

W. B. WIEGAND & T. H. RIEDER.
SOLE FOR BOOTS AND SHOES.
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1,249,702.

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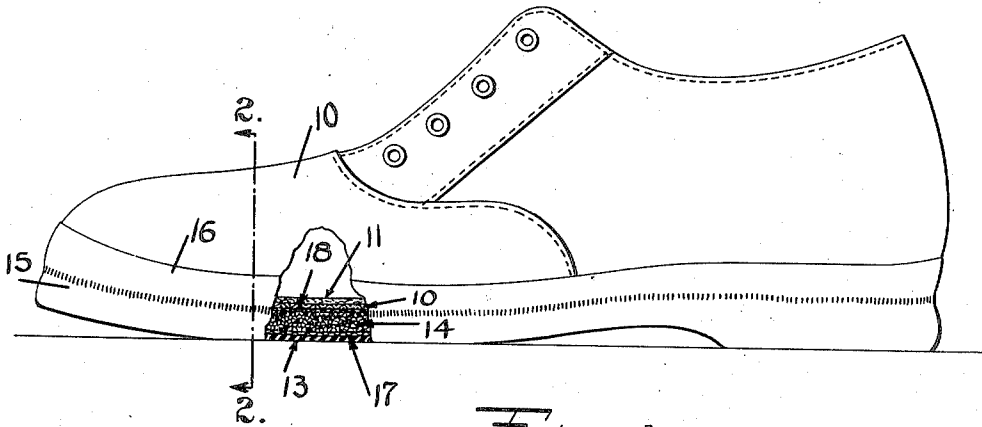


Fig. 1.

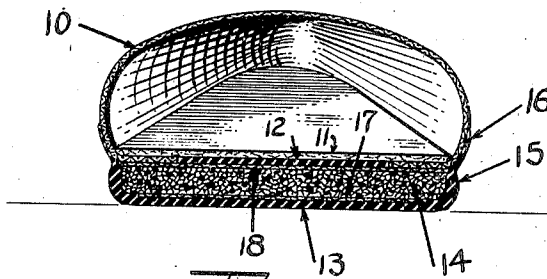


Fig. 2.

WITNESS:

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UNITED STATES PATENT OFFICE.

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SOLE FOR BOOTS AND SHOES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, WILLIAM B. WIEGAND and TALMON H. RIEDER, both subjects of the King of Great Britain, residing at 5 Montreal, Province of Quebec, Dominion of Canada, have invented certain new and useful Improvements in Soles for Boots and Shoes, of which the following is a full, clear, and exact description.

10 This invention relates to boots and shoes and more particularly to rubber soles for this class of articles.

An object of the invention is to provide a sole which will combine lightness of weight 15 and flexibility with maximum cushion for the bottom of the foot of the wearer. A further object is to provide a sole which will insulate the foot, that is, will prevent heat or cold being conducted through the sole to the 20 foot.

To attain these results we provide a sole embodying as a whole, or including as any component part, a layer of sponge rubber which forms a comfortable cushion and the 25 air cells in which prevent heat or cold conduction to the wearer's foot.

The invention can be readily understood from the following description taken in connection with the accompanying drawing; in 30 which—

Figure 1 is a side elevation of a shoe embodying our improvements;

Fig. 2 is a cross-sectional view on the line 2—2, Fig. 1.

35 We will describe one embodiment of the invention in connection with a tennis or outing shoe although the sole may be equally well applied to other types of shoes and to boots. In the drawing 10 designates the 40 upper, 11 the insole, and 12 the filler of a tennis shoe, these parts being of the usual and well known construction.

In the present embodiment of the invention we provide a sole comprising a tread 13 45 formed of rubber and a backing 14 therefor formed of sponge rubber. The tread is formed of rubber compound having a maximum flexibility and wear resisting qualities and is relatively thin so that it will be light 50 in weight as well as strong and flexible. The sponge rubber backing is relatively thick and consequently forms a comfortable cushion for the foot of the wearer. The air cells of the sponge rubber form insulators which

prevent heat and cold conduction through 55 the backing to the wearer's foot from decks, pavements, etc.

To produce a water tight joint between the sole and the upper as well as to confine and protect the edges of the backing from 60 abrasive wear, the tread is turned upwardly at the sides as shown at 15, to extend above the backing, and is then continued upwardly to form a foxing 16 which extends upwardly upon the upper in the usual manner. The 65 lateral portions extending upwardly from the tread form a single vulcanized bond along the edges of the backing thus providing a strong wear-resisting construction.

In constructing the article the raw tread 70 and backing may be first assembled, a layer of rubber treated fabric 17 being inserted between the bottom face of the backing and the top face of the tread, to promote better union of the parts during vulcanization. 75 The assembled tread and backing may then be applied to the previously assembled upper, insole, and filler. A layer of rubber treated fabric 18 is inserted between the top face of the backing and the intumed edges 80 of the upper and the filler to promote firm union between the parts during vulcanization. The foxing strip is as usual cemented or otherwise secured to the upper. To complete the article it is put in a vulcanizer and 85 vulcanized, the various rubber parts flowing together and becoming integral and unitary during vulcanization.

We do not restrict ourselves to the above described sequence of operations in assembling the various parts of the article as we may resort to any desired sequence in assembling the component parts of the article without sacrificing any of the advantages 95 of the invention.

Furthermore we may resort to various modifications in the construction of the sole, even dispensing with the rubber tread if desired, or substituting therefor a leather or other tread. We may furthermore dispense 100 with either or both of the rubber treated fabric layers 17—18 if desired since these are not essential.

We may also dispense with the upturned edges of the outsole if desired and substitute independent confining means at the 105 edges of the sponge rubber cushion, it being simply preferable that some means be pro-

vided, when the cushion is of great thickness, to confine the same against spreading outwardly under load, and to prevent injury to the same.

- 5 As many apparently widely different embodiments of this invention could be made without departing from the spirit thereof, it is to be understood that we do not intend to limit ourselves to the specific form of the invention as set forth except as indicated in the appended claims.

What is claimed is:

1. A boot or shoe embodying an upper, a rubber tread having lateral portions of
15 rubber forming part of the tread extending upwardly upon and secured to the upper, and a sponge rubber cushion between the

tread and upper held in place and having its edges protected by said lateral portions, said lateral portion forming a single vulcanized bond along the edges of said cushion and the sides of said upper.

2. A rubber sole embodying a rubber tread having lateral portions of rubber forming part of the tread extending upwardly and
25 terminating in a foxing strip, and a sponge rubber backing held in place and having its edges protected by said lateral portions, said lateral portions forming a single vulcanized bond along the edges of said backing.

Signed at Montreal, Canada, this 22 day
of October, 1915.

WILLIAM B. WIEGAND.

TALMON HENRY RIEDER.