



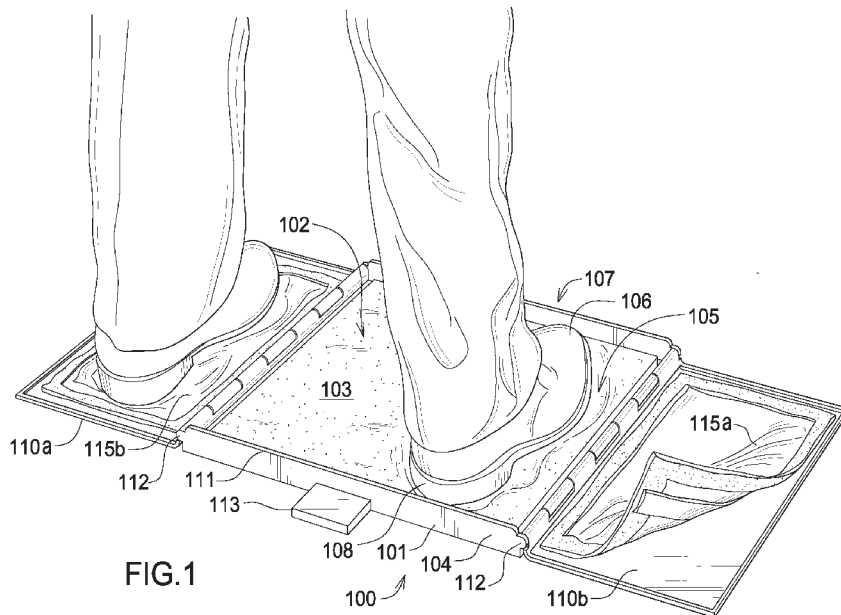
- (51) International Patent Classification:
A47L 23/22 (2006.01) A47L 23/00 (2006.01)
- (21) International Application Number:
PCT/US2011/039638
- (22) International Filing Date:
8 June 2011 (08.06.2011)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/353,277 10 June 2010 (10.06.2010) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) Title: SHOE CLEANING APPARATUS AND METHOD



(57) Abstract: A shoe cleaning device with a compressible pad that can be impregnated with a cleaning fluid. The pad is placed in cleaning area that can contain the cleaning fluid. A cover is provided to reduce evaporation of the cleaning fluid and to allow the device a more attractive appearance. The cover can be opened and closed manually, or with various automatic options. Drying pads can be provided to allow the user to dry their shoes before stepping off the shoe cleaning device.

WO 2011/156493 A2

TITLE

Shoe Cleaning Apparatus and Method

CROSS REFERENCE APPLICATIONS

5 This application is a non-provisional application claiming the benefits of provisional application no. 61/353,277 filed June 10, 2010.

BACKGROUND

10 With the increasing concern about infectious diseases such as H1N1, consumers have become increasingly concerned the ability to quickly disinfect surfaces, including body parts etc, such as can be seen by the recent spread of hand sanitizers and such. One area that remains difficult to clean and/or sanitize is shoes. Cleaning of shoes is made difficult by the dirt that is often on them in addition to any germs etc. In many cases, the dirt is what people are most interested in getting off shoes, to prevent dirt from being tracked into a house or other indoor space.

15 The foregoing example of the related art and limitations related therewith are intended to be illustrative and not exclusive. Other limitations of the related art will become apparent to those of skill in the art upon a reading of the specification and a study of the drawings.

SUMMARY

20 One aspect of the present disclosure is to provide an apparatus that allows a user to quickly and easily clean dirt and/or infectious agents off their shoes without using their hands and without having to remove the shoes.

25 The following embodiments and aspects thereof are described and illustrated in conjunction with systems, tool and methods which are meant to be exemplary and illustrative, not limiting in scope. In various embodiments, one or more of the above described problems have been reduced or eliminated, while other embodiments are directed to other improvements.

In one embodiment a small case is provided with a cover that can be opened using foot movements. A pad is provided that is saturated with a cleaning fluid to allow the user

to clean the bottom and a portion of the sides of the user's shoes. The cleaning fluid can be refilled automatically from a reservoir or periodically by the user. Optionally, additional pads can be provided to allow the user to blot excess fluid from the bottom and sides of the shoes. Both sets of pads can be made to be replaceable as needed.

5 In addition to the exemplary aspects and embodiments described above, further aspects and embodiments will become apparent by reference to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

10 BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of an open shoe cleaning device.

Figure 2 is a perspective view of the shoe cleaning device with the cover partially open.

