

Dec. 13, 1949

R. H. REISS ET AL
UNITARY, RESILIENT HEAT-RESISTING BUCK
PAD FOR GARMENT PRESSING MACHINE
Filed April 11, 1947

2,490,981

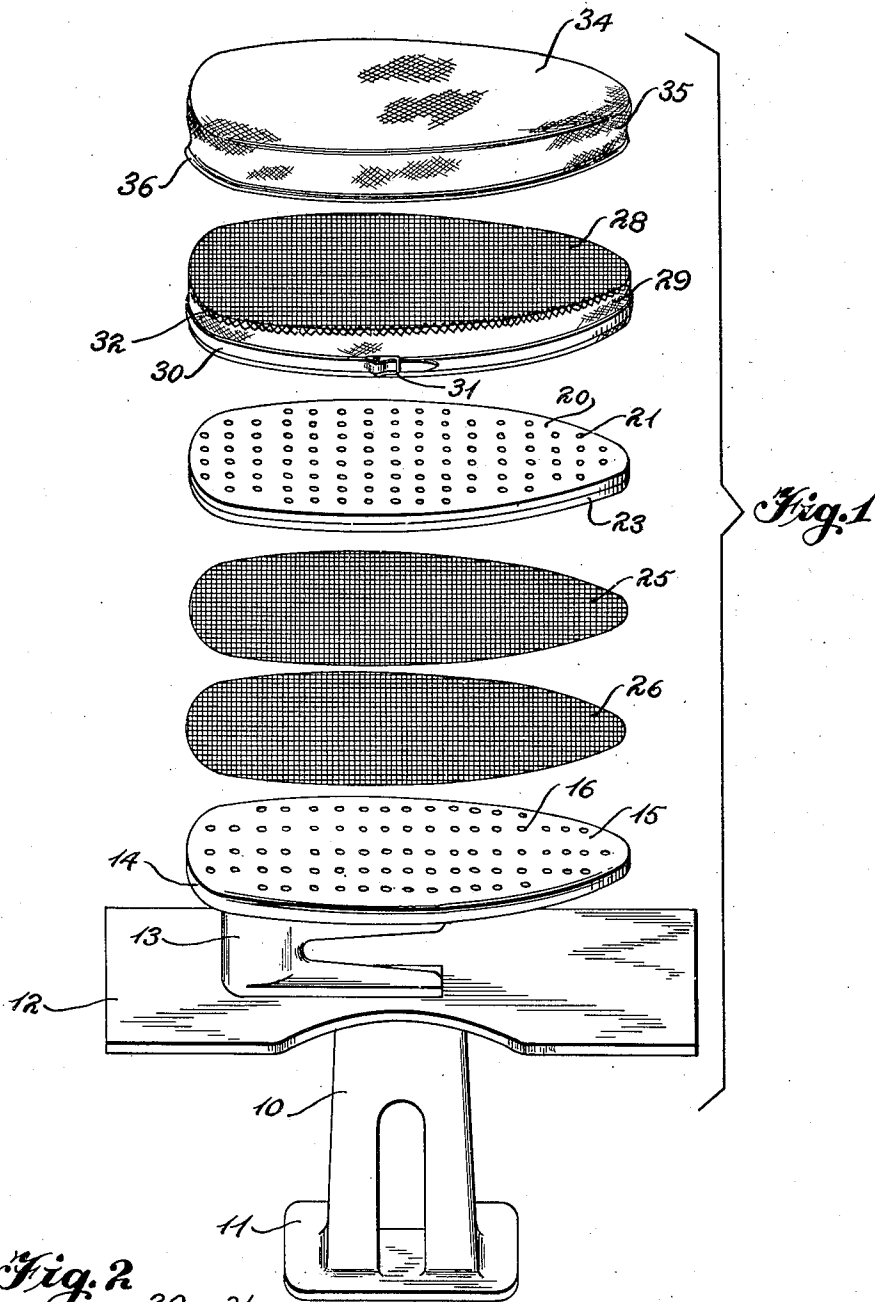


Fig. 1

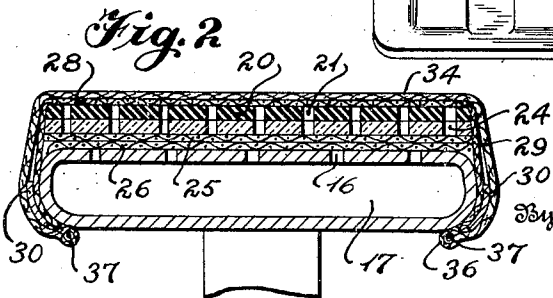


Fig. 2

Inventors:
Raymond H. Reiss
Charles S. Powell, Jr.
Paul R. T. Hays
Charles H. Darby & Co., Inc.
Attorneys

UNITED STATES PATENT OFFICE

2,490,981

UNITARY, RESILIENT HEAT-RESISTING
BUCK PAD FOR GARMENT PRESSING
MACHINES

Raymond H. Reiss, New York, N. Y., and Charles S. Powell, Morristown, and Paul R. T. Hahn, Westfield, N. J., assignors to Reiss Manufacturing Corporation, Wilmington, Del., a corporation of Delaware

Application April 11, 1947, Serial No. 740,766

3 Claims. (Cl. 38—66)

1

The present invention relates to a pad for a garment pressing buck. More particularly, the invention provides a new and improved pad construction for a pressing buck of the type used in garment pressing machines, upon which garments may be steamed and pressed and through which air may be drawn in order to cool and dry the garments and prevent the condensation of steam therein.

The invention aims to provide a pad construction which will be more efficient in use, more long lasting, and simpler to remove and replace than those heretofore employed.

A primary object of the invention is to eliminate, in garment pressing back pads, the use of cotton padding, felt, and similar fibrous materials as the resilient, cushion member, since it has been found in practice that such fibrous pads, under the influence of heat and pressure conditions encountered in use, quickly become matted and compacted, and otherwise lose their resilient and gas pervious properties, with the result that an efficient pressing operation cannot be accomplished.

In a normal pressing operation, steam admitted from the press head penetrates the garment and softens the fibers enough to permit them to be formed under heat and pressure, after which they are again set and made stable by drawing drying air through the garment, by vacuum in the buck, thereby removing moisture from the garment.

