Sept. 11, 1934. N. LITTELL ET AL 1,973,292

FOOTWEAR

Original Filed Sept. 3, 1930

Fig. 1.

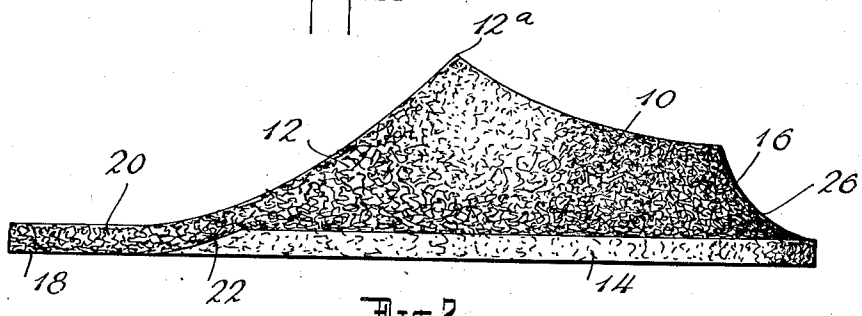


Fig. 2.

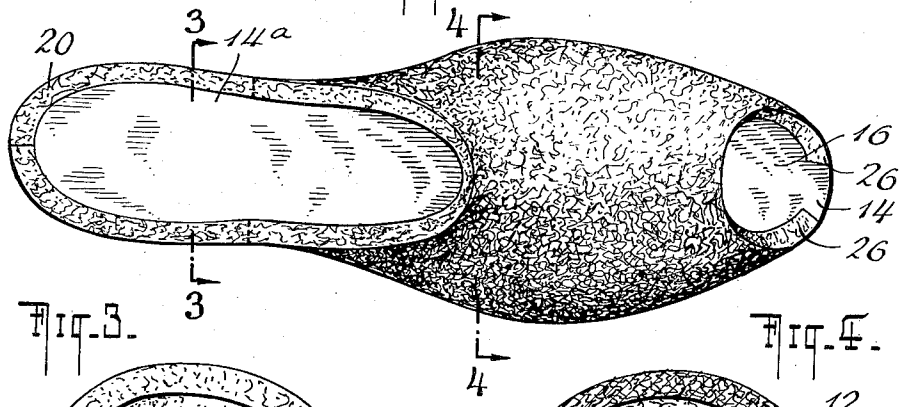


Fig. 3.

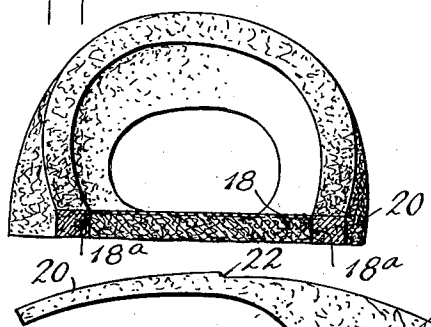
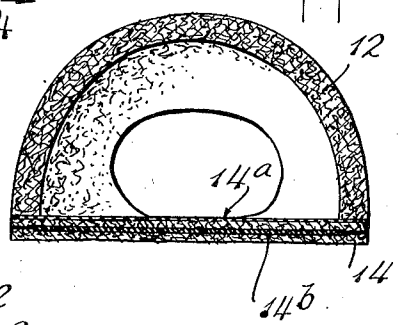


Fig. 4.



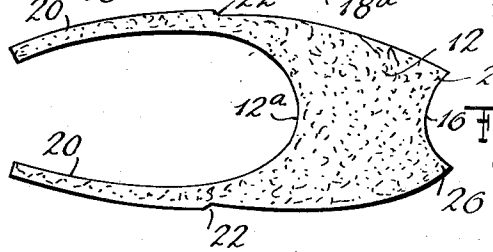


Fig. 5.

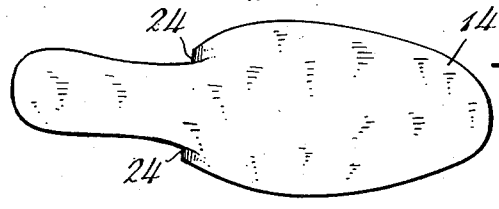


Fig. 6.

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UNITED STATES PATENT OFFICE

1,973,292

FOOTWEAR

Nelson Littell and Henry Conrad Hebig,
Brooklyn, N. Y.

Application September 3, 1930, Serial No. 479,484
Renewed December 30, 1933

9 Claims. (Cl. 36—4)

This invention relates to new and useful improvements in footwear such as a mule made substantially of sponge rubber.

It is the principal object of this invention to construct a pair of mules or similar slippers substantially entirely out of sponge rubber for use in the bath, at the beach or in the locker room to prevent slipping on smooth wet surfaces and to provide protection to the feet.

