

ALL CREDITS: GAZIANO & GIRLING



Top quality lasting

Manufacturers of Goodyear welted men's shoes are, by and large, well established firms with a long history. A notable exception is Gaziano & Girling based in a small factory in Kettering, Northamptonshire, the traditional heart of British shoemaking. It only began life in 2006 and yet its shoes are arguably among the very best in the world. They feature classic designs with a modern twist where each one is carefully balanced against the last on which it is made. Quality is everything and the attention to detail exceptional. For instance, using the very best French and Swiss calf leathers is not enough. Selecting only the best areas of a hide for a particular shoe is also paramount, as is the accuracy of the stitching used to assemble the cut pieces.

The resulting uppers are consequently as good as it is possible to get, so what method is used to last them? The solution that has been adopted is one that harks back to a time

when lasting machines followed a sequence of operations that more closely resembled those of the bespoke hand shoemaker. The reasoning behind this decision was the company's aim of producing shoes that are as close as possible to fully bespoke ones but without the individual lasts and fitting that would require. Using the same machines as those used in the past not only provides flexibility when producing small quantities of a wide variety of styles but also gives Gaziano & Girling's shoes that special look that top grade men's footwear always used to have.

EARLY MECHANISATION

Mechanisation of footwear manufacture occurred in the second half of the 19th century. The first practical lasting machine was a bed laster for lasting toes in 1881 which, after initial pulling over by hand, used wiper plates to wipe the upper over the insole after which it was secured with tacks. Originally designed for flat

lasting, by 1897, it had been modified to suit the Goodyear welted process. The first successful pulling over machine appeared the same year. Pincers pulled the upper over the last, levers enabled its position to be adjusted and wipers drew it over the insole edge and simultaneously released the pincers. The wipers then held the upper in place while tacks were driven in. While both types of machine were refined over the years, they remained fundamentally the same until they were replaced by a single machine, the pull toe laster, in the early 1960s.

Despite their lack of sophistication to modern eyes, these machines were nevertheless capable of producing extremely good results in the hands of a skilled operator. The problem for Gaziano & Girling was finding the necessary machines 50 years after almost all had been scrapped. It was greatly assisted in this regard by the European Machinery Company, also located in Kettering and a specialist in

the rebuilding of Goodyear welted machinery (*World Footwear* January/February 2016). As far as finding the required skills, that proved less of a problem as Northamptonshire remains a centre of Goodyear welted manufacture. The actual lasting sequence employed by the company is as follows.

PREPARATION

The first stage is preparation of the upper and insole. These are of course leather and ribbed in-house as many of the lasts used have quite narrow toes calling for extreme accuracy and quality control. Skived flat leather heel counters are used which are first wetted and allow to stand overnight in order to soften them. They are then coated with a special slow-drying paste that allows a twenty-four hour lasting window. Toe puffs on the other hand are of the 'Celastic' type. These have a cotton ply base impregnated with celluloid that is activated with an acetone type solvent an hour before use, which makes them very soft and conformable but provides a hard and well shaped toe when thoroughly dried out.

Interestingly, uppers are not mulled (conditioned) prior to lasting due to the outstanding quality of the upper leather although this is under consideration for the future. Shoes with a backseam are back-tacked to the insole after stiffener insertion in the conventional manner, while those with solid counter are pulled over with the lasting margin raised an inch above the insole and then dragged down and tacked. This helps to put shape into an otherwise straight back. It is traditionally referred to as 'hoist lasting' and is the method that has always been employed for hand lasting.

PULLING OVER

In the pulling over operation, the initial stretch or 'draught' is taken out of the upper by pulling it over the toe of the last using a pair of pincers. It is then placed centrally into the front pincers of the pullover machine, followed by those at the side. The machine is tripped by a treadle so that the pincers grip the upper while a foot underneath the insole forces the last upwards, stretching the upper over it. The upper is then adjusted on the last using levers to control the relative positions of the pincers. If still not satisfied, the operator



Pulling over using a restored original machine.

can release the upper and start again. So far, the machine sequence is much like a modern forepart laster but without the electronic and hydraulic aids that they feature.

