E. E. CARLL, (KNOWN AS E. C. EDWARDS.)
HEEL AND SOLE BLANK.
APPLICATION FILED AUG. 22, 1912.

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2 SHEETS—SHEET 1.

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Inventor

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2 SHEETS—SHEET 2.

Fig. 6.

Fig. 7.

Fig. 8.

Fig. 9.

Fig. 10.

Inventor

Edward E. Carll

By Cley J. Weddington, Jr.
Attorney
To all whom it may concern:  

Be it known that I, EDWARD E. CARLL, (better known as E. C. EDWARDS,) a citizen of the United States, residing at West Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Heel and Sole Blanks, of which the following is a specification.  

This invention relates to improvements in heels, whole soles and half soles for shoes and has for its object to provide cushion heels and soles for shoes so constructed that the weight of the body will be gradually received by said heels and soles.  

Another object of the invention is to provide rubber heels and soles for shoes so constructed that a very resilient bearing surface is obtained.  

With the above and other objects in view, I have invented the device illustrated in the accompanying drawings in which—  

Figure 1 is a side elevation of my improved shoe sole. Fig. 2 is a top plan view thereof. Fig. 3 is a section on line A—A of Fig. 2. Fig. 4 is a plan view of a heel. Fig. 5 is a section on line C—C of Fig. 4. Fig. 6 is a side elevation of a rubber half sole. Fig. 7 is a section on line B—B of Fig. 2. Fig. 8 is a side elevation of an inner sole, and Fig. 9 is a sectional view through a portion of a shoe showing my improved cushion sole applied thereto. Fig. 10 is a transverse cross-sectional view of a modified form of the invention.  

Like reference characters indicate like parts throughout the following specification and in the several views in the drawings in which—  

1 indicates a whole sole having the sole portion 2, the instep 3, and heel 4, the said heel and sole portions having upstanding edges 5 and 6, which extend entirely around said heel and sole whereby a recess 7, is formed in the heel and a recess 8 is formed in the sole portion. In these recesses are a series of integral upstanding, conical teats 9, the outer of which project very slightly above the edges 5 and 6, and gradually increase in length toward the central portion 10, of the heel and the ball portion 11 of the sole; the longer of said teats being more pliant and the shorter ones being stiffer than said long ones. The weight of the body will be gradually received by these teats which will slowly bend under said weight, thus producing an extremely soft-cushioning effect.  

In Fig. 5 is illustrated a section of a rubber heel 12, which is formed in the same manner as the above described heel, the teats 13 gradually increasing in length to the center 14, and when the weight of the body is brought upon these teats they collectively assume a spiral position, and prevent any sudden jar to the heel of the wearer.  

In Fig. 7 I illustrate the half sole 15, which is formed in precisely the same manner as the sole portion 2 illustrated in Figs. 1, 2 and 3, and in Fig. 7 is illustrated a sole 16 which is adapted to be placed between an outer sole 17 and a leather insole 18 on the shoe 19; this sole 16 is relatively much thinner than the sole 2, but it is provided with a series of teats 20, formed in recesses in said sole formerly described.  

In Fig. 10 I show a modification of the device in which instead of using coneshaped teats as used in the other forms of the invention, I provide a sole 23 having an upstanding flange 24 therearound, and upwardly projecting members 25 which are formed in stepped relation gradually increasing in height to the part of the shoe where the greatest pressure is brought to bear.  

It is to be noted that my improved soles, half-soles or heels may be used either as an outer sole or they may be interpos’d between the insole and outer sole. Also, if desired, they may be used as an insole in which case they will be reversed, the teats projecting downwardly and contacting the upper surface of an outer sole.  

Having now described my invention, that which I claim to be new, and wish to procure by Letters Patent is:  

1. A blank having heel and sole portions, each portion being provided with a recess, and a series of closely scattered rubber teats extending upwardly from the bottom of said recesses, each of said teats being substantially pyramidal in outline and having a rounded end, said series of teats being so arranged as to be increased in length as they approach the center of the heel and sole portions, respectively, the longest of said teats projecting beyond the adjacent face of said heel and sole.  

2. The described device consisting of a...
rubber blank having a recess, and a series of teats projecting from the surface of said blank within said recess, each of said teats being pyramidal in shape, said series of teats gradually increasing in length as the center of said blank is approached, the longer of said teats projecting above the uppermost surface of said blank.

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

EDWARD E. CARLL,
(KNOWN AS E. C. EDWARDS).

Witnesses:
WILLIAM T. MINOR,
GERTRUDE MURRAY.