

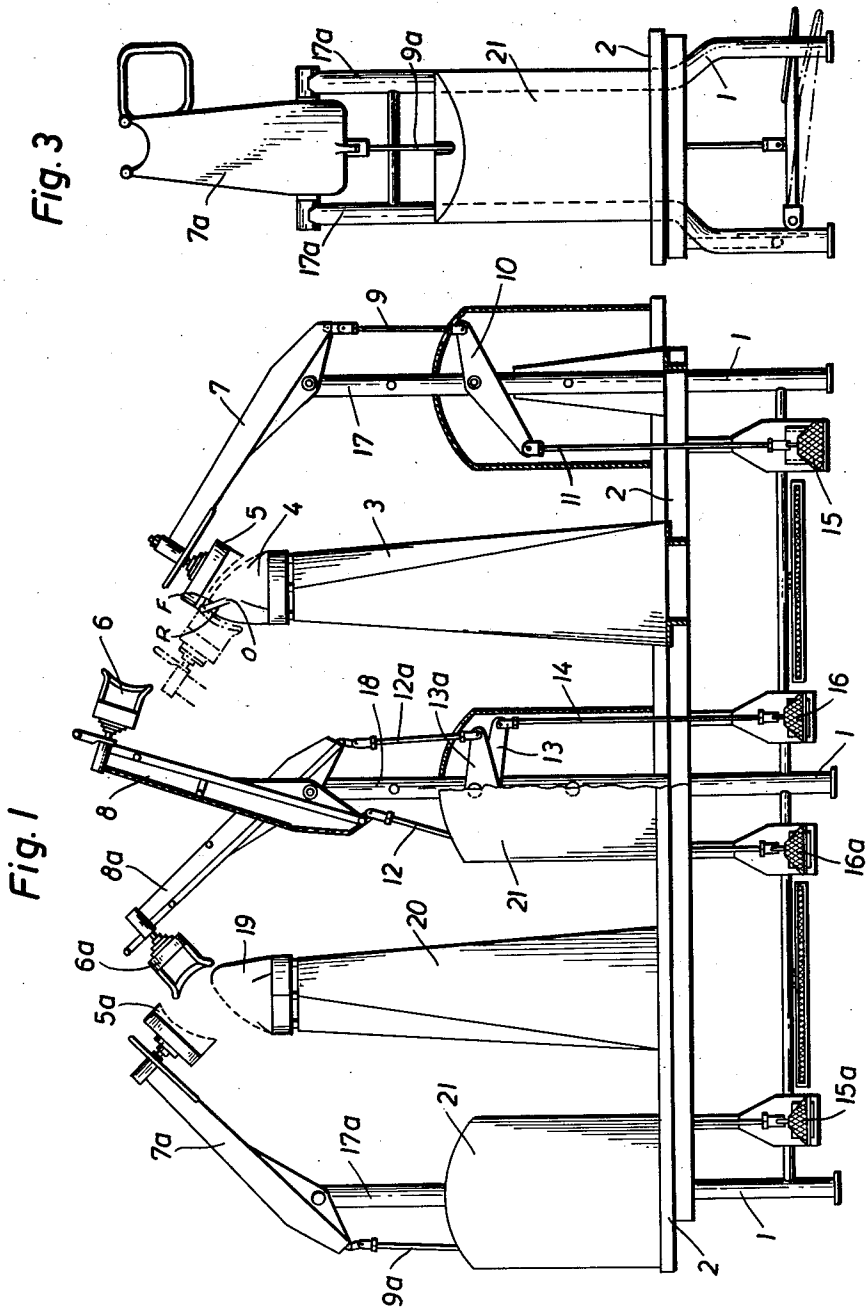
March 5, 1963

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GARMENT FINISHING MACHINES FOR IRONING OR
PRESSING THE CURVED PORTIONS OF GARMENTS