Before explaining the disclosed embodiment of the present invention in detail, it is to be understood that the invention is not limited in its application to the details of the particular arrangement shown, since the invention is capable of other embodiments. Exemplary embodiments are illustrated in referenced figures of the drawings. It is intended that the embodiments and figures disclosed herein are to be considered illustrative rather than limiting. Also, the terminology used herein is for the purpose of description and not of limitation.

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DETAILED DESCRIPTION OF THE DRAWINGS

Referring first to Figure 1, the shoe cleaning device 100 has a base 101 that has a cleaning location 102 that has an area large enough that most people could get both feet with shoes on comfortably in the cleaning location 102 in the depicted embodiment. In the alternative, the cleaning location could be sized such that one shoe at a time (not shown) such that the user is always standing with one foot not in the cleaning location 102. The cleaning location 102 has a pad 103 and a rim 104 around the cleaning location 102 allowing the cleaning area 102 to be filled with fluid. The pad 103 in most embodiments will be saturated with a cleaning fluid 105. In many cases, it will be desirable to have the cleaning

fluid just reach the top of the pad 103 when the pad 103 is not compressed by a user, such that there is little or no visible standing fluid in the center area. This helps keep the fluid 105 at a level that will prevent the fluid from saturating the upper 106 of the shoe 107. In most cases, it will be desirable to have the fluid level such that the fluid mostly or entirely contacts the sole 108 of the shoe and not the body 106. The thickness of the pad 103 and the level of the fluid 105 should be chosen such that most shoe soles 108 will be cleaned, but the upper of the 106 will not be wetted. This allows for a wider choice of cleaning fluids, since it is most often the upper 106 of the shoe 107 that is made from a material that the user might not want in contact with the cleaning fluid, such as suede or cloth. This reduces the odds that the cleaning fluid might cause discoloration or other damage to the body 106 of the shoe. Given the wide variety of things that shoes are made of, finding a cleaning fluid that would not damage any of them would be very difficult.

The pad 103 can be made of a durable porous material non-woven material that can have a large amount of cleaning fluid 105 saturated into the pad 103. Other possible materials could be used as well. The fluid 105 can be provided from a reservoir (not shown) or added to the main area 102 as needed as the fluid level drops. The pad 103 should be compressible to allow the pad to press up into recesses in the bottom of the shoe, such as tread, heels or similar space. This allows the recesses to be cleaned as well. The pad 103 needs to be stable under an adult human weight, so that the user can wipe their shoes while standing on the pad 103 and not be at risk for falling. The fluid can have a disinfecting agent included in the fluid such as an alcohol based fluid and if desired can include fragrances. The pad 103 can be made of a washable material, to allow the pad 103 to be re-used, or the pad 103 could be replaceable, to allow it to simply be replaced with too dirty or worn. In some applications it may be desirable to have the pad 103 made of a biodegradable material, to allow it to be composted or otherwise recycled. The pad 103 could be sold pre-wetted, or sold dry and the fluid sold separately, depending on the desired uses.

The cover 110 in the depicted embodiment is divided into equal two pieces 110a, and 110b and opens at the center line 111 by pivoting on hinges 112. Other embodiments

may have single cover opening to one side or other possible cover configurations. The opening of the cover 110 can be activated by the user tapping button 113, causing the cover 110 to open and/or close respectively. Alternatively, the button 113 could open the cover 110 and the cover could automatically close after the user's weight has been removed from the device for some period of time. Instead of a button, the device could have motion sensing device 114 as seen in Figure 2. The covers could be moved by motors, biased closed and moved open by motors or any other of a number of possible alternatives. For a non-mechanize version, tabs 119 could be provided to allow the user to open and close the covers 110 with their foot.

10 In use the user would approach the shoe cleaning device 100, open the covers 110, step on the pad 103, wipe their shoes on the pad to remove any excess dirt and to allow the fluid to soak the bottoms of the shoes for some period of time to allow any disinfecting agent in the fluid to be in contact with the bottoms of the shoes for a chosen amount of time. Then the user would place the shoe on the drying pad 115 to allow any excess fluid to be blotted away. The cover of the device would then be closed in most embodiments, preventing evaporation of the fluid and reducing the area taken up by the device when not in use. This allows the device to be used in small spaces, increasing its functionality.

15 In the depicted embodiment, drying pads 115a, 115b are provided on the inside surface of the covers 110. These drying pads are made of an absorbent material, such as fabric, non-woven material and numerous other alternatives. If desired the drying pads 115a can be removably attached to the inside of cover 110, as seen in Figure 1. This allows the drying pads 115 to be easily replaced when needed. The drying pads 115 could also be placed in separate areas of the base 101 from the pad 103 and fluid 105, instead of on the cover as depicted.

