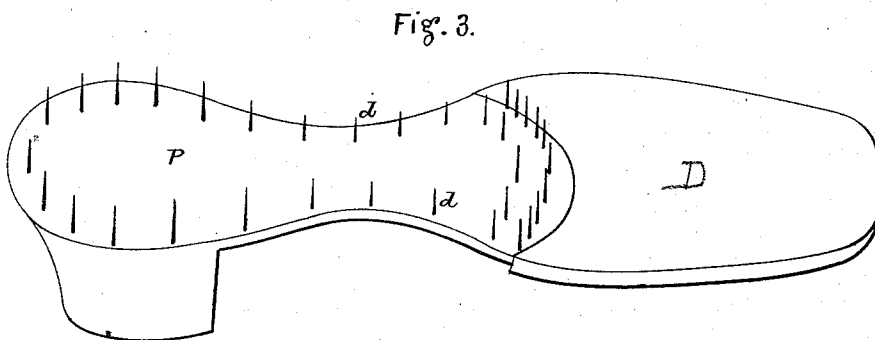
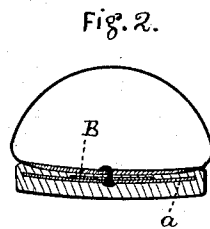
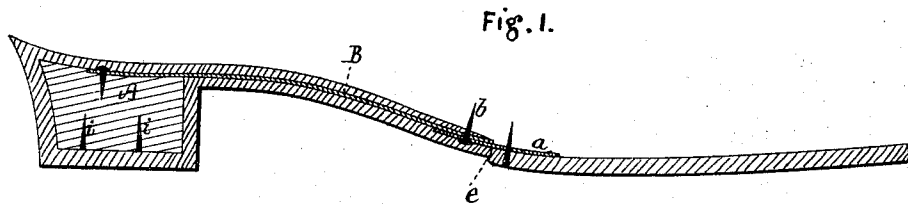


**W. S. CHILDS & J. WOODLEY.**  
**Manufacture of Boots and Shoes.**

No. 156,136.

Patented Oct. 20, 1874.



WITNESSES.  
*Francis E. Fayou.*  
*Waldo E. Boardman*

*W. S. Childs & J. Woodley.*  
*J. Curtis. Atty.*

# UNITED STATES PATENT OFFICE.

WILLIAM S. CHILDS, OF MONTREAL, AND JOSEPH WOODLEY, OF QUEBEC,  
CANADA.

## IMPROVEMENT IN THE MANUFACTURE OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **156,136**, dated October 20, 1874; application filed  
August 15, 1874.

*To all whom it may concern:*

Be it known that we, WILLIAM S. CHILDS, of Montreal, Province of Quebec, Canada, and JOSEPH WOODLEY, of Quebec, Province of Quebec, Canada, have invented certain Improvements in Manufacture of Boots and Shoes, of which the following is a specification:

These improvements consist, first, in the construction of the heel and shank of a boot or shoe by producing them of wood covered with or embedded in vulcanized india-rubber, the wood giving the requisite body and lightness and cheapness, while the vulcanized-rubber covering avoids the present labor of finishing, blacking, and burnishing the heel and shank. Secondly, these improvements consist in a peculiar method of attaching the shank to the sole as hereinafter explained, as in our system we employ only a comparatively small portion of leather, for the reason that the shank embedded in the hard or semi-hard rubber constitutes a portion of the sole.

The drawings accompanying this specification represent, in Figure 1, a longitudinal section; in Fig. 2, a cross-section; and in Fig. 3 a perspective view of our invention.

The drawings accompanying this specification represent, at A, the heel of a boot as composed of a wooden block, the shank-piece being shown at B as nailed or otherwise suitably confined at one end to the heel, and at the other or forward end lapped upon a thin metallic plate, *a*, a series of nails, *b*, being passed upward through the two, and the head of these nails abutting against the under side of the said plate *a*. The heel A and shank B and plate *a* are then to be enveloped in india-rubber, placed in a mold and vulcanized, which forms a coating, E, over them, with the exception of a small portion of the under side of the plate *a*, it being understood that previous to this application of the rubber a series of nails, *d d*, &c., have been driven point upward through the shank and heel and entirely about the edge of both, as shown in Fig. 2 of the drawings; or in place of these nails metal staples may be substituted. The boot is now lasted and the nails *d d*, &c., driven through the insole and clinched upon its upper side,

as shown in Fig. 2 of the drawings, which confines the heel and shank securely in place to the boot. The leather sole D, or such portion of a sole as we use, is now laid upon the boot and fastened thereto in any of the usual methods, the rear edge of such sole lapping upon the base portion of the plate *a* and abutting against the forward edge of the rubber portion of the shank, as shown at *e* in Fig. 1 of the drawings. A row of nails, *f*, &c., is now driven transversely of the boot through the sole D and metallic plate *a*, and turned down or clinched upon the latter, which completes the operation.

We pass through or partially through the heel a series of nails, *i*, &c., and the heads of the nails constitute, as in a leather heel, a hard surface to resist wear when the rubber is worn down to them; or in lieu of, or in addition to these nails, a metallic plate or plates may be employed for a like purpose, and these plates may be formed with points to enter and take hold upon the heel.

The shank B may be of metal in lieu of wood, should practice demonstrate such change to be desirable.

We propose, under some circumstances, to turn down the forward edge of the plate *a* into a short lip, *g*, as shown in Fig. 4 of the drawings, which is embedded in the sole and serves to increase the strength of the parts.

Many advantages result from this construction of a boot or shoe: First, the labor of shaping, finishing, blacking, and burnishing the heel and shank is saved; second, a large amount of leather which is now employed in heels and the shank portion of the sole is economized; third, the heel and shank preserve under all conditions of wear their blackness and luster, thus avoiding the disagreeable labor of blacking them; fourth, the boot thus made is very durable and strong, and it is next to impossible to separate the heel and shank from the insole with any reasonable usage.

We claim—

1. As an improved manufacture of boot or shoe, a heel and shank enveloped or incased in vulcanized india-rubber, substantially as and for purposes stated.

2. The mode herein explained of connecting the shank and sole—that is, by the employment of the plate *a*, overlapped by the shank on one side and the sole on the other, and the series of nails *b b* and *d d*, &c., substantially as and for purposes stated.

3. A boot or shoe having a heel and shank composed of wood or other suitable material,

and inclosed in vulcanized rubber and attached to a leather sole, the whole being substantially as and for purposes stated.

WILLIAM S. CHILDS.  
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Witnesses:

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