E. W. BURT.

SHOE HEEL.

APPLICATION FILED APR. 8, 1915.

1,151,511. Patented Aug. 24, 1915.

Fig. 1.

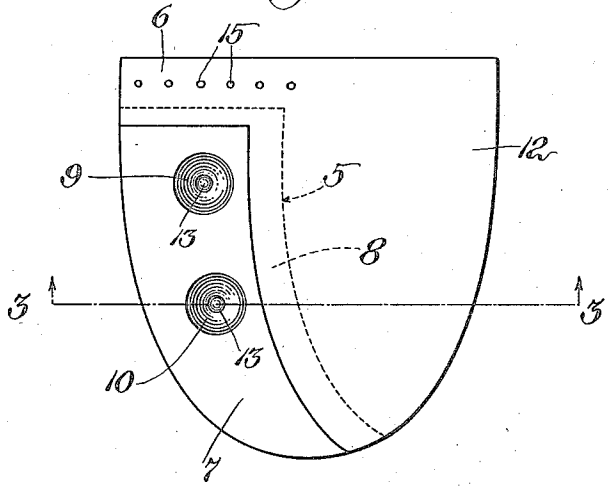


Fig. 2.

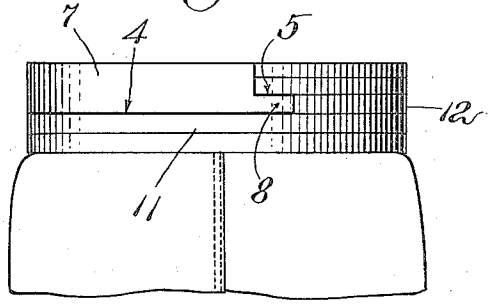
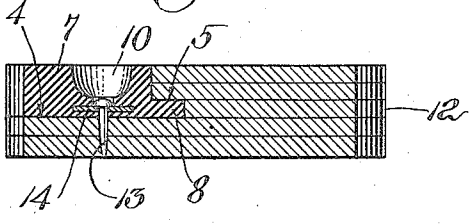


Fig. 3.



Inventor:

Edward W. Burt,

by Edwin V. Curtis

Attorney.

UNITED STATES PATENT OFFICE.

EDWARD W. BURT, OF BOSTON, MASSACHUSETTS.

SHOE-HEEL.

1,151,511. Specification of Letters Patent. Patented Aug. 24, 1915.

Application filed April 8, 1915. Serial No. 19,917.

To all whom it may concern:

Be it known that I, EDWARD W. BURT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Shoe-Heels, of which the following is a specification.

My invention relates to sectional yielding heels for boots and shoes, and its objects are to lessen the jar of the foot on the outside rear part when first coming in contact with the ground, to prevent toeing outwardly when walking and standing, to afford a pivot for turning inwardly the great toe of the foot when walking, to prevent slipping of the heel, to prevent the catching of the heel in the clothes of the wearer as in an all rubber heel, to effect the proper balance of the weight of the body so that the line of body weight will pass over the dorsum of the foot and through the second toe, to add to the wearing qualities of the shoe heel where the greatest wear and friction comes, and to aid in the prevention and cure of flat foot and other ailments and diseases of the human foot and adjacent parts by causing the shoe heel to yield at certain given points in order to relieve the strain and pressure on the inner arch of the foot and to remove the body weight to the outside of foot.

For several years past, it has been my custom in the manufacture of medical and orthopedic shoes to employ a quarter heel insert of the design and construction shown in Letters Patent of the United States issued to me February 14, 1911, and numbered 984,506, the salient feature of which is a common sense sole and upper provided with a flexible shank capable of bending both ways and coöperating with a heel constructed to swing the toe inwardly. Such quarter heel is located at the outward forward corner of a leather heel and operates to cause the toe to be thrown inwardly in the course of walking. While such construction has been found of advantage and fully capable of the purpose of which it was designed, I have found from actual observation, demonstration and practice, that the said heel was nevertheless insufficient in many cases and susceptible of improvement; and while retaining its advantages, I have modified the same by moving the rubber insert slightly back from the outer forward corner of the leather shoe heel and by extending it back and slightly around the rear part of said heel, where the wear and jar are sustained. I have discovered that this new construction is advantageous in providing a yielding surface at the rear of the shoe heel where the heel first comes in contact with the ground, thus lessening the jar and providing a better wearing surface at this point. I have also discovered that setting back the rubber insert from the forward outside corner does away with the yield at this part of the heel, by throwing such yield farther back to cover the portion of the heel which first strikes the ground, including the point where the pivoting means is required. Furthermore, the setting back of the rubber insert from the breast of the heel avoids the possibility of catching the rubber corner thereof in the clothing of the wearer, as is liable to happen with the former construction.

