

(No Model.)

W. W. REID.
SOLE FOR BOOTS OR SHOES.

No. 354,232.

Patented Dec. 14, 1886.

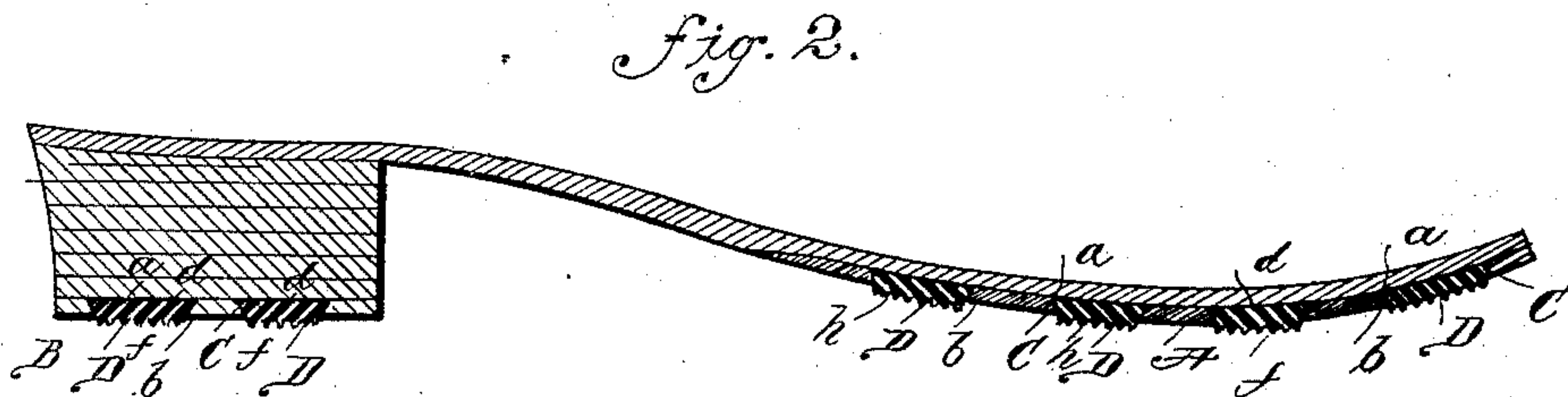
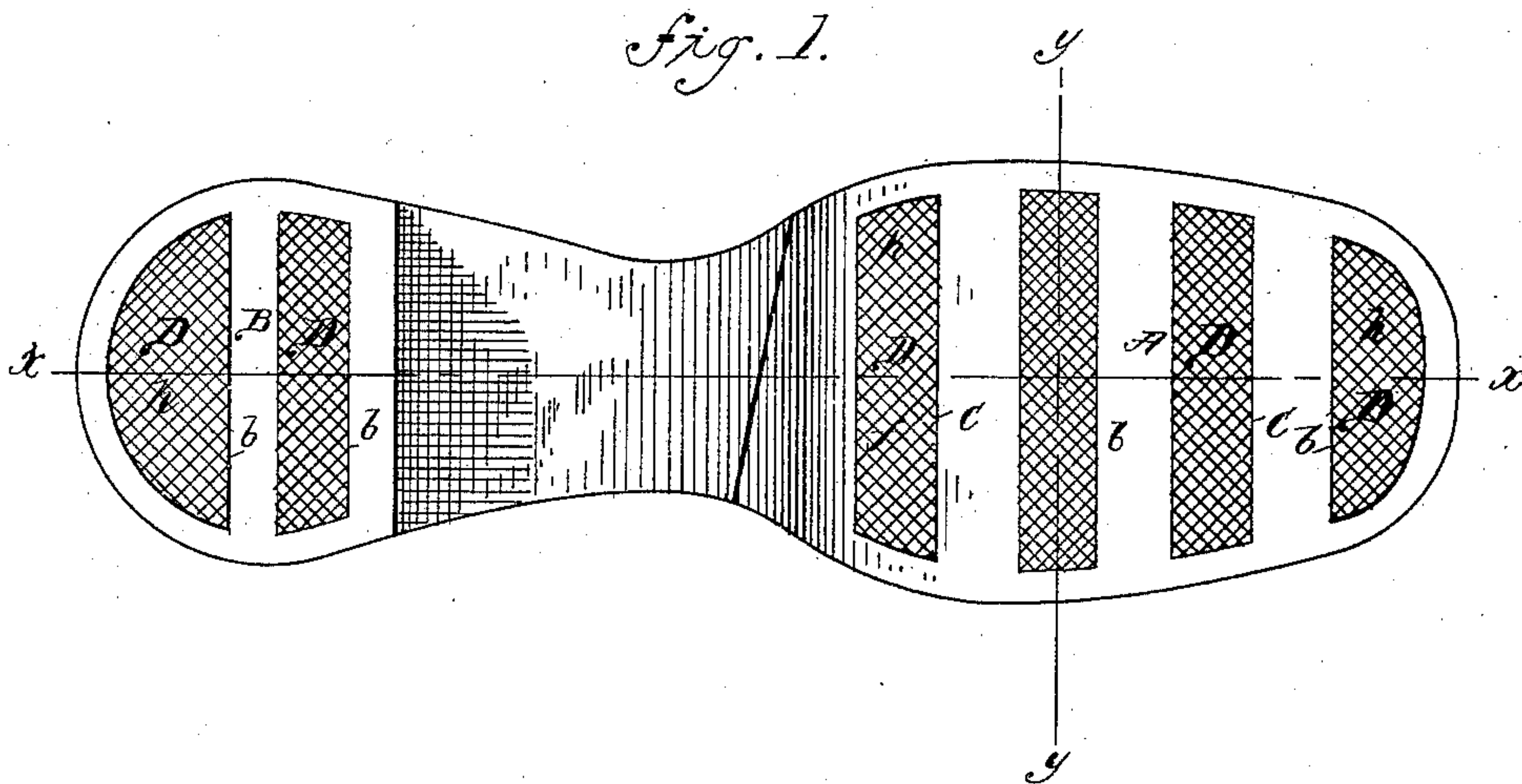


