

No. 620,154.

Patented Feb. 28, 1899.

E. J. & M. D. LEIGHTON.
HEEL SLUG FOR BOOTS OR SHOES.

(Application filed June 30, 1898.)

(No Model.)

Fig. 1.

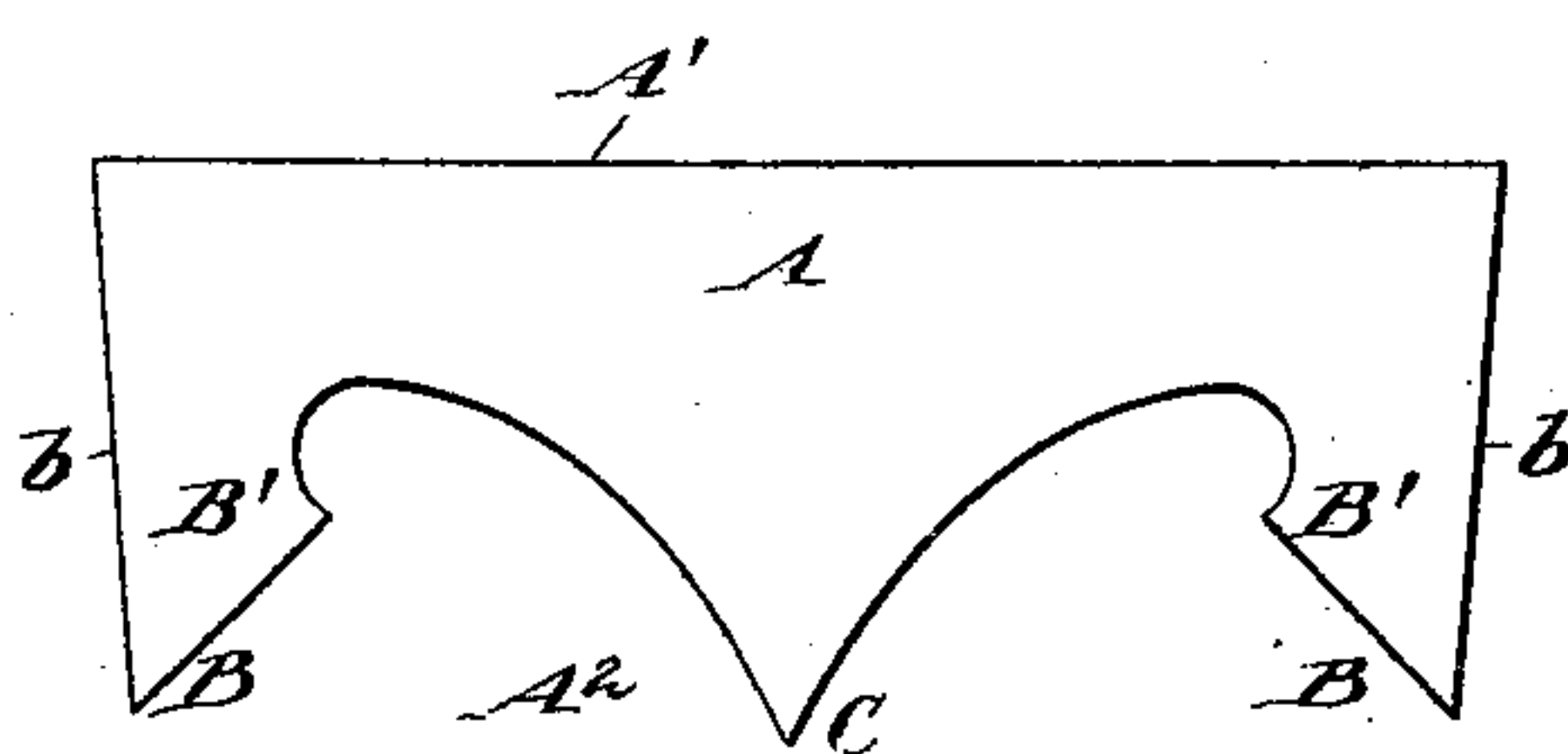


Fig. 2.

