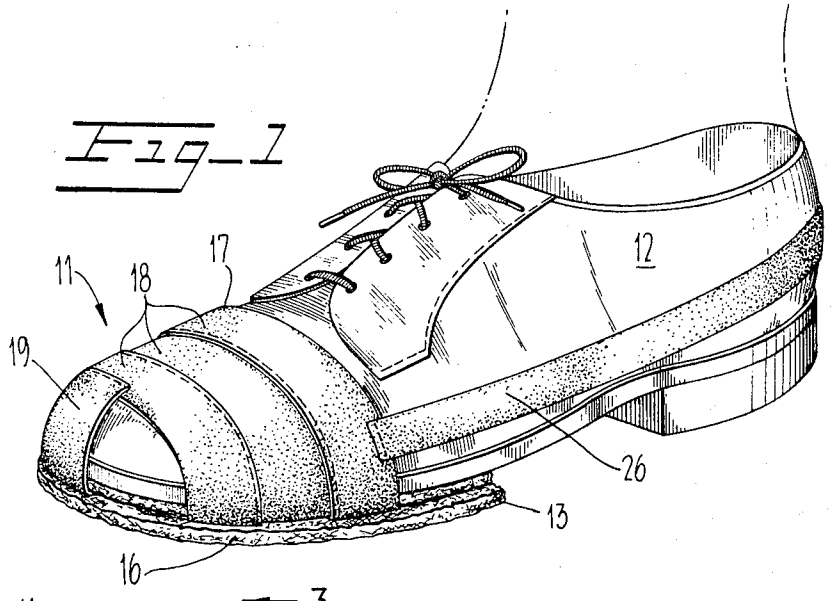
Sept. 1, 1970 L. EDWARDS 3,526,014

FOOT FLOOR-SCOURING ATTACHMENT

Filed July 10, 1968

Fig_1



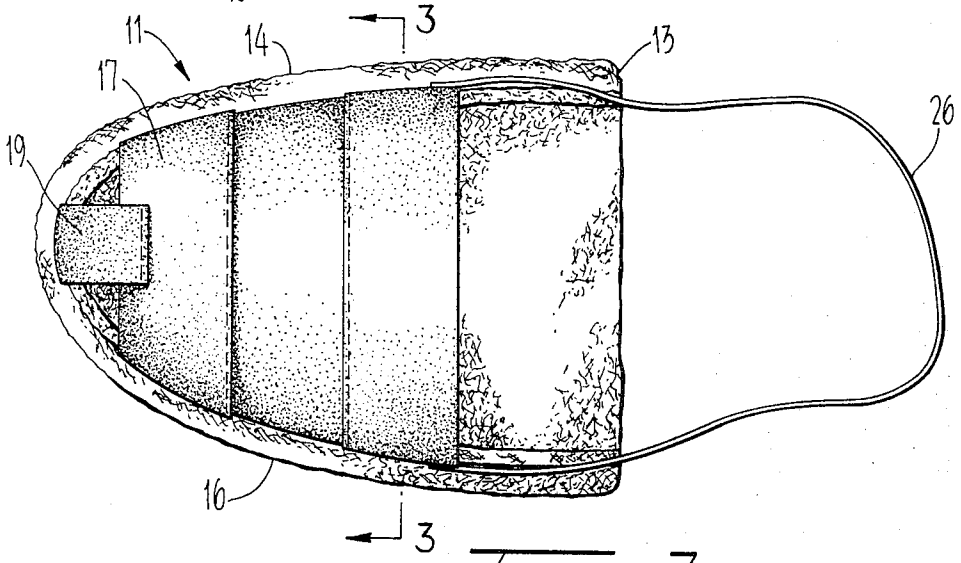


Fig_2

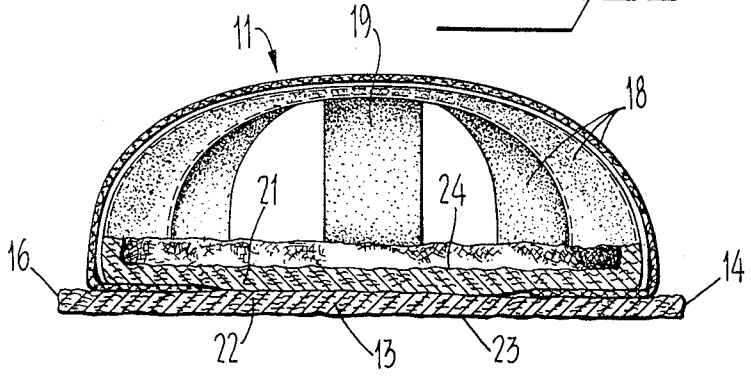


Fig_3

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FOOT FLOOR-SCOURING ATTACHMENT

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ABSTRACT OF THE DISCLOSURE

A floor scouring attachment for the foot of a custodian or the like is described. The attachment comprises a generally planar sole pad formed of two planar layers of the scouring material. An elastic vamp portion is secured to the sole pad between the two layers and extends between opposite side edges thereof to form an elastic receptacle for receiving the foot of a user. An elastic heel band is secured to the vamp portion and extends rearwardly therefrom to encircle the heel of a user's foot and maintain the vamp portion and sole pad on the user's foot.

BACKGROUND OF THE INVENTION

This invention relates to an attachment to be worn on the foot for facilitating the cleaning or polishing of a floor surface or the like, and more particularly to such an attachment which is simple, long wearing, and easy to use.

In damp mopping a floor of an office or other commercial establishment, a custodian must constantly be bending and stooping to remove shoe scuff marks, chair marks, etc., and to reach areas which cannot be reached by mechanical cleaning equipment. This continual bending and stooping is quite tiring and materially affects the efficiency of the custodian, as well as adding appreciably to the amount of time needed to clean an area. In an attempt to overcome this problem, cleaning implements have been designed for attachment to the foot of the custodian or other user to eliminate the stooping. However, these implements have not received any appreciable usage. In general, they have been relatively expensive and complicated. Moreover, in use many of them tend to roll or otherwise not stay properly oriented on the foot upon the user making a brushing motion with his foot to scrub the floor with the attachment. Also, many of the devices of this type designed in the past have not been sufficiently long wearing to warrant either their expense or use.

