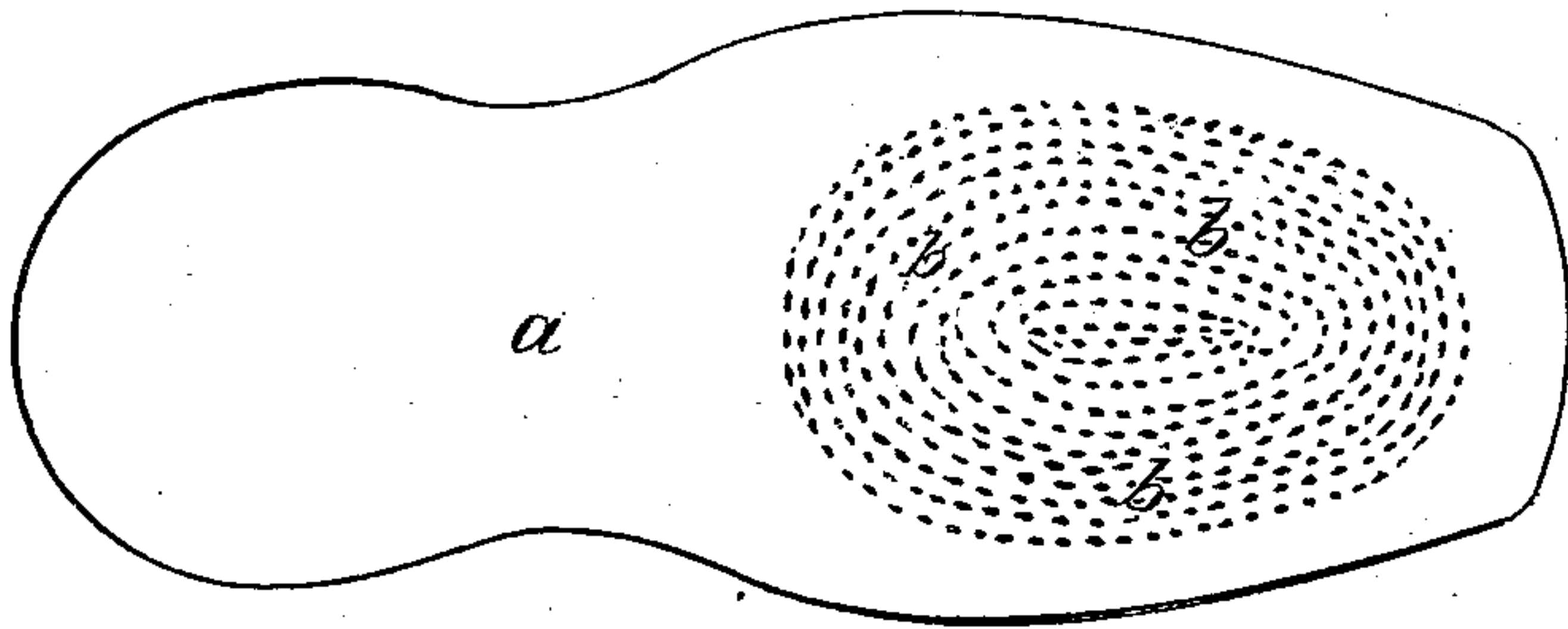


Sheffield & Coburn,

Shoe Sole.

No. 64,587.

Patented May 7, 1867.



Witnesses.

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United States Patent Office

GEORGE V. SHEFFIELD AND JAMES F. COBURN, OF HOPKINTON, MASSACHUSETTS.

Letters Patent No. 64,587, dated May 7, 1867.

IMPROVEMENT IN PREPARING LEATHER FOR WEAR.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, GEORGE V. SHEFFIELD and JAMES F. COBURN, both of Hopkinton, in the county of Middlesex, and State of Massachusetts, have invented an Improvement in Preparing Leather for Wear; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of our invention sufficient to enable those skilled in the art to practise it.

To improve the wearing quality of boot and shoe soles their surfaces have sometimes had inserted in them plugs, nails, stubs, or hobs, these being generally headed, and generally driven into holes prepared for their reception by punching out or removing the leather at the points where they were to enter. In those soles in which the holes are punched for the reception of plugs or stubs, such plugs or stubs soon work loose, and where they are headed the pressure upon the edges of the heads causes a lateral play of the shanks, and increases this liability to work loose. Where nails are sometimes driven in this treading upon the heads disposes the nails to loosen, and the wear against such heads tends to force the points through the soles and into the feet of the wearer. And where sprigs are sometimes driven in their points press through the sole, and their wedging formation disposes them to work out from the sole.

The object of our invention is to improve the wearing quality of boot and shoe soles, and of other leather surfaces subjected to attrition and abrasion, such, for instance, as leather belting. To accomplish this we fill the wearing surface of the leather with short pieces or sections of wire, uniform in diameter throughout the length of each, and driven into the sole by piercing or displacing the leather, (in contradistinction to removing the leather for their insertion by punching out pieces of diameter approximating to the thickness of the metal to be driven into the leather,) the wires being cut off flush with the wearing surface of the leather; and it is in this preparation of the wearing surface of leather that our invention consists, or in leather, the wearing surface of which is studded or filled with short wires or pins, each of uniform diameter, driven into the said surface by lateral displacement of the leather, and cut off flush with the wearing surface of the leather.

The drawings represent a bottom view and a cross-section of a shoe sole having this construction—

a denoting the sole and *b* the wires or pins. To insert these wires it is necessary to support each while being driven in a tube of diameter corresponding to the wire, and striking a driver against each pin while the surface of the sole is held up against the bottom of the tube; and we prefer to use for this purpose the machine patented by us September 4, 1866, (No. 57,780,) but other means for effecting the insertion may be employed. In preparing soles we generally prefer to apply the wires to tap soles, and before the same are attached to boots and shoes, using a small metal wire of about fifteen or twenty-one gauge. In employing the mechanism embodied in our patent above referred to the leather is preferably so supported with reference to the cutting and driving mechanism that the wires driven into the wearing surface do not come quite through to the opposite surface. This is the disposition shown in the sectional view of the drawing, and is, on some accounts, preferable to driving them entirely through the sole. The durability of soles thus made and applied is greatly increased, and there is no tendency in the pins or wires to press through the inner surface of the sole, or to work loose.

We claim the improvement in preparing leather for wear, substantially as set forth.

JAMES F. COBURN,
GEORGE V. SHEFFIELD.

Witnesses to J. F. COBURN:

J. ALVIN COBURN,

BENJ. F. COBURN.

Witnesses to G. V. SHEFFIELD:

J. B. CROSBY,

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