Jan. 25, 1944. J. MILAZZO 2,340,136

ATTACHMENT FOR GARMENT STEAMING AND PRESSING MACHINES

Filed Sept. 6, 1940

Fig. 1.

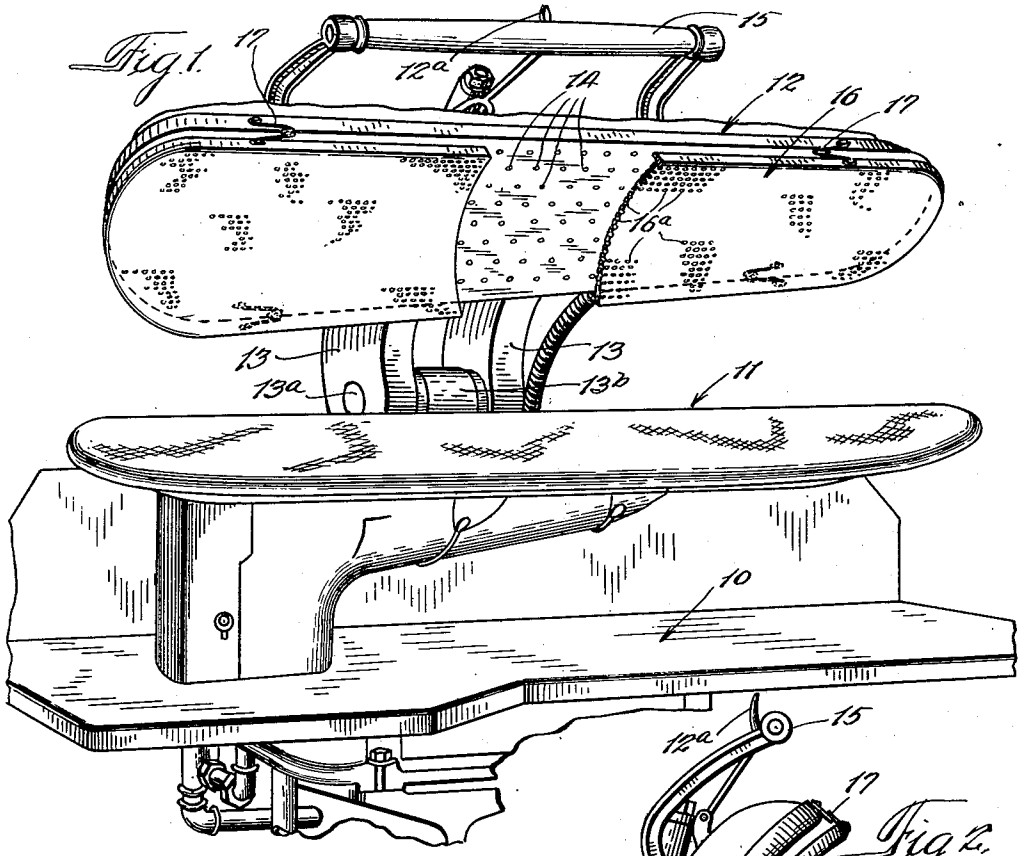


Fig. 2.

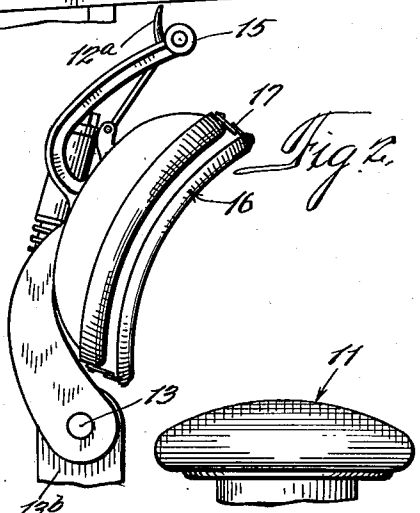


Fig. 3.

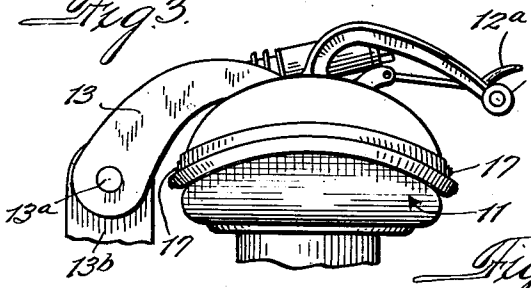


Fig. 4.

