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3,142,916

ACCESSORY FOR GARMENT STEAMING DEVICES

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Fig. 1.

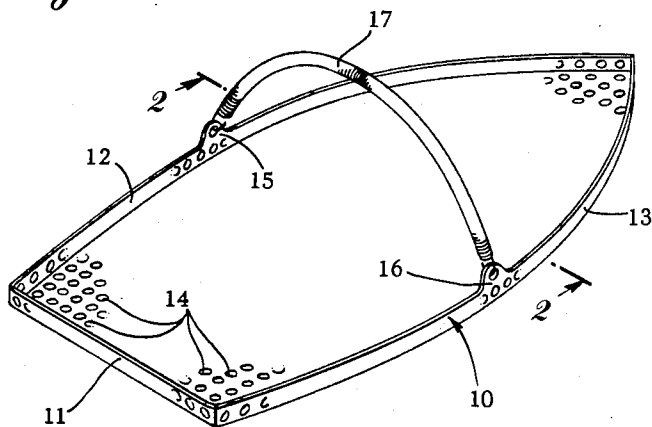


Fig. 2.

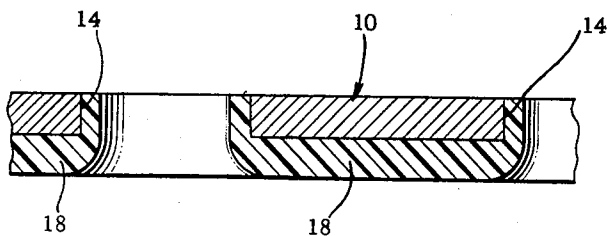
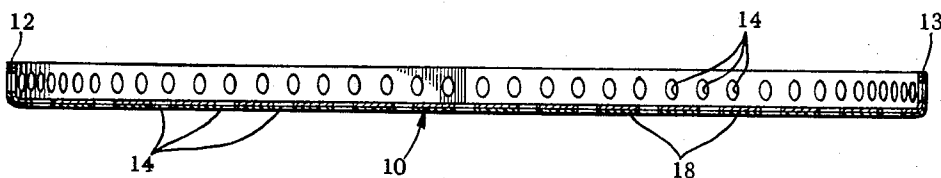


Fig. 3.

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ACCESSORY FOR GARMENT STEAMING DEVICES

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This invention relates to garment steaming devices, and more particularly to an accessory for a steam iron, a steam pressing machine and a spotting board or other like device.

Although the present invention may have a great many applications and is not to be limited to those specifically enumerated herein, the invention has been found especially useful when employed as an accessory or shoe for a steam iron.

In the past, an unbonded perforated sheet of tetrafluoroethylene, sold under the trade name of "Teflon," has been employed with steam pressing devices to prevent fabrics from being seared by the application of heat thereto from a hot metal or other surface of a high specific heat and thermal conductivity. For example, a steam iron shoe employing such a sheet is disclosed in an issued U.S. Patent No. 2,876,565.

Notwithstanding the utility of garment steaming accessories made of Teflon to prevent garments from being seared, the relatively high cost of this material makes it desirable to extend the useful life of such accessories and to reduce cost of manufacture thereof.

One physical property of Teflon which shortens its useful life is that it wrinkles with age and use. This wrinkling, in combination with the high flexure to which it is subjected by its use when it is wrinkled, causes unbonded Teflon sheet material to crack and break. This property is separate and distinct from the stretching and shrinkage problem solved by the device of the said issued patent.

In the manufacture of perforated Teflon sheet material such as illustrated at 16 in the said issued patent, it is often necessary to make the unbonded sheet U-shaped in cross section such as shown in FIG. 4 of the patent. This curvature is required in order to fit in sheet retaining means or around a garment steaming or steam pressing device.

Unbonded Teflon sheet with a U-shaped cross section can be formed only by the application of heat and under pressure. Both of these forming conditions of pressure and temperature cause Teflon to become undesirably soft and pliable. For this reason, the added cost of a further "heat treatment" is required after unbonded Teflon sheet material is so formed. That is, it is necessary to heat a formed sheet to an elevated temperature for a substantial period of time.

In accordance with the present invention, the above-described and other disadvantages of the prior art are overcome by providing an accessory for a garment steaming device including a perforated plate and a layer of polymerized tetrafluoroethylene bonded to the plate. Thus, by bonding Teflon to a perforated steel or aluminum plate by spray coating or otherwise, the Teflon coating in adhering to the metal will not wrinkle. This type of application also need not be heat treated as has been required in the past with Teflon sheet material. Hence, without wrinkling, the accessory of the present invention will have a longer useful life and without the requirement of the heat treatment may be made at less cost than Teflon garment steaming accessories of the prior art.

In addition to the foregoing, it will be recognized that the present invention has other advantages. In particular, in perforated metal plates of the prior art employed in steaming garments, it is known that the dye from one

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fabric will fill perforations in such plates and will be retained therein by capillary action. Dyes from one garment may thus be transferred to another of a different color when dyes retained in the said perforations are expelled therefrom by a preponderance of steam pressure behind the dyes in the perforations.

In accordance with the present invention, by coating the interior surface of the perforations in a sheet metal plate, it has been found that capillary action will hold very little, if any, liquid due at least, in part, to the non-wetting property of Teflon.

