March 31, 1953 V. A. RAY 2,632,968

METAL PARTICLE COATED PRESS PLATE

Filed Feb. 18, 1950

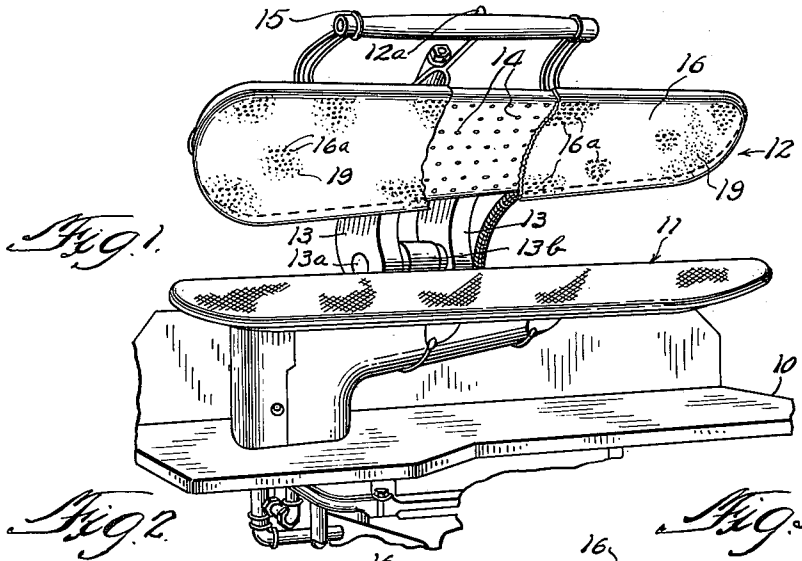


Fig. 1.

Fig. 2.

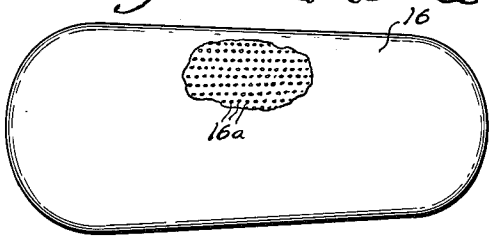
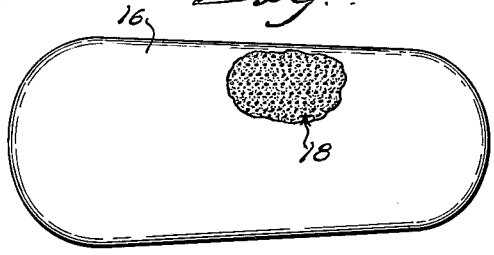


Fig. 3.



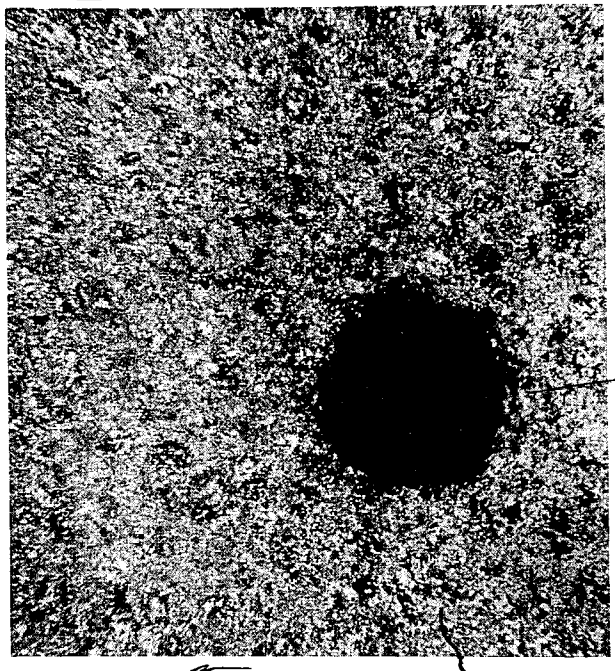


Fig. 6.

Fig. 4.

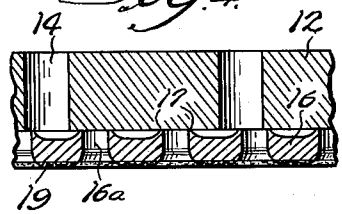


Fig. 5.



