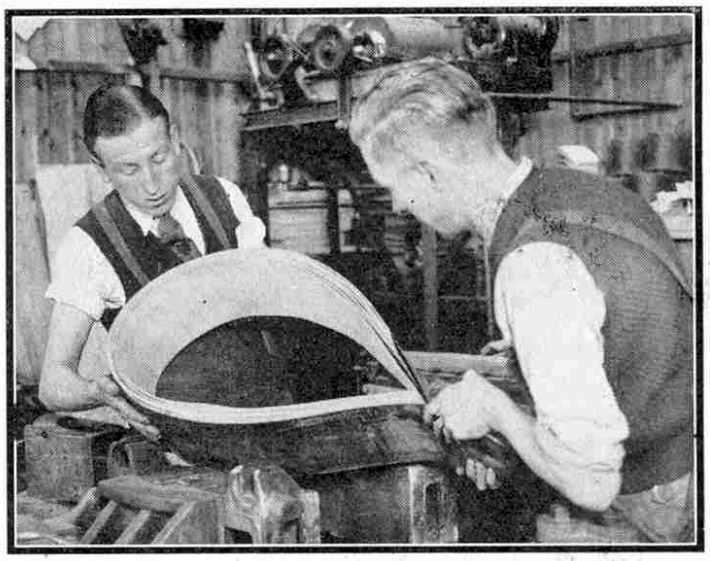
HOW THINGS ARE MADE:

Tennis Rackets In A Modern Factory

By H. Lethaby

I WANT you to imagine that with a number of other readers of the "*M.M.*" you are paying a visit to the Tennis Racket Factory of Goodwood Sports Ltd. in South East London. If you are interested in seeing the works of nature turned into the work of man I am sure you will not be disappointed by the result.

First of all I must tell you that until only a few years ago tennis rackets were made almost exclusively from English ash, and from beginning to end the processes were carried through entirely by hand. The trees were rent into sticks, each large enough to make into a tennis frame. These sticks were steamed in a large chest until they were saturated and pliable, after which they were bent to the required shape and left for some months to dry and season. At the end of that time the wires or clamps that had been holding them in shape were removed, and wedges cut roughly to shape were glued in position. Equally rough handles were then stuck on, and after the racket frames had been moulded or shaped by hand they were laboriously drilled to receive the gut, polished, strung and finally stamped with the maker's name and trade mark.

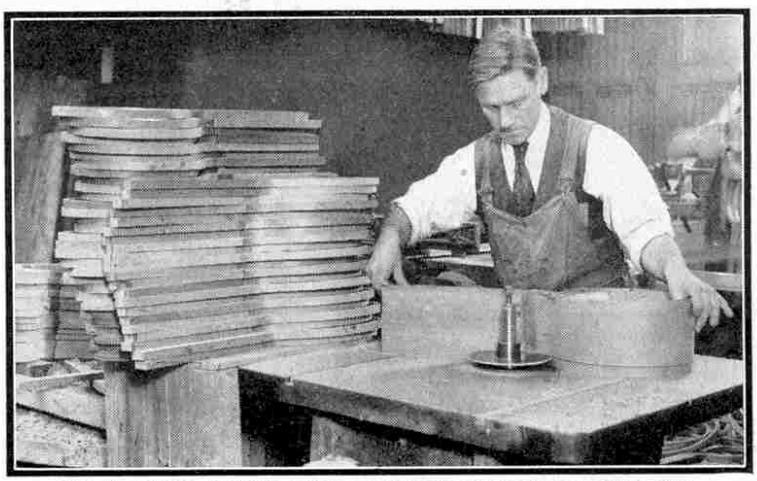


Bending and gluing strips of wood to form six tennis rackets, a process taking two minutes. The illustrations to this article are reproduced by courtesy of Goodwood Sports Ltd.

All this work took considerable time, so perhaps it was a blessing in disguise that tennis was not so popular in those days as it is now. Our grandfathers and great-grandfathers who made rackets in the old days would look on with much surprise, and probably with disapproval, if they could visit one of our modern factories. "Fancy!" one can almost hear them saying. "Using beech, sycamore, birch, walnut, lime, horse chestnut, maple, mahogany and all these other woods, when ash is the only one suitable for making into tennis rackets." If the ways of making rackets were the same now as then, they would be right, but in these modern times the steaming chest is seldom if ever used, nor is the long period of drying and seasoning necessary to-day.

After this glimpse of the past history of the sports trade, let us return to the present and commence our journey round the factory. First of all we find a yard full of huge logs of trees, waiting their turn to be cut up into thin strips. The thickest strips we cut in the factory are of 10 gauge, that is approximately $\frac{1}{8}$ in. in thickness; but fractional inch measurements are not precise enough in deciding the number of strips required to make into a racket, so we use millimetres and decimal fractions of millimetres in measurements. The frame of every tennis racket leaving the factory must measure within 1/10 of a millimetre of our standard gauge, which is 13.480 m.m. For instance, a nine-piece laminated racket would probably consist of four pieces of 13 gauge timber, each 2.337 m.m. in thickness, making a total of 9.348 m.m., and five of 21 gauge timber, each of .813 m.m., with a total thickness of 4.065 m.m. Thus the combined thickness will be 13.413 m.m., which is within the required limits of measurement.

It must not be supposed that these strips are only wide enough to make one racket at a time, and on entering the Gluing and Bending Room you will see a number of strips being glued together to form a block of six rackets, as shown in the upper illustration on this page. The machine that is used for this purpose turns out one of these blocks every two minutes all the year round. It will be realised that a very large number of people will be required to take up tennis if this glutton for work is to be kept in regular occupation!



A block of six rackets being cut into separate units by means of a circular saw.

It is hot work in this room, for in it we must always maintain a temperature of 80 deg. F., as otherwise the glue would chill and we should get rackets with bad or open joints. You will notice how the strips of wood go through a patent gluing machine before being placed on a steel strap, which assists the machine to pull them to the shape they will retain for the remainder of