In addition to the foregoing, note will be taken that mineral deposits on, or rust of a perforated steel plate are not deposited on garments in accordance with the present invention, since the metal of the perforated plate is coated to prevent rust and mineral deposits from forming thereon. In this regard, it is to be noted that the non-wetting property of Teflon aids in this function. Perforated aluminum plates likewise oxidize to some extent and attract mineral deposits. Hence, a Teflon coating onto aluminum would likewise perform the aforementioned beneficial functions of preventing oxidation and preventing the attraction of mineral deposits. Note will be taken in the case of either Teflon coated steel or Teflon coated aluminum, any oxidation of either metal or the accumulation of any mineral deposits on either bare steel or bare aluminum is especially undesirable since stains on garments treated with such garment steaming accessories can easily result, in that such metal oxides and such mineral deposits can be easily deposited on such garments by a preponderance of steam pressure and by the steam otherwise carrying such oxides and deposits through plate perforations onto garments.

The above described and other advantages of the present invention will be better understood from the following description when considered in connection with the accompanying drawings.

In the drawings, which are to be regarded as merely illustrative:

FIG. 1 is a perspective view of a steam iron shoe made in accordance with the present invention;

FIG. 2 is a sectional view taken on the line 2—2 of the steam iron shoe shown in FIG. 1; and

FIG. 3 is an enlarged sectional view of a portion of the structure shown in FIG. 2.

In general, the steam iron shoe shown in the drawing may be of a shape similar to that shown at 16 in the aforementioned patent. The shoe may comprise a single piece of sheet metal plate 10 which has been formed by bending up flanges 11, 12 and 13 to form a shoe generally of the shape as shown in FIG. 1 of the said patent. All portions of plate 10 are perforated as at 14.

Plate 10 is provided with a pair of ears at 15 and 16. A helically coiled spring 17 is connected between ears 15 and 16 to hold plate 10 substantially in a fixed position contiguous to the sole plate of a steam iron.

The bottom and exterior surfaces of plate 10, including flanges 11, 12 and 13, are coated with Teflon by spraying the same thereon in a conventional manner. Note will be taken that Teflon 18, shown in both FIGS. 2 and 3, covers not only the bottom surface of plate 10, but also the interior surfaces of perforations 14.

Although the coating of the top surface of plate 10 is not shown in FIGS. 2 and 3, the same might be provided with added beneficial effects to be anticipated.

In accordance with the foregoing, it will be appreciated that whether plate 10 be made of steel or aluminum or other high strength material, the bonding of Teflon 18 thereto by spray coating or otherwise will prevent Teflon 18 from wrinkling due to the adherence to the entire bottom surface of plate 10 and the other external surfaces of flanges 11, 12 and 13. The useful life of the

device of the present invention is thereby substantially extended by preventing the wrinkling action of unbonded Teflon sheet material employed in accessories for garment steaming devices.

Still further, heat treatment required in accordance with prior art unbonded Teflon sheet forming and manufacturing processes is obviated in accordance with the present invention and the cost of garment steaming accessory manufacturing thereby reduced.

Coating of plate 10 by Teflon 18 prevents oxidation of plate 10 when the same is made of steel, aluminum or any other metal. Still further, mineral deposits which would ordinarily tend to collect on the metal parts of plate 10 and, especially in the interior of perforations 14, are not so located due to the coating of Teflon 18 on the internal surfaces of perforations 14. Thus, metal oxides and other mineral deposits are not transferred to garments being steamed by the use of the device of the present invention.

In addition to the foregoing, by the use of Teflon 18 on the internal surfaces of perforations 14, capillary action of dyes tending to collect in perforations 14 is prevented due to the low friction and non-wetting character of Teflon 18.

Note will be taken that perforations exist both in plate 10 and Teflon 18 and that the perforations in Teflon 18 are in alignment with those in plate 10.

Although many changes and modifications of the present invention will suggest themselves to those skilled in the art, the invention of course is not to be limited to the specific embodiments set forth hereinbefore. The embodiments selected for this disclosure have been for illustrative purposes only, the true scope of the invention being defined only in the appended claims.

What is claimed is:

1. An accessory for a garment steaming device, said accessory comprising: a perforated plate; a layer of polymerized tetrafluoroethylene bonded to said plate; and means to hold said plate in a substantially fixed position on said device, said plate having a strength substantially greater than that of said polymer, said polymer being bonded to the interior surfaces of said perforations.

2. An accessory for a garment steaming device, said accessory comprising: a perforated plate; and a layer of polymerized tetrafluoroethylene bonded to one side of said plate, said polymer also being bonded to the interior surfaces of the perforations in said plate.

3. An accessory for a garment steaming device, said accessory comprising: a laminated body having a lower layer of polymerized tetrafluoroethylene and an upper layer of a material different from that of said lower layer, said upper layer having an approximately flat surface, said lower layer being bonded to said upper layer surface over the entire area thereof, said body having a plurality of perforations extending therethrough, each of said perforations extending completely through both of said layers, each perforation in said lower layer being in alignment with each perforation in said upper layer, said lower layer being bonded to said upper layer surface at every point around the peripheral edge of each of the holes in said upper layer.

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