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UNITED STATES PATENT OFFICE

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METAL PARTICLE COATED PRESS PLATE

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Application February 18, 1950, Serial No. 144,913

6 Claims. (Cl. 38—66)

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This invention relates to an attachment for a garment steaming and pressing machine and has special reference to a press plate adapted to be attached to the head of the machine for eliminating the garment shine in the pressing operation.

Garment pressing machines ordinarily comprised a cloth-padded table or ironing board member called a "buck" and a conforming clamping member called a "head," which head is swung down upon the garment spread upon the buck while steam is released from the head to perform the pressing operation. Such pressing operation tends to smooth the fabric in such a manner that the fibers thereof will be flat and this in turn tends to give the fabric a glossy appearance. This glossy or shiny appearance of the fabric is, of course, undesirable and various means have been suggested from time to time to eliminate the same. In United States Letters Patent No. 1,810,984 granted June 23, 1931 to Vanney A. Ray, a perforated plate was disclosed with burrs around the perforations adapted to contact the garment so that the roughened surface provided thereby acted as a means to eliminate garment shine. It was found, however, that this plate left an impression on the nap of the garment which was also objectionable. Moreover, this plate had a relatively short life because the burrs would wear and leave the press plate with a smooth surface.

An object of the present invention is to provide a press plate for the head of a garment pressing machine which not only eliminates shine on the garment but also overcomes the objectionable impression that press plates of the prior art would leave upon the garment in the pressing operation.

A further object of the invention is to provide a press plate of the aforesaid type of relatively thin metallic stock, and, after treating one or both surfaces as by etching, sand blasting, etc., to deposit a thin coating of metal globes upon such treated surface or surfaces and to produce thereby a roughened or broken surface having the appearance, say, of emery cloth ranging from No. 48 to No. 80 stock as known in the trade. The press plate is, of course, perforated and may or may not have burrs around the perforations on the working surface or on the opposite side.

The press plate embodying the invention is indeed simple and inexpensive to make and performs its purpose very efficiently over a long period of time.

Other objects and advantages of the invention will be apparent from the following detail description and drawing which forms a part thereof.

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In the drawing:

Figure 1 is a perspective view of a garment steaming and pressing machine showing the press plate embodying the features of the invention secured thereto;

Fig. 2 is a view of the outer face of a perforated press plate after it is formed out of sheet metal, the perforating being done before or after the forming step;

Fig. 3 is a view similar to Fig. 2, but after the step of treating the outer face to roughen the same;

Fig. 4 is an enlarged cross section of the press plate embodying the invention;

Fig. 5 is a greatly enlarged cross section of the press plate, an attempt being made to illustrate the formation of the heterogeneous coating of metallic globules comprising the working surface of the press plate, the illustration only approximating the actual formation; and

Fig. 6 is a microphotographic view of a magnification of fifty times of a limited area of the working surface of the press plate to show the arrangement of the metallic granules deposited thereon.

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 will hereinafter 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 will hereinafter 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. Steam is released from within head 12 by manual manipulation of a handle 12^a, or the like, 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 the face of the head.

Head 12 is heated by steam so that it is always hot during the pressing operation and the steam heat supplied in addition for heating the head is ordinarily 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 construc-

tion 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, or the like, not shown. As the operator swings the head downwardly, the handle 12a is manually manipulated to open the valve at the proper time for releasing steam through apertures 14.

To eliminate shine on the garment being pressed, a finely perforated sheet metal plate 16 may be placed directly in contact with the face of head 12, as shown in Fig. 4, or it may have a fine meshed screen interposed between it and head 12, as shown in my former United States Letters Patent No. 1,810,984 granted June 23, 1931.

Plate 16 may be made of aluminum, Monel metal or other nonrusting thin sheet metal and the entire area of the plate may be perforated with fine holes as indicated at 16a. The holes of adjacent rows may be staggered and punched from either side, as the case may be, to leave small annular projecting burrs 17. These burrs 17 are arranged to rest against the face of head 12 to provide a multitude of small transverse channels through which steam will travel between head 12 and plate 16 to secure even distribution through holes 16a.

