

(No Model.)

C. F. ROTH.
SHOE NAIL.

No. 586,936.

Patented July 20, 1897.

Fig. 1.

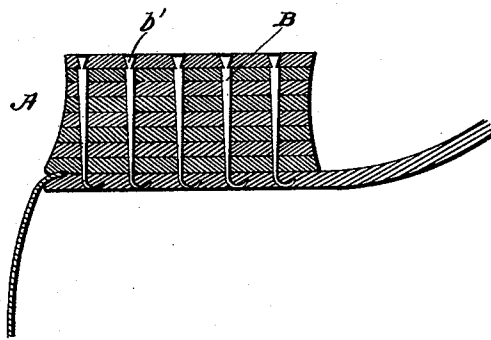


Fig. 2.

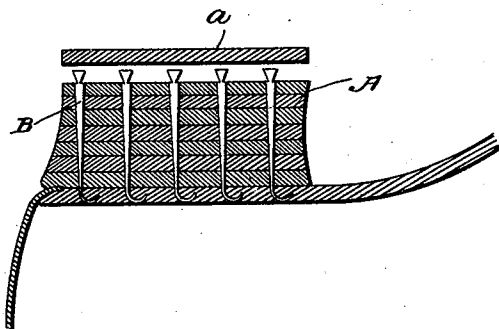


Fig. 3.

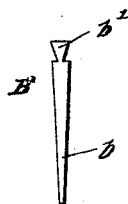
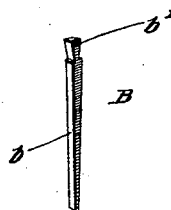


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES F. ROTH, OF IRONTON, OHIO, ASSIGNOR OF TWO-FIFTHS TO
FREDRICK WILLIAM HASENAUER, OF SAME PLACE.

SHOE-NAIL.

SPECIFICATION forming part of Letters Patent No. 586,936, dated July 20, 1897.

Application filed May 25, 1896. Serial No. 592,957. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. ROTH, a citizen of the United States, residing at Iron-
ton, in the county of Lawrence and State of
Ohio, have invented certain new and useful
Improvements in Shoe-Nails; and I do hereby
declare the following to be a full, clear, and
exact description of the invention, such as
will enable others skilled in the art to which
it appertains to make and use the same.

My invention relates to shoe nails or brads,
but more particularly to brads of the charac-
ter referred to especially designed for use as a
means for securing together the several thick-
nesses of leather forming the heel of a shoe.

The objects of the invention are to provide
simple, inexpensive, and efficient means for
securing together several layers of leather in
such manner as to prevent separation thereof
under ordinary conditions and to enable the
last layer to be firmly bound to the others in
the series and held in proper position with-
out being pierced by the brads by which it is
secured, so that it may present a smooth im-
perforate exterior surface.

The invention will first be described with
reference to the accompanying drawings,
which form a part of this specification, and
then pointed out in the claim at the end of the
description.

Referring to the drawings, in which similar
letters of reference are used to denote similar
parts of the device, Figure 1 represents a sec-
tional elevation of an inverted shoe-heel hav-
ing its parts secured together by means of
brads constructed in accordance with my in-
vention. Fig. 2 is a similar view showing the
last layer of leather in position to be pressed
upon the heads of the brads by which it may
be secured as a part of the heel. Fig. 3 is a
side elevation, and Fig. 4 a perspective view,
of a preferred form of brad embodying my in-
vention.

In the drawings, A may represent the heel of
a shoe, and B a cut brad, which consists, essen-
tially, of a slender body portion *b* of a length
sufficient to pass through the usual number of
layers or thicknesses of leather forming the
heel of a shoe, and which may have two or
more of its sides gently inclined, so as to form
a gradual taper from the head thereof to its

point to facilitate its insertion, and which is
formed with a head-and-neck portion in the
form of a dovetail, the sides thereof being in-
clined so as to cause the neck to taper sharply
from the head or top of the brad to the junc-
tion of said neck with said body portion, thus
forming a shoulder at the base of the neck and
an angular niche or recess on two or more
sides, the walls of said neck being inclined
upwardly and outwardly from the base of the
neck to the head or top of the brad and there-
by giving angular shape to the niche or recess.

The brad thus constructed is adapted to be
driven into the heel of a shoe through the
several thicknesses of leather forming the
same and to be firmly secured by clenching
at its lower end or point, as shown in Figs. 1
and 2, with its head-and-neck portion *b'* pro-
jecting above the last layer but one, as shown
in Fig. 2, and thereupon the last layer *a* of
the heel is forced against the dovetails *b'*, so
as to cause the latter to partially pierce the
leather, and by suitable pressure the fibrous
material pierced by the brad-heads will re-
cede and close up or fill in the niches formed
by the dovetails, so as to firmly hold said
layer in contact with the remaining layers
and prevent it from working loose, and ob-
viously the natural pressure of the foot in use
will only tend to further compress the mate-
rial between the dovetails and render the fas-
tening more permanent and secure.

The brad being clenched at its point can-
not return or work out of place, and the last
strip or layer of leather being firmly held, as
described, by the angular form of the heads
and the filling in of the leather in the niches
below the heads without exposing the heads
or tops of the brads a very neat yet substan-
tial and secure fastening is afforded.

These brads are adapted to be made on
an ordinary cut-nail machine, the machines
shown and described in my Patent No. 368,551,
dated May 16, 1887, for nail-plate feeders,
and in my Patent No. 483,085, dated Septem-
ber 20, 1892, for a cut-nail machine, being
adapted for their economical manufacture
out of nail-plate or sheet-iron, and by the use
of such machines these brads may be manu-
factured in large quantities at a very small
cost, much below the cost of ordinary wire

nails. The brads of the described construction are also particularly adapted for use with machines of the class known to the trade as the "McKay Heeling-Machine."

5 I am aware that shoe-nails with spear-shaped heads and heads in the shape of a cross for attaching an outer layer of leather to the heel of a shoe are not new, and that wire
10 nails have been formed with variously-shaped heads for similar purposes, the latter, however, being expensive to make as compared with cut nails, and hence I do not broadly
15 claim any of such constructions.

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

As a new article of manufacture, a cut shoe-nail for securing several thicknesses of leather together and binding thereto an outer
25 imperforate layer only partially pierced by the head of the nail, so as to leave its outer surface imperforate; said nail being formed with a slender body portion which tapers

gradually from its head to its point, and with a head-and-neck portion having a flat top and
25 tapering sharply from its top to its junction with said body portion, so as to provide a shoulder at the base of said neck and triangular
30 recesses between said shoulder and top; both the body portion and the head-and-neck portion of the nail being free from projections and having smooth surfaces from top
35 to point; whereby the nail is adapted to be machine-driven and may easily pierce several thicknesses of leather and bind thereto
an outer imperforate layer by the receding of the fibrous material partially pierced by
40 the head so as to close the aforesaid triangular recesses, substantially as described.

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

CHARLES F. ROTH.

Witnesses:

T. J. HAYES,
CHARLES D. RICHARDS.