SUMMARY OF THE INVENTION

The present invention is a foot attachment for cleaning or polishing a floor surface which is simple, inexpensive, and stays properly positioned on a foot of the wearer during the use. In its basic aspects, the attachment comprises a generally planar sole pad which has an exposed underface for engaging the floor surface to provide the desired scouring or polishing. An elastic vamp portion is secured to opposite side edges of the sole pad to cooperate with it to provide an elastic receptacle for reception of the foot of the wearer. A heel band extends rearwardly from the vamp portion and is adapted to extend around the heel of the user to hold the attachment in position on the user's foot.

The elasticity of the vamp portion causes a tight frictional fit between the foot of the user and the attachment to assure that the attachment stays properly oriented on

the foot. The heel band is also desirably elastic to resiliently urge the foot tightly into the vamp portion. The elasticity of the vamp and band also makes the attachment suitable for use with a wide range of foot and shoe sizes.

Most desirably, both the interior face of the sole pad, as well as the exposed underneath face thereof is of a material designed for scouring or otherwise cleaning a floor, and the elastic vamp portion is turnable inside out. With such an arrangement, the useful life of the attachment can be extended by simply turning the attachment inside out to expose on the outside the scouring surface which previously was on the interior of the device. The scouring or cleaning surface is desirably a friction surface, and the one interiorly of the attachment enhances the ability of the attachment to resist unintentional movement of the attachment relative to the foot by providing a friction surface in engagement with the sole of the shoe worn by the user. The elastic vamp portion cooperates with this surface in preventing unintentional movement by urging the user's shoe into tight frictional engagement with the friction souring surface.

