

(No Model.)

G. BRYANT.
SHOE.

No. 462,468.

Patented Nov. 3, 1891.

Fig - 1 -

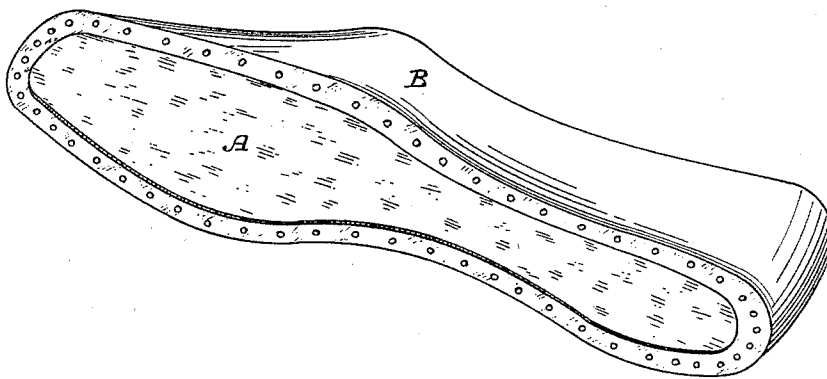
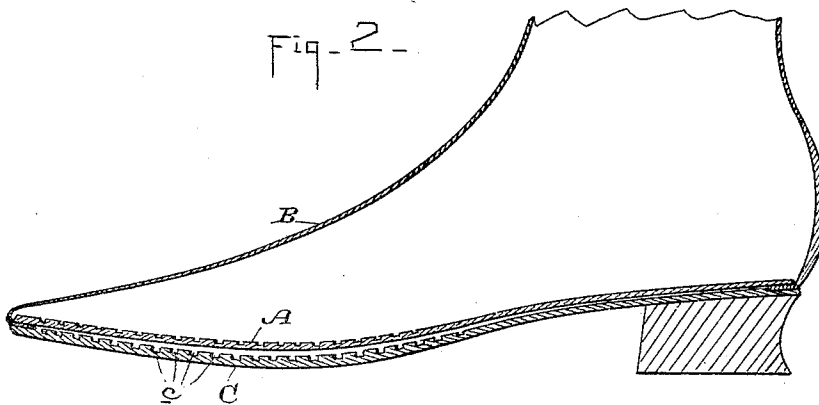


Fig - 2 -



Witnesses,
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UNITED STATES PATENT OFFICE.

GEORGE BRYANT, OF SAN FRANCISCO, CALIFORNIA.

SHOE.

SPECIFICATION forming part of Letters Patent No. 462,468, dated November 3, 1891.

Application filed February 28, 1891. Serial No. 383,307. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BRYANT, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in the Construction of Boots and Shoes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in the construction of boots and shoes; and it consists in forming the insole, to which the upper of the shoe is first fastened, with a series of transverse grooves or channels across the top front part of the insole, and afterward securing to the shoe thus constructed one or more outer soles similarly grooved or channeled, and in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 shows the manner of fastening the upper to the insole. Fig. 2 is a vertical section taken through the completed shoe, showing two soles in position.

Great difficulty is experienced in the manufacture of shoes to use a sole sufficiently thick to keep out the wet and for durability, and at the same time to provide a sufficient flexibility to adapt the shoe to the foot and make it comfortable.

In my construction I employ an insole A, which has that portion of the instep transversely grooved or channeled by cutting out a small portion of the leather across the upper surface which is nearest the foot, leaving sufficient leather on the lower portion to hold the sole together and make it continuous and of sufficient thickness for durability by reason of the depth of the ribs between the channels, while the channels themselves being cut out, as described, will allow that portion of the sole to be bent into a greater or less curve—the shape which it takes when fitted upon the foot and while walking—and this movement is effected as easily as if the insole were one half or less in thickness. The upper B is tacked upon this insole in the usual manner, and one or more outer soles C are afterward secured upon the bottom of the shoe in any suitable or usual manner adopted in the manufacture of shoes. These outer soles are also formed in the same manner, with trans-

verse grooves or channels cut across that portion which forms the ball of the foot and afterward of the instep. The outersole or soles may be of any suitable or desired thickness, and by reason of the channels cut transversely across them and the removal of a portion of the leather from these channels the inner portion of the sole is formed in a series of elevated ribs, and it will be manifest that when the shoe and the sole is bent into a curve, as it will be when fitted upon the foot, the channels will be partially closed at the top, the rib projections thus approaching each other, and the rigidity or stiffness of the sole will be no greater than that incident to the thickness of the leather below the bottoms of the channels. The outer sole is stitched or fastened around the edges to the insole in the usual manner; but that portion between the lines of stitching or fastening which forms the whole bottom of the shoe is not in any way connected with the inner sole, and consequently in the action of walking the inner sole is free to move upon the outer one, and each sole retains the flexibility which is incident to its peculiar construction. It will be manifest that if these soles were cemented or otherwise fastened together the transverse grooving or channeling of the outer sole would be useless, as the outer sole could have no movement of flexure about itself, but would form a part of the insole and would have only such movement as would be permitted by the insole.

I am aware that outer soles for shoes have been made by cutting transverse slots entirely through a piece of straw or leather board, these slots extending to within a short distance of the edges upon each side, and that such pieces of leather board have afterward been cemented upon an outer sole, the whole being afterward nailed or secured to the bottom of the shoe. I do not claim such construction.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A shoe having an inner sole and outer sole separated from each other except at the edges, and having their top surfaces transversely grooved in parallel lines, substantially as herein described.

2. A shoe having an inner sole transversely

- grooved on its upper surface forward of its center and an outer sole separated from the inner sole except at the edges, at which point the soles are united, said outer sole having
5 its upper surface transversely grooved forward of the center and parallel with the grooves of the inner sole, substantially as herein described.
3. An improved shoe consisting of a plurality of soles lying one above the other and
10 having their upper surfaces transversely grooved forward of the center, so as to give increased flexibility to the soles, substantially as herein described.
- In witness whereof I have hereunto set my hand.
15
- GEORGE BRYANT.
- Witnesses
S. H. NOURSE,
CHAPMAN FOWLER.