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(54) Automatic machine for carrying out single and double contour pockets.

(57) The present paper describes a machine with a mobile lower platform (A) which automatically produces pockets on articles of clothing. The fabric (T) is held firmly between the abovelying blades (L1, L2) and the lower mobile platform (A) during sewing operations, in order to avoid dragging the fabric (T) across the lower platform which generally produces sewing defects along the borders of the pockets. A pressing arm (E) is lowered by means of a piston (F) with an adjustable damper (H). Furthermore, the fold-over blades (L1, L2) are L-shaped in order to maintain the fabric (T) stretched over the cutting and sewing assembly, thereby avoiding wrinkling of the material while it is being sewed.

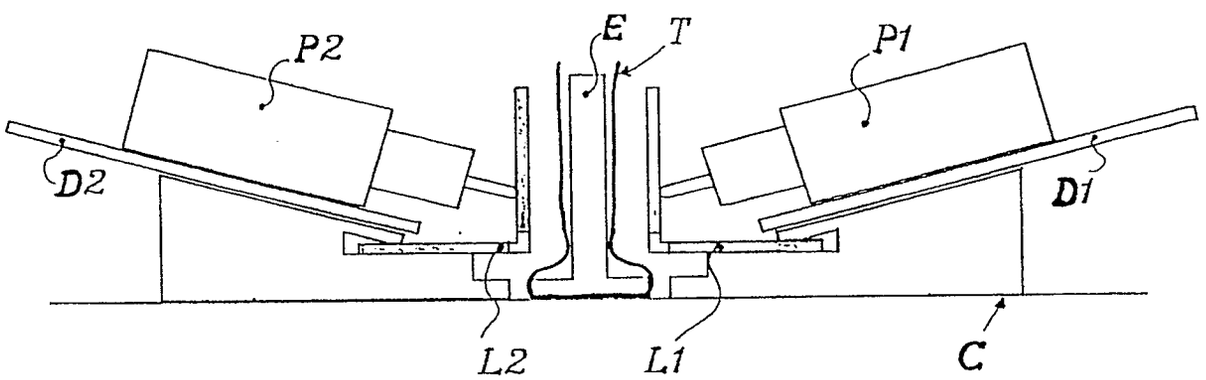

fig 3

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AUTOMATIC MACHINE FOR CARRYING OUT SINGLE AND DOUBLE CONTOUR POCKETS

The present invention relates to a machine for the production of single and double contour pockets of clothing.

In the sector of industrial machines which produce pockets on garments, there are various different types of machines which carry out simultaneosly cutting operations on the cloth and insertion and sewing of the reinforcement contours. This operation is currently carried out by machines equipped with two mobile pressing tongs and a pressing arm which shift across a fixed platform. During this shifting movement the operations of cutting the pocket opening and sewing the reinforcement borders are carried out.

The face that the bottom platform is fixed may produce an irregular dragging of the fabric or a relative shift between the base cloth and the reinforcing border material, and consequently forming undesidered wrinkles in the garment.

The aim of the present device is that to permit carrying out of sewing operations without these defects.

In its basically essential parts, this device consists of a machine which automatically produces single or duoble contour pockets, combined together with a mobile platform, which moves along a fixed base. On the fixed base there are a series of guides along which the mobile platform can move on the top of this platform the fabric is held down firmly by means of the tongs. During the cutting and sewing operations the tongs, which are pressed against the mobile platform, hold the material and the whole assembly shifts while the needles carry out the stitching of the reinforcements.

Besides two fold-over blades which are shaped in such a manner as to have two perpendicular surfaces each they press the cloth on pressing arm;
there are also two small pistons which operate upon the vertical section of the two blades, helping them to maintain the cloth pressed against the arm. The two perpendicular surface of the blades present a long incision along the point between the two. This incision along the joint between the two. This incision is necessary to allow the needle to carry out sewing operations without hindrance and to extract the sewed garment.

The horizontal sections of the pressing blades are inserted into the pressing tongs while the vertical section is being pressed by means of a small piston placed on the ribbing of the pressing arm.

There is also the necessity to adjust both the pressure of the pressing arm on the cloth and the stress which it exerts according to the various types of fabric. For this reason, a new meccanism has been appropriately devised for the arm movement, which consist of a damper support mounted on the piston which moves the arm.

By adjusting the screw on the damper, the pressure which the arm exerts on the cloth can be adjusted.

Fort a non-limiting example, a practical realization of the device is illustrated.

