

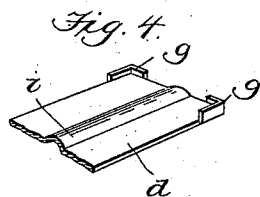
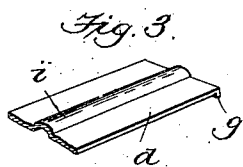
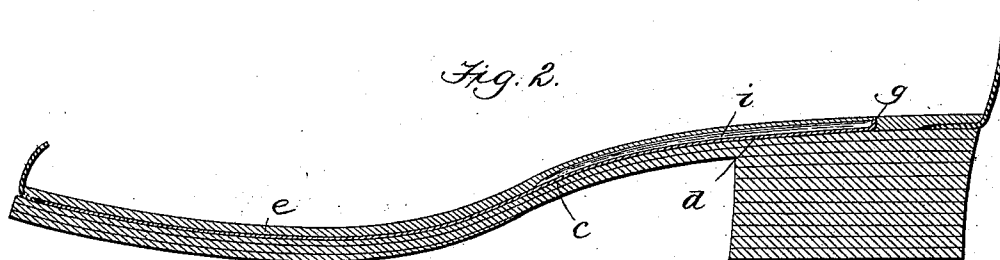
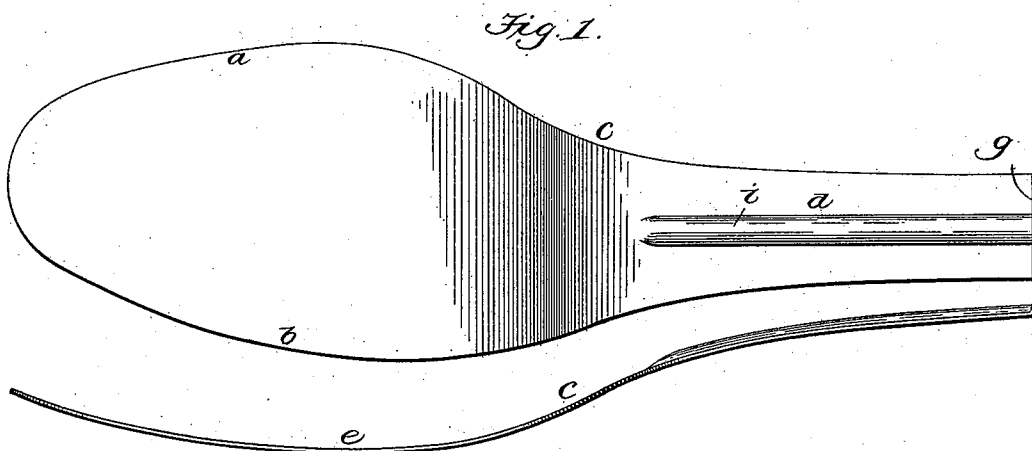
(No Model.)

E. E. PARKER & A. E. H. JOHNSON.

SOLE PLATE FOR BOOTS OR SHOES.

No. 549,252.

Patented Nov. 5, 1895.



WITNESSES:

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INVENTORS

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UNITED STATES PATENT OFFICE.

EDWARD EDWIN PARKER, OF LYNN, MASSACHUSETTS, AND ALBERT E. H. JOHNSON, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNORS TO THEMSELVES, AND NATHANIEL MARTIN BENNETT, OF NEW YORK, N. Y.

SOLE-PLATE FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 549,252, dated November 5, 1895.

Application filed December 1, 1894. Serial No. 530,554. (No model.)

To all whom it may concern:

Be it known that we, EDWARD EDWIN PARKER, a subject of the Queen of Great Britain, residing at Lynn, in the county of Essex and State of Massachusetts, and ALBERT E. H. JOHNSON, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Improvement in Sole-Plates for Boots or Shoes, of which the following is a specification.

Our improvement is a spring sole-plate for boots and shoes, designed to give a firm and natural support to the feet, prevent jar in walking, and afford relief to sore and swollen feet.

The accompanying drawings illustrate the improved sole-plate in perspective and in edge views in Figure 1, and Fig. 2 shows the sole-plate as applied between the soles and to the heel of a shoe. Fig. 3 shows the straight heel end of the plate with the lips turned down, and Fig. 4 is a like view with the lips turned up around the corner edges of the heel end of the plate.

The plate is used between the inner and the outer soles and is preferably made of tempered steel, having its edges *a b* from the toe to the instep *c* conforming to the contour of the sides of the foot, while in the plane of the foot the plate conforms to the concave and convex surface of the foot from the toe to the instep. From the instep the heel part extends in a comparatively narrow strip *d*, which terminates a little beyond the center of the heel. The curve *e* of the plate conforming to the bottom of the foot gives a convex bottom surface from the toe to the instep, where the curve has the form of a cyma reversa *f*, from which the strip *d* extends horizontally in a plane above the convex bottom surface. This instep curve gives the spring function to the plate and an elastic support to the foot at the instep.

The plate conforms to the line of the stitching and covers the sole in close proximity thereto around the toe and the curved sides of the shoe. The heel part is made narrow,

so that the heel of the shoe will be free to yield with the tread of the foot and give a free and easy seating to the plate between the soles and affords a better action to the spring function of the plate to the instep.

To prevent the tendency of the plate from being forced toward the toe under the action of the tread and to hold the plate in position and to brace it against lateral deflection or movement against the stitching, the narrow heel part is made with a slight lip *g*, standing up or down at the end and, if desired, a short distance along the side edges of the heel part for the purpose of engaging the leather of the heel by indenting itself therein between the lifts.

For heavy shoes the heel part may be formed with a slight bead *h*, extending centrally, preferably, from the lip and ending in the sole part of the shoe, so that it runs lengthwise the instep and strengthens the spring part and imparts an easy and slightly springy motion to the heel, which bears the brunt of the jar in walking. The plates are made rights and lefts.

Shoes provided with these sole-plates give an easy and satisfactory support to the foot at the instep and at the heel and to the foot in a natural, easy, and elastic tread, and thereby prevent the jar of the step, which helps to create nervousness and which seriously affects persons having weak spines. They protect the bottom of the foot from the hurtful tread upon gravel or stones and give relief to feet afflicted with chilblains, soreness, or with bunions. They keep the shoes in better shape and prevents them spreading and from twisting upon the feet. They accommodate the natural movement of the feet from the heel to the toe and avoid all cramping of the feet by allowing the natural movement of the heel at its connection with the instep.

We claim as our improvement—

1. As a new article of manufacture the steel spring plate for shoe-soles formed with the narrow straight heel part *d* terminating

in a square end having upset lips around the corners, the width of the plate increasing from the narrow heel part in the shape of the shoe-sole, and the narrow heel part having
5 a bead extending from its lipped end over the spring instep as shown and for the purpose stated.

2. The combination with a shoe, of a steel spring plate formed with a narrow straight
10 heel part terminating in a square end having upset lips around the corners for engaging the leather at the middle of the heel, the plate from the heel part having the shape of

the shoe-sole and free to move between the soles with the bend of the foot, as described. 15

EDWARD EDWIN PARKER.
A. E. H. JOHNSON.

Witnesses to the signature of Edward Edwin Parker:

FRANK G. WOODBURY,
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