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(54) **METHOD FOR THE PRODUCTION OF POCKETS FOR WALLETS AND RELATIVE EQUIPMENT.**
VERFAHREN ZUM ANBRINGEN TASCHEN AUF KOFFER UND ENTSPRECHENDE AUSTRÜSTUNG
PROCÉDÉ DE PRODUCTION DE POCHES POUR VALISES ET ÉQUIPEMENT CORRESPONDANT

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Description

Technical Field

[0001] The present invention concerns the technical field relative to the production of wallets and document cases in general.

[0002] In particular, the invention refers to an innovative method and the relative equipment used for the realization of card holder pockets or document case pockets in products such as wallets.

Background Art

[0003] It is known that wallets or document cases in general, for example made of fabric, leather or imitation leather, are provided with a plurality of pockets overlapped in a staggered manner so as to result all contemporarily accessible. Such pockets are meant to contain cards, such as credit cards, debit cards, business cards and the like. Such pockets, as it is well known, are realized by means of the sewing of a plurality of sheets overlapped on a base sheet.

[0004] In accordance with the prior art, the realization method comprises the preparation of a first base sheet (generally rectangular), the dimensions of which are those final that will constitute the finished product. Subsequently, a plurality of sheets is arranged, which will each of them constitute a pocket. Generally, the dimensions of such sheets, in the case many pockets are to be obtained, comprise a width that substantially coincides with the width of the base sheet but their height is inferior to even less than half of the base sheet. In such a manner, more sheets may be overlapped one to the other.

[0005] During the production cycle, first of all, a protective piece of paper board is arranged, which covers the upper edge of each sheet destined to form the pocket. Contemporarily, in proximity of the lower edge, opposed to the upper edge provided with the piece of paper board, a line parallel to such a lower edge is realized, which serves as trace for the next seam.

[0006] Once the protective piece of paper board and the reference line for the seam on each sheet are arranged, the following procedure takes place. In particular, glue is appropriately spread on the edges of a first sheet so that it can be fixed temporarily on the base sheet. An appropriate ruler serves as reference to glue such a sheet on the base sheet in such a way that the upper edge (covered with the protective piece of paper board) results to be below the edge of the base sheet of a predetermined quantity and perfectly aligned with it. Once the temporary gluing of the two sheets has been done, the operator takes the wallet to a sewing machine, in which another operator makes the seam along the reference line previously realized. Thus, the position of the first sheet with respect to the base sheet has been definitely fastened, and consequently, the first pocket has been practically obtained. The making of the subsequent pockets involve

the repetition of such a procedure for the number of pockets that are to be realized.

[0007] In particular, a second sheet is overlapped to the two previously seamed ones and subsequently, the second sheet is glued on the base sheet, lowering the same with respect to the upper edge of the first sheet previously seamed. Subsequently, we pass onto the sewing section, where the partial seam along the reference line takes place.

[0008] Once all the sheets on the base sheet are permanently fastened, it is necessary to render the seamed pockets and the pre-chosen lining of the wallet only one body.

[0009] In that senses a working phase takes place in which an adhesive is arranged along the edges of the lining in such a way as to glue it to the base sheet of the seamed pockets to then sew them one to the other.

[0010] It is therefore clear that all the procedure described is particularly time-consuming and therefore a poor performance procedure.

[0011] In fact, it is necessary to glue each single sheet on the base sheet manually since such an operation does not lend itself well to automation. It is therefore clear that such a procedure is a poor production performance one.

Moreover, following the gluing of a sheet, it is necessary to proceed with the sewing of the same before proceeding with the gluing of the subsequent sheet. Such an operation requires a continuous passage from the gluing section to the sewing section and vice versa, with a significant loss of time. It is therefore clear that such a procedure is, on the whole, a poor production performance one.

[0012] It is clear also that, in accordance with such a method, the gluing operation (also that relative to the lining) requires the purchase of big quantities of glue, which significantly bear on the production costs.

[0013] Last, the glue smearing operation is a delicate operation that should be performed manually and that strongly bears on the quantity of waste of the product. In the case of a human error, in which the glue is wrongly smeared as smeared in excess or in inappropriate areas of the sheet, there is a great risk of waste of the entire product.

[0014] Document EP-A-1331298 discloses a sewing machine with a loading system including templates.

Brief description of the invention

[0015] It is therefore the aim of the present invention to provide a method and equipment for the realization of pockets overlapped in a wallet or document case in general that solves the above-mentioned inconveniences.