Fig. 1 shows a first example of the invention in two different positions (1a, 1b) of the mobile platform,

Fig. 2 is a modification of figure 1 which has two tongs, the position of fig. 2a und 2b corresponding to those of fig. 1a and 1b,

Fig. 3 is a front view of a third embodiment of the invention,

Fig. 4a and 4b show a side view and a perspective view of a pressing blade,

Fig. 5 illustrates a supporting system of a pressing arm in its upper position,

Fig. 6 shows the pressing arm of figure 5 in its lower position.

Figure 1 shows the mobile platform A which moves along the guides B on the main base C . Figure 1a shows the mobile platform in a fully advanced position. The mobile platform A has two arms A1 and A2 upon which the tongs are pressed; the element A3 is fastened to the mobile assembly which shifts the mobile platform A.

Figure 2 illustrates a front view of the device complex, where D indicates the tongs and E is the pressing arm. Figure 2a shows the tongs which are pressing against the platform arms A1 and A2 before sewing operations, whereas figure 2b shows the mobile assembly fully withdrawn, and in which the platform arms A1 and A2 , upon which the tongs press against, are shown in a backdrawn position.

The cloth T (fig.3) is placed on the machine and subsequently pressed onto the pressing arm E by bringing the flanking tongs assembly D1, D2 and the pressing blades L 1, L 2 closer, and by operating the small pistons P 1, P 2 to assure better surface contact.

The blades L 1, L 2 move towards the pressing arm E and the pressing tongs D 1, D 2 shift horizontally across a plane C , and dragging the cloth whit it.

Figures 4a and 4b illustrate the pressing blade L 1, showing the vertical section LV, the horizontal section L0 and the incision I.

To make dragging easier the vertical sections of the blades which come into contact with the cloth have a rough surface.

Figures 5 and 6 show the piston F which lifts

and lowers the pressing arm supported by the damper H; it therefore results that by adjusting the damper H the force which the pressing arm E exerts on the fabric can be determined.

The other technical characteristics of the machine for producing pockets are known, such as the position of the needles, timing and lengths of sewing operations, etc..

Claims

1. An automatic machine for production of single and double contour pockets, characterized by the presence of a mobile platform (A) against which the tongs (D) press while holding the fabric (T) during cutting and sewing operations, and in which the above-mentioned platform (A) shifts with the same speed and direction as the tongs (D) and pressing arm (E).
2. An automatic machine for production of single and double contour pockets, according to claim 1, characterized by the fact that the lower mobile platform (A) is set on a fixed base (C) by means of a series of guides (B) , for the movement of the aforesaid mobile platform (A).
3. An automatic machine for production of single and double contour pockets, characterized by the presence of two particular L-shaped pressing blades (L1, L2), and in which, for each blade the horizontal section (L0) is inserted into the pressing tongs (D), and the vertical section (LV) is close-fitting to the vertical ribbing of the pressing arm (E).
4. An automatic machine for production of single and double contour pockets, according to claim 3, characterized by the L-shaped pressing blades (L) which present an incision (I) along the bending axis.
5. An automatic machine for production of single and double contour pockets, according to claim 3 or 4, characterized by the presence of two small pistons (P1, P2) fixed to the pressing tong assembly (D); and in which the above-mentioned pistons (P1, P2) act on the vertical section (LV) of the pressing blades (L), pressing them against the vertical ribbing of the pressing arm (E).
6. An automatic machine for production of single and double contour pockets, characterized by the roughness of the part of the surface of the pressing blades (L) in contact with the fabric (T), to ease dragging of the cloth.
7. An automatic machine for production of single and double contour pockets, characterized by the presence of a piston (F), which lowers the pressing arm (E), fixed to a damper support (H), and by adjustment of the latter it is possible to determine the pressure of the arm (E) on the fabric (T).