3,080,099

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2 Sheets-Sheet 1



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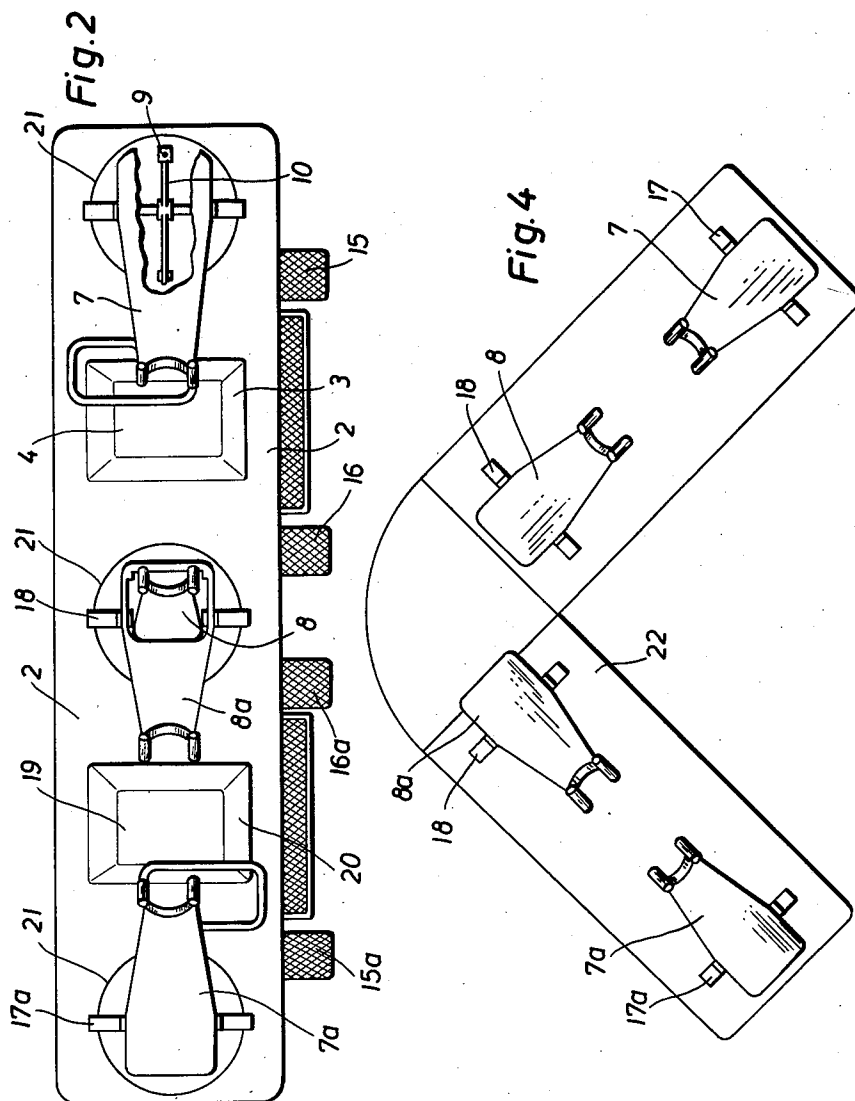
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1

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GARMENT FINISHING MACHINES FOR IRONING OR PRESSING THE CURVED PORTIONS OF GARMENTS

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5 Claims. (Cl. 223—57)

The present invention relates to garment finishing machines for ironing or pressing the curved portions of garments, and more particularly, the shoulder and collar surfaces, or the like, of men's and women's jackets and coats.

Finishing machines have heretofore been used for ironing and pressing garments and comprise variously-shaped pressing plates depending upon the shape of the garment. The plates are adapted to be heated by a heating medium, such as steam, and the plates act directly on the part of the garment to be pressed.

