

(No Model.)

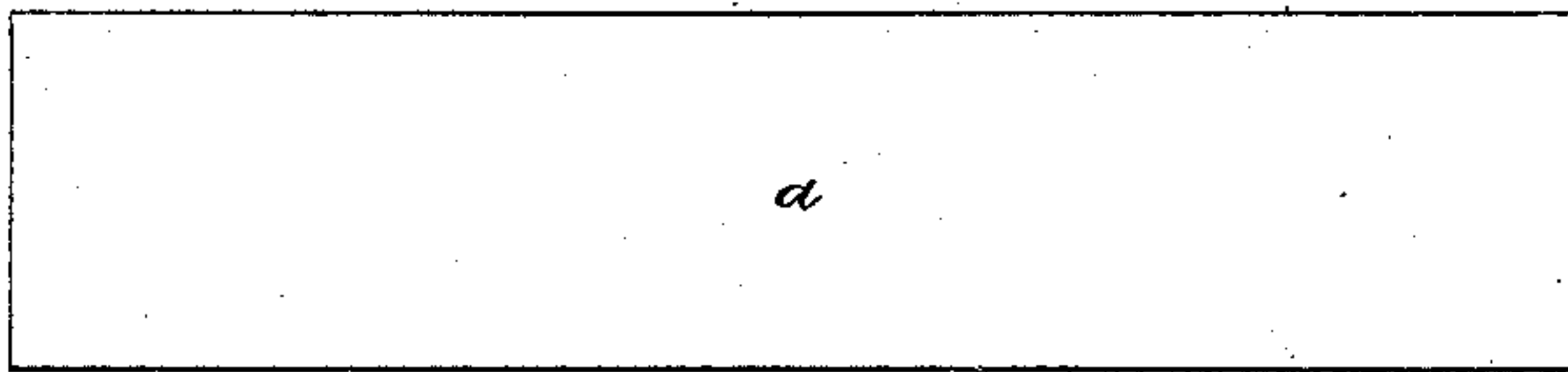
H. S. CUSHMAN.

NAIL.

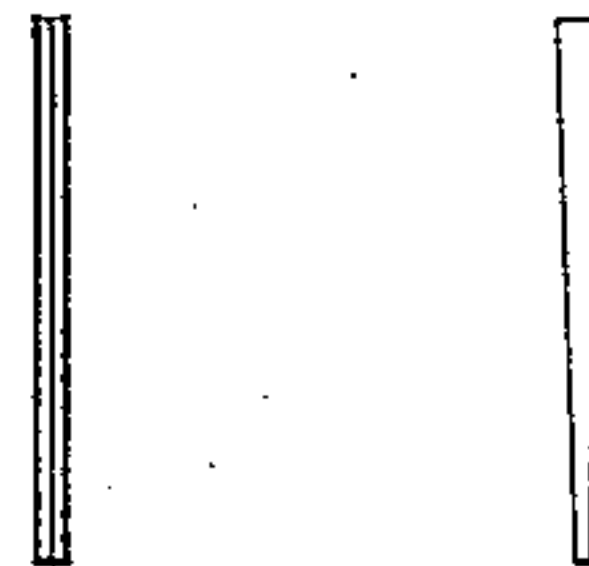
No. 280,801.

Patented July 10, 1883.

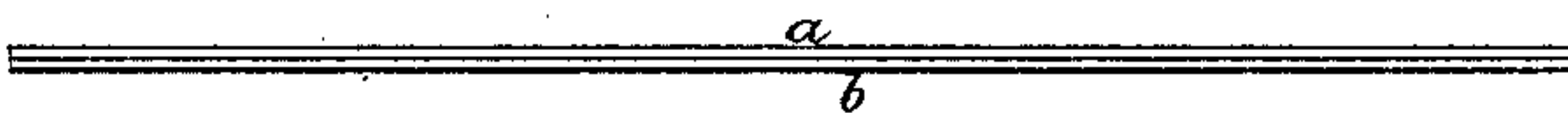
*Fig. 1.*



*Fig. 3. Fig. 4.*



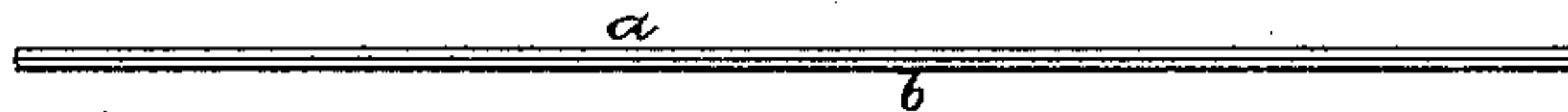
*Fig. 2.*



*Fig. 6.*



*Fig. 5.*



*Fig. 7.*



Witnesses.

S. N. Piper

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# UNITED STATES PATENT OFFICE.

