No. 658,234. Patented Sept. 18, 1900.

J. M. CARTIER.

SHOCK DEADENING DEVICE FOR BOOTS OR SHOES.

(Application filed June 19, 1900.)

(No Model.)

Fig.1.

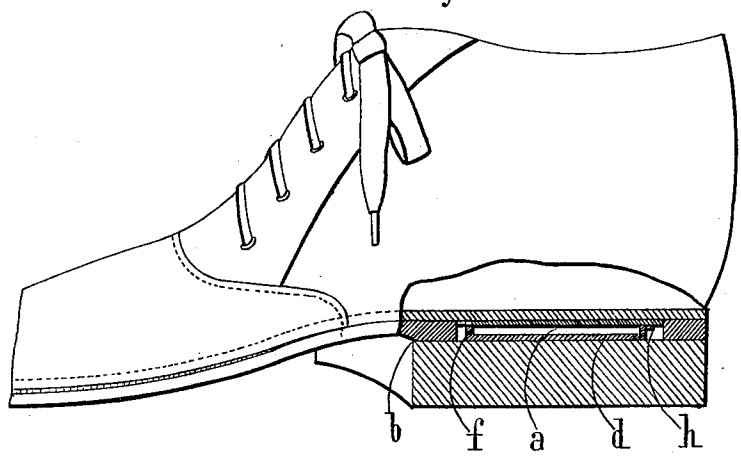


Fig.2.

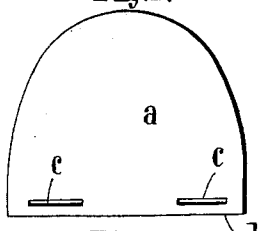


Fig.3.

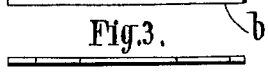


Fig.4.

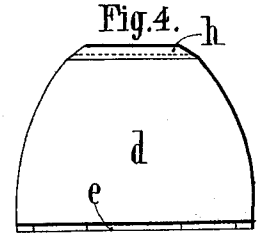


Fig.5.



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UNITED STATES PATENT OFFICE.

JEAN MARIE CARTIER, OF LA ROCHE, FRANCE.

SHOCK-DEADENING DEVICE FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 658,234, dated September 18, 1900.

Application filed June 19, 1900. Serial No. 20,864. (No model.)

To all whom it may concern:

Be it known that I, JEAN MARIE CARTIER, clergyman, a citizen of the French Republic, residing at La Roche-sur-Foron, Haute-Savoie, France, have invented certain new and useful Improvements in Boots or Shoes, of which the following is a specification.

This invention relates to boots and shoes, and has for its object to provide means whereby the shocks which occur when the foot is placed on the ground are deadened or absorbed, the fatigue being therefore diminished on a large scale.

My improved device, which constitutes an elastic heel, consists of two metallic plates arranged one above the other and forming a blade-spring in a hollow or cavity formed on the heel of the boot or the shoe immediately under the upper sole. These two metallic plates are connected and supported one upon the other, as hereinafter described, and only admit of a very slight displacement to each other or to the heel, so as not to result in any wear of the latter. The deadening device according to the present invention does not put the heel out of form, it never bends nor wears, and may be easily applied to every kind of boots or shoes.

In order that my invention may be fully understood, I will describe it with reference to the accompanying drawings, in which—

Figure 1 represents a sectional view of a shoe-heel having my improved device applied thereto. Figs. 2 and 3 are respectively a plan and a front view of the upper metallic plate. Figs. 4 and 5 are respectively a plan view and a front elevation of the lower metallic plate.

The upper plate *a*, which is made of tempered steel of a suitable elasticity, is entirely plane. Its shape is that of the heel, and parallel to its front edge *b* are arranged two little rectangular holes *c c*. The lower plate *d*, or bearing-plate, which is of a similar form as the plate *a*, has been bent upwardly to a right angle along its front edge *e*, and this returned or bent surface is so shaped as to present along its upper edge two little projections or tenons engaging with the rectangular holes *c c* of the upper plate *a*. By this arrangement the plate *a* may be conveniently secured on its bearing *d*, and every other displacement, as the slipping of the said plate *a*, is prevented. The rear part of the said bearing-plate *d* is bent up twice to a right angle, so as to form at a suitable height above the ground-surface of the said plate a horizontal bearing-surface *h* for the elastic plate or blade-spring *a*, the object of this surface *h* being to avoid the wearing of the said spring, which would be produced by its sliding on a sharpened edge. When the two plates *a* and *b* are put together in the aforesaid manner, they are distant from each other by a suitable space for the bending of the blade-spring *a*, and the whole will then be inserted in a hollow or cavity formed in the heel of the boot or the shoe immediately below the upper sole.

By walking with ordinary shoes the downward movement of the heel-bone is suddenly stopped when the foot is placed on the ground and the resulting shock is transmitted without being attenuated from the skull to the brain, the head and the whole body bearing on the heel-bone by means of the rigid parts of the skeleton. This inconvenience may be prevented by inserting in the heel of the boot or shoe the deadening device constructed according to my invention. When the foot is placed on the ground, the shock is deadened by the bending of the blade-spring or upper plate *a*, which in bending slides on the horizontal surface *h* of the bearing-plate *d*. The downward motion of the heel-bone and the body is therefore gradually stopped instead of suddenly. Further, when the foot is raised the spring-plate by returning back to its original position communicates to the heel a start, the result of which is to facilitate and to help the upward motion of the foot.

Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed, I declare that what I claim is—

1. A shock-deadening device for boots and shoes, consisting of a lower or bearing plate and an upper or spring plate, said bearing-plate being provided at one end with tenons or projections and at its other end with an upward extension, and the said spring-plate being provided near one end with openings in which the tenons or projections are fitted,

the opposite end of said spring-plate resting freely upon the upward extension on the bearing-plate.

2. A shock-deadening device for boots and shoes, consisting of the combination of two metallic plates, a spring-plate and a bearing-plate for the spring-plate, the bearing-plate being bent upwardly at a right angle along its front edge and provided with tenons or projections, the rear part of said plate being bent twice to a right angle, the said spring-plate being provided near and parallel to its front edge with rectangular holes engaging with the tenons of the bearing-plate, and having its rear edge resting on the horizontal surface formed by the double angle at the rear of the bearing-plate.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JEAN MARIE CARTIER.

Witnesses:
MELCHIOR DE GRIDEL,
CONTAT GASPARD.