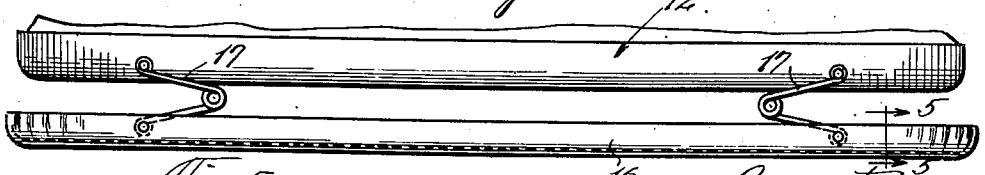
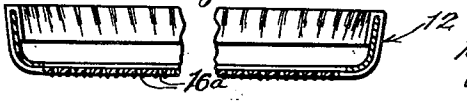


Fig. 5.



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UNITED STATES PATENT OFFICE

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ATTACHMENT FOR GARMENT STEAMING AND PRESSING MACHINES

John Milazzo, Chicago, Ill.

Application September 6, 1940, Serial No. 355,564

5 Claims. (Cl. 38—16)

This invention relates to an attachment for a garment steaming and pressing machine and to a method of steaming and pressing garments and has special reference to an attachment for relieving the tendency of the fabric of the garments to shine when steamed and pressed in a pressing machine.

More particularly, this invention relates to an attachment for a garment steaming and pressing machine having a supporting member to which steam is fed for release therefrom through apertures in a face side thereof comprising a perforated plate for contact with a garment to be pressed and means for holding the plate in a spaced relation with the apertured face side of the member for reducing the temperature of the steam released through the apertures thereof and for directing the steam of reduced temperature through the perforations to the garment.

Garment pressing machines ordinarily comprise a cloth padded table or ironing board member called a "buck" and a conforming clamping member termed a "head," which latter is brought down tightly upon the garment resting on the buck while hot steam is released from within the head. Steam for the head is ordinarily furnished at a substantially high pressure and temperature, establishments ordinarily keeping the steam pressure up to approximately sixty to seventy-five pounds per square inch with the steam, therefore, being comparatively dry. Releasing the hot dry steam through the head of the usual pressing machine while the garment is held under pressure between the head and the buck performs the pressing operation. However, such pressing operation tends to smooth the fabric in such a manner that the fibers thereof will lie flat and tend to give the fabric a glossy appearance. A glossy or shiny appearance of the fabric is, of course, very undesirable in garments.

It has been recognized that the shine resulting from the above usual pressing operation is undesirable and various means have been designed in attempts to alleviate this condition. A layer of wire mesh or screen has been applied to the head for covering the smooth surface provided thereby so that the screen engages the fabric and will present a somewhat roughened surface on the bottom of the head which tends to relieve the glossy appearance of the garment. Subsequently since screen or wire mesh was found not to be sufficiently durable to withstand the strains accompanying the pressing operation, perforated metal plates having roughened bottom surfaces have been provided of sufficient durability to withstand the strains of the pressing operation and have succeeded in overcoming to some extent the usually resultant glossy appearance of the fabric.

While the improvements above noted have all tended to relieve to some extent the glossy appearance of a pressed garment, the present invention contemplates in addition to the use of such structure a means and a method which will considerably improve the results obtained therefrom. In hand pressing, an operator dampens the garment or employs a damp pressing cloth over the garment with a subsequent application of pressure and dry heat through a heated hand iron. An initial dampening step, followed by the application of substantially dry heat and pressure, is undoubtedly the most efficient and best method of performing a pressing operation whether the heated member is provided with a smooth garment-contacting surface or the new improved roughened surface. However, heretofore this operation has been done only by hand so far as applicant is aware.

The present invention, however, contemplates substantially the same above described hand operation by mechanical means in the provision of an attachment comprising a perforated plate having either a smooth or a roughened surface for contact with a garment to be pressed, there being means for holding the plate in a spaced relation with the apertured side of a supporting member to which steam is fed for release therefrom through the apertures thereof. The released steam is reduced in temperature by contact with the comparatively cool plate and is thereafter directed through the perforations of the plate to the garment prior to the application of comparatively dry steam and pressure. The perforated plate may, of course, be of fabric, screen, wire mesh, sheet metal, composition material, or the like. Further, a roughened surface may be provided on the plate by stamping, by such a photo-chemical process as is used for providing stippling and printing, or the perforated plate may be etched, electrolytically deposited, or engraved in any desired or suitable manner. While the plate may preferably be of sheet metal, any substantially rigid material may be employed or a desired material may be supported on a frame for rigidity, the material being preferably such as will permit of it being readily cooled, so that the steam of relatively high temperature may be reduced by contact therewith.

The term "plate" as used herein and as is

used in the claims is meant to include flexible material of sheet form such as fabric, screen, wire mesh, and the like, as well as rigid material such as sheet metal, composition and plastic material, and so forth. Also, the term "perforated" when related to the term "plate" is meant to include the interstices between the threads of the fabric, wires of the mesh, etc., as well as the provision of punched or pierced holes in a solid sheet.