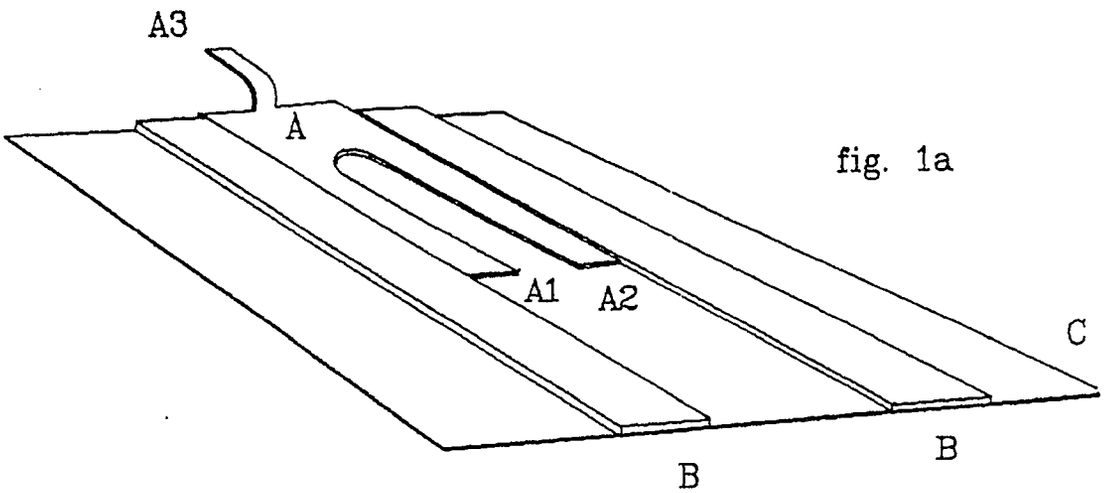

fig. 1a

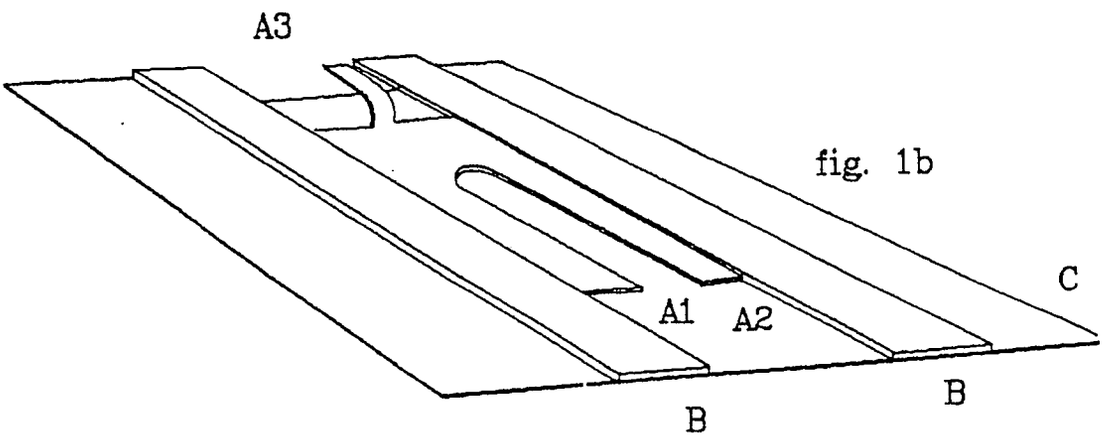

fig. 1b

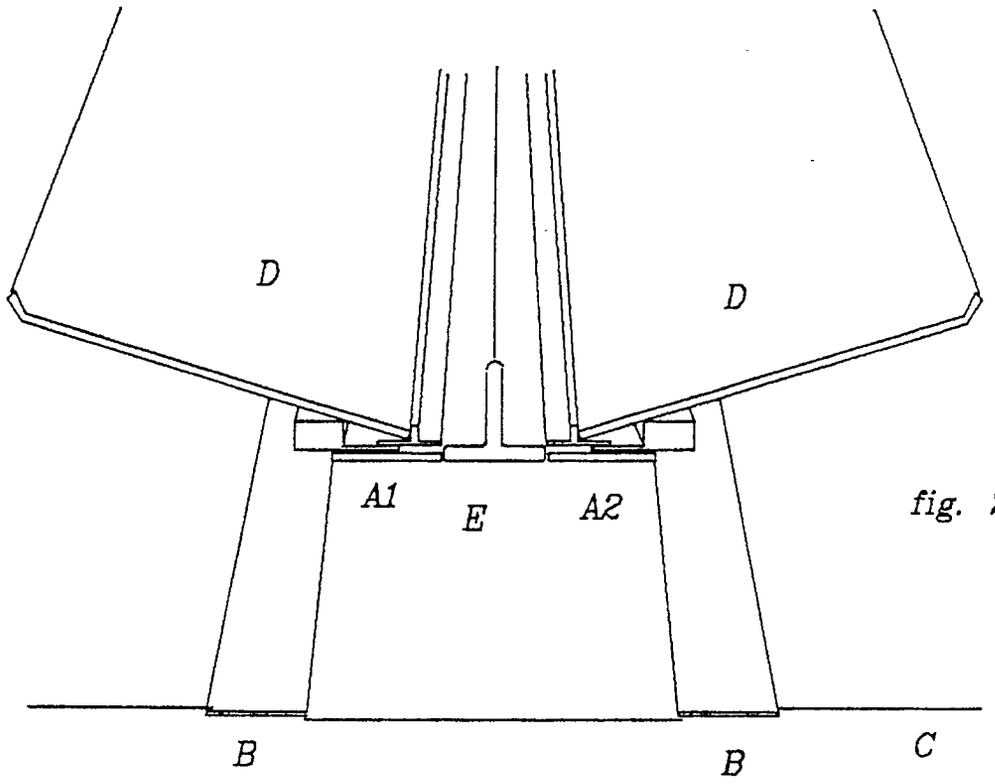

fig. 2a

