dented with rough marks probably made by a centre punch, and the third having a regular pattern obviously made by mechanical means.

Here in front of me, was the whole history of the guttie—the first, intermediate and final stages of its manufacture.

The very first gutties were made entirely by hand, a suitable piece being first softened in hot water, and then rolled by the palm of the hand on a board until spherical. These balls, when first tried, were far behind the featherie in performance, having a very short and erratic flight. It was discovered by those pioneers that the ball behaved very much better towards the end of a round, but that on being softened in hot water and rolled again so that the dents and cuts were removed, if flew just as badly at the start of the next round.

Early morning methods

It did not need a great deal of thought to realise that the more marks a ball had the better it flew, and the next step was to make these marks in as regular a pattern as possible by hand, using a pointed hammer

When some enterprising ball-maker introduced a mould he made it smooth,

and hand-hammered the balls after they came from the mould. The next step was to punch marks in the surface of the mould so that the balls emerged covered with rough protuberances—the forerunner of the "bramble" marking.

And finally we attained the patterned mould, which produced a ball complete with lines, checks, or "brambles", according to the fancy of the maker or the fashion of the day

Golf ball manufacture of the mid-20th century is conducted on such precise principles that the depth of the "dimple" or "recess" marking is measured to thousands of an inch, and it has been proved that a certain depth of dimple will give a correct performance, whereas markings shallower or deeper than the optimum will give less satisfactory results.

All this, nevertheless, springs from the experiments of those pioneers who learned the dynamics of the golf ball by trial and error. And those moulds in Busson's shop at Walton Heath, side by side with the boxes of modern, precision-made rubber-core balls, glistening in their coats of sprayed polyurethane paint, remind us of the debt we owe to those ancient craftsmen who hand-hammered the early gutties.

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GOLF GREENKEEPER APPRENTICESHIP SCHEME

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