The resilient characteristics of the pad are essential, in order to produce an even, continuous and uniform pressing pressure on the garment, to eliminate creases and wrinkles, and to restore the garment to its original, fresh appearance. The gas pervious qualities of the pad are essential, in order to permit the flow of steam through the garment and pad and then to facilitate the flow of air, under the influence of the vacuum produced in the buck, in order to remove the steam and to prevent the formation of water of condensation and to cool and dry the garment.

With buck pads constructed in accordance with the prior art, employing layers of cotton, felt, or other fibrous bodies as the resilient, cushion members, the material becomes matted, non-resilient and relatively impervious to the passage of gases, after a relatively short period of use. As a result, difficulties are encountered in imparting a smooth press to the garments; undue amounts of pressure are applied at certain points where two or three thicknesses of material are present, as at the cuffs, pockets and the like; buttons are often

2

broken, and other difficulties encountered. Moreover, steam cannot be readily drawn out of the garment into the buck and cooling air cannot be drawn through the pads to cool and dry the garment. Hence, the buck pads of the prior art have had to be discarded and replaced after relatively short periods of use, with consequent trouble and expense.

In accordance with the present invention the use of cotton, felt, and other fibrous materials is entirely dispensed with as the resilient cushion element of the buck pad assembly, and a layer of substantial thickness of a porous, resilient, heat resisting, synthetic material, such as synthetic sponge rubber, is used in place thereof, in combination with certain other novel elements, facilitating the functioning of the resilient layer, both as to the passage of gas therethrough and the even, soft, yet firm, pressing of the garment thereon.

Other and further objects and advantages of the invention will be apparent from a consideration of the embodiment shown for purposes of illustration in the accompanying drawings, in which:

Figure 1 is an exploded, perspective view of a garment pressing pad in association with a conventional buck, and

Figure 2 is a transverse section through the buck, with the pad in assembled position thereon.