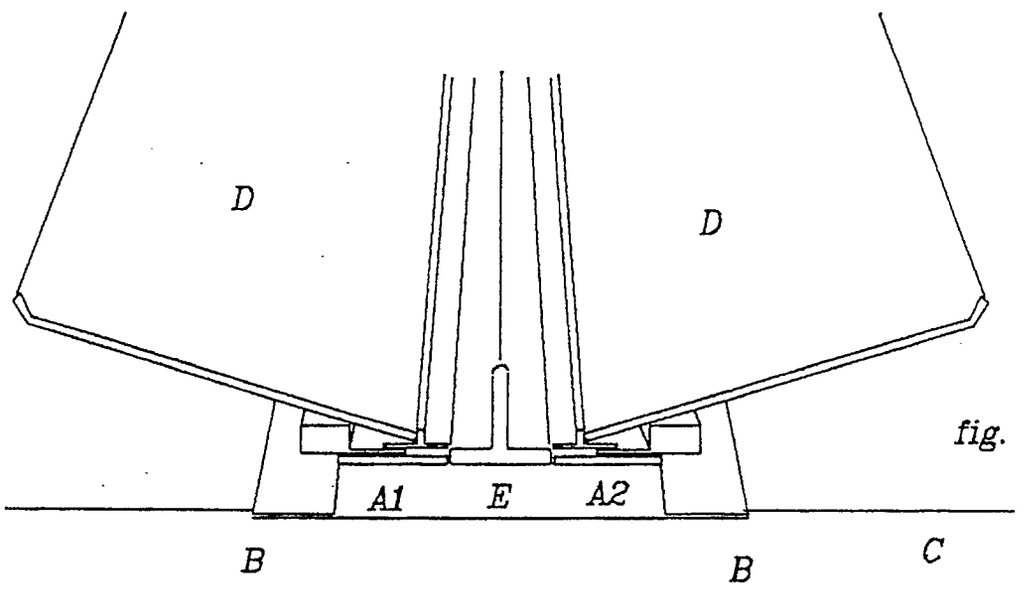

fig. 2b

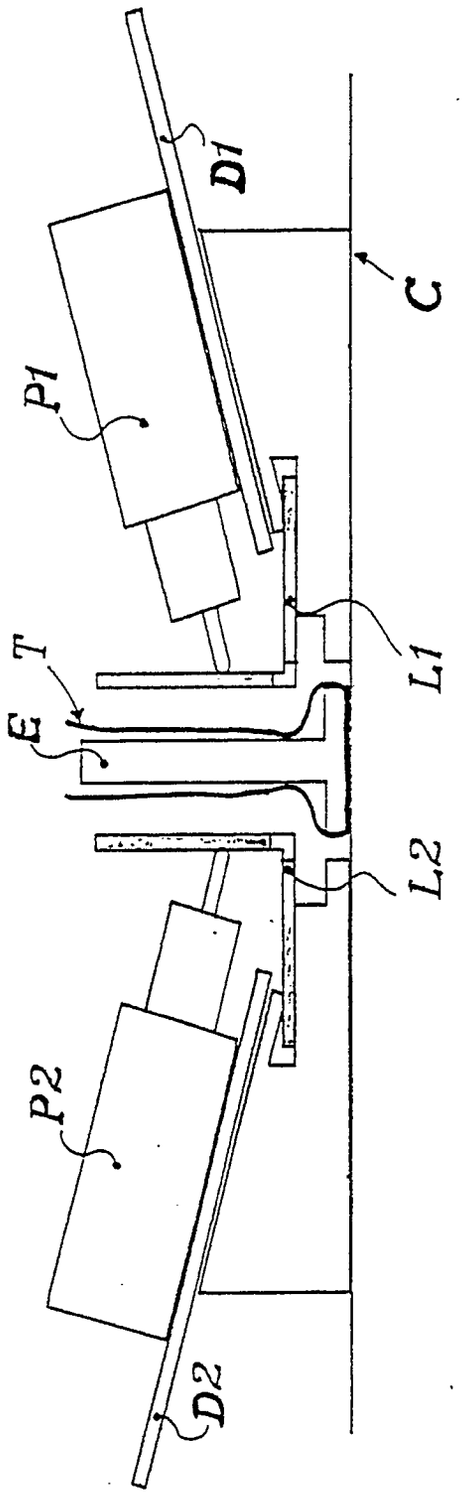

fig 3

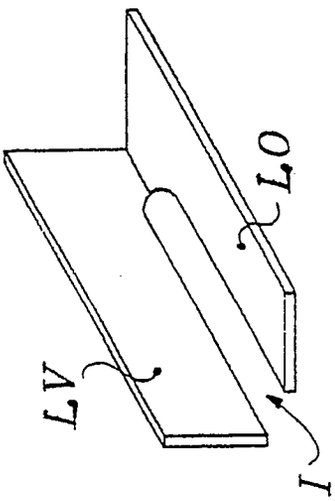

fig 4b

