(No Model.)

L. W. AUSTIN.

SHOE NAIL.

No. 363,446. Patented May 24, 1887.

FIG. 1.

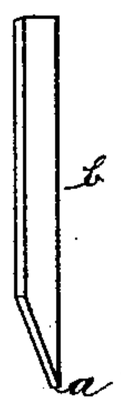

FIG. 2.

FIG. 3.

FIG. 4.

Witnesses.

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LLOYD W. AUSTIN, OF MILWAUKEE, WISCONSIN.

SHOE-NAIL.

SPECIFICATION forming part of Letters Patent No. 363,446, dated May 24, 1887.

Application filed November 23, 1886. Serial No. 219,602. (No model.)

To all whom it may concern:

Be it known that I, LLOYD W. AUSTIN, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Shoe-Nails; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention—to be hereinafter particularly claimed—relates to the form and construction of a shoe-nail as an article of manufacture, with reference to its use.

In the drawings, Figure 1 is a perspective of the blank as it is cut from a band or strip of metal. Fig. 2 is an elevation of the completed nail. Fig. 3 is a top view or plan of its head. Fig. 4 shows the form of the nail after it is driven and clinched in the leather.

The nail is usually made of brass, the blank being cut from a sheet or strip of brass in the form and manner shown and described in Letters Patent No. 181,619, issued to my assignor, The Albert Field Tack Company, August 29, 1876, and is when so cut out a straight flat bar with one end cut diagonally, forming a point at one side, and is in the form shown in Fig. 1. The blank is then placed in a pair of dies, wherein the point *a* is pressed into a central position longitudinally, as shown in Fig. 2. The lower part of shank *b* above the beveled point *a* is swaged into a series of corrugations, *c c*. The shank immediately below the head is made round, with a plain smooth surface for a little distance, *d*, and a head is swaged up on the end of the blank, which head *e* is cylindrical, and has a flat top and is flat underneath, its under surface extending out at right angles to the shank *b*.

When this nail is forced into the leather, the parts of the leather are forced apart for the passage of the shank of the nail, and the leather being somewhat elastic, its edges spring back against the shank of the nail into the grooves of the corrugations *c c* and firmly against the straight part *d*. The leather crowding against this straight part *d* forms a kind of packing to exclude water from the possible minute cavities in and around the corrugations at points where the leather does not force itself by its resilience tightly into all parts of the grooves; and, also, this packing of the leather against this straight part makes a smoother, neater, and tighter finish than can be made where the corrugations extend on the shank up to the head of the nail. The flat under surface of the head when the head is forced against and into the leather, aided by the clinching of the nail at the same time, bears against and forces the leather underneath it more compactly together and against the shank, thus making a very tight and perfect finish about the shank and around the head of the nail, and covering and closing any possible crevice between the shank of the nail and the leather. It will be understood from these results that the form of my nail is in this particular an important improvement over shoe-nails made with a head that is beveled underneath, as they have been made, which heads when driven home only separate the parts of the leather and leave the crevice or joint around it and around the shank uncovered and the leather uncompressed downwardly or inwardly.

It will be seen that I combine the most desirable features of a shoe-nail in, as I believe, a novel and most satisfactory way. I have the sharp wedge-shaped cutting edge or point, the point being smooth up the beveled portion of the shank, whereby the nail is adapted to most easily enter the leather; then corrugations on the shank, whereby, when the nail is driven to its seat, it is held firmly against loosening or working out by the leather forcing its way into its recesses of the corrugations, and thereby resisting the withdrawal of the nail therefrom; then a smooth space on the shank, around which the leather near its outer surface closes more tightly than it will do about a roughened or corrugated surface, and above this a head with a flat under surface adapted to cap down upon the leather and compact it tightly about the smooth surface of the shank, not forcing the leather away from its sides, as a conical head does, but compacting the leather beneath it, and forming a tight joint about the shank and capping it over completely, forming a joint entirely impervious to water. This flat head is also a most perfect resistance on the leather against the clinching-point of the nail, so that even when the leather becomes soft by use in wet weather the head

of the nail does not work into the leather, as a headless nail or one with a conical head may do.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The metal shoe-nail formed as described, consisting of the central wedge-shaped point, *a*, the shank *b*, the corrugations *c c* midway on shank *b*, the smooth-surfaced cylindrical part *d* of the shank above the corrugations and below the head, and the cylindrical head *e*, having a flat top and a flat under surface, which under surface is entirely at right angles to the axis of the shank, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LLOYD W. AUSTIN.

Witnesses:
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