[0016] In particular, it is the aim of the present invention to provide an innovative equipment that allows the sewing of the pockets in a continuing manner, without necessarily having to pass continuously from a gluing section to a sewing section.

[0017] It is therefore the aim of the present invention to provide an innovative equipment that allows to elimi-

nate completely the use of glue.

[0018] These and other aims are reached by means of an equipment (1) to realize the sewing of pockets overlapped in a wallet or document case in general according with claim 1.

[0019] In particular, the equipment comprises an arrangement (5, 6, 7, 9, 15) integral to the sewing plane (14) of the sewing machine. In such a manner, it is dragged from the said plane during the ordinary sewing operations.

[0020] In accordance with the invention, the arrangement has a blocking unit (5, 6, 7) mobile, when in use, with respect to the sewing plane (14) between a lifted position from the plane (14) and a lowered position substantially in contact with the sewing plane and that can further be translated in parallel with respect to the sewing plane.

[0021] In such a manner, in correspondence of the said lowered position, the blocking unit is positioned on the sewing plane 14, blocking in position into a block template 9. two or more sheets overlapped to be sewn reciprocally while, in correspondence of the return to the lifted position once the sewing phase has been completed, it allows the insertion of a new sheet. In such a position, the sewing machine is in stand-by while, further, the translation of the blocking unit is ordered of a certain quantity such as to allow the subsequent block of the new sheet inserted in the template to be sewn.

[0022] In accordance with such an equipment arranged on a sewing machine provided with a stitching head (2) and a sewing plane (14), mobile with respect to the stitching head, the automation of the entire sewing process is perfectly obtained.

[0023] Advantageously, the arrangement (5, 6, 7, 9, 15) comprises a support element (15) configured to result applicable in an integral manner to the sewing plane (14), the blocking unit (5, 6, 7) being assembled in a sliding manner vertically on the said support element (15).

[0024] Advantageously, an actuator (20) is further provided arranged in such a way that its extraction causes the horizontal translation of the said blocking unit with respect to the sewing plane.

[0025] Advantageously, the said arrangement (5, 6, 7, 9, 15) further comprises a block template (9) provided with an opening (12) into which the said two or more sheets in material overlapped to be seamed can be placed and configured to be applicable in an integral manner to the sewing plane (14), the said block template further comprising an articulated closing (10), progressively extendable into the opening.

[0026] Advantageously, the articulated closing (10) comprising a plurality of blocks (10a-10g) articulated among them in succession, the said articulated closing being arranged with respect to the opening in such a manner that each block in succession can be turned over into the opening (12), closing it progressively to block in succession different sheets overlapped.

[0027] Advantageously, a control unit (13) is provided

configured to control the said vertical or horizontal translation of the blocking unit.

[0028] Advantageously, the blocking unit (5, 6, 7) comprises:

- A guide (5);
- A sliding block (6) mounted in a sliding manner along the guide, the said sliding block further comprising a block rod (7).

[0029] Advantageously, wherein the guide (5) is mounted in parallel to the sewing plane (14) and connected in a sliding manner vertically on the said support element (15).

[0030] Advantageously, the support element (15) comprises a sliding platform (22) provided with at least one slot (22') through which the actuator element (23) moves vertically the said blocking unit with respect to the sewing plane.

[0031] Advantageously, it is here described also a sewing machine (1) for the sewing of pockets overlapped in a wallet or document case in general and comprising:

- A stitching head (2) and;
- A sewing plane (14), mobile with respect to the stitching head and configured in such a way as to be able to hold two or more sheets in material, overlapped and to be sewn reciprocally;

and wherein the machine comprises an arrangement (5, 6, 7, 9, 15), integral to the sewing plane (14), the said arrangement comprising a blocking unit (5, 6, 7), mobile with respect to the sewing plane (14) between a lifted position from the said sewing plane and a lowered position substantially in contact with the sewing plane and further movable in parallel with respect to the sewing plane in such a way that, in correspondence of the said lowered position, the blocking unit is arranged on the sewing plane, blocking the sheets to allow the sewing of them and, following the return to the lifted position at the end of the sewing, the blocking unit translates horizontally in such a way as to allow the subsequent block of a further sheet to overlap to the preceding ones.

[0032] It is here further described a method for modifying a sewing machine (1) comprising a sewing head (2) and a sewing plane (14), mobile with respect to the sewing head.

