UNITED STATES PATENT OFFICE.

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ATTACHING DEVICE FOR SHOE-HEELS.


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To all whom it may concern:

Be it known that I, JOHN ANDERSON, a citizen of the United States of America, and a resident of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Attaching Devices for Shoe-Heels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in attaching devices for shoe heels, and more particularly to an attaching device adapted for use with resilient heels made of rubber, or the like.

Prior to this invention, rubber heels have been secured to shoes through the medium of nails which are driven into the soles of the shoes. According to the usual practice, each nail is provided with a head which lies in an open pocket at the bottom of the heel, and I have found that small rocks, gravel, or the like, are sometimes forced into the open pocket where they bear against the nail head, with the result of gradually forcing the sharp upper end of the nail through the insole of the shoe. This is especially true of rubber heels which yield, or wear away, in response to upward thrusts on the nail heads, so as to permit vertical displacement of the nails.

The object of my invention is to prevent vertical displacement of the heel-attaching device. Briefly stated the device I have shown to illustrate the preferred form of the invention includes a nail having a head which engages a lower abutment in the shoe heel, and this nail is also provided with a shoulder engaging a substantially non-yielding abutment at the upper portion of the heel to limit upward movement of the nail.

Although upward displacement of the nail is prevented by the non-yielding abutment, the nails and abutments do not impair the resilient properties of the heel, the resilient material being free to yield between the upper and lower abutments. These abutments are preferably metal washers. An upper washer cooperates with a shoulder on the nail to prevent upward displacement of the nail, while a lower washer is yieldingly mounted between the nail head and the resilient heel-material.

Figure I is a side elevation of the rear portion of a shoe provided with an attaching device embodying the features of this invention.

Fig. II is an enlarged fragmentary vertical section, illustrating portions of the heel and sole members, and showing one of the attaching devices as it appears when the heel is secured to the shoe.

Fig. III is a plan view of a portion of the heel, showing the upper washer at the top face of the heel.

To illustrate the invention I have shown a shoe provided with an insole 1, an outsole 2 and a heel A preferably made of rubber or other resilient material. B designates a metal washer 5' is located at the top of the pocket 3, and an upper abutment washer 5' is located at the top of the resilient heel. The nail B is provided with a shoulder 6 engaging the metal washer 5' and a reduced extension 7 passing through the washer 5 and outsole 2, the sharp upper end of said reduced extension being clenched onto the top face of the outsole 2. The upper washer 5 is provided with a relatively small nail-receiving opening through which the reduced extension 7 passes, while the lower washer 3 is provided with a larger opening adapted to receive the body of the nail. The top face of the heel A is provided with pockets adapted to receive the upper washers 5', and the top faces of these washers are preferably flush with the top face of the resilient heel. The outer margin of each lower washer 5 is preferably embedded in the resilient heel, but the central portion of this lower washer is exposed at the top of the pocket 3 to receive the nail head 4.

After the heel has been secured to the shoe, each upper washer 5' engages the bottom face of the outsole 2, which is usually made of leather and the shoulder 6 on the nail engages the bottom of this washer 5' so as to prevent upward displacement of the nail. The upper washer may be considered as a non-yielding abutment, for its top face engages a relatively firm portion of the shoe, and as a consequence the nail will not be displaced upwardly in response to upward
thrusts on the nail head. However, the lower washer 5 is interposed between the nail head 4 and the resilient heel-material, so the action of the nail head 4 and lower washer 5 does not impair the resilient properties of the heel.

It will thus be understood that the attaching device herein shown positively prevents upward displacement of the nails, thereby limiting the motion of the nails in such a manner that the nail points cannot be projected into the heel of the wearer of the shoe, and this is accomplished without materially impairing the resilience of the heel.

I claim:
1. A shoe-heel having a nail-receiving opening enlarged at its lower end to form a pocket for the head of a nail, said heel being provided with a lower abutment at the top of said pocket and an upper abutment at the upper end of said opening, and a nail having a head engaging said lower abutment, said nail also having a shoulder engaging said upper abutment and a reduced extension projecting through said upper abutment.

2. A resilient shoe-heel having a nail-receiving opening enlarged at its lower end to form a pocket for the head of a nail, said heel being provided with a yieldable lower abutment at the top of said pocket and a rigid upper abutment at the upper end of said opening, and a nail having a head engaging said yieldable lower abutment, said nail also having a shoulder engaging said rigid upper abutment and a reduced extension projecting through said upper abutment.

3. A shoe-heel having a nail-receiving opening enlarged at its lower end to form a pocket for the head of a nail, said heel being provided with a lower abutment washer at the top of said pocket and an upper abutment washer at the upper end of said opening, said upper abutment washer being provided with a relatively small nail-receiving opening and the lower abutment washer having a larger nail-receiving opening, and a nail having a head located in said pocket and engaging said lower abutment washer, said nail also having a shoulder engaging said upper abutment washer and a reduced extension projecting through the relatively small opening in said upper abutment washer.

4. A shoe-heel having a nail-receiving opening, upper and lower washers aligned with said opening, said washers being made of metal, the upper washer having a relatively small nail-receiving opening and the lower washer having a larger nail-receiving opening, and a nail passing through said openings and extending upwardly from said upper washer, said nail having a head adapted to engage said lower washer and a shoulder adapted to engage said upper washer.

5. A resilient shoe-heel having a nail-receiving opening enlarged at its lower end to form a pocket for the head of a nail, said heel being provided with a lower abutment washer at the top of said pocket and an upper abutment washer at the upper end of said opening, said upper abutment washer being provided with a relatively small nail-receiving opening and the lower abutment washer having a larger nail-receiving opening, and a nail having a head located in said pocket and engaging said lower abutment washer, said nail also having a shoulder engaging said upper abutment washer and a reduced extension projecting through the relatively small opening in said upper abutment washer, the outer margin of said lower abutment washer being embedded in the resilient heel and the upper abutment washer being approximately flush with the top face of the resilient heel.

In testimony that I claim the foregoing I hereunto affix my signature.

JOHN ANDERSON.