

No. 874,171.

PATENTED DEC. 17, 1907.

J. A. DONAHUE.
METALLIC SOLE FOR BOOTS AND SHOES.
APPLICATION FILED NOV. 30, 1906.

Fig. 1.

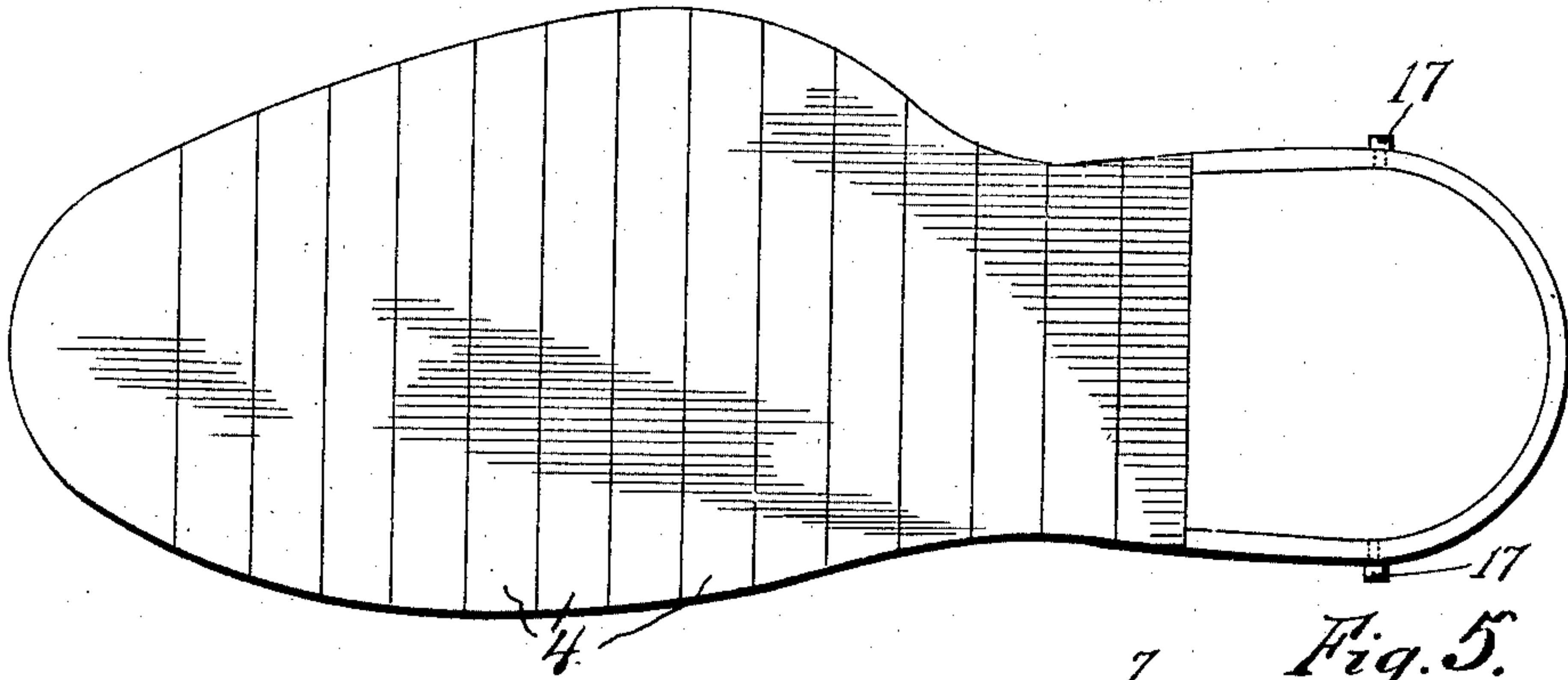


Fig. 3.