One of the objects of this invention is to provide an attachment for a garment steaming and pressing machine of the character indicated above in which the material of the pressed garment will be relieved of the tendency to shine.

Another object of this invention is to provide a method for steaming and pressing garments which is efficient and simple in operation.

Other objects and advantages of this invention will hereinafter be more particularly pointed out and, for a more complete understanding of the characteristic features of this invention, reference may now be had to the following description when taken together with the accompanying drawing, in which latter:

Figure 1 is a perspective view of a garment steaming and pressing machine shown fragmentarily and having the attachment embodying the features of the present invention secured thereto with a portion of the attachment centrally broken away;

Fig. 2 is an end elevational view of Fig. 1 with the supporting portion thereof broken away;

Fig. 3 is a view similar to Fig. 2 showing a changed position of relatively movable members thereof;

Fig. 4 is a side elevational view of the attachment incorporating the features of the present invention, the attachment being shown as mounted on a portion of a pressing machine which latter is shown fragmentarily; and

Fig. 5 is an enlarged sectional view taken on the line 5—5 of Fig. 4 with the intermediate portion thereof broken away.

Referring now more particularly to the drawing, the pressing machine comprises essentially a support 10 upon which is mounted a cloth padded table or ironing board member 11 which has heretofore and which will hereinafter and in the claims be termed a "buck." The buck 11 is adapted to have articles of wearing apparel placed thereon to be engaged by a pressure or clamping member 12 which has heretofore and which will hereinafter and in the claims be termed a "head." The head 12 is mounted on spaced arms 13 hingedly mounted as at 13*a* on a suitable support 13*b* so that it may be swung downwardly into engagement with the garments placed on the buck 11. As has hereinbefore been recited, hot steam is released from within the head 12 by manual manipulation of a handle 12*a* connected to a suitable valve when the head is brought down into clamping or pressing engagement with the buck, the steam being released through spaced apertures 14 in one face of the head.

The head 12 is heated by steam so that it is always hot during the pressing operation and the steam heat supplied for heating the head is ordinarily supplied in addition to that supplied for release through the apertures 14. It is not believed to be essential or desirable to trace the path of steam through the head and from the source of supply since heads of this type vary in construction and are well known. The heated head 12 is swung downwardly by the initial grasping of a handle 15, a continuation of the downward movement being obtained by foot pressure on a treadle, not shown. As the operator swings the head downwardly, the handle 12*a* is manually manipulated to open the valve at the proper time for releasing steam through the apertures 14.

It is usual in establishments for pressing or ironing garments of all types and descriptions that steam is obtainable at a substantially high pressure and, of course, high temperature. Such steam is comparatively dry and, while hot enough for the pressing operation, is not moist enough for proper pressing operation. Steam at a lower pressure and temperature, while sufficiently wet, is not at such a high temperature as is desirable for a proper pressing operation. The initial step in the pressing operation requires a moist steam for dampening the garment, to be followed by steam at a high temperature for the pressing operation.

Steam released through the apertures 14 of the head 12 is, in accordance with the above statement, of a high temperature and dry, and in the initial pressing operation must be converted into a moist steam. In order to accomplish this, a perforated plate 16 for contact with the garment to be steamed and pressed is secured to the head 12 in a spaced relation with the apertured face thereof. Since the head 12 is of substantially oval or so-called ironing board shape and is shown as being concave at its under side, the perforated plate 16 is shaped likewise so as to contact therewith over the entire face thereof. Of course, if a flexible plate is used, it may not be necessary to preform the plate to conform to the concavity of the head. The head and plate are shown in the drawing of such a size and shape purely for illustrative purposes since heads and bucks are provided for various pressing operations on garments of various types.

The plate 16 is preferably of perforated sheet metal or some such material of comparatively small thickness so that it may be cooled readily as by means of a natural or forced draft circulation through the space between the plate 16 and the face of the head 12. By reason of the fact that the plate 16 is spaced from the head 12 and a forced or natural air draft is had therebetween, the plate 16 remains relatively cool or is readily rendered relatively cooler after a pressing operation even though the head 12 remains in a heated condition. The perforations 16*a* in the plate 16 may, for example when formed in sheet metal, be punched in the sheet so as to leave small annular burrs projecting downwardly from around the apertures for engagement with the garment to be pressed. The provision of such burrs forms the roughened surface which has been found to be preferable to such a roughened surface as may be provided by screening and the like. However, as has hereinabove been stated, the present method permits the use of an attachment having either a smooth or roughened garment-contacting surface.

The plate 16 is held in a spaced relation with the head 12 by springs 17 which releasably hold the plate on the head and guide the plate in its movement in the direction to and from the head. It is, of course, to be understood that various means may be substituted for the springs 17 for guiding and releasably holding the plate in its spaced relation with the head and that such means as are

shown in the drawing and described herein are for illustrative purposes only.

