

No. 29,561.

PATENTED AUG. 14, 1860.

L. R. BLAKE.  
MANUFACTURE OF BOOTS OR SHOES.

Fig. 1.

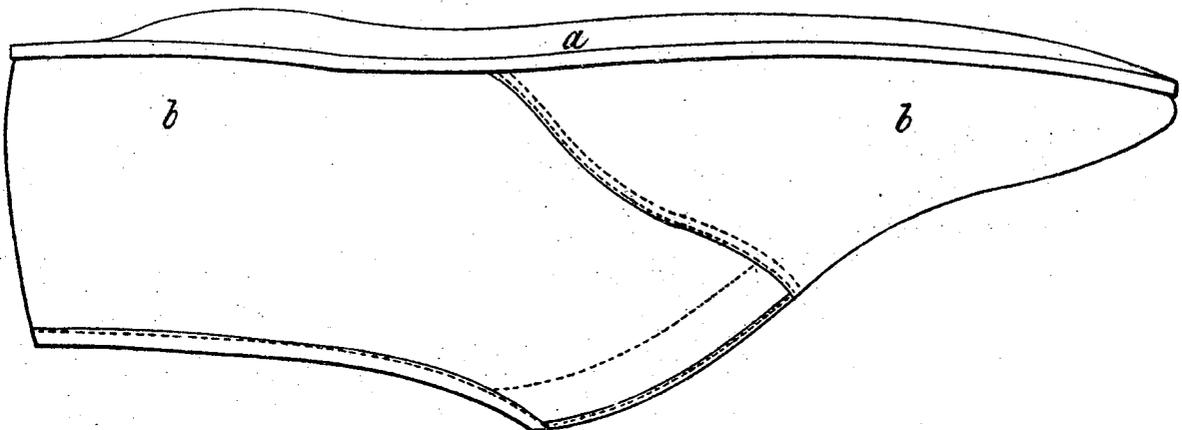


Fig. 2.

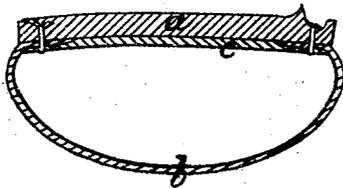


Fig. 3.



Witnesses

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## MANUFACTURE OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. 29,561, dated August 14, 1860; Reissued January 13, 1880, No. 9,043.

*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; 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 thereof so full and exact as to enable those skilled in the art to practice my invention.

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, and it is believed that boots and shoes made in accordance with my invention are superior, in all that is desirable, to such articles as have heretofore been made by hand.

The invention is limited to that part of the said manufacture in which the sole is sewn to the vamp.

My invention consists in the manner in which the vamp and sole are sewn together.

The vamps and soles of boots and shoes have been sewn together, first, by sewing to the vamp 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 sufficiently far 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 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 to the last, and the vamp being drawn over the last, with its face next to the last, is united 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 lasted and is finished in the usual manner. It is not practicable to turn heavy boots and shoes, and this 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 passing the end of the thread through the material at each successive stitch, and passing the entire length of unused thread through the vamp and sole. The mechanism which I employ to effect my purpose I have already described in the patent granted to me July 6, 1858 numbered 20775. The number of parts of which the sole is formed, and their relative disposition with regard to the vamp, may be varied; as, for instance, an inner sole may or may not be used, and the outer sole may be made of several thicknesses. The sole may be channeled upon the outside so that in sewing the chain or interlocking of the loops falls within the groove, and 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, and this, by the mechanism referred to, is aided by the pressure upon the stock in the immediate vicinity of the needle oc-

5 cased by the action of the feed wheel and  
 the resistance of the rest. When the sewing  
 is completed the boot or shoe is lasted, the  
 channel closed and the article finished in  
 the usual manner. In lined work, which is  
 10 turned after being sewn, the lining being  
 outside when affixed to other parts of the  
 shoe, is larger than the vamp, and when the  
 shoe is turned it will be loose and will form  
 15 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 wear-  
 ing, all of which failings my invention  
 20 avoids. In sewing soles to the vamps it has  
 prior to my invention always been necessary  
 to draw the entire length of the thread be-  
 tween its end or ends and the stitch last  
 formed entirely through the material thus  
 25 removing a portion of the wax upon the  
 thread at each stitch and necessitating fre-  
 quent waxing. In sewing soles to boots or  
 shoes it is a matter of great importance to  
 have the thread well and uniformly waxed  
 30 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 de-  
 stroyed the sole is only held in its place by  
 what may be termed staples of thread acting  
 35 to hold the parts together like pegs. The  
 wax in this case aids the holding power of  
 the stitches to an important degree. By my  
 improvement in sewing together the soles  
 and vamps the thread may be uniformly  
 40 waxed before it is used by the machine and  
 each successive stitch will be uniformly  
 waxed.

In the drawings Figure 1 represents in  
 elevation a shoe made according to my im-  
 40 provement, as it appears after the sole (*a*)  
 has been sewn to the vamp (*b*) and the chan-

nel closed over the stitching as is repre-  
 sented 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 45  
 a line in red. Fig. 3 is a longitudinal ver-  
 tical section through the seam, showing the  
 stitch which is known as the chain or tam-  
 bour stitch.

I am aware that it is not new to sew two 50  
 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 55  
 of one loop thereof with another and with  
 such stitches passing through and through  
 the bottoms and vamps. I am enabled by  
 my invention to make a saving in the time  
 required in sewing and in some cases to 60  
 make a saving of stock. The different parts  
 of the article are brought and held in closer  
 contact with each other than was possible by  
 the old mode of manufacture by sewing, and  
 by the better and more uniform waxing of 65  
 each stitch the article is less liable to rip  
 after wear than were the old articles of  
 manufacture.

Having described my invention what I  
 claim therein as new and desire to secure by 70  
 Letters Patent of the United States is,—

Uniting the bottoms and vamps of boots  
 or shoes with stitches, made, without passing  
 the end and length of the unused thread  
 through the parts united, by interlocking 75  
 one loop of the thread with another and ex-  
 tending through the said parts—substan-  
 tially as shown and described.

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Witnesses:

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 W. B. GLEASON.