

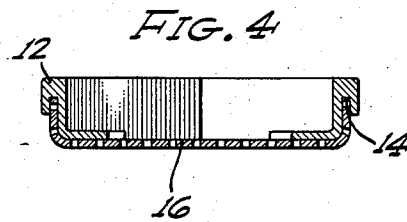
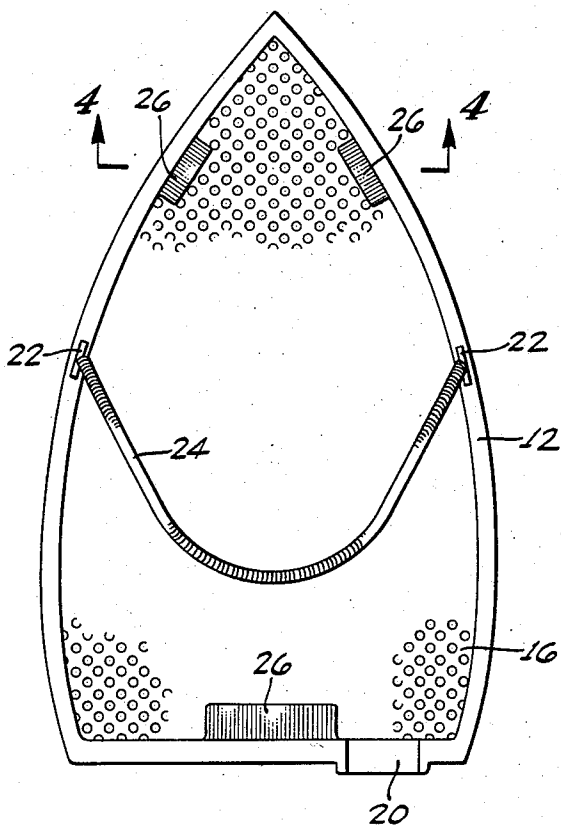
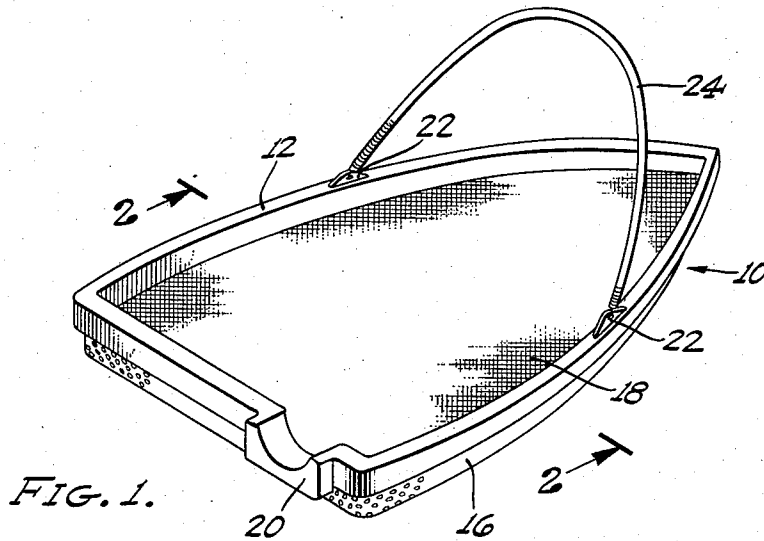
March 10, 1959

S. JACOBSON
STEAM IRON SHOE

2,876,565

Filed Oct. 22, 1956

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

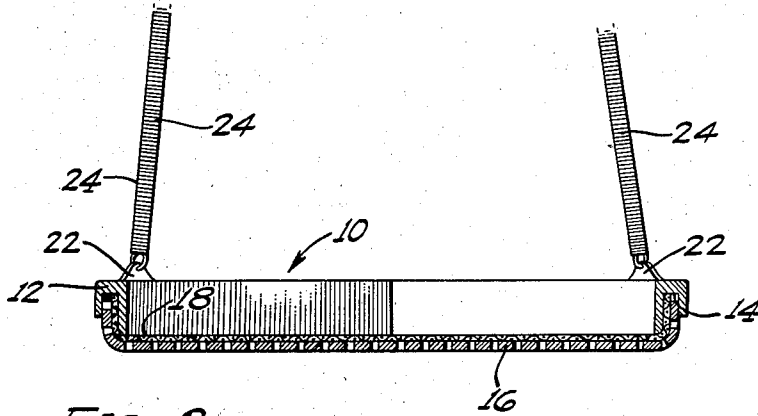


FIG. 2.

