W. GERLACH.

ELASTIC AND VENTILATED TREAD FOR BOOTS AND SHOES.

APPLICATION FILED FEB. 8, 1913.

1,144,188. Patented June 22, 1915.

FIG. 1.

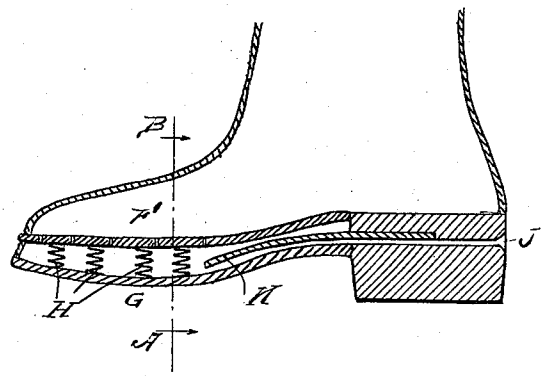


FIG. 2.

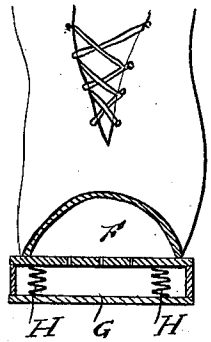
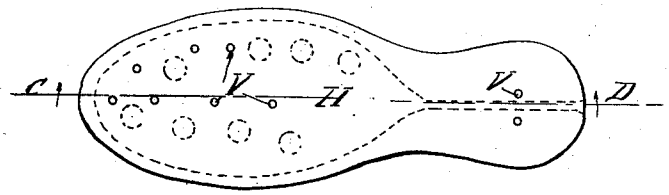


FIG. 3.



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Witnesses

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ELASTIC AND VENTILATED TREAD FOR BOOTS AND SHOES.

1,144,188. Specification of Letters Patent. Patented June 22, 1915.

Application filed February 8, 1913. Serial No. 747,157.

To all whom it may concern:

Be it known that I, WILHELM GERLACH, a subject of the Emperor of Germany, residing at Johannesburg, in Transvaal, a South African Republic, have invented certain new and useful Improvements in Elastic and Ventilated Treads for Boots and Shoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to shoe construction, and an object of the invention is to provide a shoe having a ventilated sole provided with means for circulating air within the sole.

A further object of the invention is to provide resilient means between the inner and outer soles of a shoe for providing a kind of bellows to be operated by the weight of the person while walking, for the purpose of drawing air through any suitable passage in the sole for the purpose of ventilating the same, said resilient means serving to also ease the foot, while walking.

A still further object of the invention is to provide a shoe construction, the inner sole of which is perforated and connected to a cushioning chamber which receives air from the outside source for the purpose of ventilating.

With these and other objects in view the invention comprises certain novel constructions, combinations, and arrangements of parts as will be described more fully hereinafter.

In the accompanying drawings, wherein similar reference characters designate corresponding parts: Figure 1 is a vertical sectional view through the shoe showing my invention applied thereto. Fig. 2 is a vertical section taken upon line A—B of Fig. 1 looking toward the heel of the shoe. Fig. 3 is a plan view of the insole.

The general aim of my invention is to provide a shoe construction wherein an elastic chamber is formed by interposing between the outer and inner soles a plurality of springs or other suitable resilient means which are compressible when the foot strikes the ground, but which expand to open the chamber when the foot leaves the ground. The said chamber is provided with means for communicating with the outside air and is also connected with the interior of the shoe by means of perforations formed in the inner sole.

Referring particularly to the drawings, it will be seen from Fig. 1 that the shoe comprises an outer sole G and an inner sole F between which are interposed a plurality of helical springs H which may be of any approved design and of sufficient strength to ease the walking and also to force the soles F and G apart when the foot leaves the ground. This chamber is designed to extend under the entire fore-part of the in-sole and may extend back to the heel if desired, but whatever the extent of the chamber, it is desirable to have a steel arch K extending from the heel into the chamber and defining beneath said arch a passage in communication with a passage J which connects the chamber with the outer atmosphere through the heel.

From the drawings it will be readily understood that in the operation of walking, as the wearer of the improved shoe puts his weight upon the insole F springs H will be compressed to expel any air located within the chamber through passage J and that as soon as the weight is relieved or removed the helical springs H will separate the inner and outer soles, thus enlarging the chamber and drawing air from the outside through the passage J. It will also be obvious that the contraction and expansion of the walls of the chamber formed in the shoe will be accompanied by a corresponding passage of air through perforations B in the insole F.

What I claim is:

A shoe including in combination, the outer sole and heel, a perforated inner sole yieldably supported on the outer sole in advance of the heel, and an arch plate extending forwardly from the heel and in spaced relation to both said inner and outer soles, said heel having a passage therein communicating with the space between the plate and the outer sole and with the atmosphere.

WILHELM GERLACH.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."