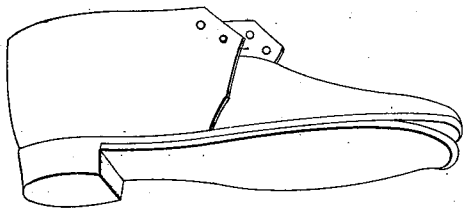


*A. T. Merwin,  
Shoe Sole.*

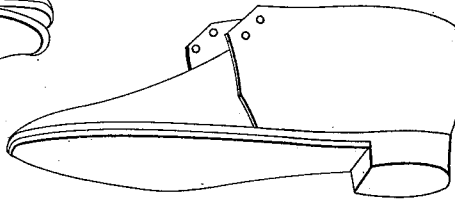
*N<sup>o</sup> 19305.*

*Patented Feb. 9, 1858.*

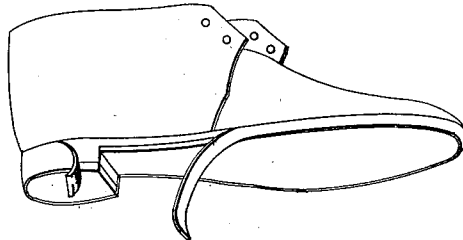
*Fig. 1.*



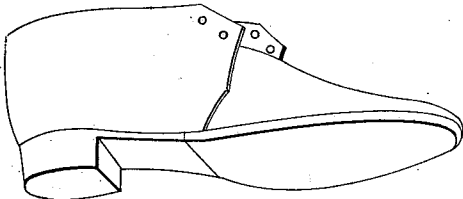
*Fig. 2.*



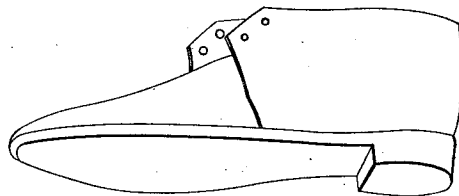
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Witnesses:  
C. H. Johnson  
Charles Merwin*

*Inventor:  
Abner J. Chalmers.*

# UNITED STATES PATENT OFFICE.

ABRAHAM T. MERWIN, OF NEW HAVEN, CONNECTICUT.

## METHOD OF ATTACHING INDIA-RUBBER SOLES TO BOOTS AND SHOES.

Specification of Letters Patent No. 19,305, dated February 9, 1858.

*To all whom it may concern:*

Be it known that I, ABRAM T. MERWIN, of New Haven, in New Haven county, in the State of Connecticut, have invented a  
5 new and useful Improvement in Attaching Soles of India-Rubber or other Like Material to Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to  
10 the accompanying drawings, in which—

Figure 1 represents a leather shoe with an india-rubber sole partially attached; Fig. 2 represents a leather shoe with the india-rubber sole entirely attached; Fig. 3 represents  
15 a leather shoe with the india-rubber sole attached to the leather sole and with a binder of india-rubber passing around the edges of the two soles, so as firmly to connect and protect them; Fig. 4 represents  
20 the shoe complete, with a coating of india-rubber covering the entire sole and heel; Fig. 5 represents the ordinary half sole with a covering of india-rubber.

The nature of my invention consists in  
25 so connecting, by means of a binder, an outer sole of india-rubber, gutta percha or other like material, with the side or edge of an inner sole and, also, if desired, with the body or upper of the shoe, as that an entire surface of india-rubber or like material shall be  
30 presented on the part most exposed to wear.

To enable those skilled in the art to make use of my invention, I will proceed to describe the same, its application and use.

35 Where the india-rubber sole is to be applied to the leather shoe, the outer sole and heel are cut from what is known as sheet-rubber and are secured to the leather by a cement made by dissolving india rubber in  
40 camphor, ether, or other solvent capable of cutting the rubber and speedily evaporating when exposed to the air and heat. A binder, being a strip of sheet rubber, as in Fig. 3, is then passed along the edges of the outer  
45 and inner soles and, by means of the cement,

firmly secured around and over the same, thus completely covering and protecting the edges of the soles with a coating of india-rubber, so that, however the sole is struck,  
50 in wear, a surface of elastic material is presented to the blow. This binder may be varied in width and adapted, not only to cover the edges of the soles, as just described, but to extend above the sole.

Although india-rubber is here named as  
55 the proper material for the sole and binder, yet gutta percha or other like material and material of which india-rubber or gutta percha forms a component part, may be used for the same purpose and in the same way.  
60 Nor need the shoe, to which the sole is to be thus attached, be of leather, but it may be of india-rubber or of any material to which the prepared sole and binder are capable of being  
65 attached by the cement.

I do not claim the cementing of india-rubber soles to leather shoes. This has been done heretofore, though not so as to prove  
70 of any considerable value, for the edges of the sole presented to wear, having no continued surface of elastic material to protect them, were easily split open and as soon  
75 as the rubber became, in the least, separated from the leather, sand and dirt would work in, speedily detaching the rubber and rendering the sole of little use. But, by means  
80 of the binder herein described, a complete surface of india-rubber is presented, so that there is no danger of the sole being separated from the shoe to which it is attached.

What I claim as my invention and desire to secure by Letters Patent is,

85 Securing a sole, of india-rubber, gutta percha or other like material, to a shoe, by means of a binder, as shown and described.

ABRAM T. MERWIN.

Witnesses:

C. R. INGERSOLL,  
CALEB MIX, Jr.