25 While a number of exemplary aspects and embodiments have been discussed above, those of skill in the art will recognize certain modifications, permutations, additions and sub-combinations therefore. It is therefore intended that the following appended claims hereinafter introduced are interpreted to include all such modifications, permutations,

additions and sub-combinations are within their true spirit and scope. Each apparatus embodiment described herein has numerous equivalents.

The terms and expressions which have been employed are used as terms of description and not of limitation, and there is no intention in the use of such terms and expressions of excluding any equivalents of the features shown and described or portions thereof, but it is recognized that various modifications are possible within the scope of the invention claimed. Thus, it should be understood that although the present invention has been specifically disclosed by preferred embodiments and optional features, modification and variation of the concepts herein disclosed may be resorted to by those skilled in the art, and that such modifications and variations are considered to be within the scope of this invention as defined by the appended claims. Whenever a range is given in the specification, all intermediate ranges and subranges, as well as all individual values included in the ranges given are intended to be included in the disclosure. When a Markush group or other grouping is used herein, all individual members of the group and all combinations and subcombinations possible of the group are intended to be individually included in the disclosure.

In general the terms and phrases used herein have their art-recognized meaning, which can be found by reference to standard texts, journal references and contexts known to those skilled in the art. The above definitions are provided to clarify their specific use in the context of the invention.

All patents and publications mentioned in the specification are indicative of the levels of skill of those skilled in the art to which the invention pertains. All references cited herein are hereby incorporated by reference to the extent that there is no inconsistency with the disclosure of this specification. Some references provided herein are incorporated by reference herein to provide details concerning additional starting materials, additional methods of synthesis, additional methods of analysis and additional uses of the invention.

I CLAIM:

1. A device for cleaning shoes comprising:
a base having a cleaning area capable of holding fluid;
a compressible pad in the cleaning area capable of hold the weight of an adult
5 human and sized to allow a least one foot of an adult human to rest fully on the
pad;
the compressible pad being formed such that a person can wipe a shoe to be
cleaned on the compressible pad to clean at least a portion of the shoe;
a cover for the cleaning area having an open position that allow access to the
10 compressible pad and a closed position where the compressible pad is enclosed by
the cleaning area and the cover;
a means to move the cover from the closed position to a open position and back;
the cleaning area being capable of holding a cleaning fluid;
2. The device of claim 1 wherein the cover is pivotally attached to the base.
- 15 3. The device of claim 1 wherein the cover is dived into two parts, each of
said part being pivotally attached to the base.
4. The device of one of claims 2 or 3 wherein the cover further comprising at
least one drying pad attached to a portion of the cover.
5. The device of claim 4 wherein the drying pad is enclosed in the cleaning
20 area when the cover is in the closed position.
6. The device of claim 5 wherein the drying pad is attached to an inside
surface of the cover.
7. The device of claim 1 wherein the compressible pad is removably attached
to the cleaning area.
- 25 8. The device of claim 6, wherein the drying pad is removable attached to the
cover.
9. The device of claim 1 wherein the means to move the cover is a motor.
10. The device of claim 1 wherein the means to move the cover is activated by
the user touching a switch with at least a portion of a shoe.