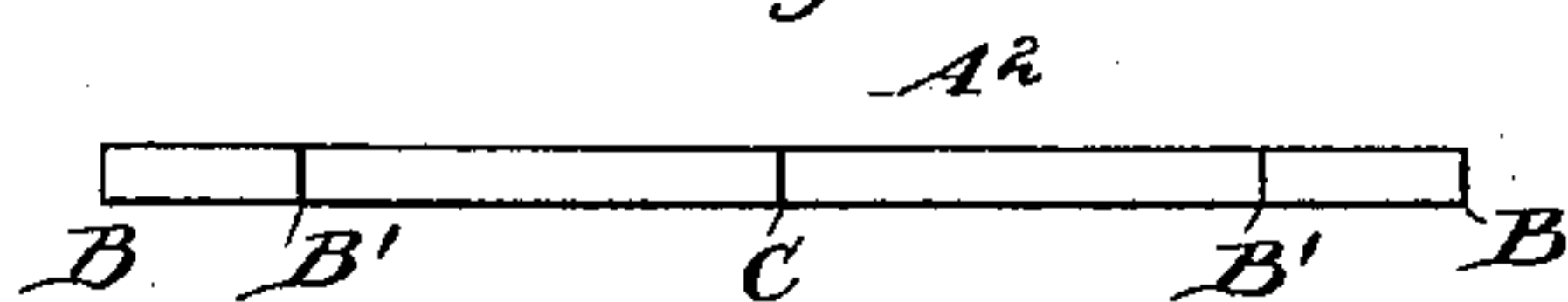


Fig. 3.

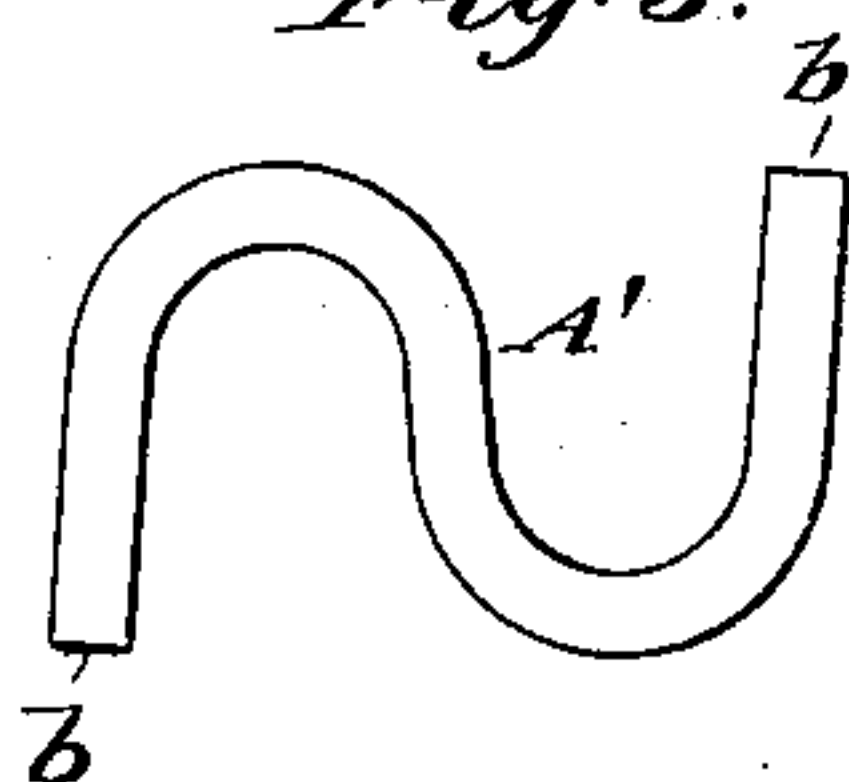


Fig. 4.