The curved portions of a garment to be ironed or pressed such as, for example, the shoulders of a garment, are placed between correspondingly curved upper and lower plates and the upper plate is mounted for movement toward the lower plate to iron and press the garment therebetween. The pressing plates are constructed to conform to the shape of the human body and, in accordance with correct tailoring requirements, the shoulder portion of the plates have hollow concaved surfaces at the front and outwardly curved or convex surfaces at the rear. Since the upper movable plate or head covers the entire shoulder and collar portions of a garment, it irons these portions in a single ironing operation. However, even if great care is used in moving the upper pressing plate or head into engagement with the garment during a pressing operation, it is impossible to prevent the edges of the recessed upper plate from drawing the fabric of the garment downwardly on the reversely curved lower stationary plate or buck as the upper plate descends. As a result, the shoulder and upper arm portions of the garment are stretched. The gripping of the garment by the upper plate as it moves downwardly relative thereto results in pushing of the fabric of the shoulder portion downwardly on the lower plate or buck so that the shoulder portion is not properly rounded, but crushed.

One of the objects of the present invention is to provide an improved finishing machine for ironing and pressing the curved portions of a garment which eliminates gripping and undesired stretching of the material of the garment.

Another object is to provide a finishing machine of the type indicated which at all times presses the surface of the garment in a direction perpendicular to the center of curvature of the cooperating pressing plates.

Another object is to provide a finishing machine of the type indicated for pressing different curved surfaces of a garment successively.

Still another object of the invention is to provide an improved garment finishing machine which is of simple and compact construction, adapted for economical manufacture and one which facilitates the ironing and pressing of garments.

These and other objects will become more apparent from the following description and drawings in which like reference characters denote like parts throughout the several views. It is to be expressly understood, however, that the drawings are for the purpose of illustration only and are not a definition of the limits of the invention, reference being had for this purpose to the appended claims.

2

In the drawings:

FIGURE 1 is a side elevational view of a garment finishing machine incorporating the novel features of the present invention and showing the plurality of movable plates for separately and successively pressing the reversely curved front and back of the shoulders and collar of a garment;

FIGURE 2 is a plan view of the machine illustrated in FIGURE 1 with the pressing plates partially omitted;

FIGURE 3 is an end view of the machine; and

FIGURE 4 is a plan view of a machine of modified construction in which the separate bucks are arranged in right angular relationship to facilitate pressing operations on each buck.

The invention is characterized by the construction of the upper movable head plate in several separately movable parts. Each upper component plate section or part is formed with a surface of regular curvature for cooperation with a correspondingly curved portion of the lower stationary plate and is movable in a direction perpendicular to the curved surface of the mating part. Advantageously, the surfaces of the upper plates overlap each other on the garment in a pressing position. A two-part subdivision of the upper plate is generally sufficient, but three or more separate upper plate sections may be provided for ironing surfaces of a garment having extremely complex curved portions.

The construction of the machine in accordance with the present invention eliminates any possibility of distorting the shoulders and sleeves of the garment during pressing. The lower plate or buck is constructed in one piece so that each portion of a garment to be ironed and pressed, for example, each shoulder, is laid only once on the lower plate or buck. The upper plate sections then are operated successively toward the common lower plate. Due to the overlapping of the ironing surfaces of the separate movable plate sections, which may amount to 1 to 2 cm., marking the material is impossible. With separate and successive pressing on the same lower plate with each plate sections being movable in a direction perpendicular to the curved surface to be ironed, displacement of the material is avoided. Furthermore, it is possible with the machine of the present invention to provide a greater variation in the curved contour of the pressing plates to conform to the desired contour of the garment to be pressed, i.e., the forward side of the shoulder of a garment can be pressed to produce a more "hollow" effect which is extremely difficult with one-part pressing plates. When designing the ironing plates, the necessity of providing clearances for movement into mating relationship is avoided. A further advantage resides in the fact that the operator can lay the article of clothing in position for pressing with greater ease and produce a better result than with any other machine. Furthermore, the operator can arrange and observe the garment before and after the ironing operation with greater ease because only some component surfaces are under the pressing plates while other component surfaces are clearly visible.

