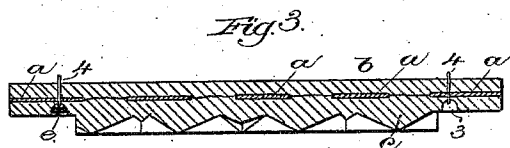
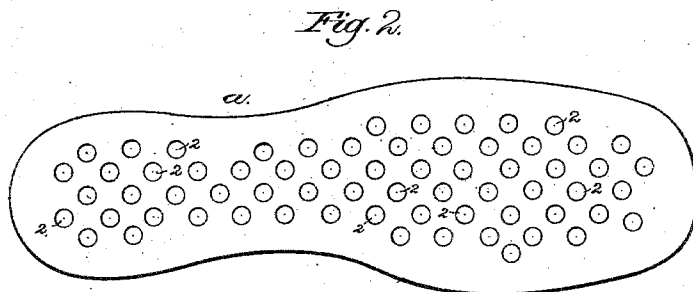
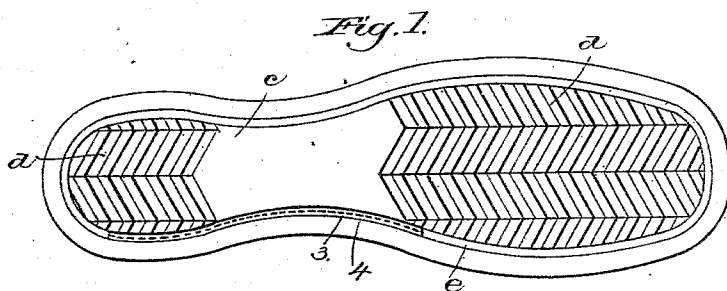


(No Model.)

A. A. BROOKS.
OUTER SOLE FOR BOOTS AND SHOES.

No. 296,519.

Patented Apr. 8, 1884.



Witnesses.

John F. C. Penderick
Jos. P. Livenmore

Inventor:

Alfred A. Brooks.

by Crosby & Mayon attys.

UNITED STATES PATENT OFFICE.

ALFRED A. BROOKS, OF BOSTON, MASSACHUSETTS.

OUTER SOLE FOR BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 296,519, dated April 8, 1884.

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

To all whom it may concern:

Be it known that I, ALFRED A. BROOKS, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Outer Soles for Boots and Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a strong and serviceable waterproof or india-rubber sole adapted to be applied to boots and shoes by stitching the same to a part of the boot or shoe. In accordance with my invention I provide the central part of the india-rubber sole with a layer of fibrous material having perforations, through which the india-rubber forming the upper and lower parts of the sole join. The sole is also provided with a molded channel, and when stitched in place the stitches are concealed and covered by a protecting-rand cemented in the channel over the stitches.

Figure 1 is an outer side view of a sole embodying my invention, it being supposed to be attached to a boot or shoe by stitches, some of which show in the channel, but most of the stitches are covered by the protecting-rand. Fig. 2 is a view of the layer of fibrous or textile material which forms the central part of the sole; and Fig. 3, a cross-section of the sole, showing the stitches therein as they will appear when the sole is attached to a boot or shoe; but in the drawings I have not shown the upper or other parts of a boot or shoe.

In the production of my improved sole I take a layer, *a*, of fibrous or textile material, perforated at numerous places, as at 2, and place the same in usual apparatus for making or vulcanizing soles, in connection with an india-rubber compound or with layers *b c* of india-rubber, when the said materials or parts are clamped together and vulcanized, the india-rubber above and below the layer *a* uniting firmly with each other through the perforations 2, as shown in Fig. 3, leaving the fibrous material of full strength opposite the channel 3, which is molded in the outer face

of the sole near its edge. The outer face of the sole will be corrugated or roughened, as at *d d*, which is especially desirable for lawn- 50 tennis shoes or for shoes for ball-players.

The india-rubber sole so made will be united with an outer sole or with the upper and inner sole of a boot or shoe by a series of stitches, 4, and after the formation of the said stitches 55 they will be covered by the protecting-rand *e* of india-rubber, properly cemented therein, as shown at the left of Fig. 3.

I claim—

1. An india-rubber outer sole provided with 60 a perforated intermediate layer of fibrous or textile material, the india-rubber above and below the said layer uniting through the said perforations, substantially as described.

2. An india-rubber outer sole provided with 65 a perforated intermediate layer, *a*, and with a channel at its outer face, substantially as described.

3. An india-rubber outer sole provided with a molded channel, combined with an inde- 70 pendent protecting-rand to cover the stitches made through the said outer sole, substantially as described.

4. As an improved article of manufacture, a molded india-rubber sole (channeled, and 75 having an intermediate layer of textile material, to strengthen the same in the line of the channel for the reception of stitches, substantially as described.

5. A molded india-rubber sole having one 80 face corrugated and provided with a molded channel, and having an intermediate layer of fibrous material in the line of the channel, to strengthen the said sole where it is to receive stitches through it to attach it to a boot or 85 shoe, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED A. BROOKS.

Witnesses:

G. W. GREGORY,
JOHN F. C. PREINKERT.