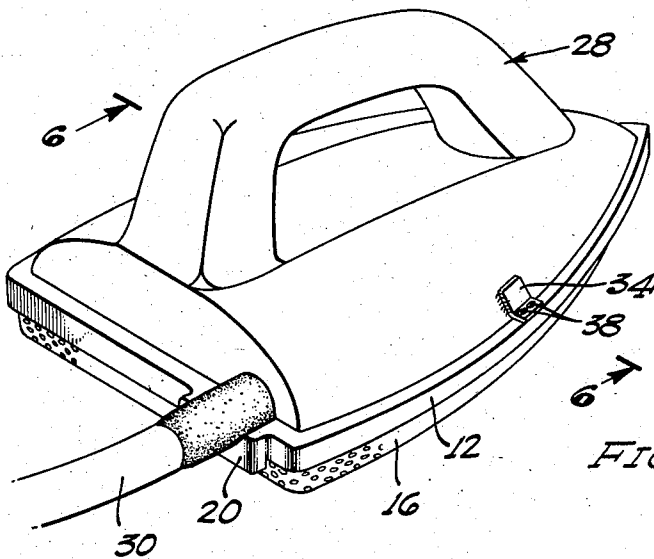


FIG. 5.

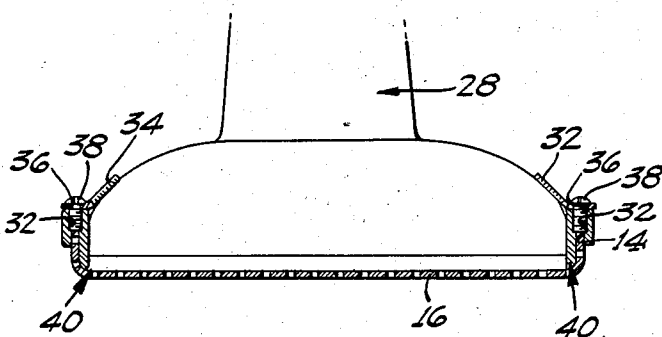


FIG. 6.

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1

2,876,565

STEAM IRON SHOE

Sidney Jacobson, Los Angeles, Calif.

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3 Claims. (Cl. 38—97)

This invention relates to iron accessories, and more particularly to a steam iron shoe for pressing heat-sensitive fabrics.

The problem of pressing heat-sensitive fabrics, such as those made from synthetic fibers of "rayon," "nylon," et cetera, on the "right" side without producing "shine" has been substantially solved by the use of a perforated sheet of polymerized tetrafluoroethylene sold under the trade name "Teflon." The invention including the perforated Teflon sheet and other of its advantages is described and claimed in my U. S. Patent No. 2,750,697. Although my Teflon shoe has a reasonably long life, and although Teflon is by no means so expensive that its manufacture and sale is thereby extremely limited, Teflon is somewhat expensive and for this reason, it has been found desirable to lengthen the life of the shoe.

On detailed study of the wear characteristics of my Teflon shoe, I have found that the Teflon sheet employed therein most frequently wears out near the toe and heel of the iron. On further examination, it was discovered that the sheet would wear in these areas because the sheet would become stretched outwardly of a frame member to which it is normally affixed. This deformation also tended to make it more difficult to iron with the shoe.

After expending a substantial amount of time and effort, it was then found that a force exerted by resilient means which is preferably employed in the commercial embodiment of the invention to urge the Teflon sheet against the bottom surface of the sole plate of the iron tended to cause the sheet to be stretched over this surface. In the embodiment of my patented iron shoe, the resilient means generally comprises an elongated spring fixed at its opposite ends, respectively, to the sides of the frame member. The spring is constructed to fit over the upper portion of the iron to urge the polytetrafluoroethylene sheet into engagement with the sole plate of the iron. The frame member preferably is made of a stiff metal and conforms to and fits around the sole plate of the iron. Although the frame member prevents the sheet from sliding in a transverse plane across the sole plate of the iron, it is not fixed to the iron. This means that the force of the spring is transmitted directly to the sheet and tends to stretch it over the sole plate of the iron.

Apparently, if the iron were never heated, the sheet would always retain its shape. However, it becomes substantially inelastic and substantially weaker when it is heated, and therefore never regains its original shape when stretched. This is true even though the force of the spring is rather small.