After plate 16 is formed as shown in Fig. 2, that is, either first perforated and then formed or first formed and then perforated, the outer face is preferably treated as by etching, sand blasting, alloy coating, or any suitable treatment indicated at 18, as in Fig. 3, that will leave the surface of this outer face slightly scored. Thereafter, a heterogeneous coating 19 of molten metallic globules is deposited upon this treated surface to provide a working surface for plate 16 that has the feel and appearance of emery cloth ranging from a commercial No. 48 to a No. 80 finish. While this range is specified as suitable to accomplish the purpose of the invention, any variation that will accomplish the result desired is to be considered within the scope of the disclosure. It may not be necessary first to treat the outer face before applying the heterogeneous layer of metallic granules. This treatment is desirable, however, because it is believed that it causes coating 19 more firmly to adhere or interlock to this outer face.

Coating 19 may be any suitable metal, and such metals as aluminum, bronze, brass, stainless steel and Monel are mentioned. The thickness of coating 19 may also vary, but is it found that thickness ranging from .002 to .004 inch is quite suitable and desirable. In a commercial application of this invention, a thickness of .025 inch was used for metal plate 16 and the perforating was carried out to increase this thickness to 0.31 inch at the tips of the burrs.

To illustrate the heterogeneous formation taken by coating 19, a microphotograph of an enlargement of fifty times of a small area thereof has been shown in Fig. 6. The large black spot designated 20 represents a perforation 16a. The molten metal is preferably sprayed. The globules strike the outer face of plate 16 at a temperature and with a force causing them to assume irregular shapes, but adhering where contacting each other by welding together. The globules also adhere firmly to the roughened surface 18 and interlock therewith so that there will not be a tendency for coating 19 to peel. The surfaces of these irregular globules or granules are relatively

smooth but they present a roughened surface that will prevent shine and will not leave an impression when brought into contact with the fabric as in the case of the burrs.

Another advantage is that the metallic granules will not wear through constant use of the press plate like the burrs.

The burrs comprise in effect myriads of minute elevated portions with fine pointed tips which tend to wear rapidly, and, in turn, cause the surface of the press plate again to become smooth. The heterogeneous coating of metallic granules present contact surfaces with the fabric that do not wear in this manner. While the exact pattern of this heterogeneous coating of metallic granules is difficult to illustrate, the enlarged cross section shown in Fig. 5 is an attempt to show the formation somewhat, or, at least, to show the difference between the burr formation and the formation of these granules.

Without further elaboration, the foregoing will so fully explain the gist of my invention that others may, by applying current knowledge, readily adapt the same for use under varying conditions of service, without eliminating certain features, which may properly be said to constitute the essential items of novelty involved, which items are intended to be defined and secured to me by the following claims.

I claim:

1. Apparatus of the character described for attachment to the face of a pressing machine head including a sheet metal plate adapted to fit over the face of said head and having a plurality of steam openings therein, and a coating on the outer face of said plate comprising irregularly shaped granules of metal adhering to each other by a welded relation and deposited on the area of said plate surrounding said openings, said deposit being in multi-layer formation on said plate and presenting a continuous but roughened working surface for said plate.

2. Apparatus of the character described for attachment to the face of a pressing machine head including a perforated plate adapted to fit over the face of said head but having a relatively rough surface on one side and a relatively smooth surface on the other side, and a deposit of globular metallic granules adhering to and covering the non-perforated area of said rough surface.

3. Apparatus of the character described for attachment to the face of a pressing machine head including a sheet metal plate finely perforated and having burrs around the perforations on the face next to the head, and a deposit of globular metallic granules covering the non-perforated area on the outer face of said plate.

4. An element having one face thereof comprising a pressing surface for a garment pressing machine, said element having small openings therein distributed across a substantial portion of said face, and a deposit of globular metallic granules covering the area on said face surrounding said openings and comprising said pressing surface.

5. A metal plate having one face thereof comprising a pressing surface for a garment pressing machine, said plate having small openings therein distributed across a portion of said face, and a deposit of globular metallic granules covering the area on said face surrounding said openings and comprising said pressing surface.

6. An element having one face thereof comprising a pressing surface for a garment pressing machine, and said element having small open-

ings therein distributed across a portion of said face, an irregular multi-layer deposit of continuous globular metallic granules covering the area on said face surrounding said openings and comprising said pressing surface.

VANNEY A. RAY.

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

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