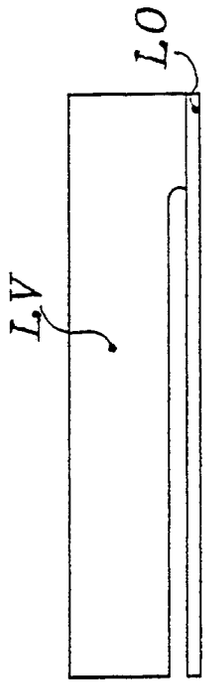

fig 4a

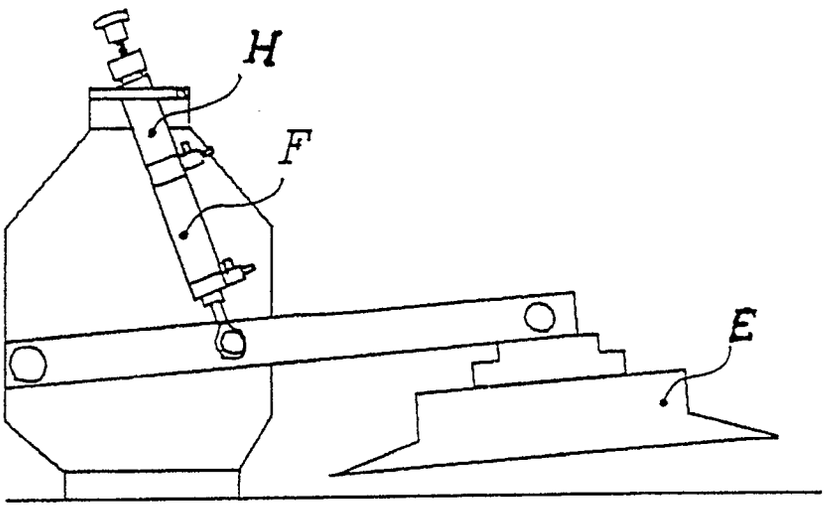

fig 5

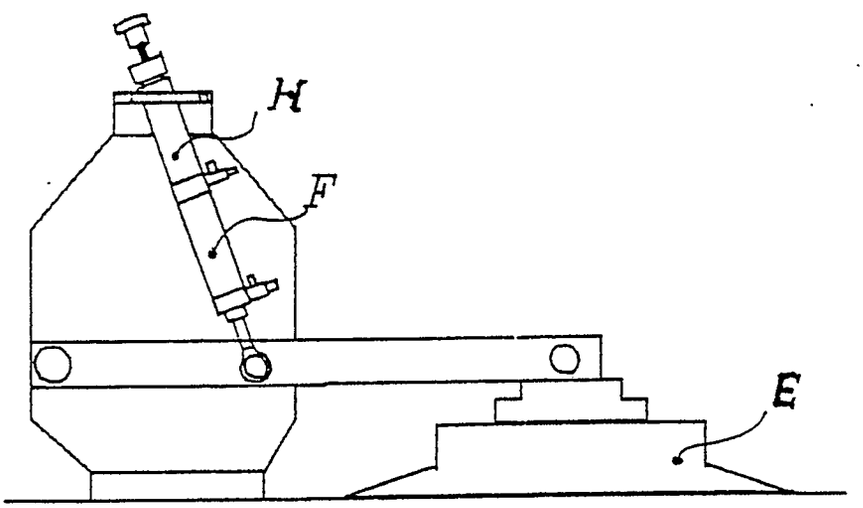

fig 6