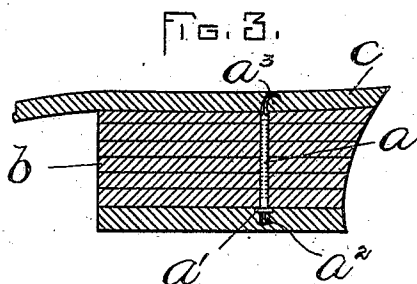
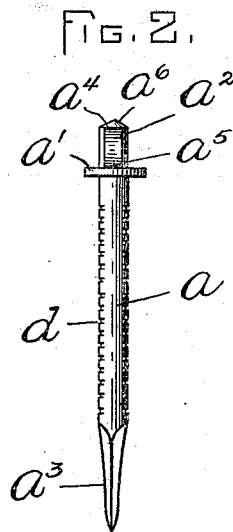
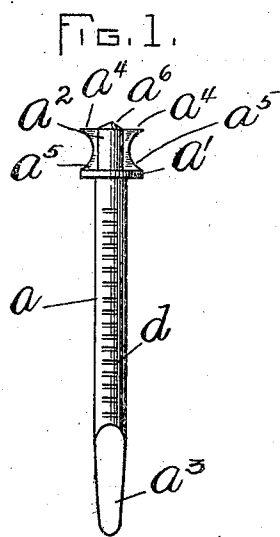


(No Model.)

G. A. CURTIS.
HEEL NAIL.

No. 502,550.

Patented Aug. 1, 1893.



WITNESSES:

Parker Davis
Arthur H. Abell

INVENTOR:

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Atty.

UNITED STATES PATENT OFFICE.

GEORGE A. CURTIS, OF MALDEN, ASSIGNOR TO CHARLES F. BAKER, OF
BOSTON, MASSACHUSETTS.

HEEL-NAIL.

SPECIFICATION forming part of Letters Patent No. 502,550, dated August 1, 1893.

Application filed May 31, 1893. Serial No. 476,048. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. CURTIS, of Malden, (Wellington), in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Heel-Nails, of which the following is a specification.

This invention relates to an improvement in nails for fastening on heels of boots and shoes. The desideratum is to produce a nail which can be driven straight through the leather without a previously-prepared hole, which can be clinched so as not to project above the sole or injure the stock, which will securely bind the heel-lifts together and to the sole, and which will also hold a blind top-lift. Numerous fastenings have been devised to fill the requirements, but in none of them are combined all the qualities above-named. The most satisfactory form of nail for securing a blind top-lift has been found to be that known as the "collar-nail," which is formed with a collar at a point intermediate of its ends and adapted to come against the heel-lift next the top one, leaving a projecting end of the nail to receive the top-lift. Collar-nails have been constructed with points to clinch over the sole and thereby bind the sole and heel-lifts between the clinched portion and the collar, but, in using all of these nails, a hole must first be made to receive them. A further objection is that the clinched end projects above the sole and causes discomfort to the wearer of the shoe, or is forced into the stock in a manner to injure the same. For these reasons collar-nails, although affording the best means for securing on a blind top-lift, have not been found altogether satisfactory.

It is the purpose of the present invention to produce a collar-nail which can be driven without first providing a hole to receive it, and which can be clinched without projecting above the sole, and without injury to the stock; and also to provide an improved construction at the top end of the nail, whereby the top-lift may be more securely held. By combining in a nail these advantages and those of the collar construction, a perfect construction is arrived at.

The only form of point which will enable a nail to be successfully driven without a previously-formed hole to receive it, is the awl-shaped point, which not only possesses this advantage, but also that of re-entering the leather, when clinched, so as to be embedded in the same in such a manner as not to project and not to injure the stock. In carrying out my invention, therefore, I provide a collar-nail with an awl-shaped point, and thereby combine in one nail all the advantages possessed severally by its predecessors.

I am aware that a shoe-nail has heretofore been provided with an awl-shaped point, but this feature alone is not productive of a perfect heel-fastening. I believe it to be new with me to combine in one nail the collar construction possessing advantages for attaching a blind top-lift, and the awl-shaped point making the use of the collar-nail practicable.

Of the accompanying drawings, which serve to illustrate the invention: Figure 1 shows one view of the nail. Fig. 2 shows another view of the nail. Fig. 3 shows a sectional view of a heel and sole, with my improved form of nail applied thereto.

The same letters of reference indicate the same parts in all the figures.

The nail comprises a round portion *a*, to be driven through the heel-lifts *b* and sole *c*, and corrugated on two opposite sides, as at *d*; a collar *a'* to come against the heel-lift next the blind top-lift; a round portion *a*², shorter than the first-named portion, and on the opposite side of the collar, and adapted to receive the top-lift when the latter is "spanked on;" and an awl-shaped point *a*³, which is clinched over the sole.

This nail, by reason of the awl-shaped point, can be driven in without having a hole previously prepared for it, its extremity being flat and sharp; and the point having a width at no part greater than the thickness of the nail, it does not make an opening any larger than necessary, and hence the nail can take a firm hold in the leather. When the nail is driven through, it may be readily clinched over the sole, and its point will re-

enter the same and become embedded therein. Thus the heel-lifts and sole are tightly clamped between the collar and the clinched-over point, and at the same time said point
 5 does not project above the sole or injure the stock by its entrance into the sole, for it is embedded point first, and readily re-enters. The top-lift is "spanked on" the projecting end, in the usual manner.

10 In the formation of the nail, the top end a^2 is provided with laterally-projecting spurs a^4 , inclined on the under side and brought to a point. The webs which form these spurs continue to the collar a' , as shown at a^5 , and
 15 taper outward, their outer edges merging into the periphery of the collar. These portions a^5 back up the collar, and prevent it from being broken off. The top end of the nail is pointed, as shown at a^6 , to facilitate its
 20 entrance into the leather of the top-lift. When the top-lift is "spanked on," it is forced past the spurs a^4 , and their points facilitate the passage. The leather of the top-lift takes

under the spurs, and said lift is thereby more securely held on. 25

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

1. As a new article of manufacture, a nail for fastening heels, having a collar intermediate of its ends and an awl-shaped point, substantially as described. 30

2. As an improved article of manufacture, a collar-nail having a round part above the collar and beyond which the latter projects
 35 on all sides, and pointed spurs projecting from opposite sides of said round part.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 27th day of
 40 May, A. D. 1893.

GEO. A. CURTIS.

Witnesses:

F. PARKER DAVIS,
 ARTHUR W. CROSSLEY.