Although it is possible to lengthen the life of the shoe by removing it from an iron while it is not in use, this procedure is troublesome and time consuming. In addition, an operator is likely to forget to remove the shoe. Still further, stretching of the sheet cannot be avoided while it is in use.

The present invention overcomes these problems by providing a steam iron shoe including a frame member, a

2

perforated sheet of polymerized tetrafluoroethylene, the sheet having an area sufficiently large to cover the bottom surface of the iron, the sheet also extending downwardly below and being fixed to the frame member, attachment means connected to said frame member both to maintain the sheet contiguous to the bottom surface of the iron, and to carry the iron above the sheet to prevent the sheet from being stretched over the bottom surface of the iron.

According to a feature of the invention, the attachment means includes a wire screen to cover the upper surface of the sheet, the screen also being fixed to the frame member. In this embodiment of the invention, the screen serves two other functions besides that of preventing the sheet from becoming stretched. In the first place, it provides an additional heat barrier, whereby heat-sensitive fabrics may be ironed still more easily on the right side without producing shine. Secondly, it serves to break up steam directed through the perforated sheet and thereby distributes it more uniformly outwardly of the perforations in the sheet.

Although this embodiment of the invention is preferred, the problem of preventing the sheet from being stretched may be solved simply with the use of means to fix the frame member to the iron, or, alternatively, at least three projections fixed to the frame member extending inwardly therefrom above the sheet to contact or carry the iron at a height above the sheet to prevent the sheet from becoming stretched over the sole plate of the iron.

It is therefore an object of the invention to provide means to lengthen the life of a polytetrafluoroethylene steam iron shoe.

It is another object of the invention to provide means to prevent a polytetrafluoroethylene shoe used in a steam iron from becoming stretched in use and thereby to lengthen its useful life.

These and other objects and advantages of the present invention will be better understood when considered with the following description taken in connection with the accompanying drawings made a part of this specification, wherein several embodiments are illustrated by way of example. The device of the present invention is by no means limited to the specific embodiments illustrated in the drawings since they are shown merely for purposes of description.

Fig. 1 is an orthographic view of a preferred embodiment of the invention;

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

Fig. 3 is a plan view of still another embodiment of the invention;

Fig. 4 is a sectional view of the shoe taken on the line 4—4 shown in Fig. 3;

Fig. 5 is an orthographic view of a steam iron with an iron shoe constructed in accordance with still another embodiment of the invention; and

Fig. 6 is a sectional view of the iron shoe shown in Fig. 5 taken on the line 6—6, the iron being shown in phantom.

In the drawing in Fig. 1, an iron shoe 10 is shown comprising a frame member 12 having an internal channel 14 which is better shown in Fig. 2. The iron shoe 10 also comprises a perforated sheet of polytetrafluoroethylene 16 on top of which a wire screen 18 is disposed, both the sheet 16 and the screen 18 being retained in the channel 14 by compression thereof between the sides of the channel.

The shoe 10 is provided with an adaptation 20 at the rear end thereof for the insertion of a steam tube to be attached to a steam iron. A pair of eyelets 22 are fixed on top of the frame member 12. Each end of an elongated

gated spring 24 is then fixed to the eyelets. The spring 24 is adapted to extend around the upper portion of an iron to hold the shoe 10 in engagement with the sole plate thereof. Preferably the screen 19 and the sheet 16 are of an area sufficiently large to completely cover the sole plate of an iron. The frame member 12 preferably has a configuration to conform to the sides of the shoe plate to maintain both the sheet 16 and the screen 18 a substantially fixed transverse position with respect to the position of the sole plate of the iron.

As stated previously, the sheet 16 tends to be stretched if the screen 18 is not employed. The stretching of the sheet 16 makes it difficult to iron fabrics, and in addition causes the sheet itself to wear. The screen 18 by being retained in the channel 14 serves to limit the stretching action of the sheet 16, all the stress normally imposed upon the sheet 16 by force of the spring 24 being taken up by the screen 18.

The wire screen 18 also serves two other purposes, as previously indicated. That is, it serves as an additional heat barrier, whereby heat sensitive fabrics may be ironed without producing any substantial shine whatsoever on their right sides. In addition, the screen 18 serves to break up steam and thereby distribute it more uniformly through the perforations of the sheet 16.

