Oct. 9, 1923. 1,469,920

J. DUTCHAK

SPRING HEEL

Filed Sept. 21, 1922

FIG. 1.

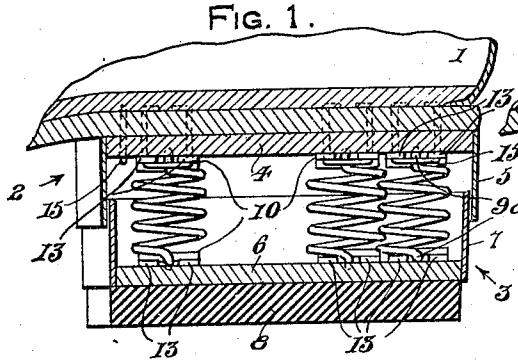


FIG. 5.

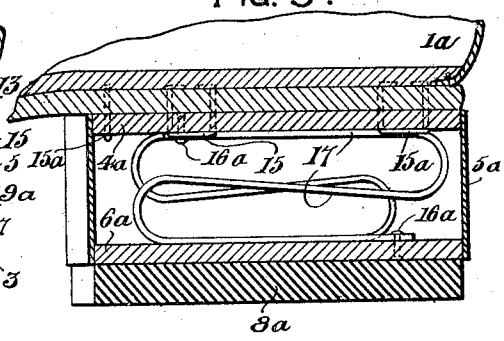


FIG. 2.

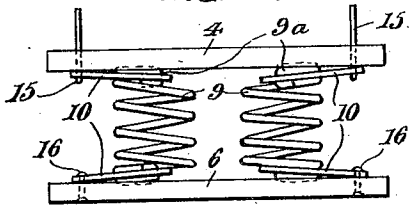


FIG. 6.

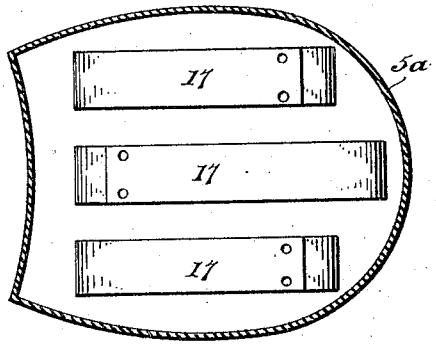


FIG. 3.

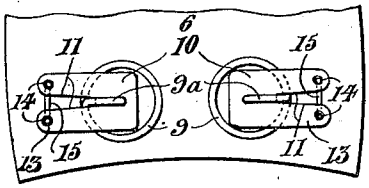


FIG. 7.

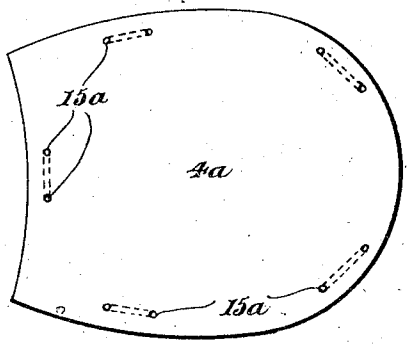
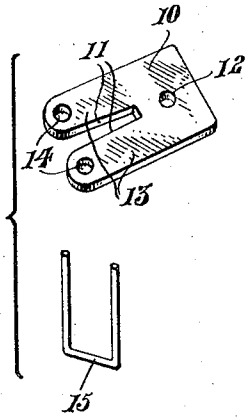


FIG. 4.



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UNITED STATES PATENT OFFICE.

JOHN DUTCHAK, OF HYDE PARK, MASSACHUSETTS.

SPRING HEEL.

Application filed September 21, 1922. Serial No. 589,576.

To all whom it may concern:

Be it known that I, JOHN DUTCHAK, a citizen of Ukraine, residing at Hyde Park, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Spring Heels, of which the following is a specification.

This invention relates to certain new and useful improvements in spring heels for boots or shoes wherein a plurality of metallic springs are interposed between the upper and lower lifts of a heel with telescopic sections constituting a part of the heel enclosing the spring.

The primary object of the invention resides in the provision of a spring heel of the type above set forth, and particularly wherein coil springs are employed, the particular manner of anchoring the ends of the coil springs to the upper and lower lifts of the heel embodying plates to which the ends of the springs are secured while the plates are respectively secured to the upper and lower lifts.

