R. KURZ.

SPRING HEEL.

APPLICATION FILED JUNE 1, 1914.

1,127,456. Patented Feb. 9, 1915.

Fig. 1.

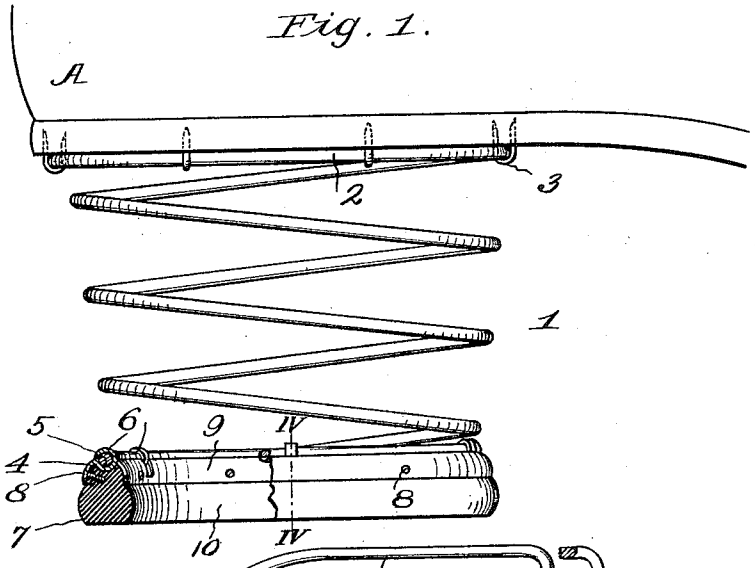


Fig. 2.

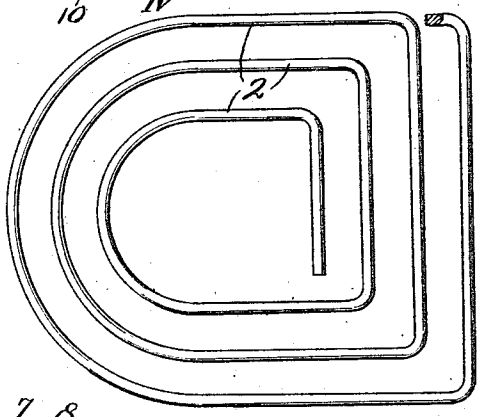


Fig. 3.

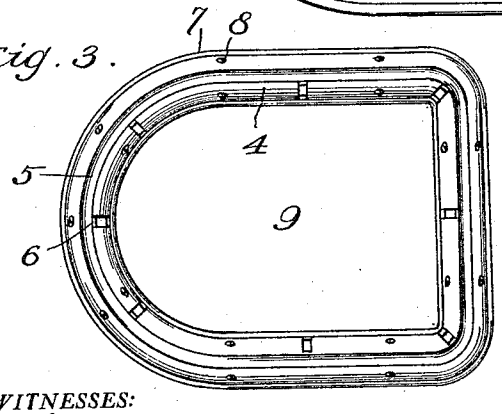
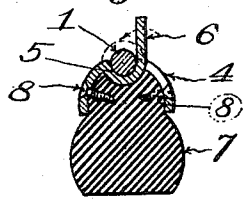


Fig. 4.



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SPRING-HEEL.

1,127,456. Specification of Letters Patent. Patented Feb. 9, 1915.

Application filed June 1, 1914. Serial No. 841,970.

To all whom it may concern:

Be it known that I, ROBERT KURZ, a citizen of the United States, residing at Leavenworth, in the county of Leavenworth and State of Kansas, have invented certain new and useful Improvements in Spring-Heels, of which the following is a specification.

My invention relates to improvements in spring heels for boots and shoes, and my object is to provide a device of this character so constructed as to lessen the jar upon the muscles when the heel is placed upon the ground in walking, and to give an upward impulse to the heel when the weight is thrown downward toward the toe in taking a step.

A further object is to provide a simple and inexpensive device of this character which will clean itself of mud or other foreign matter likely to interfere with the resiliency of the device.

In order that the invention may be fully understood, reference will now be made to the accompanying drawing, in which:

Figure 1 is a broken side elevation of a shoe provided with my spring heel. Fig. 2 is a plan view of the upper convolution of the spring forming an important feature of the invention. Fig. 3 is a plan view of the tread holder and tread portion of the device. Fig. 4 is a section, enlarged, on line IV—IV of Fig. 1.

A designates a shoe or boot of ordinary or preferred form, from which the customary leather heel is omitted.

1 designates a coil spring constituting an important feature of the present invention. Spring 1 is, preferably, tapered toward its lower end and made in the general conformation of the usual leather heel, in plan view. The upper portion of the spring 1, is bent into a number of convolutions 2, adapted to fit snugly against the underside of the shoe A, to which it may be reliably secured by any suitable means, staples 3 being shown in the present instance.

4 designates a tread holder consisting, preferably, of sheet metal having a groove or seat 5 extending around its upper portion to receive the lowermost convolution of the spring 1, which is firmly held in its seat by clips 6 struck up at intervals from the tread-holder 4.

7 designates the tread which is firmly secured in the tread holder 4 by any suitable means, screws 8 being shown for that purpose in the present instance. Tread 7 may be made of any durable and, preferably, noiseless material, such as leather, rubber, etc. The tread holder 4 and the tread 7 have large openings 9 and 10, respectively, therein to allow mud or other debris to fall therethrough.

Should the wearer be compelled to walk in mud deep enough to adhere to the coil spring 1, it will be forced therefrom before becoming hard, by the up and down movements of the spring convolutions, at each step of the user. As the mud falls from said convolutions, it drops through the openings 9 and 10 instead of lodging upon the tread holder and clogging the spring, as would be the case if said tread holder was in the form of a solid plate.

Practically the only wear on the device will come upon the tread 7, which can be readily renewed at small cost, so that the expense of keeping my device in repair will be considerably less than the cost of repairing the ordinary leather heel.

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

1. A device of the character described, comprising a coil spring arranged to be secured to the underside of a shoe, a tread having an opening therethrough and a seat in its upper surface to receive the lower convolution of said spring, means to secure said convolution in its seat, and a tread secured to said tread holder.

2. A device of the character described, comprising a coil spring arranged to be secured to the underside of a shoe, a holder having clips struck upward therefrom to engage the lower convolution of the spring, and a tread secured in said holder.

In testimony whereof I affix my signature, in the presence of two witnesses.

ROBERT KURZ.

Witnesses:
G. D. OBERSSHELP,
F. C. SCHREIBER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."