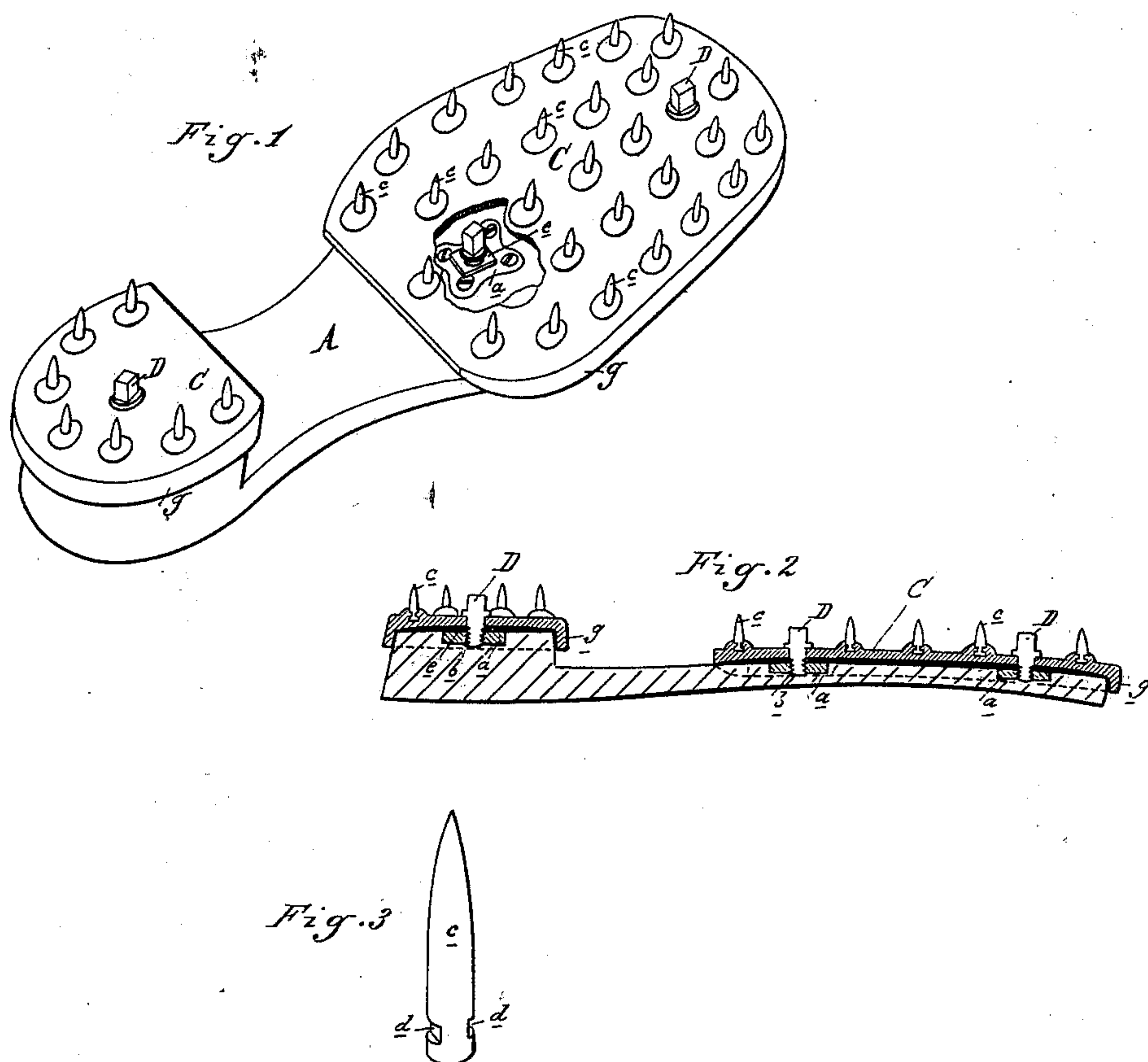


S. Z. WILLSON.  
Sole and Heel Plates for Boots and Shoes.  
No. 217,969. Patented July 29, 1879.



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# UNITED STATES PATENT OFFICE.

SAMUEL Z. WILLSON, OF BAY CITY, MICHIGAN.

IMPROVEMENT IN SOLE AND HEEL PLATES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **217,969**, dated July 29, 1879; application filed March 4, 1879.

*To all whom it may concern:*

Be it known that I, SAMUEL Z. WILLSON, of Bay City, in the county of Bay and State of Michigan, have invented an Improvement in Raftsmen's and Carpenters' Adjustable Sole and Heel Plates, of which the following is a specification.

The nature of this invention relates to certain new and useful improvements in the construction of adjustable sole and heel plates, which are provided with brads or spikes, designed for the use of raftsmen on logs, carpenters on frames and roofs of buildings, and all other practicable purposes wherein security from falling or slipping is required.

The invention consists in the peculiar construction and arrangement of the various parts, all as more fully hereinafter set forth.

Figure 1 is a perspective view of my device secured in place. Fig. 2 is a longitudinal vertical central section. Fig. 3 is an enlarged perspective of one of the brads.

In the accompanying drawings, which form a part of this specification, A represents the sole and heel of a boot or shoe, in the bottom faces of which are set the plates *a*, which are secured in place by screws. In these plates is a hole, *b*, with a thread cut therein.

C is a plate, preferably made of malleable iron, and which is corresponding in shape to the sole of the boot. In this plate are secured, at the time of casting, the brads or spikes *c*, the recesses or slots *d* in the base of the brads being filled with the molten iron, which, when cold, holds them securely in place.

The plates may be cast with a rise around the base of each brad, if desired, which will give additional strength to the plate and support to the brads.

D are set-screws, which pass through the plates, as shown, and receive on their inner ends a washer-nut, *e*, which prevents their falling out of the plates when they are removed. These set-screws engage with the threaded plates *a* in the sole or heel, being set to place by means of a key or wrench, which engages with their squared heads for that purpose.

Around the edge of the plate is a flange, *g*, or band, as shown in the drawings, which protects the sole from wearing and prevents any side movement of the plate.

I have confined myself to the description of a sole-plate, not deeming it necessary to describe the heel-plate, as they are both made substantially the same, excepting form.

The brads may be of any desired number, more or less, and they may be driven through the plate and riveted.

What I claim as my invention is—

An adjustable sole or heel plate, C, provided with brads or spikes *c* and a flange, *g*, removably secured to a boot or shoe by means of set-screws D, which engage with plates *a* in the bottom of the sole or heel, substantially as and for the purposes set forth.

SAMUEL Z. WILLSON.

Witnesses:

ELJAH ZIMMER,  
O. E. BARTLETT.