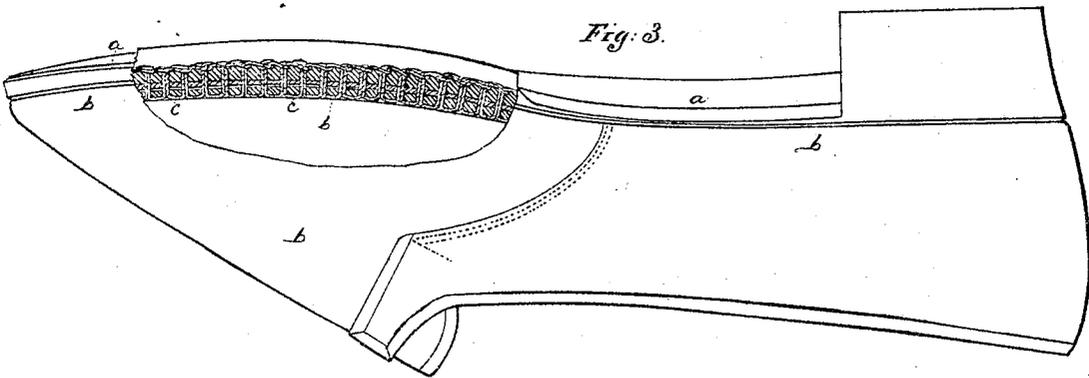
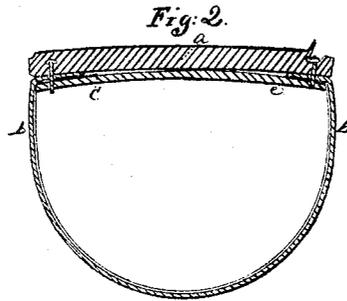
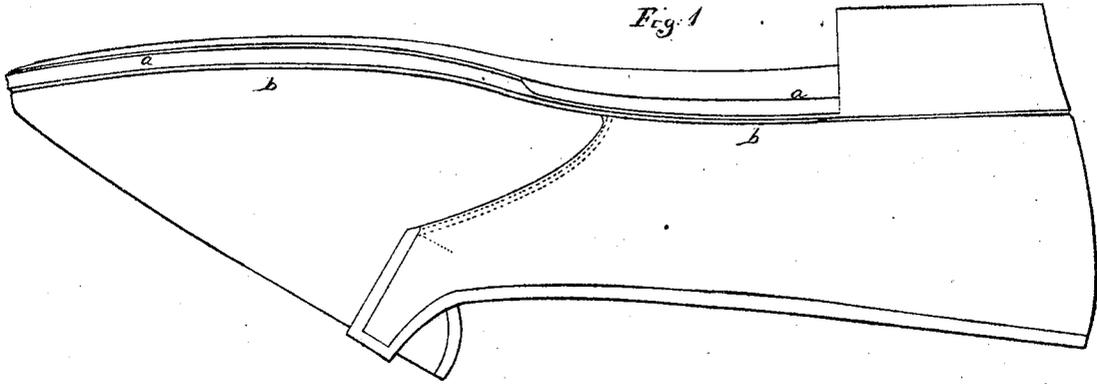


L. R. Blake
Boots & Shoes.

N^o 29562.

Patented Aug. 14. 1860.



Witnesses:

W. S. Prindle

L. W. Hoarman

Inventor:

Lyman H. Blake

UNITED STATES PATENT OFFICE.

LYMAN R. BLAKE, OF ABINGTON, MASSACHUSETTS.

BOOT AND SHOE.

Specification of Letters Patent No. 29,562, dated August 14, 1860.

To all whom it may concern:

Be it known that I, LYMAN R. BLAKE, of Abington, in the county of Plymouth and State of Massachusetts, have invented a new and useful Improvement in the Construction of Boots and Shoes, Rendering Them, When Made in Accordance With My Invention, New Articles of Manufacture; and I do hereby declare that the following, taken in connection with the drawings which accompany and form a part of this specification, and in which similar letters refer to similar parts, is a description of my invention so full and exact as to enable those skilled in the art to practice it.

My invention relates to the manufacture of boots and shoes.

It has for its object the production of these articles in a cheaper and more expeditious manner than has hitherto been accomplished. The invention is limited to the part of the said manufacture in which the sole is sewn to the vamp in a way not hitherto practiced in the uniting of the soles and vamps. The vamps and soles of boots and shoes have been sewn together, prior to my invention, first, by sewing to the vamps what is well known as a welt, and then by sewing the sole to the welt; second, by sewing through both sole and vamp by hand with a single thread, so used as to be the equivalent of two threads, for each end of the thread is used, being passed through both sole and vamp from opposite sides in the hole previously made by an awl. This latter process of uniting the soles and vamps, is not perhaps so commonly practiced as that first mentioned, which is too well known to need particular description here. It is a difficult and tedious process to pass both ends of the thread through the sole and vamp all around the ball and toe of the article, and part of this process has to be accomplished as follows.