Another object of my invention is to provide a mule having a sole of porous sponge rubber in which the cellular portion of the sponge rubber opens downwardly to prevent slipping on smooth surfaces and in which the natural skin is on the inside of the slipper to facilitate insertion of the foot into the mule.

Another object of my invention is to provide a scuff or slipper of sponge rubber without rear quarters having a reenforced heel portion to maintain the sole in a substantially flat position.

Other objects of our invention will appear from the following description thereof taken in connection with the attached drawing illustrating preferred forms of embodiment thereof and in which:

Figure 1 is a side elevation of a heelless slipper or mule.

Figure 2 is a top plan view of the slipper shown in Figure 1.

Figure 3 is a vertical section on the line 3—3 on Figure 2.

Figure 4 is a vertical section on the line 4—4 on Figure 3 showing a modification.

Figure 5 is a plan view of the upper pattern.

Figure 6 is a plan view of the sole pattern.

It is known that commercial rubber sponge can be formed into a bathing and lounging slipper and one form of slipper is shown in a patent to Hebig No. 1,742,176, dated December 31, 1929, on which the present invention is an improvement. The use of rubber sponge has many advantages of porosity and flexibility, is non-slipping, etc., and in the present invention a mule or scuff having no rear upper is made of the rubber sponge material.

The mule generally designated at 10 is a heelless slipper, scuff or mule provided with an upper 12 which is adapted to be secured to the sole 14 by any preferred means such as by cementing along the seams. It is found that commercial cement will make an adequate and secure fastening between the upper and sole which is greatly strengthened by the contact between the cellular edge portion of the upper 12 which contacts with the skin portion on the upper or top face of the sole 14. As shown in Figure 2, the skin 14a is preferably left on the sole portion on the top side and is preferably removed from the bottom of the sole portion 14. One of the particular advantages of this construction is that the cellular openings of the sponge rubber engage the walking surface such as the floor or ground, cushions the foot and prevents slipping while the smooth skin portion 14a facilitates sliding the foot into and out of the slipper.

The upper 12 may or may not have the skin removed from the exterior or the interior or both. If the skin is removed this makes the upper entirely porous and permits air circulation through the upper which aids in ventilating the foot and reduces perspiration. The cellular structure of the interior of the upper of sponge rubber will engage the foot and due to its irregular surface it aids to retain the mule on the foot. As the sole has a skin portion thereon, against which the sole of the foot contacts the foot will slide into the mule without difficulty but as the foot is raised in walking, however, the upper part of the foot engages the upper 12 and as this portion of the upper has a cellular structure which is irregular, the foot does not tend to slide out of the mule or the mule to slip off the foot. The toe portion 16 is advantageously cut out of the mule to aid in ventilation.

The heel 18 of the sole 14 would normally flap because of the lack of stiffness in the usual varieties of commercial sponge rubber and it would be impossible to normally prevent inconvenience due to this. We have, therefore, provided extensions 20 of the upper 12 which extends around the rear of the sole portion as will be noted in Figures 2, 5, and 6. The upper 12 is preferably provided with extensions 20 integral with the top portion 12a of the upper 12 and these extensions have offsets 22. The extensions 20 are of sufficient length to extend entirely around the rear of the sole. The heel portion 18 is reduced from the points 24 around the rear, an amount equal to the thickness of the upper which is also the thickness of the extensions 20 and as the upper is secured to the sole portion, it will be mounted on the top of the forward part of the sole portion 14 and at the rear will extend along the sides of the sole. The extensions 20 will thus engage the side 18a of the sole around the heel portion 18 and will not be mounted on the top 14a as with the forward portion. This permits an entirely flat heelless mule or slipper without rear quarters and sufficiently strengthens and reenforces the heel so that it will maintain a sub-

stantially flat position. The extensions 20 of the upper will then be joined in the rear of the heel to complete the heel portion and tend to increase the proportionate heel area beyond that possible with an extension secured on top of the sole.

With the stiffer grades of sponge rubber the tabs 20 may be omitted from the upper and the stiffness of the sole relied upon to keep the heel from flopping or a stiffening insert 14b may be inserted between two layers of sponge rubber and cemented therein to keep the heel from flopping.

The toe portion 16 of the mule is also desirably reenforced by extensions 26 of the upper which extend forward and downward to contact with the sole 14 at the extreme front of the sole. As the upper is cut away on the top in the front, the extensions 26 act as a support and hold the front tip of the sole in a horizontal position. The extensions 26 are preferably cemented to the top of the sole portion 14 rather than as in the rear extensions but the sole could be cut out as in the rear if desired. When cemented, the extensions 26 act not only as guides for the side of the mule but hold the toe portion of the sole in proper place. The upper 12 thus maintains the sole flat and close to the foot, any increase in tension on the upper, tending to pull up the heel and toe portion to the foot. Such action makes the mule very comfortable to wear and it tends to cling to the foot after it is inserted. This effect is not present when the foot is slid into the mule because the foot is forced along the sole and in contact with the skin on the surface and during insertion of the foot, the tendency is to depress and compact the sole rather than fumble engagement with the opening in the upper. This opening although normally smaller than the foot adapted to fit therein, is of such resilience as to make it possible to slip in the foot and thus tension the upper rim. This upper rim may be provided if desired with a narrow band of a less flexible material to prevent undue stretching of the upper.

