

(No Model.)

G. E. SWAN.

SOLE AND HEEL SPRING FOR BOOTS OR SHOES.

No. 562,748.

Patented June 23, 1896.

Fig. 1.

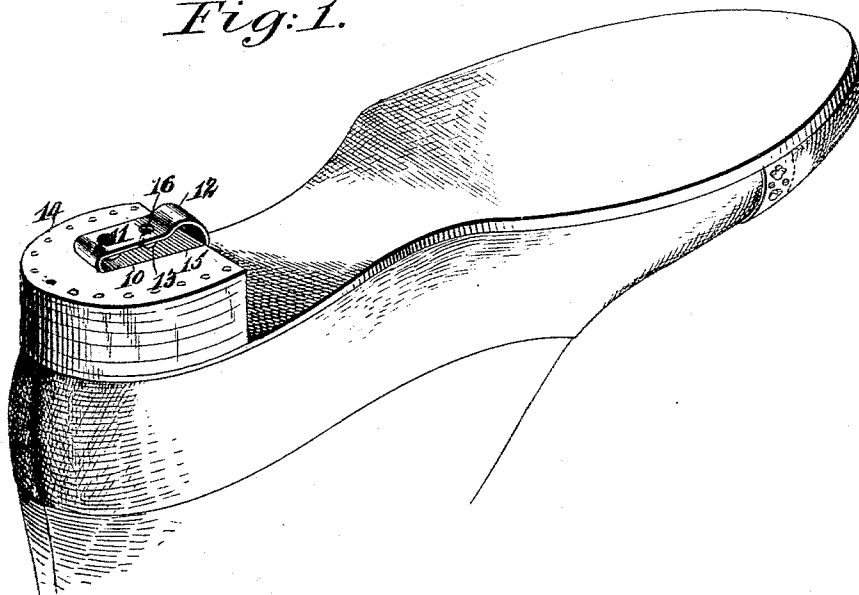


Fig. 2.

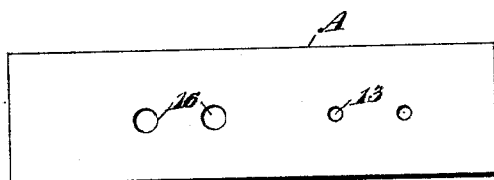
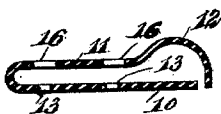


Fig. 3.



WITNESSES:

John A. Rennie
J. H. Acker

INVENTOR

G. E. Swan
BY *Mum & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE E. SWAN, OF BEAVER DAM, WISCONSIN.

SOLE AND HEEL SPRING FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 562,748, dated June 23, 1896.

Application filed September 24, 1895. Serial No. 563,483. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. SWAN, of Beaver Dam, in the county of Dodge and State of Wisconsin, have invented a new and Improved Spring for the Soles and Heels of Boots or Shoes, of which the following is a full, clear, and exact description.

My invention relates to an improvement in springs for the soles and heels of boots and shoes, being especially adapted for application to the heels of footwear; and the object of the invention is to provide a spring pad or cushion, which will serve to lift the heel of the boot or shoe as it leaves the pavement, road, or other surface with which it is brought in contact, thereby preventing the shock or jar usually incident to walking on hard pavements or hard roads, and rendering the step easy, elastic, and youthful.

A further object of the invention is to provide a mechanical appliance to boots and shoes which will in a great measure compensate for the loss of elasticity in the cartilages of the knee and other joints incident to age.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a shoe viewed from the bottom, illustrating the application of the spring to the heel thereof. Fig. 2 is a plan view of the blank from which the spring is formed, and Fig. 3 is a longitudinal vertical section through the complete spring.

Although the spring is shown in the drawings as applied to the heel of a shoe, when desired it may be applied to the sole thereof as well; or the application may be made to both the sole and the heel.

In carrying out the invention the cushion-spring is formed from a strip A of spring material, preferably steel, and the said strip is bent upon itself, so as to form a body member 10, adapted for engagement with the heel or the sole of a shoe, and a lower or base member 11. The said lower member is ordinarily made to extend for a predetermined distance

parallel with the body member, as shown in Figs. 1 and 3, but at a predetermined distance from the center of the lower or base member 11 of the spring-cushion the strip is bent or struck upward, so as to present a convex lower surface 12, and it is then carried downward to meet and pass the end of the body member; and in the aforesaid body member, preferably at the rear of the convex portion of the lower member of the spring-cushion, openings 13 are made, adapted for the reception of screws, or equivalent fastening devices, purposed for attaching the spring-cushion to the shoe.

In the application of the spring-cushion to the heel 14 of a shoe, for example, a recess 15 is made in the heel, extending to the front portion thereof, and of sufficient depth and size to receive the body member of the spring-cushion, and the end of the lower or base member will be capable of moving upward along the forward wall of the heel.

If in practice it is found desirable, both the body and the base or lower member of the spring-cushion may be drawn together and secured at the return portion or rear end of the device by means of rivets or their equivalents; or a rubber cushion may be introduced between the two members if in practice it is found desirable; but preferably the members are spaced a predetermined distance apart, and the space between them is comparatively clear. Therefore, the device may be said to consist of a body or attached member and a base or spring member capable of movement to and from the body member.

When the device is applied to the heel of a shoe, for example, when the wearer of the shoe in the act of walking treads upon the heel, the under or base member will be compressed, and as the heel is lifted from the ground or pavement the spring will assist the foot in its upward movement, and it will also act as a cushion in the downward movement of the heel. Under this arrangement a light and springy action will be imparted to the foot, which will in a great measure compensate for a lack of elasticity in the cartilages of the joints, and which will further serve to render the exercise of walking much less wearisome than heretofore.

The device also proves a great relief to those

suffering with spinal difficulties, irritations, &c., and uterine displacements.

It will be understood that apertures 16 are made in the lower member of the device to admit the screws to the orifices 13.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A spring-tread for boots and shoes, the same consisting of a strip of spring material bent upon itself to form a body or an attaching member, and a base member substantially parallel with the body member throughout a portion of its length, the free end of the base member being outwardly curved and carried in a direction to meet and pass the free end of the body or attaching member, as and for the purpose set forth.

2. The combination, with the heel of a boot or shoe, the said heel having a recess therein extending to its forward edge, of a spring-tread, consisting of a strip of spring metal bent upon itself to form a body member located in the recess of the heel, the said body

member being secured to the heel, and a base member continuous with the body member, the base member being carried parallel with the body member throughout a portion of the length of the base member, the said base member at its free end being curved and carried to and clear of the forward end of the body member of the device, as and for the purpose set forth.

3. A heel-spring, the same consisting of a plate of spring metal approximately U shape in form, one arm of said plate comprising a body or attaching member and the remaining arm comprising a base or free member, the arms being extended parallel with each other for a part of their length, the said base or free member being curved outwardly at its free end whereby it may swing without restraint toward the body or attaching member, substantially as described.

GEORGE E. SWAN.

Witnesses:

G. F. MARTIN,

B. F. SHERMAN.