May 19, 1953 R. B. MOORE 2,638,611

SHOE SQUEAK ELIMINATOR

Filed Oct. 25, 1950

FIG. 1

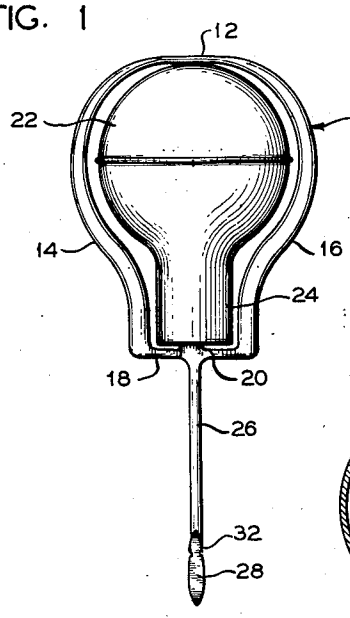


FIG. 3

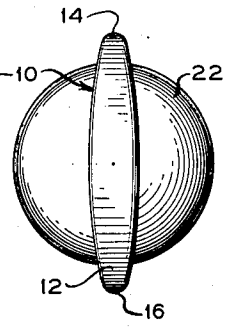
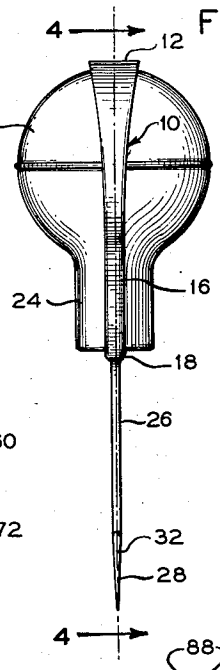


FIG. 2



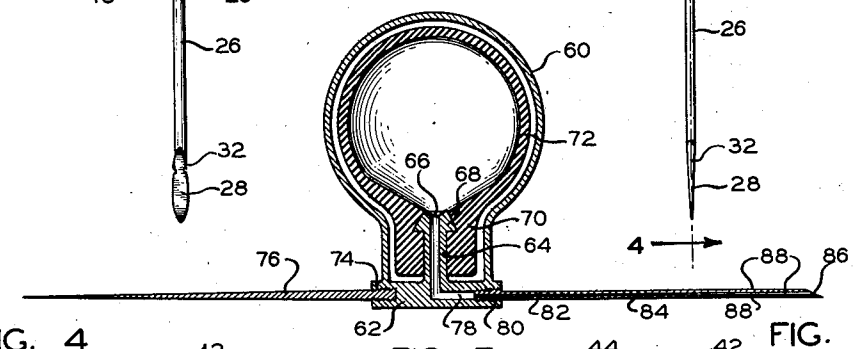


FIG. 4

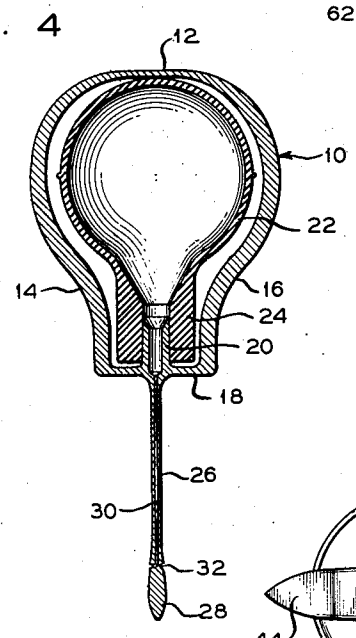


FIG. 7

FIG. 5

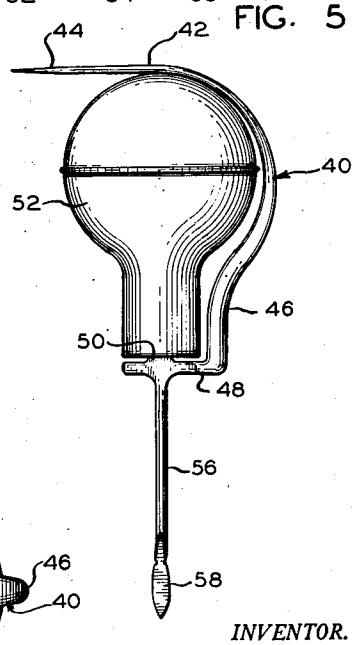
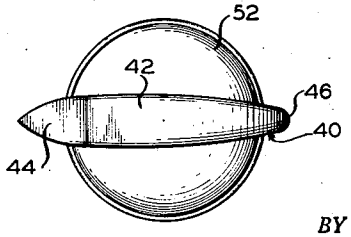


FIG. 6



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SHOE SQUEAK ELIMINATOR

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7 Claims. (Cl. 12—103)

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This invention relates to footwear and more particularly to a shoe squeak eliminator and a method of eliminating squeaks in shoes including a device by means of which powder may be injected between the layers of leather in the sole or heel of a shoe to eliminate squeaks.