The thread on the outer side of the sole is passed into the awl hole made through the vamp and sole for that purpose. Its end is then caught by the fingers of the operative, or by pincers, and drawn far enough through to permit the end of the other thread to be caught in an opening then made in the first thread; by pulling this back through the hole, the inner thread is drawn with it, so that it can be seized upon the outside of the sole when it is disengaged from the other thread, and then by pulling upon each thread the stitch is completed. It is

also common to sew the soles and vamps of shoes together in such a manner that the stitches do not pass through the entire thickness of the sole. In this description of work a channel is cut on the inner side of the sole near its edge, it is then lasted with its face side (or side which will be outermost when the shoe is finished) to the last, and the vamp, being drawn over the last with its face surface next to the last, is united to the sole by stitches which pass through the vamp and into the sole coming out in the channel mentioned. This sewing is done by hand (as are the kinds just mentioned) a curved awl being used to pierce the holes for the thread, which is double; that is, both ends of the thread are used. All work put together, in this last mentioned manner, is turned after being sewed, the last (of course) being withdrawn. The shoe is again placed upon the last and is finished in the usual manner.

It is not practicable to turn heavy boots and shoes. The turning process is usually confined to light low shoes, slippers, and "women's and children's work".

My process consists in uniting the soles of boots and shoes with their vamps by the action of a mechanism which forms a seam or succession of stitches by the interlocking of one loop with another, without necessitating the passing of the end of the thread through the material at each successive stitch, and passing the entire length of unused thread through the vamps and sole. I prepare the parts for sewing as follows. The inner sole is secured to the last, and then the vamp is drawn over the last and inner sole and the parts secured together, as is usual in preparing "pegged work". If the last is faced with metal, small tacks may be used for "lasting" the vamp or upper, but these or pegs should be inserted in the parts inside and clear of the line of the seam to be made. If desired the vamp or upper may be cemented to the inner sole, or hand stitched roughly thereto. The outer sole is next temporarily secured to the inner sole by two or three nails or pegs, and the last withdrawn from the boot or shoe, which is then ready to be sewed.

The mechanism which I employ to effect the sewing, I have already described in the patent granted to me July sixth, 1858, numbered 20775. The number of parts of which the sole is formed, and their relative dis-

position with regard to the vamp, may be varied. The sole may be channeled upon the outside, so that in sewing, the chain, or interlocking of the loops, can fall within the groove, and be covered from sight; the plain or single side of the seam comes within the shoe against the foot. The tension which can be obtained upon the thread, in practice by the use of mechanism, is such that the parts through which the thread passes may be drawn closely together.

When the sewing is completed, the boot or shoe is placed upon the last, the channel closed, and the article finished in the usual manner.

In lined work, which is turned after being sewn, the lining being outside when affixed to the other parts of the shoe, is larger than the vamp, and when the shoe is turned it will be loose, and will form wrinkles next the foot, thus the lining in a measure fails to take its part of the strain upon the shoe and to strengthen it, makes it faulty in the fit, and uncomfortable in wearing, all of which failings my invention avoids.

In sewing soles to the vamps it has, prior to my invention, always been necessary to draw the entire length of the thread between its end or ends and the stitch last formed entirely through the material, thus removing a portion of the wax upon the thread at each stitch and necessitating frequent waxing. In sewing soles to boots and shoes, it is a matter of importance to have the thread well, and uniformly waxed, for when the outside portion of the sole is worn off, and with it a portion of the stitches, so that the continuity of the thread is destroyed, the sole is only held in its place by what may be termed staples of thread acting to hold the parts together like pegs, as is the case in hand sewed welted work, or through and through hand sewing. The wax in this

case aids the holding power of the stitches. In my process of sewing together the soles and vamps, the thread may be uniformly waxed before it is used by the machine, and each successive stitch will be uniformly waxed.

In the drawings Figure 1, represents in elevation, one of my new articles of manufacture as it appears after the sole (*a*) has been sewed to the vamp (*b*) and the channel closed over the stitching as is represented at the left of Fig. 2, which is a cross section through Fig. 1. In Fig. 2, the inner sole is represented by (*c*) and the lining, by a line in red. Fig. 3, is a longitudinal vertical section through the seam, showing the stitch which is known as the chain or tambour stitch.

I am aware, that it is not new, to sew two or more pieces of leather together by a chain stitch; but I am not aware, that prior to my invention, the bottoms and vamps of shoes or boots were directly united by stitches, formed from one thread by the interlocking of one loop thereof with another, and with such stitches passing through and through the bottoms, and vamps, or uppers.

I am enabled by my invention, to make a saving in the time required in sewing the soles to the uppers, which time for shoes, may be stated as from one half a minute, to a minute and one half each.

I claim—

As a new article of manufacture a boot or a shoe in which the bottoms and uppers are united with stitches made, without passing the length and end of the unused thread through the parts united, by interlocking one loop of the thread with another, and extending through the said parts.

LYMAN R. BLAKE.

Witnesses:

W. I. POINTS,
L. W. HERMANS.