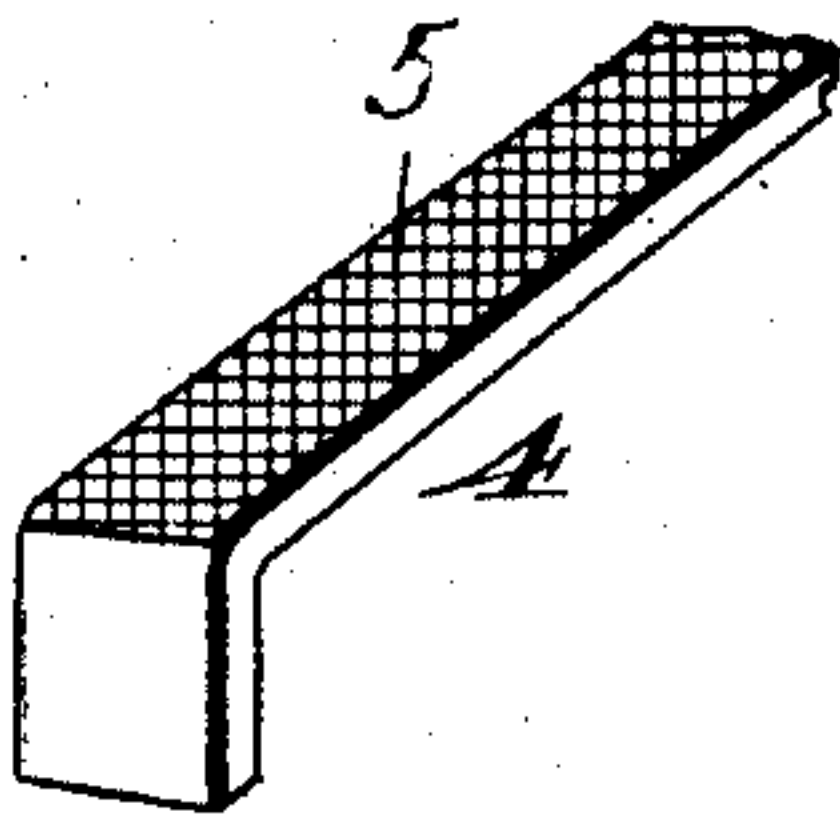


Fig. 4.

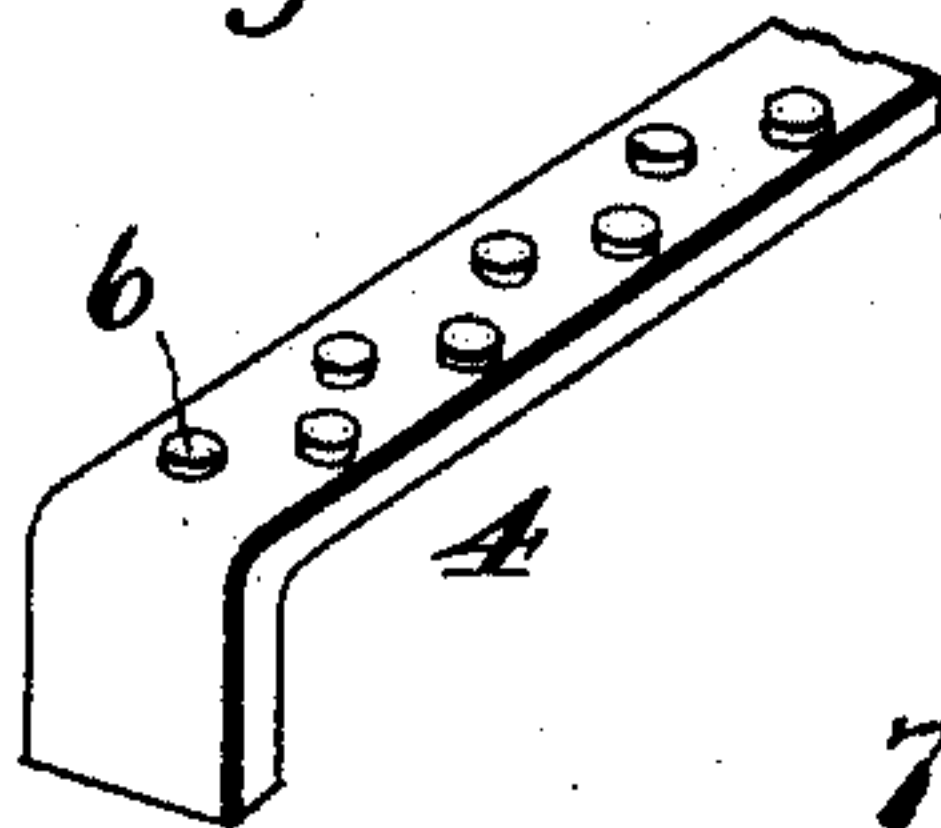


Fig. 5.