The squeaking or noise produced by friction between the layers of leather in the sole, counters or heel of a shoe, particularly new shoes, or shoes which have been resoled and reheeled, has always been the source of considerable annoyance to the wearer, and, although many expedients have been devised to overcome this annoying defect in footwear, none of these has been completely successful in eliminating the annoying sound.

It is an object of the present invention to provide a device adapted to overcome the difficulties noted above and which is simple, inexpensive, and readily operable by the average person.

A further object of the present invention is to provide a device for injecting powder, liquid, glue, graphite, or other material between the layers of leather in footwear or other laminated objects to reduce the friction therebetween and eliminate squeaks and other noises resulting therefrom.

Another object of the present invention is the provision of a novel method of eliminating squeaks from footwear.

Further objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings, wherein:

Fig. 1 is a front elevational view of one preferred form of the present invention;

Fig. 2, a side elevational view of the device shown in Fig. 1;

Fig. 3, a top plan view of the device shown in Fig. 1;

Fig. 4, a section taken on line 4—4 of Fig. 2;

Fig. 5, a front elevational view of a modified form of the present invention;

Fig. 6, a plan view of the device shown in Fig. 5; and

Fig. 7, a sectional view of another modification.

Referring now to the drawings in detail a squeak eliminator, as shown in Figs. 1 through 4, is provided with a brace or bracket 10 having an upper portion 12 flattened, if preferred, and with downwardly curved arms 14 and 16 which are integrally connected to a cross member 18. A tubular conduit 20 extends upwardly from the cross member 18 and has attached thereto a bulb 22 formed of some resilient and elastic material such as rubber and provided with a thickened neck portion 24 which detachably engages the conduit 20.

A hollow needle 26 extends downwardly from the cross member 18 in alignment with the conduit 20 and is provided with a point 28 adjacent its outer end which is preferably flattened, as

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shown in Figs. 1–4, or, if desired, may be round or angular, as shown in Fig. 7. The point may also be provided with threads similar to those on a wood screw, whereby the device may be rotated and screwed in to facilitate insertion. Passage 30 extends axially through the needle 26 and terminates in a transverse passage 32 which extends to the opposite edges of a point 28 adjacent the upper portion thereof.

The bracket 10 with the conduit 20 and needle 26 may preferably be integrally formed, as shown, of a suitable rigid material, such as steel, so that the bracket 10 will withstand the pressure required to force the needle into operative position and the point 28 may be suitably hardened and sharpened to facilitate insertion. However, if desired, the parts may be made separately of different material and threaded together or otherwise secured in assembled relation.

In the operation of the device, the bulb 22 is removed from the conduit 20 and is partially filled with talcum powder in any convenient manner or, if desired, the bulb 22 can be squeezed and talcum powder or other material drawn through the passages 32 and 30 into the bulb by releasing the pressure in the bulb. The point 28 is inserted between the layers of leather, and by pressing on the flattened portion 12 with the palm of the hand the needle point is forced to the approximate location of the squeak. The bulb 22 is squeezed to force the powder between the layers of leather. The powder forms a lubricant preventing the adjacent layers of leather from rubbing together and thus eliminates the annoying sounds or squeak resulting from the friction between the layers of leather. It should be noted that the transverse passage 32 is substantially parallel to the faces of the flattened point 28, so that the powder will be directed in the proper manner between the layers of leather, when the point is inserted.

One modified form of the device is shown in Figs. 5 and 6 wherein a half bracket 40 is provided with a flattened or pointed upper portion 42 having a sharpened outer end 44 extending laterally therefrom. Bracket 40 is provided with an arm 46 integrally connected to a cross member 48 similar to the cross member 18 shown in Figs. 1 through 4. The rubber bulb 52, conduit 50 and needle 56 are identical in construction to the corresponding elements shown in Figs. 1 through 4. This device is used in a similar manner except that the sharpened portion 44 can be utilized to separate the layers of leather slightly to allow the needle 56 to be more easily inserted. This is particularly advantageous when used to eliminate squeaks in leather heels where the layers of leather are relatively thick and tight, and the force required to separate the

layers might bend the flattened point 58 of the needle 56.