With the above and other objects in view the invention consists of the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing, wherein like reference characters designate corresponding parts throughout the several views,

Figure 1 is a longitudinal sectional view of a spring heel constructed in accordance with the present invention, showing metallic coil springs positioned between upper and lower lifts of a heel with telescoping side walls of the heel inclosing the springs, and further showing the springs anchored at their upper and lower ends to the lifts of the shoe heel,

Figure 2 is side elevational view of the upper and lower lifts removed from the heel with the coil springs interposed therebetween and anchored to said lift,

Figure 3 is a fragmentary top plan view of the construction shown in Fig. 2 with the upper lift removed to show the anchoring plate for the ends of the coil springs,

Figure 4 shows perspective views of the spring anchoring plates and fastening staples associated therewith,

Figure 5 is a longitudinal sectional view of a modified form of spring heel showing the use of return bent band springs,

Figure 6 is a horizontal sectional view of the heel shown in Fig. 5 illustrating the longitudinally extending leaf springs in top plan view, and

Figure 7 is a top plan view of the heel shown in Fig. 5 removed from the upper and illustrating the staple fastening for securing the heel to the upper.

Referring more in detail to the accompanying drawing, and particularly to Figs. 1 to 4, there is illustrated a spring heel for boots or shoes associated with the upper 1 and embodying upper and lower sections 2 and 3 respectively.

The upper section 2 embodies a lift 4 having marginally secured thereto a depending skirt or apron 5 formed of any suitable material, such as metal, leather or rubber.

The lower heel section 3 embodies a lift 6 carrying a marginal upstanding skirt or flange 7 that telescopes within the flange 5 depending from the upper heel section 2 as shown in Fig. 1, while a tread block 8 of rubber is secured to the lower face of the lift 6.

As shown more clearly in Figs. 1 and 2, a plurality of metallic coil springs 9 are interposed between the upper and lower lifts 4 and 6, the opposite ends of the coil springs 9 being anchord to plates that are in turn respectively secured to the adjacent lifts. The anchoring plates 10 associated with each end of the spring is shown more clearly in Fig. 4, the same being of substantially rectangular formation in plan view having a tapering or wedge shaped slot 11 formed in one end thereof while the opposite end is apertured as at 12. The formation of the wedge shaped block 11 provides side legs 13 in the anchoring plate 10, the outer ends of which are apertured as at 14 for purposes presently to appear. The end 9^a of the coil spring 9 is forced into the wedge slot 11 in the anchoring plate 10 with the terminal end of said spring directed through the opening 12 as shown more clearly in Figs. 2 and 3. A U-shaped staple 15 has the side legs thereof passed therethrough the openings 14 in the legs 13 of the anchoring plate and are associated with the lifts 4 of the upper section of the heel and the shoe upper 1 in a manner to constitute a fastening device for the heel. The anchoring plate 10 is associated with the lower ends of the spring 9 and are secured to the lower lift 6 by fastening devices 16 as shown in Fig. 2, thereby forming a connection be-

tween the upper and lower sections 2 and 3 of the heel.

From the above detail description of the device, it is believed that the construction and operation thereof will at once be apparent, it being noted that the coil springs 9 are confined within the marginal flanges 5 and 7 carried by the upper and lower sections of the heel and telescoping within each other, the anchoring plates 10 constituting a positive anchoring means for the ends of the springs and an easy method of securing the same to the lifts of the upper and lower sections.

In the form of the invention shown in Figs. 5 and 7, the upper lift 4^a of the heel is provided with a marginal depending skirt or flange 5^a that incloses the lower lift 6^a that carries a rubber tread block 8^a. In lieu of the coil springs 9 return bent leaf springs 17 are employed, the same being arranged side by side and extending longitudinally of the heel as illustrated in Fig. 6, the lower ends of the leaf springs 17 being secured as at 16^a to the lower lift 6^a, while similar fastening devices 16^a secure the upper ends of said springs to the upper lift 4^a. The connection between the upper lift 4^a and the shoe upper 1^a embodies U-shaped staples 15^a extending through the upper lift 4^a and the shoe upper 1^a as shown in Figs. 5 and 7.

While there are herein shown and described the preferred embodiments of the invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope thereof as claimed.

What is claimed as new is:—

1. In a spring heel for shoes, upper and lower telescoping sections, coil spring interposed between the sections, anchoring plates associated with the ends of the springs, and each being of retangular formation having a wedge-shaped slot therein for receiving the end of the spring, and means for securing the anchoring plates to the adjacent sections.

2. In a spring heel for shoes, upper and lower telescoping sections, coil spring interposed between the sections, anchoring plates associated with the ends of the springs, and each being of rectangular formation having a wedge-shaped slot therein for receiving the end of the spring, means for securing the lower anchoring plates to the lower section, and U-shaped staples securing the upper anchoring plates to the upper section and shoe upper.

3. In a spring heel for shoes, upper and lower telescoping sections, coil springs interposed between the sections, anchoring plates associated with the ends of the springs, and each being of retangular formation having a wedge-shaped slot therein for receiving the end of the spring, said slot forming side legs having openings in the ends thereof, means for securing the lower anchoring plates to the lower section, and U-shaped staples inserted in the leg openings of the upper anchoring plates for securing the upper ends of the springs to the upper heel section and shoe upper.

In testimony whereof I affix my signature.

JOHN DUTCHAK.