The arrangement of the pressing plate elements on the machine frame to perform a pressing operation may take different forms. However, in the illustrated embodiment the invention is advantageously applied to a machine having a plurality of lower stationary plates in a "tandem" arrangement on the machine frame to simultaneously perform pressing operations on separate garments. While finishing machines having a plurality of pressing units are well known they have never incorporated the separate upper movable pressing plate sections of the present invention. In accordance with the invention, left-hand and right-hand stationary pressing units are mounted on the machine frame in reversed juxtaposed relation with the upper corresponding movable plate sections of the sep-

3

arate units arranged in a mirror-image relationship between the stationary plates or bucks of the units. In this connection, it is possible to provide a so-called "tandem" arrangement with the left-hand and right-hand pressing units arranged one behind the other on a flat surface of the frame. This makes it possible to operate the left hand and right hand movable plate sections of the different units from the same place.

FIGURE 1 illustrates a machine for pressing the shoulder and collar portions of a lounge jacket or coat which incorporates the novel features of the present invention. The machine frame 1 has a horizontal plate 2 mounting a support 3 for a lower curved pressing plate or buck 4 of a shape which conforms to the inside of the shoulder portion of the garment and, in turn, conforms to the shape of the human body. The upper pressing plate is subdivided into two or more component plate sections 5 and 6. Each component plate section 5 and 6 covers only a portion of the curved surface of the garment to be pressed. The component plates 5 and 6 are so arranged and mounted relatively to each other that they overlap in part, to a greater or lesser degree, so that the material will not be marked by the edge of a plate section. This overlapping relation of the upper plate sections 5 and 6 is shown in broken lines in FIGURE 1, it being kept in mind that pressing is performed by the component plate sections 5 and 6 one after the other. While the plate sections 5 and 6 are illustrated, it will be understood that the curved shoulder portion of the garment to be finished can be pressed successively by a greater number of plate sections than the two illustrated. In the embodiment of the invention illustrated in FIGURE 1, the reference character R illustrates the position of the rearward edge of the front plate 5 when engaged with the buck 4, the reference character F illustrates the position of the forward edge of the rear plate 6 when engaged with the buck, and the reference character O illustrates the area overlapped by the separate plates.

The movable upper component plate sections 5 and 6 are operated individually by separate actuating linkage mechanisms. In the illustrated embodiment, the component plate sections 5 and 6 are mounted on one end of the levers 7 and 8, pivoted intermediate their ends, and actuated by rods 9 and 12. Rod 9 is connected through a lever 10 and rod 11 to a foot pedal 15; and rod 12 is connected through a lever 13 and rod 14 to foot pedal 16. The pairs of levers 7, 8 and 10, 13 are pivotally mounted on upright stanchions 17 and 18 on the frame, respectively.

In the illustrated embodiment, a pair of left-hand and right-hand pressing units are mounted in reversed relationship on the frame so that opposite surfaces of separate garments may be pressed simultaneously on the two units. Thus, a second lower pressing plate or buck 19 is mounted on a support 20 in side by side relationship with buck 4 in a row "in tandem" on the plate 2. With this arrangement of units, the levers 8 and 8a for the separate bucks 4 and 19 mount corresponding mirror-image pressing plate sections 6 or 6a and, in turn, are pivoted on the same upright 18 in offset relation. The lower linkage elements 12 and 12a, 13 and 13a and rods 14 and 14a are enclosed in a housing 21.

The lower pressing plates 4 and 19 can be heated in a conventional manner by steam and the upper pressing plate sections 5, 5a and 6, 6a also may be heated. Furthermore, the pressing plates may be equipped with a device for causing steam to flow through the garment being pressed in a well known manner. Additionally, the lower plate can be equipped with a vacuum nozzle to exhaust the steam. Instead of manually operated linkage, the pressing plates 5, 5a and 6, 6a can also be actuated by pneumatic or hydraulic means. For this purpose, it is only necessary to provide inlet and outlet valves in a pneumatic or hydraulic system which are adapted to be actuated by a key lever on the upper component plate sections.