11. The device of claim 1 wherein the means to move the cover is activated by a motion sensor.

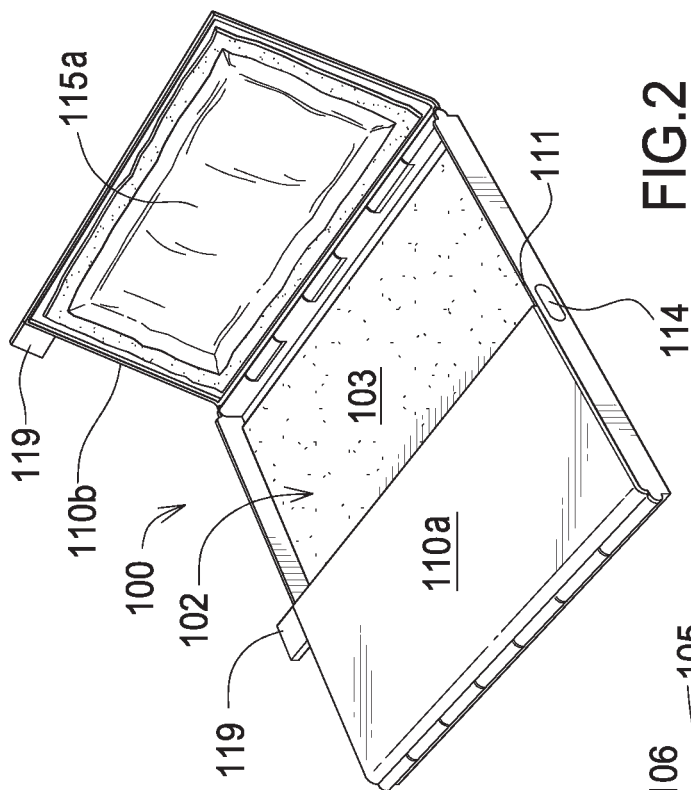


FIG. 2

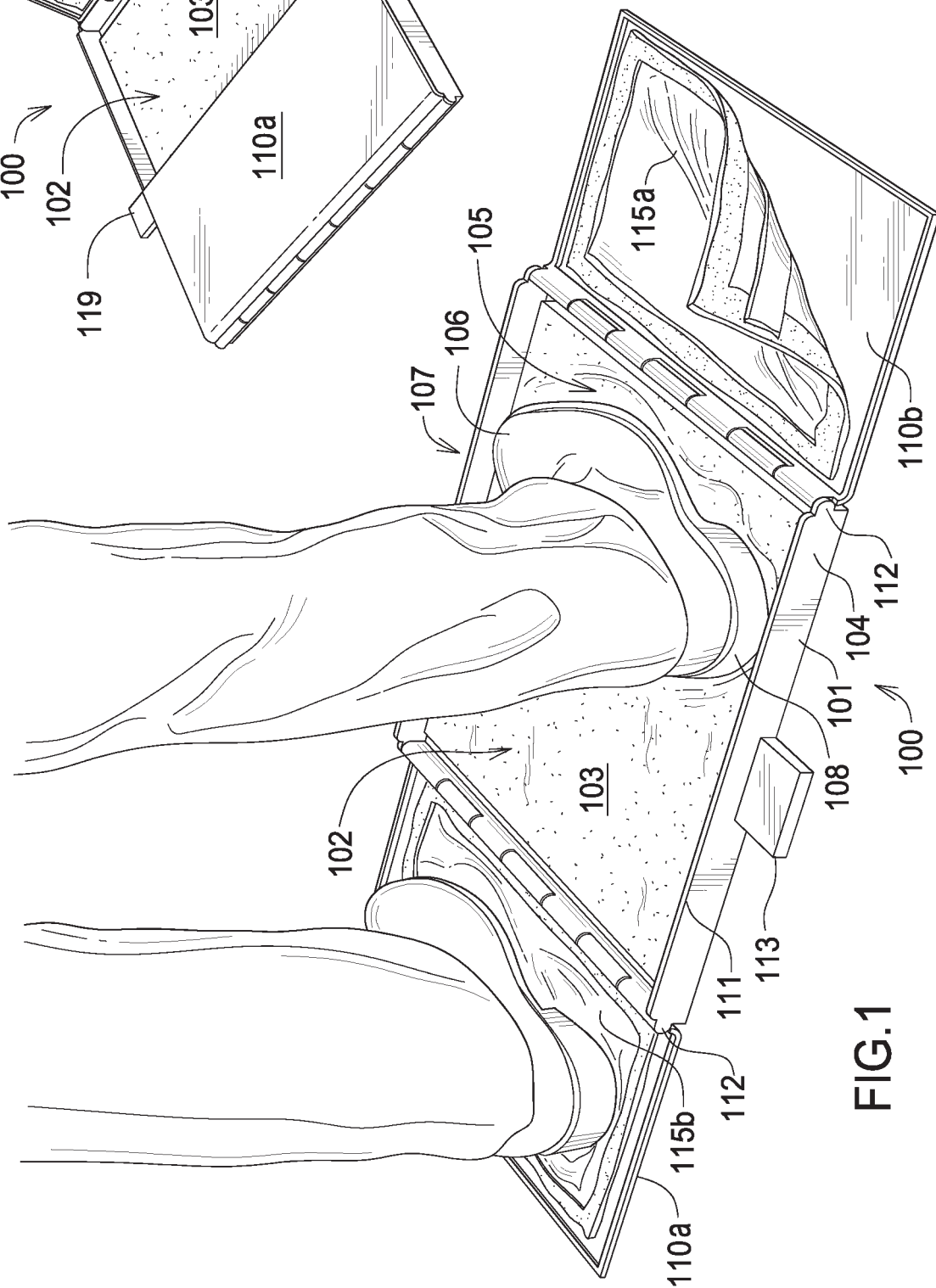


FIG. 1