(No Model.)

W. B. MINAHAN.

BOOT OR SHOE.

No. 418,922. Patented Jan. 7, 1890.

Fig. 2.

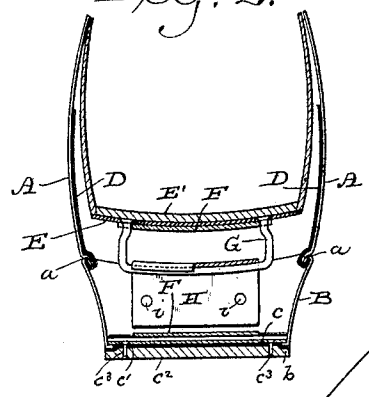


Fig. 1.

Fig. 5.

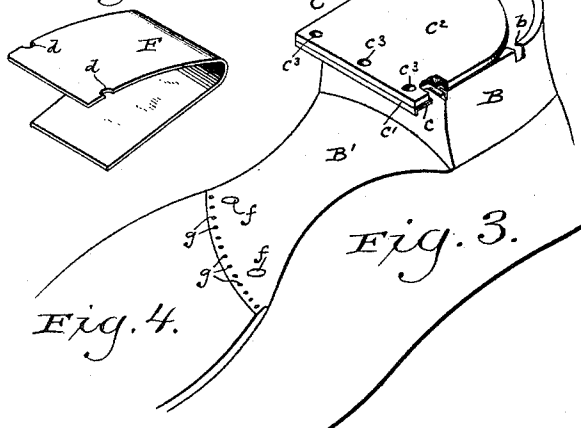


Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM B. MINAHAN, OF OSHKOSH, WISCONSIN.

BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 418,922, dated January 7, 1890.

Application filed July 25, 1889. Serial No. 318,694. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. MINAHAN, a citizen of the United States, residing at Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Boots or Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, which make part of this specification, and in which each part is denoted by the same letter in all the figures.

The object of my invention is to provide a flexible and elastic foundation for the heel and shank of the foot, thereby breaking the jar experienced in walking, and to give relief to persons employed on railway-trains from the constant vibration, the same being an improvement upon that for which I have an application now pending before the Patent Office, filed August 25, 1888, Serial No. 283,808.

The invention consists, primarily, of a heel-case made principally of elastic metal but very little thicker than common tin, combining a hollow heel and shank, counter, and leather lap, inside of which the inner portion of the boot or shoe has a free vertical movement.

In the accompanying drawings my invention is completely illustrated.

Figure 1 represents a side elevation of a boot or shoe having my invention as an integral part of the same, connecting with the tap at front of shank and sewed to the upper on the curved line *s s*. Fig. 2 is a vertical cross-section of boot or shoe on the line 2 2 of Fig. 1. Fig. 3 is a vertical longitudinal central section showing positions of the different parts with springs flexed and unflexed, as shown in dotted and full lines, respectively. Fig. 4 represents an under side perspective view of my device, showing the crown of the heel sliding into position from the front. Fig. 5 represents a perspective view of the heel-spring.

A represents the leather lap, consisting of a single piece and thickness of leather, its upper and front edge being sewed to the upper on the line *s s*, and the lower edge being fastened in the seam *a* around heel-seat and edge of shank. This leather lap wrinkles or puffs out slightly near its upper edge when the foot is pressed down, as shown at A′ in dotted lines in Fig. 1.

B′ represents the combined heel and spring-shank, made of steel or other elastic metal, riveted to the shank-spring E with rivets *f f* at its anterior part, and nailed to the tap, the nails *g g* clinching on the spring-shank E. It is also united in the seam *a* with the leather lap A and the metallic stiffener D, and has an inturned flange *b*, which is inserted in a corresponding groove in the edge of the crown C.

C is the crown of the heel, consisting of two metallic disks *c c′*, or two metallic disks and a leather lift c^2, all firmly riveted, as shown at c^3 c^3, or otherwise fastened together; the inner disk *c* being slightly smaller than the outer and the outer disk *c′* being lapped squarely at the front, so as to give the appearance of a single layer only when the crown is in position. The disks are so separated at their curved edge as to form a groove to receive the flange *b* of the combined heel and spring-shank B, and the crown is fastened at breast of heel with screws *h h*.

