

Specialised seams

While most shoes made today are either flat-lasted or force-lasted on the Strobel principle and with either stuck-on or direct-moulded soles, there is still a huge market for moccasins and other essentially stitched constructions. Whereas many of these were traditionally sewn by hand, this is no longer practical due to cost and output restrictions and the process has become fully mechanised.

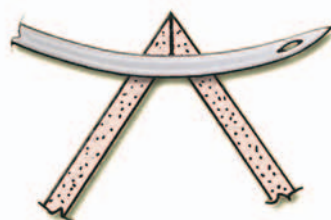
Needless to say, the machines needed to make these seams are complicated as they not only have to produce a technically sound seam but one that also looks as if it has been made by hand. The basis for all of them

is a curved needle, similar to the traditional curved awls and needles used when hand sewing on the last. A top and bottom thread is used so that a true lock stitch is obtained.

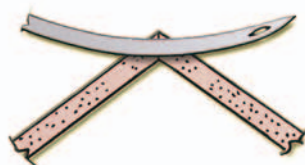
The really difficult part, however, is feeding the material past the needle so that the longer line length of the main part of the upper is compressed evenly down to that of the plug. This plug seam is also the central design feature of the shoe and so variations have appeared to either enhance its appearance or to produce specific types of shoe. The Italian company Ciucani is a leader in this field and has developed machines capable of sewing almost every imaginable type of moccasin seam.

A further variation on the theme is where a thicker leather is used and the seam passes through the edge of the two sections, leaving a smoother inside surface against the foot. This is the construction traditionally used on American Penny Loafers and was always done on the last.

Two other options are normally used to produce decorative features on uppers that will be conventionally lasted. In the first, a separate binding strip covers both edges to produce the look of a heavy shoe, made like a moccasin. The second is a



Basic moccasin



Penny Loafer seam



Bound seam



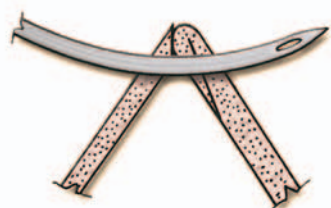
Plug wrapped over edge



Back of seam



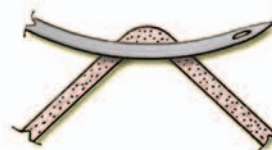
Finished appearance



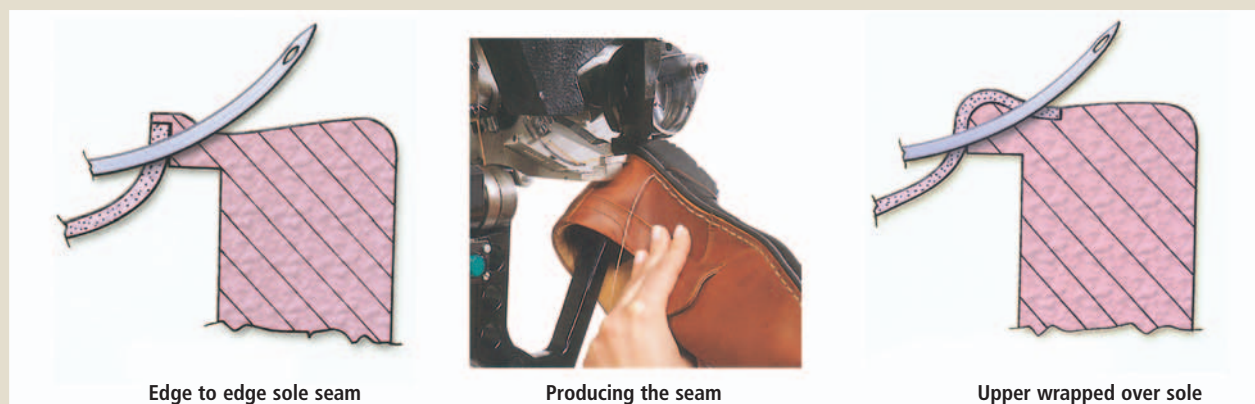
One or both pre-folded



Top of seam



Imitation Penny Loafer



Edge to edge sole seam

Producing the seam

Upper wrapped over sole

development of the Penny Loafer seam and is widely used on dress shoes.

Another form of construction that has become popular is that of sewing the upper directly to a moulded rubber or polyurethane sole unit. This has the advantage of not requiring expensive lasting and making machines or the need to use adhesives for sole attaching. The curved needle principle has been developed to provide several variations on this theme and,

once again, compressing the edge of the upper to match that of the sole calls for a sophisticated feed system.

Man's ingenuity is never-ending and these clever machines and seams have opened up whole new areas of footwear construction and design. At the same time, they have de-skilled what was once a highly specialised operation that needed experienced labour in order to produce a quality product. 

Images and details courtesy of Ciucani Macchine Srl

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