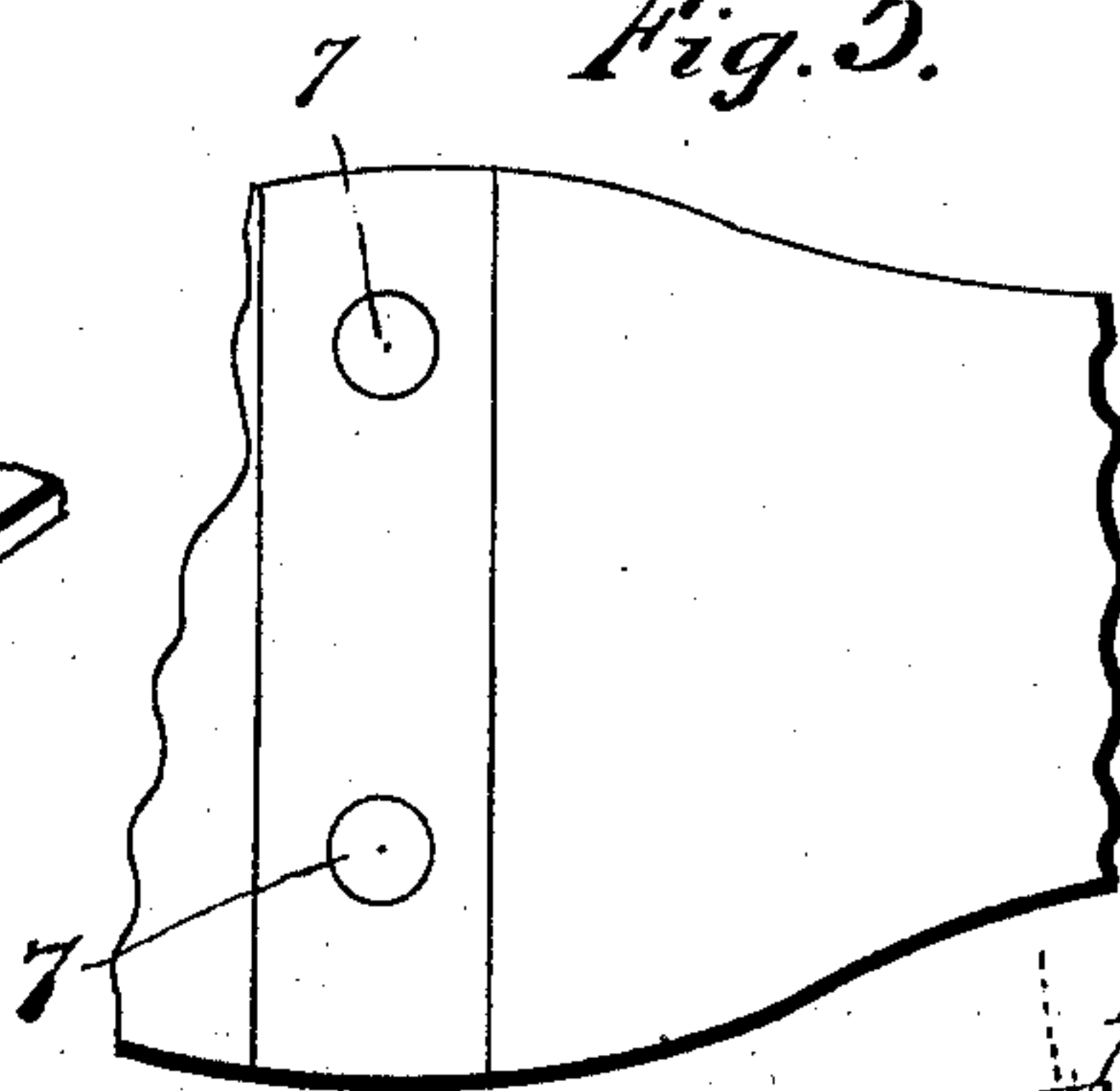