fig. 5.

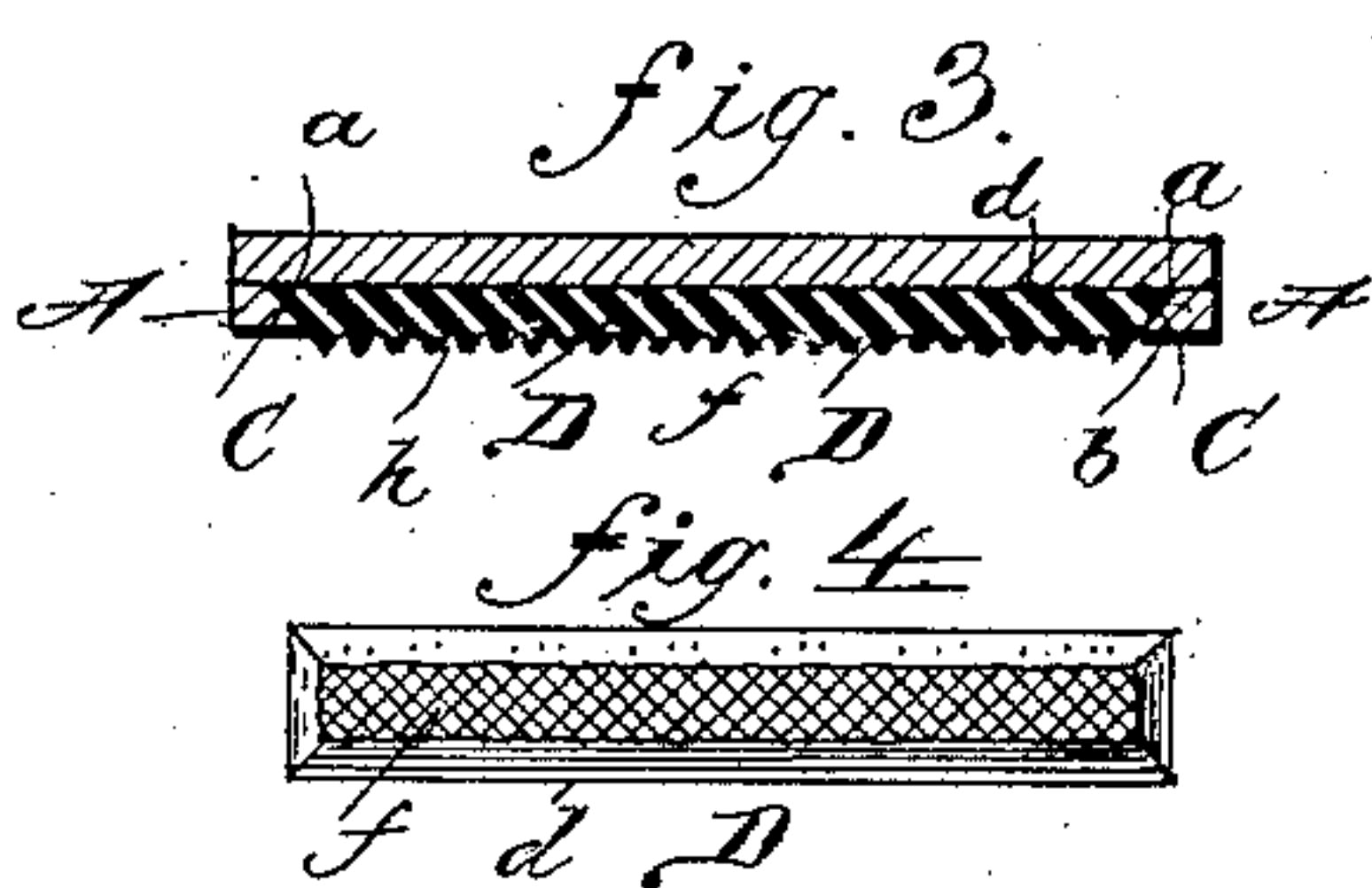


fig. 4.



fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM WALLACE REID, OF CAMBRIDGE, MASSACHUSETTS.

SOLE FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 354,232, dated December 14, 1886.

Application filed April 8, 1886. Serial No. 198,264. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WALLACE REID, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Soles for Boots or Shoes, of which the following is a full, clear, and exact description.

This invention relates to the treading-surfaces of boots or shoes; and its object is to secure a treading-surface which in wear and practical use shall combine the advantages of leather and of india-rubber or gutta-percha in any of the elastic or other suitable compounds thereof, used separately, without the disadvantages of either so used.

To this end this invention consists of a treading-surface for boots or shoes which is made of a layer of leather of proper shape, and provided with a series of separate rectangular or other polygonal-shaped slots or apertures, preferably in lines running across the treading-surface and located at suitable distances apart, and plates, disks, or blocks of india-rubber or gutta-percha in any of the elastic or other suitable compounds thereof, and of a corresponding shape to said slots or apertures in which they are placed and secured, closing and making at them a continuation of the treading-surface, consisting in its remaining portion of leather, all substantially as hereinafter described.

In the accompanying drawings, Figure 1 is a face view of the treading-surface of the sole and heel of a boot or shoe, which, except as to the features of this invention, is the same as ordinarily. Fig. 2 is a longitudinal section on line *xx*, Fig. 1. Fig. 3 is a cross-section on line *yy*, Fig. 1. Fig. 4 is a view in detail, and Figs. 5 and 6 are views of modifications, as will hereinafter appear.