It will be found that a heelless slipper or mule without rear quarters such as herein disclosed is particularly desirable for household use as it is extremely easy to slip the foot in and is very comfortable to wear. Due to the reenforcement of the natural line of the extension from the top of the upper and the clear sweep to the rear of the heel, the heel will be securely held in position and the slipper will hold its shape. Similarly with the front, the toe portion being reenforced to almost the extreme end, the opening in the toe does not weaken the shoe and the tip is held in proper position. The open cellular structure of the sole on the bottom prevents slipping and permits walking with safety on wet and soapy places and the skin on the upper surface permits the foot to be slipped into the mule with the greatest of facility while the porous nature of the upper engages the foot preventing undesired removal of the foot and acting in the nature of a one-way engagement of the foot in the mule. The upper having the skin removed from top and bottom is sufficiently porous to prevent perspiration and sweating and as the tip is removed from the upper there is ample comfort for the wearer. Inasmuch as the mule is made of sponge rubber, it can be readily cleaned as desired by merely holding under a stream of water, squeezed and rinsed. Whatever dirt might accumulate from use in the pores can thus be quickly washed out and as the water does not deteriorate the sponge rubber, a mule of this material is durable and sanitary.

It will be understood that the article described may be made up in various ways and it may have all or one portion made of sponge rubber and may or may not be provided with a heel below the sole, and may or may not have a strap to engage the wearer's heel although such a strap is not an essential feature of this invention. Other modifications may also be made herein and it is our intention to consider within the scope of this invention similar rubber sponge devices without rear quarters and having reenforced heel portions adapted for the similar purposes hereinbefore mentioned unless otherwise excluded by the following appended claims:

We claim:

1. As an article of manufacture, a mule having a sponge rubber sole with the cellular structure of the sponge rubber on the bottom of the sole to prevent slipping and an integral smooth skin structure on the top of the sole to facilitate the insertion of the foot into the mule, and a quarterless upper extending over the forward part of the sole only.

2. As an. article of manufacture, a heelless, quarterless slipper having a sponge rubber sole, a sponge rubber upper, and a portion of said upper extending in contact with the heel portion of said sole to reenforce said heel portion of the sole and to maintain said heel portion in line with the forward portion of said sole.

3. In a heelless slipper of the class described having a sole, the sole having a reduced rear portion, an upper of sponge rubber, and extensions on said upper extending down and in contact with the side of said reduced rear portion to increase the area of said rear portion and to reenforce and support said rear portion.

4. As an article of manufacture, a scuff having a shaped sole and an upper secured thereto, said sole and said upper formed of artificial rubber sponge, said upper extending to and surrounding the heel portion of said sole but not extending above said heel portion.

5. A mule or scuff of sponge rubber having a sole and an upper, said upper being provided with a plurality of extensions extending beyond its effective length, the effective length of said upper being substantially three-fourths the length of said sole, said extensions extending to the extreme rear portion of said sole to support the rear portion of said sole in a substantially flat plane, said upper being adapted to draw said sole to a foot when the foot is inserted therein.

6. As an article of manufacture a two piece artificial rubber sponge mule or scuff without rear quarters having a sole and an upper, said upper being apertured adjacent to the front of said sole and being provided with extensions to support the top of said sole at the forward end of said sole, said upper having rearward extensions extending flush with the top and along the sides of said sole adjacent the heel portion and adapted to support the heel portion substantially on the plane of the body portion of the sole.

7. A scuff or mule of sponge rubber having a shaped sole and a skeleton upper, said sole having skin on the upper part thereof and having the skin removed from the lower part thereof exposing a porous and cellular structure, said upper reinforcing said sole throughout its length, said upper including extensions secured to otherwise unsupported portions of the sole.

8. A scuff or mule made entirely of artificial rubber sponge having exposed porous and cellular structure on the ground contact portion, said

porous and cellular structure preventing slipping, and having a smooth skin on one part of the foot contact portion, and having the skin removed from another part of the foot contact portion, said skin facilitating the insertion of the foot, the skinless portion contacting with the foot being adapted to hinder the withdrawal of the foot.

9. A mule or scuff of sponge rubber having a sponge rubber sole and an upper extending over the top of the foot, said upper being provided with a plurality of extensions extending beyond its effective length for covering the top of the foot, said extensions extending to the rear portions of said sole to support the rear portion of said sole in a substantially flat plane, said upper being adapted to draw said sole to the foot when the foot is inserted therein.

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