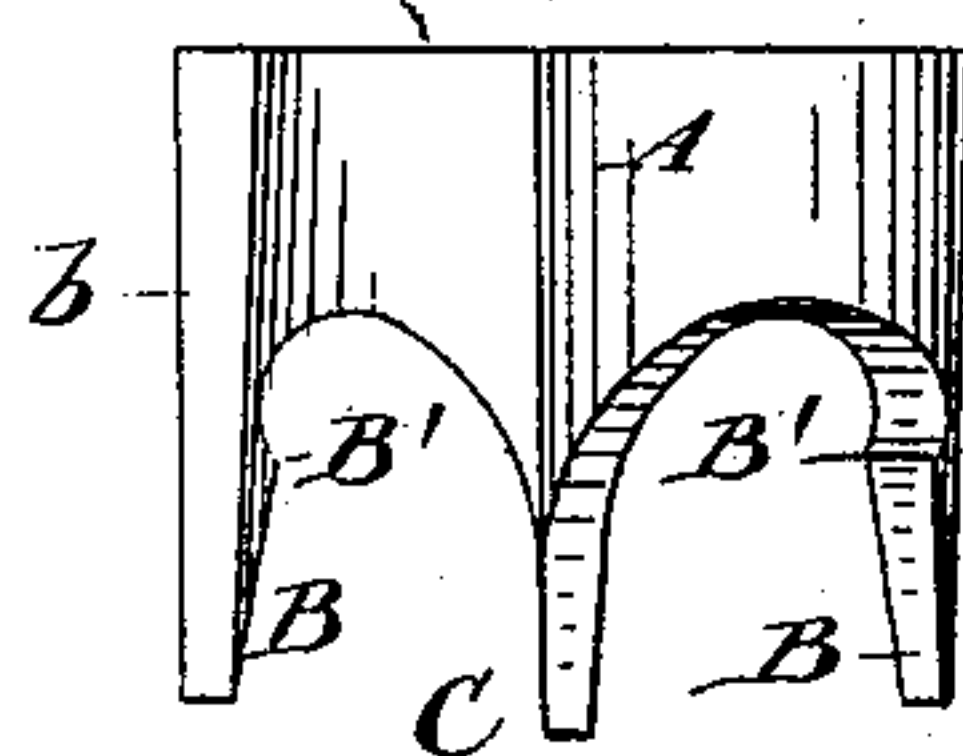
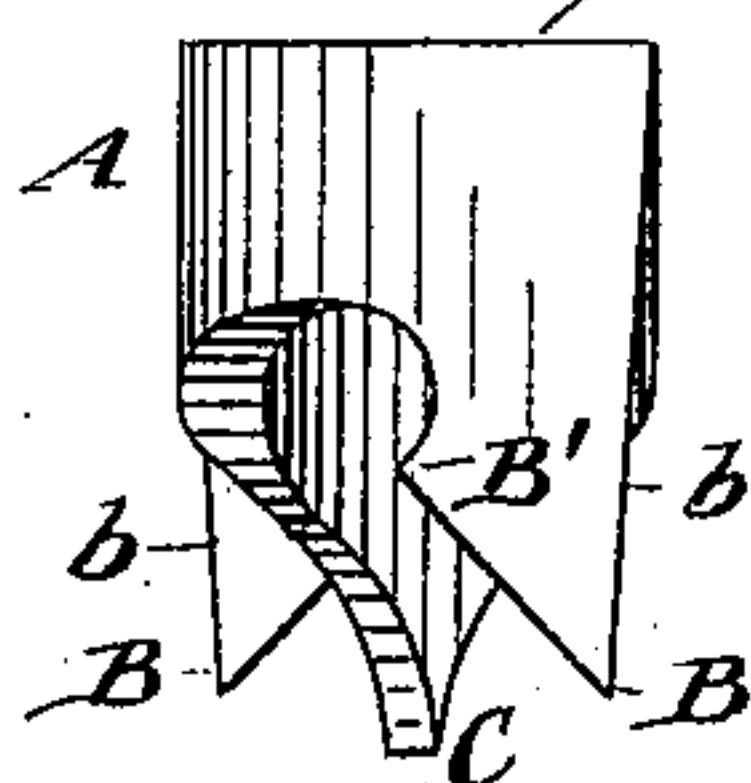


Fig. 5.



Witnesses:
L. R. Le Clear
H. E. Baunghin

Inventors:
Edward J. Leighton &
Mary A. Leighton,
by their attorney
Charles R. Seale.

UNITED STATES PATENT OFFICE.

EDWARD J. LEIGHTON AND MARY D. LEIGHTON, OF BOSTON, MASSACHUSETTS, ASSIGNORS TO THE SCOVILL MANUFACTURING COMPANY, OF WATERBURY, CONNECTICUT.

HEEL-SLUG FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 620,154, dated February 28, 1899.

Application filed June 30, 1898. Serial No. 684,775. (No model.)

To all whom it may concern:

Be it known that we, EDWARD J. LEIGHTON and MARY D. LEIGHTON, citizens of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Heel-Slugs for Boots or Shoes, of which the following is a specification.

Slugs of thin sheet metal driven edgewise into the leather forming the heels and also into the soles of boots and shoes have been long used to resist the wear, and thus increase the durability. In all the forms before known to us great difficulty has been experienced in driving and in holding the slugs against dropping when driven. One of the most common forms is a ring or short cylinder with a section removed, leaving a narrow longitudinal opening. In driving this form the leather is compressed and bruised, often tearing away at the narrow neck connecting between the interior and exterior of the slug and leaving the latter with but little hold in the material of the heel. We have devised a form and construction which avoids these disadvantages, secures a lasting hold upon the leather under all conditions, is easy to apply in the exact position desired, and presents a considerable surface favorably disposed to resist wear.

It consists in forming the lower or entering edge of the slug with points which readily enter the leather, definitely locating the position of the slug and gradually opening the way for the whole. The two outer points have their angular faces inclined oppositely to avoid any tendency of the slug to move out of place when driven, and the intermediate point is for the same reason inclined in both directions.