A still further modification is shown in Fig. 7 wherein the squeak eliminator is provided with a bracket or grip 60 of substantially circular configuration integrally connected to a cross member 62. A tubular conduit 64 extends upwardly from the cross member and is provided with an axial bore 66 and an enlarged shoulder portion 68 which engages the similarly shaped annular recess within the enlarged neck portion 70 of the rubber bulb 72. The enlarged shoulder 68 prevents accidental displacement of the rubber bulb from the conduit 64. One end of the cross member 62 is provided with a threaded opening 74 in which is received the threaded end of an awl 76. A passage 78 communicates with the axial bore 66 and extends to a threaded opening 80 at the opposite end of the cross member 62 which receives the threaded end of the hollow needle 82. Needle 82 is provided with an axial bore 84 which extends therethrough to the beveled end 86. One or more lateral openings may be provided, as shown at 88, to properly distribute the powder. This modification provides a pistol-type of grip by which the device may be readily manipulated to force the awl 76 between the layers of leather or other material to form an opening which facilitates insertion of the needle 82. If desired, certain of the openings 88 may be disposed at diametrically opposite positions and other openings disposed at diametrically opposite positions at right angles to the first openings, as shown. This permits flow of material through the beveled end and also through certain of the openings 88 which are disposed to direct the powder between the layers regardless of the manner in which the needle is inserted.

It will be obvious that the needles 26 and 56, shown in Figs. 1 through 6, may be formed similar to needle 82 and/or threaded into the cross members 18 or 48.

It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof and therefore the invention is not limited by that which is shown in the drawings and described in the specification, but only as indicated in the appended claims.

What is claimed is:

1. A squeak eliminator comprising a bracket having a flattened upper portion and outwardly curved arms, the ends of said arms being integrally connected by a cross member, a tubular conduit extending from an intermediate portion of said cross member toward said flattened portion, a rubber bulb positioned within said bracket and having a thickened neck portion detachably engaging said conduit, and a hollow needle extending from said cross member in the opposite direction in alignment with said conduit and communicating therewith, said needle having a flattened point adjacent its outer end and a transverse passage extending between the opposite edges of said flattened point.

2. A squeak eliminator comprising a bracket having a flattened upper portion and outwardly curved arms, the ends of said arms being integrally connected by a cross member, a tubular conduit extending from an intermediate portion of said cross member toward said flattened portion, a rubber bulb positioned within said bracket and having a thickened neck portion detachably engaging said conduit, and a hollow needle extending from said cross member in the opposite direction in alignment with said conduit and communicating therewith, said needle having a transverse passage extending between the opposite edges thereof.

3. A squeak eliminator comprising a bracket having a flattened upper portion and outwardly curved arms, the ends of said arms being integrally connected by a cross member, a tubular conduit extending from an intermediate portion of said cross member toward said flattened portion, a rubber bulb positioned within said bracket and having a thickened neck portion detachably engaging said conduit, and a hollow needle extending from said cross member in the opposite direction in alignment with said conduit and communicating therewith, said needle having a flattened point adjacent its outer end.

4. A squeak eliminator comprising a bracket having an intermediate portion and outwardly curved arms, the ends of said arms being integrally connected by a cross member, a tubular conduit extending from said cross member toward said intermediate portion, a rubber bulb positioned within said bracket and detachably engaging said conduit, and a hollow needle extending from said cross member in the opposite direction and communicating with said conduit, said needle having a flattened point adjacent its outer end and a transverse passage extending between the opposite edges of said flattened point.

5. A squeak eliminator comprising a bracket, a tubular conduit extending from a portion of said bracket, an elastic bulb communicating with said conduit, and a hollow needle extending from said bracket in the opposite direction and communicating with said conduit, said needle having a flattened point adjacent its outer end and a transverse passage extending between the opposite edges of said flattened point.

6. A squeak eliminator comprising a bracket, a tubular conduit extending from a portion of said bracket, an elastic bulb communicating with said conduit, and a hollow relatively straight needle extending from said bracket in the opposite direction and communicating with said conduit, said needle having a flattened point adjacent its outer end with passages between the hollow needle and the exterior thereof.

7. A squeak eliminator comprising a handle, a hollow needle projecting therefrom, said needle having a flattened end which is wider than said needle and thinner than said needle shank, said flattened end being provided with passages communicating with the hollow of said needle and extending to the exterior of said needle at the edges of said flattened end in a location spaced from the needle extremity and in a portion of said flattened end having a width less than the widest portion of said flattened end, and means for forcing lubricating material through said needle passages.

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