

(No Model.)

H. A. SAWYER.  
INNER SOLE.

No. 492,994.

Patented Mar. 7, 1893.

FIG. 1.

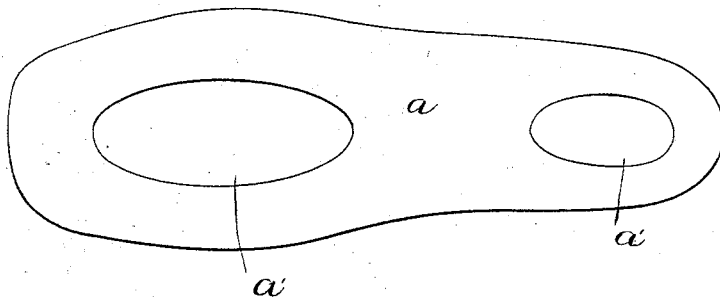


FIG. 2.

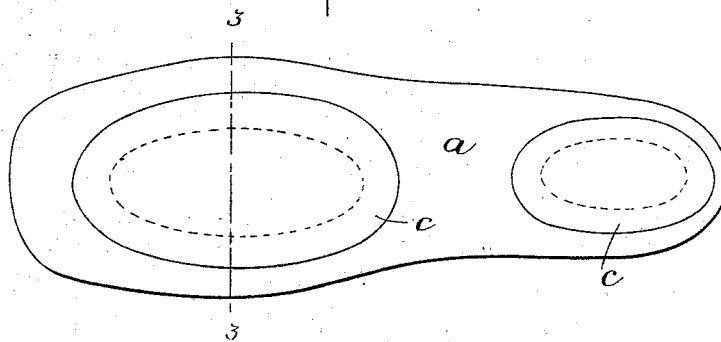
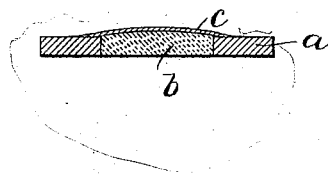


FIG. 3.



WITNESSES:

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INVENTOR:

*H. A. Sawyer*  
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# UNITED STATES PATENT OFFICE.

HORACE A. SAWYER, OF LYNN, MASSACHUSETTS.

## INNER SOLE.

SPECIFICATION forming part of Letters Patent No. 492,994, dated March 7, 1893.

Application filed November 11, 1892. Serial No. 451,612. (No model.)

*To all whom it may concern:*

Be it known that I, HORACE A. SAWYER, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Inner Soles for Boots or Shoes, of which the following is a specification.

This invention has for its object to provide an inner sole which shall increase the comfort of the wearer of a boot or shoe to which said sole is applied, and to this end it consists in an inner sole having one or more cells or orifices formed in it, each orifice being surrounded by the marginal portion of the sole, cushions of elastic or yielding material placed in said cells, and cushion-retaining pieces secured to the inner sole and covering the cushions. The cushions are located in position to afford a yielding support for the wearer's foot, while the removal of the material of the inner sole involved in forming the cells for the cushions increases the flexibility of the inner sole and of the boot or shoe to which it is applied, all of which I will now proceed more fully to describe.

Of the accompanying drawings, forming part of this specification: Figure 1 represents a plan view, showing an inner sole provided with cells or orifices for the reception of cushions. Fig. 2 represents a plan view of a completed inner sole embodying my invention. Fig. 3 represents a section on line 3—3, Fig. 2.

The same letters of reference indicate the same parts in all the figures.

In carrying out my invention, I take an inner sole *a*, which may be of leather or any other suitable material, and form one or more cells or openings *a'* therein, each opening being formed by cutting out a piece of the material, so as to form a pocket surrounded by the marginal portion of the sole. I prefer to provide two openings, as shown in Fig. 1, one in the forepart and the other in the heel-part of the inner sole. In the cells or openings *a'* I place cushions *b* of felt or other suitable elastic or yielding material, the cushions being thicker than the inner sole *a*, so that, when the under sides of the cushions are flush with the under side of the sole, the upper surfaces of the cushions will project above the upper surface of the sole, as shown in Fig. 3.

*c* represents a cushion-covering and retaining piece, which is preferably a sheet of thin leather or other suitably strong and flexi-

ble material, having the same general shape as the pocket it is intended to cover, but of larger area. Said covering-piece *c* is preferably secured to the inner sole around the margin of the pocket it covers, by means of stitches, although I do not limit myself in this regard, and may secure said piece in any other suitable way. I prefer to skive the edges of the covering-piece, so as to make them suitably thin, to avoid a ridge or shoulder on the upper surface of the inner sole.

I find that an inner sole constructed as described makes the boot or shoe to which it is applied much more comfortable to the wearer than an ordinary inner sole, and also makes the bottom of the boot or shoe more flexible, as will be readily seen.

I do not limit myself to the employment of the retaining piece *c*, although it is obviously desirable to employ such piece. I believe it to be new, however, to provide an inner sole with an orifice containing a cushion which normally projects above the upper surface of the inner sole. I do not therefore limit myself to any particular number of orifices and cushions, and may employ one or any other suitable number.

I claim—

1. An inner sole having an orifice surrounded by the marginal portion of the sole and provided with an elastic or compressible cushion, which is thicker than the sole and is inserted in said orifice, said cushion normally projecting above the marginal portion of the sole on its inner face, and constituting a yielding support for the foot, as set forth.

2. An inner sole having an orifice surrounded by the marginal portion of the sole, an elastic or compressible cushion of greater thickness than the sole, inserted in said orifice, and a flexible covering-piece extending across the upper surface of the cushion and secured at its margin to the sole, said flexible covering piece being supported above the sole by the cushion, and adapted to rise and fall with the cushion, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 9th day of November, A. D. 1892.

HORACE A. SAWYER.

Witnesses:

C. F. BROWN,  
M. W. JACKSON.