In the most complete form of the invention the slug is serpentine or **S** shaped, with the ends widely separated from the body to avoid a contracted neck or opening leading from the pockets or interior spaces within the convolutions, and the points are barbed to resist withdrawal.

The engagement in driving being gradual, all tendency of the slug to escape is avoided, and the opposite inclination of the points

neutralizes any disposition of the whole to "crawl" in either direction.

Our slugs can be manufactured at a cost but little, if any, in advance of ordinary slugs possessing none of the advantages offered by our improved form and construction.

The accompanying drawings form a part of this specification and show the invention as we have carried it out.

Figure 1 is a face view, on an enlarged scale, showing a slug before bending. Fig. 2 is a corresponding view of the lower edge. Fig. 3 is a view of the upper edge after bending. Fig. 4 is an elevation corresponding to the preceding figure. Fig. 5 is a view from the left in Fig. 4.

Similar letters of reference indicate corresponding parts in all the figures.

The slug is cut by dies or otherwise from a sheet of thin steel to the form shown in Figs. 1 and 2 and after hardening may be used in that flat condition. We prefer it bent in serpentine or **S** shape, as shown in Fig. 3, and will so describe it.

A is the main body of the slug, A' the upper or driving edge, and A² the lower or entering edge. The former lies in a plane to receive the blows of the driving-hammer and to present a wearing-face of large area. The latter is formed with three entering points projecting downward. Those at the ends (marked B B) are provided with barbs B', the angular entering edges of which are inclined away from the plane edge b, and the inclination at one end of the slug is opposite to that at the other. The edges of the intermediate point C are inclined equally away from each other and flow into the body by smooth curves, ending at the reëntering angles of the barbs b'.

In applying the slug it is set in the desired position upon the reversed heel, partially inclosing one of the heel-nails or not, as may be preferred, with the points B, B, and C in contact with the leather, and is pressed or lightly driven until they are fairly embedded. It may then be driven by strong blows of the hammer until the upper face or edge A' lies flush or nearly flush with the face of the heel.

The gradually-increasing engagement of

the several points insures the slug against sliding out of place even though the blows of the hammer be not delivered squarely upon the driving-face, and by reason of the barbs
5 it will remain reliably embedded until nearly worn away.

It will be observed that the openings from the pockets formed by the convolutions are not contracted. We believe this to be important as affording a better hold on the leather,
10 with less danger of breaking the latter across the narrow neck usually remaining when the ordinary forms of slugs are employed.

We have described the slugs as cut from
15 a sheet of uniform thickness, and they may be thus produced; but in practice we prefer to stamp them from a narrow steel ribbon of the proper width, the ribbon having been previously rolled with one edge thicker than the
20 other, presenting a tapered or wedge-shaped cross-section. The ribbon is fed to the dies so that its thicker edge forms the upper or driving edge of the finished slug and its thinner edge forms the irregular lower or enter-
25 ing edge. We attach importance to this feature as still further contributing to the easy entrance of the slug into the leather, and consequently reducing the tearing tendency. The slug is represented in the drawings as so
30 formed. It is also preferable to incline the edges *b* slightly, so that the extreme length of the driving-face shall be a little greater than the length of the entering edge, as shown, to facilitate driving and avoid displacement
35 under the hammer.

We claim—

1. The heel-slug for boots and shoes, consisting of a plate of sheet metal, bent to form

one or more open convolutions or inclosing pockets, adapted to be driven edgewise, the
40 plane upper or driving edge, the plane end edges, and the barbed points formed on the lower or entering edge, all combined and arranged to serve substantially as and for the purposes herein specified.

2. The S-shaped heel-slug described consisting of the body A having the plane upper edge A' and plane ends *b*, points B B and barbs B' B' being formed thereon, and the intermediate tapered point C, the whole bent
50 to form two open convolutions or pockets, all substantially as and for the purposes herein set forth.

3. The heel-slug for boots and shoes consisting of a plate of sheet metal having one
55 edge thicker than the other, bent to form open convolutions or pockets and having the thicker upper edge and end edges plane, with a series of points being formed integral therewith on the thinner entering edge to present
60 gradually-increasing areas as the slug is driven, all substantially as herein specified.

In testimony that we claim the invention above set forth we affix our signatures in presence of two witnesses.

EDWARD J. LEIGHTON.
MARY D. LEIGHTON.

Witnesses to the signature of E. J. Leighton:

CHARLES R. SEARLE,
GEO. W. CASE, Jr.

Witnesses to the signature of Mary D. Leighton:

FRANK A. SCHIRMER,
PATRICK MCINERNEY.