Attention is hereby directed to the accompanying drawing, in which similar numerals of designation refer to similar parts throughout the several views.

Figure 1 is a plan view of the face of a leather heel containing my improved rubber insert; Fig. 2 is an end elevation thereof; and Fig. 3 is a rear vertical section on line 3—3 of Fig. 1.

Referring to the drawing, the heel 12, composed of lifts of leather stock in the usual manner, is provided with the recess 4 extending as shown from near the outer forward corner of the heel around the rear portion thereof, and being provided with the flange or channel 5. At the breast of the heel, a substantial portion thereof forms the wall of leather 6, which serves effectually to separate the recess 4 from the corner of the heel adjacent thereto. Within said recess 4 is fitted the rubber insert 7, the lip 8 thereof registering with the channel 5. Cups 9 and 10 are provided in the face of said insert, and in addition to supplying a yielding pivoting means, as hereafter described, also serve the double purpose of suction disks to grip and prevent slipping, and as means of deeply embedding the heads of the nails 13 used to secure the insert to the leather of the heel, a steel washer 14 being used to hold and fasten said nails. By the wall 6, a solid non-yieldable point is established by the solid heel, further insured by driving nails 15 on the outer forward corner 6, which gives a firmness of tread at this point, preventing the scaphoid bone from dropping and yielding to pressure of the wearer of the shoe,

also giving additional strength to the heel of the shoe, not obtained in my other patent above mentioned.

Preferably the rubber of the insert is extended around the rear portion 11 of the heel 3 only to a sufficient extent to completely cover the contact of the edge thereof which first touches the ground; but if desired, the insert may be further continued and otherwise modified without departing from the spirit of my invention. As will be observed, the use of such construction obviates the objections heretofore existing relative to what are known to the trade as half heels, which are formed by dividing the lower lifts of a leather heel by a longitudinal cut, and substituting for one of such divisions an insert of rubber, and in which the lower rear portion of the heel coming into initial contact with the ground is partly rubber and partly leather, and therefore only partly dispenses with the jar of the foot and does not pivot the toes inwardly as well as yielding on the outer forward corner as will my new heel, herein described.

Preferably the cup 10 is placed as nearly as possible to the place found by actual experience and practice to be the best point upon which to pivot or swing inwardly the toe of the shoe;—usually the central portion thereof. The adhesion produced by the suction of this disk, together with the large surface of rubber to the rear thereof, has the effect of causing the shoe to pivot thereon, the cup 9 serving to assist such operation though not essential thereto.

By the general construction of heel with the insert as above set forth, I am able to produce involuntarily the throwing of the weight of the body upon the outside of the foot and to relieve the strain upon the arch thereof, thus effecting artificially that which is brought about normally in the barefoot of the aborigine in a state of nature; that is, in the language of the anatomist, in locomotion, the foot of the aborigine unfolds itself, the inner side of the os calcis first strikes the ground at the rear outside corner, from which point the body weight moves forward along the outside of the foot, to the base of the fifth metatarsal bone, allowing the weight to fall on the outside of the foot, swinging the great toe inward. Through the use of shoes containing my improved device, each foot of the wearer when it comes to the ground first sinks slightly at the rear portion of the heel, and then to a greater extent sinks at the outer edge of the heel, thereby causing the foot to pivot inwardly and the weight of said wearer to come upon the outer edge of the shoe.

As is obvious, without departing from the spirit of my invention, various changes and modifications may be made therein; and materials other than those above described may be used, provided that rubber or other yielding material is used for the insert, and that material of a firmer or more substantial character is used for the remainder of the heel.

What I claim and desire to secure by Letters Patent is,—

1. A shoe heel, consisting of a heel blank containing a recess, a narrow flange of non-yieldable material separating said recess from the breast of the heel, and an insert of yielding material within said recess and extending from the rear inner edge of said heel as far as said flange, said insert having provision for causing the toe of the shoe to swing inwardly on a portion of the insert, acting as a pivot when in the act of walking.

2. A shoe heel, consisting of a heel blank containing a recess, a narrow non-yielding wall separating said recess from the breast of the heel, and a rubber insert secured within said recess, the face of said insert covering the initial contact surface of the rear edge of the heel and extending as far as said wall, combined with a suction cup located near the central portion of said insert in such position that the toe of the wearer is caused to be swung inwardly thereabout by the act of walking.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses, this 7th day of April 1915.

EDWARD W. BURT.

Witnesses:
A. Barr Comstock,
E. S. Lindstrom.