A. P. WATSON & C. E. CRANE.

ADJUSTABLE SAFETY SOLES FOR BOOTS AND SHOES.

No. 189,408. Patented April 10, 1877.

Fig. 1.

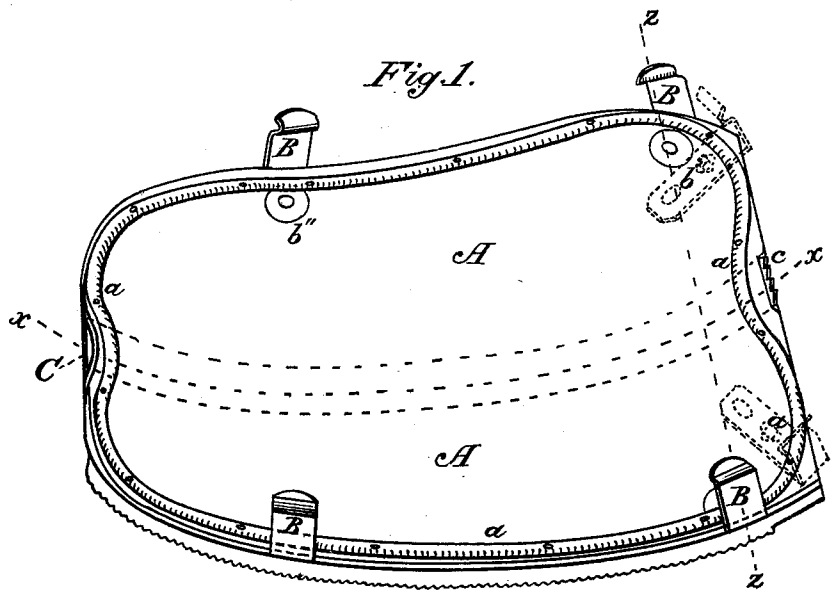


Fig. 2.

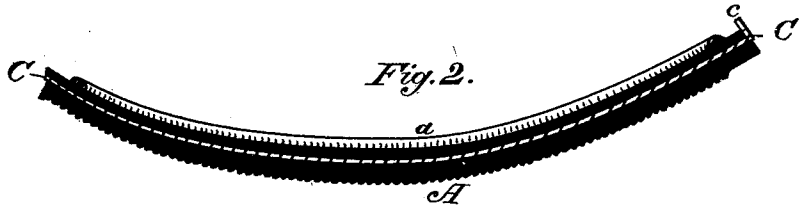


Fig. 3.

Fig. 5.

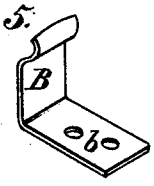


Fig. 4.

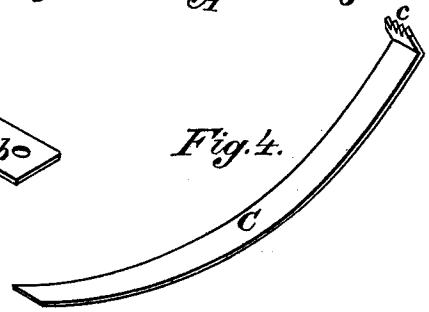
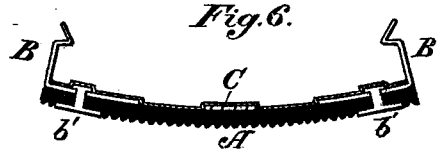


Fig. 6.



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ABRAM P. WATSON AND CHARLES E. CRANE, OF LAKE CITY, MINN.

IMPROVEMENT IN ADJUSTABLE SAFETY-SOLES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **189,408**, dated April 10, 1877; application filed March 19, 1877.

To all whom it may concern:

Be it known that we, ABRAM P. WATSON and CHARLES E. CRANE, of Lake City, in the county of Wabasha, in the State of Minnesota, have invented an Adjustable Safety-Sole for Boots and Shoes, of which the following is a specification:

The object of this invention is to provide an adjustable and removable sole, to be applied to the sole of the boot or shoe, and protect such sole from unusual wear, and at the same time prevent the wearer from slipping; and it consists in the construction of the removable sole, as will be fully hereinafter described.

In the drawings, Figure 1 represents the upper side of the removable sole; Fig. 2, a longitudinal sectional view through line X X; Fig. 3, a transverse sectional view through line Z Z; Fig. 4, a view of the longitudinal spring-support; Fig. 5, a perspective of the spring-clamps to hold the removable sole to the sole of the boot or shoe; and Fig. 6 is a transverse sectional view of a single sole.

A represents the removable and adjustable protecting-sole, which is, preferably, constructed of rubber, in the form to fit the bottom of the sole of the boot or shoe; it may be of one, two, or more thicknesses of rubber, and a top lining of any suitable fabric. *a* is a soft pliable rubber edging, upon which the outer edges of the sole of the boot rests, and will yield, under pressure, to accommodate the clamp-springs, that hold the removable sole upon the sole of the boot. This edging may be dispensed with when one thickness of sole only is used. B B are a number of spring-clamps, to hold the removable sole fast to the sole of the boot, and are in the form seen at Fig. 5, with a hole, *b*, through the tang part, to receive a headed rivet, *b'*, that passes through the removable sole, whether of one or more thicknesses, and through hole *b* in the spring-clamp B, and is riveted down upon washer *b''* on the upper side of the removable sole, which holds the clamp-spring fast. If more than one thickness of material is used for the removable sole the tang of the clamp B is placed between them, as seen in Figs. 2 and 3. These clamp-springs take hold of the upper projecting part of the sole of the boot, and hold the removable sole fast thereto, while they also bear against the edges of the sole, and prevent any transverse movement of the removable sole upon the sole of the boot. By having two or more holes, *b*, in them they can be adjusted to conform to different widths of soles. C is a metal spring, extending from the toe to the rear part of the adjustable sole, where it turns upward, to project above the sole A, and on such projection teeth *c* are formed, which take into the sole of the boot when the removable sole is in place on the boot, and prevents any fore-and-aft slipping on the sole of the boot.

The forward or toe end of this spring may also be bent upward, and have teeth thereon the same as the rear end, if desired.

In some cases the sole A is made without spring C, but is preferable with it.

This removable safety-sole is easily attached to the soles of boots or shoes, as they will be made in different sizes to correspond with the width and shape of the different numbers or sizes of boots and shoes, and, when so worn, form a protection to the sole of the boot, and prevents it from becoming wet.

Having thus described our invention, what we claim is—

1. The adjustable, removable, and elastic sole-protector A, having the soft and yielding edging *a*, and spring holding-clamps B, substantially as and for the purposes described.

2. The adjustable, removable, and elastic sole-protector A, having the soft and yielding edging *a*, spring holding-clamps B, and serrated or toothed spring C, substantially as and for the purposes described.

ABRAM P. WATSON.
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Witnesses:
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