Preferably the screen 18 has substantially more meshes (holes) per square inch than the sheet 16 has perforations. For example, if the sheet 16 is constructed as described in my U. S. Patent No. 2,750,697, a screen having 50 meshes per square inch may be provided with 55 gauge wire. From this the distance between meshed openings can be calculated at approximately 0.0145 inch.

Another embodiment of the invention is shown in Fig. 3 including the frame member 12 having the channel 14 to retain the perforated sheet of polytetrafluoroethylene 16. Preferably three projections 26 are fixed to the frame member 12 at approximate points on its bottom edge to support or carry the iron and to resist the force of spring 24. Thus, sheet 16 is not stretched because only the projections 26 are stretched by force of the spring 24.

Still another embodiment of the invention is shown in Fig. 5 including a steam iron 28 to which steam tube 30 is connected that fits in the adaption 20 of frame member 12 which retains sheet 16 in the same manner as before. However, the eyelets 22 and the spring 24 are not employed with the embodiment of the invention shown in Fig. 5. Instead, at two points along the top of the frame member 12, the frame member is tapped as at 32 shown in Fig. 6. Preferably two angles 34 are welded to the iron 28 and are also tapped at points 36. Screws 38 are then inserted through the tapped portions 36 into the tapped 32 to maintain the iron 28 in a substantially fixed position relative to the position of the sheet 16. The iron 28 is in fact supported at the positions of screws 38 in the frame member 12. Both the weight of the iron 28 and the shoe are then supported approximately at points 40. Thus by using means to fix the position of the frame member 12 with respect to the position of the iron 28, no resilient means are required to hold the shoe on the iron and thus no force is exerted upon the sheet 16 to stretch it.

Many other changes and modifications of the invention will of course suggest themselves to those skilled in the art; it is therefore to be noted that the invention should not be limited to the embodiments shown and described since they are merely illustrative, but that the true scope of the invention is defined only in the appended claims.

What is claimed is:

1. An accessory for a steam iron comprising: a perforated sheet of polytetrafluoroethylene adapted to cover the bottom surface of the iron, said sheet having an upturned flange adapted to fit around the sides of the iron to prevent relative transverse movement of the sheet across the bottom surface of the iron; a perforate metal sheet-like member having a shape to fit inside of said perforated polytetrafluoroethylene sheet and also having an upturned flange adjacent said upturned flange of said polytetrafluoroethylene sheet; and an inverted U-shaped frame member provided with a channel to receive the upwardly extending adjacent flanges of said polytetrafluoroethylene sheet and said perforate metal sheet-like member, said flanges extending contiguous to each other upwardly between the sides of said U-shaped member and being compressed and retained between the sides thereof.

2. An accessory for a steam iron comprising: a perforated sheet of polytetrafluoroethylene adapted to cover the bottom surface of the iron, said sheet having an upturned flange adapted to fit around the sides of the iron to prevent relative transverse movement of the sheet across the bottom surface of the iron; a perforate metal member having a shape to fit inside of said perforated polytetrafluoroethylene sheet and also having an upturned flange adjacent said upturned flange of said polytetrafluoroethylene sheet; an inverted U-shaped frame member provided with a channel to receive the upwardly extending adjacent flanges of said polytetrafluoroethylene sheet and said perforate metal member, said flanges extending contiguous to each other upwardly between the sides of said U-shaped member and being compressed and retained between the sides thereof; and elongated spring means connected from each side of said U-shaped frame member adapted to fit around the upper portion of the iron and thereby to urge said shoe toward the bottom surface of the iron.

3. An accessory for a steam iron comprising: a perforated sheet of polytetrafluoroethylene adapted to cover the bottom surface of the iron, said sheet having an upturned flange adapted to fit around the sides of the iron to prevent relative transverse movement of the sheet across the bottom surface of the iron; a wire screen having a shape to fit inside of said perforated polytetrafluoroethylene sheet and also having an upturned flange adjacent said upturned flange of said polytetrafluoroethylene sheet; and inverted U-shaped frame member provided with a channel to receive the upwardly extending adjacent flanges of said polytetrafluoroethylene sheet and said wire screen, said flanges extending contiguous to each other upwardly between the sides of said U-shaped member and being compressed and retained between the sides thereof; and elongated spring means connected from each side of said U-shaped frame member adapted to fit around the upper portion of the iron and thereby to urge said shoe toward the bottom surface of the iron.

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