The invention is not limited to any particular type of pressing machine or buck, but for purposes of illustration, a "Hoffmann" type pressing machine buck is shown, comprising a pedestal 10, projecting upwardly from a base 11, carrying a table 12, a hollow buck support 13 and a buck proper 14. The upper surface 15 of the latter is drilled at a plurality of points to provide apertures 16, which may be $\frac{1}{8}$ inch in diameter, leading into the hollow interior 17 thereof, the interior being connected to a source of vacuum and, if desired, to an independent source of steam under pressure, neither of which is shown in the accompanying drawings, as forming no part of the invention.

The pad, adapted to be supported upon the upper surface 15 of the buck preferably comprising a cushion layer 20 of substantial thickness, such as $\frac{1}{4}$ to $\frac{3}{4}$ of an inch, of a resilient, heat resisting, synthetic material, such as synthetic sponge rubber. This material may be of any one of a plurality of types. For instance, "neoprene," consisting of polymerized beta-chlorisoprene is suitable. Perbunan synthetic rubber is also well adapted for use in accordance with the

invention, comprising a copolymer of acrylonitrile and butadiene, usually in a ratio of 25% and 75%, respectively. Silicone synthetics, comprising polymerized organosilicon compounds are also suitable, such as the material known as "Silastic."

Synthetic sponge rubber suitable for this application may have a plurality of independent voids or cells, not communicating with each other, as the requisite porosity of the pad as a whole may be provided by forming a plurality of holes 21 in the pad for the passage of air and moisture during the pressing operation. In many cases, however, it is preferred to employ a synthetic sponge rubber which has connecting or intercommunicating voids or cells of sufficient capacity to permit the flow of air therethrough, as is the case with natural and synthetic sponge. With such materials, if the porosity is sufficiently high, the holes 21 for the passage of air may be eliminated, but in most cases, the holes are preferred.

These holes or apertures 21 may be of any suitable diameter, such as approximately $\frac{1}{4}$ inch and extend through the entire thickness of the pad, from the upper to the lower surface. A substantially impervious backing sheet of heat resisting material 23, provided with a plurality of apertures 24, registering with the apertures 21 of the resilient layer, may be employed. Asbestos board is suitable, but other insulating material may be substituted, to protect the cushion layer 20 from direct contact with the heat of the buck 15. However, if highly heat resisting synthetic resilient sponge materials are used, such as "Silastic," the backing 23 may be eliminated, as such materials are capable of withstanding the direct heat of the buck 14.

A pair of relatively coarse wire mesh screens 25, 26 may be positioned below the lower surface of the asbestos sheet 23, above the upper surface of the buck 15. If desired, the wires in the two screens may be arranged to cross each other at 45° angles, instead of being substantially parallel as shown. The screens facilitate the flow of air from the apertures 21 and 24 in the cushion 20 and backing 23 to the apertures 16 in the upper face 15 of the buck.

If the apertures in the backing 23 and pad 20 are made to register exactly with the apertures 16 in the buck, the screens 25 and 26 may be eliminated, but since the apertures 16 are often drilled in an irregular, non-uniform pattern, the screens are preferred, to facilitate the free flow of air.

Above the resilient layer 26, there is positioned a relatively fine wire mesh screen 28, such as 50-mesh screen, having a depending fabric skirt 29 secured to its margin. The skirt may be provided, adjacent its lower edge, with a strap 30 having a conventional buckle or clasp 31 associated therewith. The skirt may be attached to the margins of the screen by any suitable means, such as sewing threads 32.

Preferably the pad of the present invention is assembled as a unitary structure, consisting of the upper screen 28 and the skirt 29, having the cushion 30, the backing 23 and the screens 25 and 26 arranged therein. Screens 25 and 26, being of slightly larger diameter than the retaining skirt, are forced into the skirt 29 and are held in place by engagement of their edges therewith. Hence, the pad may be placed upon the buck as a unit and secured in position by tightening the strap 30.