HENRY S. CUSHMAN, OF MILFORD, MASSACHUSETTS.

## NAIL.

SPECIFICATION forming part of Letters Patent No. 280,801, dated July 10, 1883.

Application filed March 5, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY SMITH CUSHMAN, of Milford, in the county of Worcester, of the State of Massachusetts, have invented  
5 a new and useful Improvement in Nails; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side view, and Fig. 2 an edge  
10 view, of a compound nail-plate as made for the production of nails of my invention. Fig. 3 is an edge view, and Fig. 4 a side view, of a nail as cut from such plate. Fig. 5 is a top view of what I term "nail-wire," as made for  
15 the manufacture of my improved nails. Fig. 6 is a view of a nail made from such wire and twisted. Fig. 7 is a view of a piece of the nail-wire as it appears when in a twisted state.

My invention is specially intended for  
20 nails—such as are usually termed "clinch-  
nails"—that is, such as are employed in nail-  
ing or confining in place the soles of shoes,  
the nails in such case being clinched against  
a last of metal, or one of wood, and plated or  
25 re-enforced on its bottom with or by a metal-  
lic plate. It is very desirable for the clinch  
of the nail to have an even spread in opposite  
directions, in order for it to hold to the best  
advantage, and such follows with nails made  
30 in accordance with my invention, a nail so  
made being composed of two plates or strips  
of metal arranged side by side and brazed to-  
gether or connected by a softer metal, or by  
means which, when the nail is being driven  
35 end foremost against a clinching-plate or last,  
will enable the two pieces to readily separate  
at the said end of the nail and turn or bend  
over in opposite directions relatively to each  
other. In manufacturing such a nail, I either  
40 cut it from two plates, *a b*, of flexible metal,  
laid face to face and connected by metal or  
solder extending between them, and closely  
uniting them at the two next contiguous faces;  
or I cut or form it from wire composed of two  
45 strips of metal arranged side by side and  
joined by a softer metal. In making a com-  
pound nail-plate for the purpose of producing  
the nails from it by a machine for manufac-  
turing cut-nails, two bars or plates of metal  
50 may be laid face to face and soldered together,  
and afterward be extended or drawn out to the  
necessary thickness between and by the aid of

rollers, as may be required, to convert the  
mass either into a compound plate or a com-  
pound wire. Figs. 1 and 2 show a portion of 55  
such a compound plate as made of the two  
plates *a* and *b* joined by means as described.  
These two plates may be of like material, as  
copper, or brass, or iron, for instance; or one  
may be of one and the other of a different 60  
metal. I usually have one plate of copper or  
brass and the other of zinc, as such causes the  
heads of the nails, when smooth and even with  
the bottom of the sole, to present a pleasing  
or mottled appearance. 65

In making the nails from a wire composed  
of two metals, as described, I usually have the  
wire square, rectangular, or prismatic in its  
transverse section and twisted, so as to lay the  
two metals together, like the strands of a rope, 70  
or in the form of a screw. A piece of nail-  
wire composed of two strips of metal united  
by brazing or a softer metal is shown in Fig.  
5, one strip being marked *a* and the other *b*.  
In this figure the two strips are represented 75  
as untwisted; but in Fig. 7 they are exhibited  
in a twisted state for the making of a nail, as  
shown in Fig. 6. The twisting together of the  
strips of the wire not only is useful to stiffen  
them and prevent them from separating in the 80  
shanks of the nails while the nails are being  
driven, but it causes the nails to hold in the  
leather or sole to better advantage, and does  
not materially affect their ability to clinch in  
the desired manner. In driving such a nail 85  
into a sole and against a clinching-surface, the  
nail, if of sufficient length, may be spread or  
clinched at the head as well as at the joint,  
such saving the necessity of making the nails  
with heads to project laterally from the shanks 90  
of such nails. If desirable, the compound  
nail-plate may be somewhat tapering or wedge-  
shaped transversely.

I am aware that a nail has been constructed  
of two iron strips with an intervening steel 95  
one, and also that a peg has been made by  
twisting several strands of wire about a cen-  
tral strand and then immersing the whole in  
a solder bath. In my device two strips of a  
harder metal, as iron or copper, are united by 100  
a softer metal, as solder, and when the nail is  
driven in the force of the "clinch" causes  
their ends to separate, the soft metal yielding,  
and turn in opposite directions.

What I claim is—

1. A nail consisting of two strips of iron or other equivalent hard metal and an intervening strip of solder or other equivalent soft  
5 metal, as set forth.

2. A nail consisting of two strips of metal soldered together lengthwise, as set forth.

3. A nail consisting of two strips of metal twisted and soldered together lengthwise, as set forth.

HENRY SMITH CUSHMAN.

Witnesses:

EVERETT CHAPMAN,  
FRANCIS A. COLBURN.