The machine is now tripped for a second time causing the pincers to draw the upper over the insole. At the same time, clamping arms close and hold the shoe while it drives in one rivet at the toe and two each side through the insole and into the last bottom between the edge of the insole and the welting rib. The rivets are 15mm long and are left standing proud of the upper so they can be withdrawn at toe lasting. The two each side are located roughly where a cap line would be, so a further rivet each side is driven in further back towards the

joint in a separate hand operation to help draw the upper tightly down to the last. This extra pair of rivets will also perform a vital function at toe lasting.

SIDE LASTING

First of all, the operator pulls the upper in tight at each end of the stiffener and secures it with a couple of tacks. He then clears the lining at the inside waist, draws the upper in to the last and secures it with further tacks. This is repeated for the outside waist. Both sides are then finally secured on a staple side laster which drives small staples through the upper and clenches them behind the welting rib. The topline is tapped all round with a shoemakers' hammer to ensure it is



Draughting the joints and waists by hand prior to staple side lasting.



The hand spreader forms an essential part of toe lasting on a bed laster.

tight to the cone of the last. Many people would in fact be surprised at just how much tapping and hammering of the upper used to take place in the lasting process. The waist tacks are then removed. The strong manual grip required for this type of lasting is said to be one of the reasons why old time shoemakers were reputed to have such powerful handshakes.

TOE LASTING

This is carried out on a bed laster. The machine used follows the same principles as those of the 1890s and is itself thought to have been built sometime in the 1920s. It has a moving head with a pair of plates shaped to fit the contour of the last which move upwards and then down over the upper, drawing it to the last and moving in to force it up against the welting rib. While in this position, a thin wire is twisted around one of the extra rivets applied after pulling over and pulled tightly round the toe as the plates are withdrawn to hold the upper in the position in which they have placed it. It is then twisted around the second extra rivet and cut off as close as possible to avoid any risk of it causing damage.

While the plates make their upward movement, the last, mounted on a jack, is supported by a rest under the forepart and held down by a foot



Pulling the lasting wire around the toe on the bed laster.

shaped to fit the inside profile of the welting rib. As well as holding the last securely, this also provides a solid support to the rib and prevents it from being moved or damaged by the inward force of the lasting plates. The operator also removes the pullover rivets and spreads the upper over and above the plates during their upward movement with a hand toe spreader. The use of this tool together with the timing of the horizontal wipe, forms the greater part of the skill needed to achieve the high quality results that this type of machine is capable of.

SEAT LASTING

The tack heel seat laster used for the seats will be familiar to most as modern machines are essentially exactly the same except for their extra electronics, etc. The shoe is placed on a jack and slid into the machine with a pedal moving it up to a foot which locates it accurately in relation to the machine's wiper plates. These have a two-stage movement where the first wipes in the upper and the second levels the lasted margin and drives in a row of tacks, which clench against the last seat plate to secure it solidly to the insole. Lasting is now complete and the shoe is left for a day to allow the toe puff to partially harden, after which the toe lasting wire is removed and a few staples added to replace it and the upper is rough trimmed ready for welt sewing.

Using these machines requires operators with far more skill and versatility than would be the case with their modern counterparts as they call for considerable manual input and a high level of coordination between eye, hand and foot. That said, it is clear that these do still exist in the more traditional areas of the footwear industry. In the case of Gaziano & Girling, they are being reinforced by a training programme to ensure they are passed on by experienced craftsmen to young workers to ensure the future. The superb results their craftsman achieve using the methods described are readily apparent to all in the fine shoes the company produces. Who said that modern methods are always best? 🤖



Side view showing both toe lasting wire and side lasting staples.