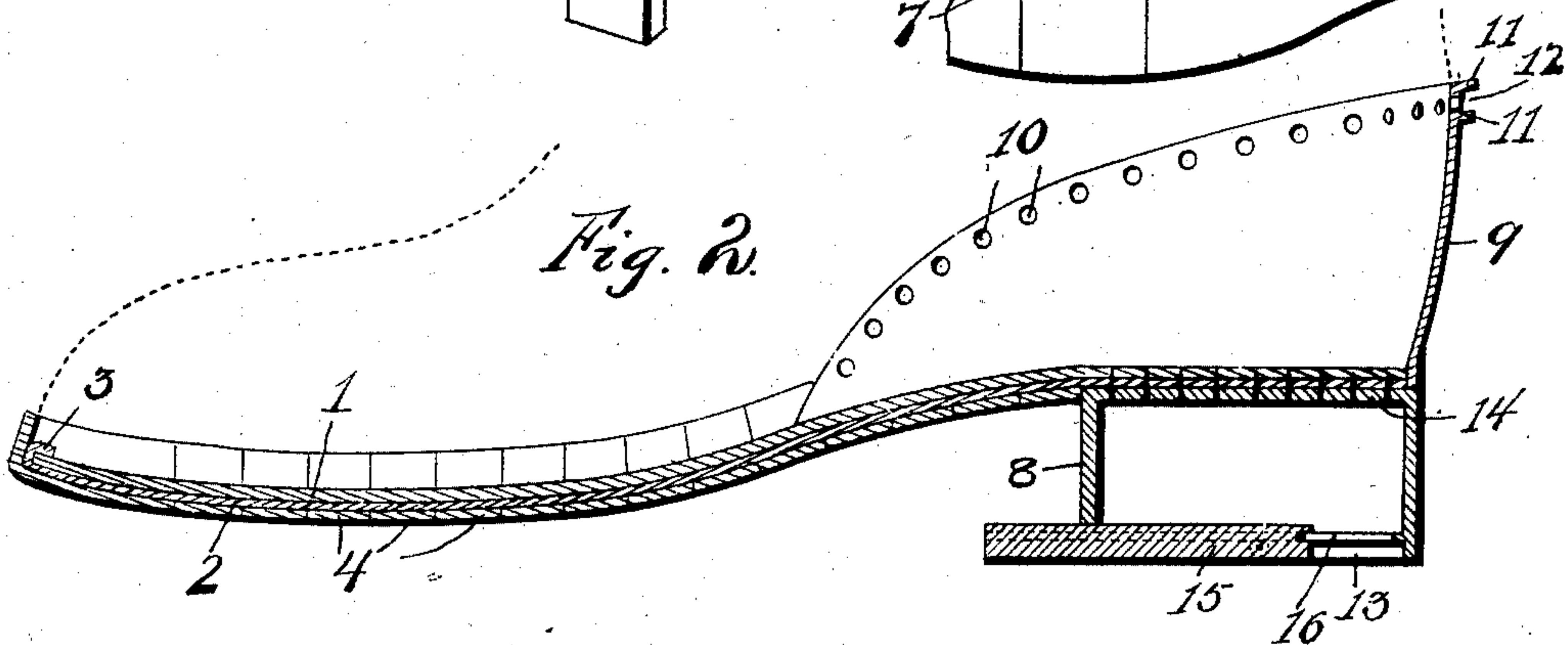