In the drawings, A represents a boot or shoe sole, and B the outer lift of the heel thereto, both made of leather and otherwise as ordinarily, except as to this invention.

C C are a series of slots or apertures, as particularly shown, Figs. 1, 2, and 3, of a rectangular shape, and extending through the thickness of the sole A and heel-lift B. These slots C extend across the width of the sole A and heel-lift B, and in both instances are located at the treading-surfaces thereof. The opening of each slot C is larger in its dimensions at the

inner face, *a*, than at the outer face, *b*, of the sole A or heel-lift B, and the edges of the openings are thus made beveling or inclining.

D D are plates or disks, filling and fitting within the slots C of the sole A and heel-lift B, and each made of a corresponding shape therewith, and of a thickness as when placed in a slot, C, to project to a greater or lesser extent beyond the opening thereof at the outer face, *b*, of the sole or heel-lift B, as the case may be, and to have a rest against a backing of leather at the inner face, *a*, of the sole A and heel-lift B, and making a part thereof. These plates are made of india-rubber or gutta-percha in any of the elastic or other suitable compounds thereof, molded and vulcanized or otherwise made into the shape required, and preferably their surfaces, which, when they are placed in the slots C, as described, are at the outside face, *b*, of the sole and heel-lift, are serrated or grooved or otherwise roughened, as it were—preferably serrated, as at *h*.

As the openings of the slots C are larger at the inner than at the outer face of the thickness of the sole A and heel-lift B, in which the same are made, and as the rubber plates D are made of corresponding shape therewith and fit within them, obviously the rubber plates are thereby held against escape from the slots at the outer face of the sole and heel-lift, and against similar escape at the inner face of the sole and heel-lift from their confinement in that direction by the backing before referred to.

From the above description it is plain that a treading-surface is produced combining both leather and india-rubber or gutta-percha, practically exposing both to wear, and as the india-rubber or gutta-percha is practically a non-absorbent of moisture, while the leather is an absorbent thereof, and consequently thereby made to swell, and, again, as india-rubber or gutta-percha is more or less inclined to slip upon moist slippery or icy surfaces, while leather is the oppositely inclined, and vice versa, obviously under the combination of materials, leather and rubber making up the treading-surfaces of the boot or shoe, all as described, on moist slippery or icy surfaces the leather becomes the active agent in preventing slipping, and on dry slippery or icy surfaces the india-rubber, thus securing as a whole the advantages of each material em-

ployed in the practical wear of the boots and shoes, and without the attendant disadvantages of either when separately employed.

The rubber plates D may be varied in form—
5 as, for instance, made square, Fig. 5, or otherwise polygonally shaped and made conoidal, Fig. 6—the openings or slots C being suitably and correspondingly shaped to receive and hold them against escape at the outer or treading
10 surface of the sole. Again, the rubber plates D may be cemented in their receiving openings or slots C of the sole and heel-lift, thus further insuring their retention in position, as also sealing the joints to the entrance of moist-
15 ure.

For the best practical results in the use of this invention it is preferable to provide the treading-surface of both the heel and sole with rubber plates or blocks D, and to arrange them
20 in strips and in directions across the treading-surface, and again to have them slightly project beyond the outer face of the leather; but these features may be varied in many respects without departing from the invention herein

described, and which has been described and 25 shown, as is fully believed, in its best and most useful form.

Having thus described my invention, I claim—

A boot or shoe sole having a treading-sur- 30 face composed of leather and of india-rubber or gutta-percha sections in any of the elastic or other suitable compounds thereof, made in the form of a plate or block placed and fitting and secured in corresponding-shaped slots or 35 apertures in the leather, said apertures having their opening at the inner face of the leather of greater dimensions than at the outer face thereof, substantially as described, for the purposes specified. 40

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM WALLACE REID.

Witnesses:

WILLIAM SEARS BELLows,
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