The upper component plate sections 5 and 6 thus have

4

a common lower pressing plate 4 and the garment to be pressed is laid in the correct position thereon. Successive pressing or ironing operations then are performed by the upper component plate sections 5 and 6, or vice versa. During the successive pressing operations by the component plate sections 5 and 6, the garment remains unmoved on the lower plate 4. During the pressing of the garment on its forward and rearward sides by moving the upper pressing plate sections 5 and 6 against the garment, successively, steam may be caused to act on the garment and to be exhausted by a vacuum device connected to the lower plate 4. With a pair of pressing units on the same frame, portions of different garments may be pressed simultaneously on the separate units. For example, upper pressing plate sections 5 and 6a of the different units may be operated simultaneously by depressing foot pedals 15 and 16 and then plates 6 and 5a operated simultaneously by depressing foot pedals 16a and 15a. The suction effect can be adjusted in such a manner that it will continue to operate on the left hand side of one garment while the operator is pressing the right hand side of another garment.

FIGURES 1 to 3 illustrate a tandem arrangement of right hand and left hand pressing units in a machine. In order that the operation of the device according to the invention may be effected by one person without changing position, it may be desirable to construct the machine in V-shape, as shown in FIGURE 4. The left hand and right hand units then are arranged at an angle to each other and this angle may be an obtuse angle, a right angle or an acute angle. With a construction of this kind, the operator can operate the left hand and right hand pressing units from the same position.

While two embodiments of the invention are herein illustrated and described, it will be understood that further changes may be made in the construction and arrangement of elements without departing from the spirit or scope of the invention. Therefore, without limitation in this respect, the invention is defined by the following claims.

I claim:

1. In a garment finishing machine of the type used for pressing curved surfaces of a garment, such as the shoulders and collar portions thereof, wherein the garment is pressed between upper and lower plates having curved surfaces conforming to the contour of the garment being pressed and in which at least one of the plates is heated and directly contacts the garment to be pressed, that improvement which comprises in combination with said lower plate of a construction in which said upper plate is divided to provide separately movable upper pressing plates for contacting different curved surfaces of the garment on the lower plate, means mounting each movable plate for movement perpendicular to the curved surface of the co-operating pressing surface of the lower plate, said separate upper plates having areas overlapping each other on the lower plate, and means for operating said separate upper plates successively.

2. A garment finishing machine according to claim 1 in which the lower plate comprises a continuous curved surface extending at opposite sides of the top of the shoulder of the garment to be pressed with sections corresponding to the curved surfaces on each of the plurality of upper movable plates, and each of the upper plates having common areas overlapping the lower plate at the top thereof.

3. A garment finishing machine according to claim 1 in which means are provided for mounting a plurality of lower stationary pressing plates in reversed side by side relationship, a support for mounting a pair of movable plates in mirror-image relationship between the stationary plates for movement toward the respective lower plates in a direction generally perpendicular to the curved surface thereof, and individual supports for mounting other movable plates for each of the different lower pressing plates whereby to adapt one movable plate to be moved toward

5

each of the separate stationary plates simultaneously, and the other plates to be moved alternately therewith.

4. A garment finishing machine according to claim 3 in which the machine has a frame of adjacent units for mounting the separate lower stationary pressing plates, respectively, with the adjacent units arranged angularly to each other to facilitate pressing operations on the separate stationary plates from the same position.

5. A garment finishing machine according to claim 1 in which the movable plates are separately mounted on pivoted levers, a foot pedal for each lever, and mechanism connected between each foot pedal and a corresponding

6

lever for moving the pressing plate on the lever toward the stationary plate.

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