D is an elongated heel-stiffener of spring-steel or other elastic metal underlying the leather lap A, extending upward under the same to the dotted line *y y*, and uniting in the seam *a* with the leather lap A and the combined heel and spring-shank B. Sufficient space is provided between the elongated heel-stiffener D and the inner counter to allow the latter to move easily up and down inside the former.

E is a shank-spring of steel or other elastic metal of like form as the insole E′ and underlying the same as far to the front as the point where it is riveted, as shown at *f*, to the combined heel and spring-shank B′, when it becomes narrower and extends about an inch farther to the front.

F is a heel-spring of V form and of width corresponding with the cavity of the heel, in which it is placed from the under side, its upper front part being provided with a slot or notch *d* in each side, in which the upper parts of the check G fit and hold it in position. Heel-springs of different strength can be used with every size of boot or shoe, according to the weight of the wearer.

G is a metallic check of the form shown in

drawings, larger at its lower part to admit the upper end of the heel-spring F, and narrower at its upper part to hold said heel-spring F in position. It serves the double purpose of limiting the extension of the springs and holding the heel-spring F in a fixed position.

H is a metallic lug fastened to breast of heel by rivets *i i*, and is used to limit the upward movement of the check G.

I is a metallic packing between the combined heel and spring-shank B and the shank-spring E at their front ends to allow space between them for the introduction of the tap or outsole and to facilitate smoothness of surface of both insole and outsole.

In making a boot or shoe with the above-described heel-case forming a part of the same the insole is fitted to the last in the usual way, the upper lasted, no heel-stiffener being required, and the upper sewed to the insole around heel and shank. The heel-case is then adjusted and the edge of the leather lap A pasted or otherwise fastened to the upper. The last is then withdrawn and the leather lap A sewed at its edge *s s*, the rivet *e*, Fig. 3, is inserted from above in the insole and spring-shank E and riveted from below, when the last is again inserted, the tap or outsole adjusted, and the boot or shoe finished.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a boot or shoe, the combination, with the insole and heel-stiffener, of a metallic heel-case and shank secured thereto, a lug or stop secured to the inside of the breast of the heel-case, a check depending from the insole and in engagement with said lug or stop, and a flat doubled spring whose lower leaf has a bearing on the heel-case and whose upper leaf has notched or slotted edges in engagement with the said depending check, substantially as set forth.

2. In a boot or shoe, the combination of an insole extending the entire length and united to the upper, a metallic shank-spring underlying the rear part of said insole and riveted thereto, a metallic heel-case and spring-shank riveted at its front end to the said shank-spring, a leather lap having its upper and front edge sewed to the upper and its lower edge seamed to the upper edges of the heel-case and spring-shank, a metallic heel-stiffener whose lower edges are united to the same seam with the leather lap and heel-case and spring-shank, and a heel-spring interposed between the bottom of the heel-case and the shank-spring, substantially as set forth.

3. In a boot or shoe, the combination, with the upper and insole, of a shank-spring riveted to the rear part of the said insole, a metallic heel-case and heel-stiffener free from the insole and upper, a lap flexibly uniting the heel-case and upper, a spring-shank extending forward from the heel-case beneath and free from contact with the shank-spring, packing interposed between the forward ends of the shank-spring and spring-shank, and rivets uniting these parts together, an outer sole whose rear end is likewise interposed between the shank-spring and spring-shank and there secured, so as to be practically flush with the latter, and a heel-spring interposed between the bottom of the heel-case and the shank-spring, substantially as set forth.

4. In a boot or shoe, the combination, with a metallic heel-case having an inturned bottom flange, of a crown consisting of two metallic disks, the inner disk being slightly smaller than the outer disk and the latter being lapped squarely at the front, and the said disks being separated at their curved edges to form a groove for the reception of the said inturned flange, and screws for fastening the said crown to the front of the said heel-case, substantially as set forth.

5. The combination, in a boot or shoe, of the leather lap A, the combined metallic heel and shank B, the elongated spring-stiffener D, the shank-spring E, the crown C, the heel-spring F, the check G, and the lug H, in the manner and for the purposes set forth.

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Witnesses:
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