The manner in which the foot attachment of the invention facilitates the cleaning of a floor surface should be readily apparent. The custodian or other cleaner can secure an attachment of the invention to either one or both of his feet before beginning a mopping operation. Then, whenever a scuff mark or other stubborn dirt or wax accumulation is encountered, the wearer of the device need simply brush his foot having the attachment back and forth over the spot to cause the scouring surface of the sole pad to remove the same. In this connection, to facilitate use of the attachment in inaccessible areas, the sole pad desirably extends laterally beyond the edges of the foot receptacle so that it can be used in corners and other areas in which the foot may not easily be inserted.

BRIEF DESCRIPTION OF THE DRAWING

With reference to the attached drawing:

FIG. 1 is an isometric view of a shoe having a preferred embodiment of the foot attachment of the invention secured thereto;

FIG. 2 is a plan view of the preferred embodiment of the invention illustrated in FIG. 1; and

FIG. 3 is a cross-sectional view taken on a plane indicated by the lines 3—3 in FIG. 2 and illustrating the interior construction of the attachment.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIG. 1 of the attached drawing illustrates a preferred embodiment **11** of the foot attachment of the invention secured in operative position upon a shoe **12** of a user. As shown, attachment **11** comprises a sole pad **13** secured inwardly of its side edges **14** and **16** to a vamp portion **17**. Vamp portion **17** is made of a stretchable elastic material so as to tightly engage the shoe of a wearer. To this end, vamp **17** consists of a plurality, in this instance, three laterally extending stretchable elastic bands **18** having their adjacent edges sewn together. A stretchable elastic toe band **19** is secured to the midportion of the forward edge of the forwardmost one of the bands **18** and extends longitudinally therefrom to a position on the toe of the pad **13** where it is secured.

To simplify the manufacture of the attachment of the

invention, the pad **13** is desirably made of two layers **21** and **22** of scouring or other material it is desired to use on the floor surface. The ends of the bands **18** and **19** can then simply be secured to the pad by disposing them between the two layers and then sewing the layers together with the stitches passing through the band ends.

Desirably, both the exposed underneath surface of pad **13**, i.e., outer face **23** of layer **22** and the interior face of the pad, i.e., outer face **24** of layer **21**, are of the desired cleaning or polishing material. Then, once the working surface of one of the layers is worn out, the receptacle portion of the attachment made up of the vamp **17** and the pad **13** can simply be turned inside out to change the relative position of the surfaces **23** and **24**, thereby exposing surface **24** for use.

With reference to FIG. 3, it will be noted that the bands **18** and **19** are secured between the layers **21** and **22** inwardly somewhat of the edges thereof. The result is that the exposed one of the sole pad layers, layer **22** in the drawing, extends laterally beyond the edges of the vamp portion provided by the bands, whereas the inner one of the layers, layer **21**, has its edges turned up within the vamp. Desirably, the layers **21** and **22** have a greater width than the width of the soles of shoes of the common sizes. The result is that when the attachment is on the foot of a wearer, the exposed portion of the sole pads **13** extends beyond the vamp and shoe so that the edges of the pad can be maneuvered into corners or other areas in which it is difficult for the wearer to extend his foot. It will be realized that upon reversing or turning the attachment inside out, the edges of the then exposed layer **21** will extend outward beyond the vamp, whereas the edges of the then inner layer **22** will be turned up within the vamp as shown in FIG. 3 for the edges of the layer **21**.

A heel band **26** is secured to the vamp portion and extends rearwardly of opposite sides thereof to encircle the heel of a user's foot and maintain the vamp portion and sole pad on the foot. Desirably, the heel band is of a stretchable elastic material and is made of one piece having its ends sewn to opposite sides of the rear one of the elastic bands **18** as shown. By being of an elastic material, band **26** facilitates the placing of the attachment of the invention on a foot by simply requiring a stretching action of the band to enable insertion of the foot into the receptacle and placement of the band in proper position around the heel.

