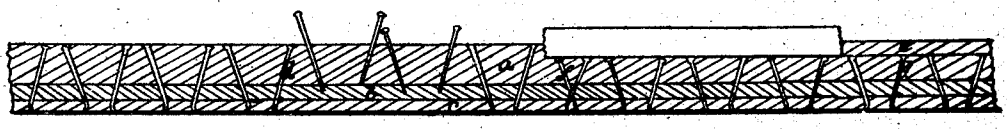
No. 49,219. PATENTED AUG. 8, 1865.

L. R. BLAKE.

NAILED BOOT OR SHOE.



Witnesses:

F. Gould

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Inventor:

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UNITED STATES PATENT OFFICE.

LYMAN R. BLAKE, OF BOSTON, MASSACHUSETTS.

IMPROVED NAILED BOOT OR SHOE.

Specification forming part of Letters Patent No. **49,219**, dated August 8, 1865.

To all whom it may concern:

Be it known that I, LYMAN R. BLAKE, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Shoe; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

This improvement relates to the method of uniting the uppers or vamps of boots and shoes to their soles; and the invention consists in a boot or shoe in which the upper and vamp are so united by metallic nails driven from the outer surface of the sole through the sole, the vamp, and insole, the adjacent nails being inclined toward or from each other in the plane in which the successive nails are driven. The nails may be also inclined laterally; but whether so inclined or not, it is a condition of my invention that the nails have an inclination given to them in the direction of the line of nails.

The drawing represents a section of the sole, vamp, and insole of a shoe taken in the plane of the line of nails.

a denotes the outer sole; *b*, the vamp; *c*, the inner sole, and *d* the nails. Some of the nails are represented as driven entirely in and clinched upon the inner surface of the insole, while others are shown as only partially driven. The sole *a* is shown on one end of the drawing as channeled, the flap being turned over and pressed down upon the heads of the nails when the shoe is finished, as seen at *e*, to give a smoothed outer finish to the sole, while at the other end the heads of the nails are embedded directly in the outer surface of the sole, the heads appearing therein in the finished shoe.

In the employment of nails in shoe construction as heretofore practised for uniting soles to their uppers, they are driven in straight or perpendicularly to the plane of that surface of the boot or shoe in which they enter, the adjacent nails being practically parallel, and only deviating, if at all, from this parallelism through accident. Owing to the non-elasticity and rigidity of the nails, however, when any enlargement of the holes in which the nails are driven takes place by wear or otherwise, the nails do not enlarge a head up to fill such enlargement as with wooden pegs, and the seam or joint between the sole and vamp opens, the more especially after the heads of the nails are worn away. To remedy this defect I drive the alternate nails at an inclination with respect to each other, when, as will be readily understood, the sole *a* cannot draw away from the vamp without tearing the sole or bringing the nails with it—results which cannot follow from wear.

Where the stock is thick and heavy the nails may be driven quite closely together, or may cross, as seen at *f*, a lateral inclination being given to the nails in driving to prevent injurious contact. With nails driven perpendicularly to the face of the sole, the tread of the foot being square upon the end of the nails and in the direction lengthwise of such nails, there is no give or yield to the nails, and a shoe so made is hard or painful to wear; but with the inclined application of the nails pressure is so brought upon them that they yield to the tread and give a degree of elasticity to the sole, as will be readily understood, and the square tread upon the inclined nails does not push them up endwise against the foot, but has a tendency to bend them away therefrom.

I claim—

A shoe in which the vamp and sole are united by nails having an inclination with respect to each other, substantially as set forth.

LYMAN R. BLAKE.

Witnesses:

FRANCIS GOULD,

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