Above the screen 28, there is provided a cover 34 of pervious woven fabric, such as nylon, which

is highly desirable, or other types of covering. The cover includes a depending skirt 35, which may terminate at its lower edge in a hem 36, in which a drawstring or a resilient band, such as a coil spring 37 may be disposed.

After the pad has been placed upon the buck and secured in position by the strap 30 and clamp 31, the cover 34 may be placed over the pad and the spring 37 will draw the hem inwardly below the buck, to prevent inadvertent relative movement of the cover and to stretch the same tightly in place.

It is thought that the operation of the present invention will be apparent from a consideration of the foregoing description. The use of a porous, resilient, heat resisting, synthetic material, such as synthetic sponge rubber permits the flow of steam and air through all portions of the cushion. This material has vastly longer life than fibrous materials heretofore employed and will not become matted or lose its resilience or its gas perviousness in use. The wire screens 25, 26 facilitate the free communication between the apertures in the buck and the apertures in the cushion, and eliminate the necessity of having the apertures carefully aligned. The backing sheet 23 of heat insulating material protects the cushion layer from the heat of the buck, if such protection is necessary. The relatively fine wire mesh screen 28 provides a firm yet flexible pressing surface and effectively bridges the gaps formed by the apertures 21 in the cushion disk.

The invention is not limited to the details of construction shown in the accompanying drawings and described above, but includes all modifications coming within the scope of the appended claims and their equivalents.

We claim:

1. A pad for a pressing machine buck of the type having a plurality of openings in its upper surface upon which garments may be steamed and pressed and through which air for drying may be drawn by vacuum, comprising a layer of substantial thickness of a porous, resilient, heat resisting, synthetic material having a plurality of apertures extending therethrough, a relatively stiff backing layer of substantially impervious heat-resisting material below the first mentioned layer and having a plurality of apertures therein aligned with the first mentioned apertures, a wire mesh screen below the backing, adapted to engage the upper surface of the buck and to establish communication between the apertures in the layer and backing and the buck openings irrespective of registration therebetween, a wire mesh screen above said first mentioned layer, a fabric covering above the screen and means for securing the pad to the buck.

2. A pad for a pressing machine buck of the type upon which garments may be steamed and pressed and through which air for drying may be drawn by vacuum, comprising a layer of substantial thickness of a cellular, resilient, heat resisting, synthetic material having a plurality of apertures extending therethrough, a relatively stiff backing layer of substantially gas impervious heat resisting material having a plurality of apertures extending therethrough in registration with the first mentioned apertures, a wire mesh screen above the layer of resilient material bridging the open upper ends of the first mentioned apertures and preventing indentation into said apertures of fabric being pressed, and a fabric covering for the screen.

5

3. A pad for a pressing machine buck of the type having a plurality of openings in its upper surface upon which garments may be steamed and pressed and through which air for drying may be drawn by vacuum, comprising a layer of substantial thickness of a porous, resilient, heat resisting, synthetic material, a relatively stiff backing layer of substantially impervious heat-resisting and insulating material having a plurality of apertures therein, a pair of superposed, relatively coarse wire mesh screens adapted to be positioned upon the surface of the buck to establish communication between said apertures and the openings in the buck, irrespective of registration therebetween, a finer mesh wire screen above said resilient layer, bridging the upper ends of the openings in the first mentioned layer and preventing indentation thereinto of a garment being pressed, means for securing the screens and the layers to a buck, and a cover for the assembly so produced.

R. H. REISS.

CHARLES S. POWELL.

PAUL R. T. HAHN.

6

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
980,688	Smith -----	Jan. 3, 1911
1,054,407	Hamilton -----	Feb. 25, 1913
1,485,824	Bass -----	Mar. 4, 1924
1,616,356	Diener -----	Feb. 1, 1927
1,679,030	Hallowell -----	July 31, 1928
1,755,802	Weinberger -----	Apr. 22, 1930
1,789,282	Poser -----	Jan. 13, 1931
1,885,211	Adams -----	Nov. 1, 1932
1,895,731	Prenzel -----	Jan. 31, 1933
1,991,991	Voss -----	Feb. 19, 1935
2,392,713	Wright et al. -----	Jan. 8, 1946