Fig. 2.



WITNESSES:

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METALLIC SOLE FOR BOOTS AND SHOES.

No. 874,171.

Specification of Letters Patent.

Patented Dec. 17, 1907.

Application filed November 30, 1906. Serial No. 345,707.

To all whom it may concern:

Be it known that I, JAMES ARTHUR DONAHUE, a citizen of the United States, residing at Everett, in the county of Snohomish and State of Washington, have invented new and useful Improvements in Metallic Soles for Boots and Shoes, of which the following is a specification.

This invention relates to a shoe for miners, loggers and other rough uses, and consists essentially of a boot or shoe having a particular form of metal sole, heel and counter to render a shoe or boot strong and durable and to resist wear.

The invention consists of a thin plate of spring metal applied to the sole and extending fully from the toe to the breast of the heel, metal strips secured in a transverse direction over the metal plate and bent up at opposite sides to protect the edge of the sole and the adjacent part of the shoe or boot upper, and a metal heel and counter, the counter being provided with a protecting strip grooved at its upper edge to receive fastening stitches which are passed through or into the shoe or boot. In some instances it is proposed to supply the sole with spikes and at other times to provide the strips extending transversely over the same with either roughened surfaces or hob-nail projections.

In the drawing, Figure 1 is a plan view of a sole of a boot or shoe embodying the features of the invention. Fig. 2 is a longitudinal vertical section of the same. Figs. 3 and 4 are detail perspective views of portions of the shoe sole, showing still further modifications. Fig. 5 is a plan view of a portion of the sole showing spikes used in connection therewith.

Like characters indicate corresponding parts throughout the several views.

The numeral 1 designates a thin leather sole which primarily forms a part of the shoe or boot to which the improved features are applied, and secured thereover is a thin sheet metal covering 2 for water proofing purposes, this covering being turned up at the edges over the sole as at 3. Extending transversely across the thin sheet metal plate are light metal strips 4 of aluminium and having their opposite extremities bent at an angle and projected over the shoe sole to protect the latter and the adjacent part of the upper. As shown by Fig. 3 these metal strips 4 are provided with roughened tread surfaces 5, or as illustrated by Fig. 4, with hob-nails or

projections 6 to provide an anti-slipping means. The sole may also in some instances be further provided with spikes 7, as shown by Fig. 5 to adapt the attachment for use by loggers.

One of the most important features of the invention is a hollow metal heel 8 which replaces the ordinary shoe or boot heel and has a metal counter 9 connected therewith, the heel and counter being also preferably constructed from aluminium or any other suitable light metal. At its upper edges the counter is provided with a series of stitch openings 10 which are guarded by outstanding flanges 11 forming a stitch groove 12. The counter and the heel are secured to the shoe or boot upper by passing stitches through the openings or holes 10 and the shoe or boot body, and these stitches are protected by the flanges 11 and lie within the groove 12 and are thus shielded from abrasion or injury.

It is necessary that the heel be secured to the usual tread lift of a boot or shoe, and for this purpose an opening 13 is formed in the tread of the metal heel through which fastening nails or analogous devices may be inserted and are driven through the top plate 14 of the said metal heel into the boot or shoe heel. After these fastenings are driven into the boot or shoe heel through the plate 14 of the metal heel, the opening 13 is closed by a slide plate 15 mounted to fit guide flanges 16, the slide plate after it is closed being removably held by set screw 17 in opposite sides.

By using a thin metal covering 2 for the sole of the boot or shoe, the elasticity of said sole is not materially modified, but is about similar or equivalent to that of an ordinary heavy boot or shoe usually worn by miners, logger men or others working on rough material, such as gravel beds and in stone quarries. It will be observed that the metal strips 4 serve as a reinforcing means and are applied in transverse directions and, therefore, do not interfere with the action of the foot in walking or impose any inconvenience or stiffness on the foot of the wearer.

* The improved shoe as an entirety is a good deal lighter and much stronger than miners' and like shoes now in use, and the wearing quality of ordinary miners' shoes is materially increased.

There are many methods of applying the spikes 7 and it is intended to adopt any of the approved methods now commonly employed

and operating to prevent an accidental disengagement of the spikes 7.

What I claim is:

1. In combination with foot-wear having
5 a sole of relatively light material, of a yielding metallic plate for covering the entire sole, the said plate being marginally bent to engage with the sole and lock the same to the latter, a plurality of metal strips arranged
10 transversely against the metal plate at one side and in parallelism and having their ends bent at an angle to protect the edge of the sole, and a heel section associated with the foot-wear.
- 15 2. In combination with shoe or boot wear, having a sole of relatively light material, of a

yielding metallic plate for covering the entire sole, the said plate being marginally bent to engage with the sole and lock the same to the latter, a plurality of metal strips arranged 20 transversely against the metal plate at one side and in parallelism and having their ends bent at an angle to protect the edge of the sole, and a heel section associated with the boot or shoe wear, and a plurality of projec- 25 tions on each of the transverse metal strips.

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

JAMES ARTHUR DONAHUE.

Witnesses:

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N. N. BUTTS.