It has been found that because of the elastic tight engagement of the vamp portion with the shoe of a wearer, the tendency of the attachment to slip around on the foot of the user when the user reciprocally maneuvers his foot on the spot being cleaned is minimized. The elasticity of the vamp portion maintains the sole of the shoe into tight engagement with the inner surface of the pad **13**. When this upper surface, surface **24** in FIG. 3 is a scouring or other similar cleaning surface, it has a high coefficient of friction. Thus, the elastic vamp cooperates with this surface of the pad to enhance assurance that the attachment stays properly in position on a shoe by holding the sole of the shoe in tight frictional engagement with such surface. The heel band **26** also helps in maintaining the attachment in proper position on the foot of a wearer by resiliently urging the wearer's foot forwardly into the elastic receptacle provided by the vamp and sole pad.

As is mentioned in the summary of the invention, one desiring to use this attachment in cleaning a floor or the like need simply attach the same to one of his feet as aforesaid. Then whenever during the mopping of a floor he should encounter a particularly dirty area or spot, he may use the sole pad of the attachment to clean it by simply brushing his foot with the attachment over the spot. The practically rigid securance of the attachment to the user's foot permits him to use more pressure in rubbing on the spot than has been possible with other implements of this general type.

As mentioned before, the attachment of the invention facilitates scouring in corners or the like because of the extension of the scouring portion of the sole pad beyond the receptacle and foot of the user. When the scouring face on one of the pads becomes worn out, it can simply be turned inside out to expose the scouring face of the other layer for use. This ability to use two different scouring surfaces in one attachment extends the life of the attachment sufficiently to make it commercially practical. It should also be noted that a pad can simply be washed out or rinsed between uses as desired.

I claim:

1. A floor cleaning or polishing attachment for a foot, said attachment comprising a generally planar sole pad having an exposed face for engaging the floor surface and providing the desired function upon the same, an elastic vamp portion secured to said sole pad and extending between opposite side edges thereof to form an elastic receptacle for receiving the foot of the wearer, and a heel band secured to said vamp portion and extending rearwardly of opposite sides thereof to encircle the heel of a user's foot and maintain said vamp portion and sole pad on a user's foot, said sole pad comprising two layers of a scouring material fixed together; and said elastc vamp portion comprises a plurality of laterally extending elastic bands having their ends disposed between said layers and fixed thereto.

2. A foot attachment according to claim **1** wherein said sole pad face and the face opposite thereof of said sole pad are adapted to provide a cleaning or polishing function on said floor, and said sole pad is selectively turnable inside out to alternately expose different ones of said sole pad faces for engagement with the floor surface.

3. A foot attachment according to claim **1** wherein said heel band secured to said vamp portion and extending rearwardly of opposite sides thereof is elastic to urge the foot of a user into said elastic vamp portion.

4. A floor cleaning or polishing attachment for a foot, said attachment comprising a generally planar sole pad having an exposed face for engaging the floor surface and providing the desired function upon the same, an elastic vamp portion secured to said sole pad and extending between opposite side edges thereof to form an elastic receptacle for receiving the foot of the wearer, and a heel band secured to said vamp portion and extending rearwardly of opposite sides thereof to encircle the heel of a user's foot and maintain said vamp portion and sole pad thereon, said sole pad comprising two layers of a scouring material sewn together; and said elastic vamp portion comprising a plurality of laterally extending elastic bands having their ends disposed between said layers and sewn thereto, and an elastic toe band having one of its ends secured to the most forwardly one of said laterally extending bands generally at a mid-portion thereof, the other end of said toe band being disposed between said layers at the front portion of said pad.

5. A foot attachment according to claim **4** wherein said exposed face of said sole pad is of a scouring material.

6. A foot attachment according to claim **5** wherein the exposed face of said sole pad extends laterally outward beyond the side edges of said vamp portion to provide an extended scouring surface beyond said vamp portion.

7. A foot attachment according to claim **6** wherein said sole pad is adapted to provide a cleaning or polishing function on said floor, and said elastic receptacle formed by said vamp portion and said sole pad being selectively turnable inside out to alternately expose different ones of said sole pad faces for engagement with the floor surface; and said heel band secured to said vamp portion and extending rearwardly of said opposite sides thereof being

elastic to urge the foot of a user into said elastic vamp portion and thereby into tight frictional engagement with the inner one of said faces of said sole pad.

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