When the head 12 is moved downwardly in the direction of the buck 11, the operator may release steam of high temperature through the apertures 14 in the face of the head 12 at or just prior to engagement of the plate 16 with the garment. The steam of high temperature in contacting the plate 16 of substantially room temperature is reduced to a comparatively wet steam and filters through the perforations of the plate 16 to the garment for dampening the garment. A continued movement of the head 12 as the plate 16 is in contact with the garment carries the head to a position where it contacts the plate 16 and pressure is applied to the garment. The relatively thin plate 16 in contact with the face of the head 12 becomes heated to or substantially to the temperature of the head whereafter, there being no space remaining between the head and the plate and the plate being substantially the temperature of the head, the steam at high temperature may be forced directly through the perforations to the garment.

Thus the garment is first dampened by the comparatively wet steam whereafter, during actual application of pressure, the pressing operation is obtained by comparatively dry steam.

The method of steaming and pressing garments, as recited above, therefore, consists in supplying steam of relatively high temperature to the movable head 12 of the pressing machine, in releasing the steam through the spaced apertures 14 in the face of the head manually or automatically at about the time the spaced plate 16 contacts the garment so that a reduction in the temperature of the released steam by contact with the perforated garment contacting plate 16 dampens the garment, and thereafter in carrying the head downwardly against the compression of the spring 17 into contact with the plate 16 so that the plate 16 heats to substantially the temperature of the head 12 and the released comparatively dry steam from the apertures 14 passes directly through the perforations of the plate 16 into contact with the garment at a relatively high temperature during the actual pressing operation.

While but a single embodiment of this invention is herein shown and described, it is to be understood that various modifications thereof may be apparent to those skilled in the art without departing from the spirit and scope of this invention and, therefore, the same is only to be limited by the scope of the prior art and the appended claims.

I claim:

1. An attachment for a garment steaming and pressing machine having a heated supporting member to which steam is fed for release therefrom through apertures in a face side thereof, comprising a cooled perforated plate for contact with the garment to be pressed, and means for moving and holding said plate in a spaced relation with said apertured face side of said member when said heated supporting member is moved to open position whereby to provide a cooling area between said member and said plate, said cooling area being open at its margins to permit substantially unobstructed crosswise movement of cool air whereby to reduce the temperature of steam initially released through the apertures thereof and to produce thereby a wet steam that is directed through said perforations to said garment.

2. An attachment for a garment steaming and pressing machine having a supporting member to which steam is fed for release therefrom through apertures in the face side thereof comprising a perforated plate for contact with the garment to be pressed, means for yieldably holding said plate in spaced relation with said apertured face side of said member to provide a cooling area therebetween, said cooling area being open about the edges of said supporting member and said perforated plate to obtain lateral circulation of cooling air therethrough whereby to reduce the temperature of the steam initially released through the apertures and passed through said cooling area to produce on each operation wet steam that is directed through said plate perforations to said garment.

3. An attachment for a garment steam and pressing machine having a supporting member to which steam is fed for release therefrom through apertures in the face side thereof comprising a perforated metal plate for contact with the garment to be pressed, means on said supporting member for yieldably extending said plate in spaced relation with said apertured face side thereof to provide a cooling area therebetween, said cooling area being open about the edges of said supporting member and said perforated plate to obtain lateral circulation of cooling air therethrough whereby to reduce the temperature of the steam initially released through the apertures and passed through said cooling area to produce on each operation wet steam that is directed through said plate perforations to said garment.

4. In a pressing machine, the combination of an upper movable head member and a lower buck member, means for feeding steam to said head member for release through spaced apertures in a face thereof, a perforated plate adapted to contact the garment laid upon said buck member to be pressed, means for yieldably holding said plate in an extended position from said apertured face of said head member whereby a cooling area open at its margins is provided between said head member and said plate when said plate is in its extended position, said head member when moved against said buck member on each pressing operation overcoming the action of said means to hold said plate in its extended position, said means keeping said plate against the garment on said buck member when said head member is thereafter lifted whereby to provide said cooling area therebetween before said plate is lifted from the garment.

5. In a pressing machine, the combination of an upper movable head member and a lower buck member, means for feeding steam to said head member for release through spaced apertures in a face thereof, a perforated plate adapted to contact the garment laid upon said buck member to be pressed, spring means for normally pressing said plate to a position extended from said apertured face of said head member whereby a cooling area open at its margins is provided between said head member and said plate when said plate is in its extended position, said head member when moved against said buck member on each pressing operation overcoming the action of said means to hold said plate in its extended position, said means keeping said plate against the garment on said buck member when said head member is thereafter lifted whereby to provide said cooling area therebetween before said plate is lifted from the garment.

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