[0033] The method comprises the operation of application of an arrangement (5, 6, 7, 9, 15) in an integral manner to the sewing plane (14), the arrangement comprising a blocking unit (5, 6, 7), mobile with respect to the sewing plane (14), between a lifted position from the said sewing plane (14) and a lowered position substantially in contact with the sewing plane and further translatable in parallel with respect to the sewing plane in such a way that, in correspondence of the said lowered position, the blocking unit blocks on the sewing plane the sheets in material to be seamed positioned on the sewing plane

and, following the return in lifted position, the blocking unit translates horizontally in such a way as to allow the subsequent block of a further sheet to be overlapped to the previous ones.

[0034] It is here also described a method for realizing the seam of pockets overlapped in a wallet or document case in general with a sewing machine that comprises a sewing head (2) and a sewing plane (14), mobile with respect to the sewing head, and provided with a block template (9), the block template having an opening (12) and a closing (10), articulated, comprising a plurality of blocks (10a-10g) articulated among them in such a way as to be turned over into the opening (12), closing it progressively, the said method comprising the operations of:

- Arrangement of a first base sheet in material into the opening (12) of the block template (9);
- Block of the first base sheet into the opening by means of the turnover of a first block (10a) into the opening;
- Overlapping of a second sheet to the first base sheet in such a way that the second sheet is substantially against the edge of the first turned over block;
- Block of the second sheet by means of the turnover of the second block (10b) in such a way as to leave an excess of the second sheet;
- Lowering of a blocking unit (5, 6, 7) on the block template (9) in such a way as to intercept the excess of the second sheet blocked along a seam line (60);
- Movement of the sewing plane under the head of the machine in such a way as to realize the seam line (60);
- Lifting of the blocking unit and translation of the blocking unit of a predetermined quantity such as to allow the sewing of a further sheet along a second seam line (60) ;
- Overlapping of the said second sheet arranged against the edge of the second turned over block (10b);
- Turnover of a third block (10c) in such a way as to leave an excess of the said further second sheet;
- Repetition of the said cycle for the number of sheets to be seamed.

[0035] Advantageously, at the end of the sewing cycle of the pockets overlapped along the seam lines (60) a further sewing operation is comprised to complete the closure of the pockets..

[0036] Advantageously, the said closure sewing comprises a seam along the edges of the pockets and a symmetrical central seam.

[0037] Advantageously, the said closure sewing is realized a single seam step.

Brief description of the drawings

[0038] Further features and advantages of the invention will be clearer with the description of some of its

embodiments that follows, made to illustrate but not to limit, with reference to the annexed drawings, wherein:

- Figure 1 represents an axonometric view of the equipment;
- Figures from 2 to 4 represent an axonometric view of the constructive solution relative to the blocking unit 9;
- Figure 5 represents an insertion of the blocking unit 9 into the frame 14;
- Figure 6 represents a second general axonometric view of the device in accordance with the invention;
- Figures from 7 to 19 represent the phases of functioning and sewing in accordance with the present invention.

Description of some preferred embodiments

[0039] As it is well known from the prior art (see also figure 1), a sewing machine comprises a head 2 provided with a cylinder 3 on which a needle 3' is placed through which the thread passes to make the seam and a sewing plane 14. Always figure 1 represents the sewing plane 14 which is mobile with respect to the head 2. In such a manner, through a controller 13 and an appropriate software, it is possible to opportunely translate the plane 14 with respect to the head 2 in such a way as to realize one or more seam lines on the fabric arranged on the plane itself. A further plane 8 represents a fixed support (for example, a workbench) for the said mobile sewing plane 14.

[0040] With reference to figure 1 and in accordance with the invention, the sewing machine further comprises an arrangement (5, 6, 7, 9, 15) arranged on the sewing plane 14 in a such a manner to result movable in an integral way with it.

[0041] The basic elements of such an arrangement are structurally detailed below.

[0042] In particular, the arrangement is provided with a blocking unit (5, 6, 7) comprising a guide 5 on which a sliding block 6 can slide. The guide has a length preferably of about twenty-five centimetres and is milled in such a way as to realize a sliding track of the sliding block with a re-circulating ball system. The linear movement of the sliding block along the guide is obtained through an actuator 20, preferably, but not necessarily, mounted integral to the head 2 (see also figure 14, for example).

[0043] Otherwise, also the actuator 20 could be mounted integrally to the said arrangement.

[0044] The sliding block 6 mounts a curved rod 7 provided with a block appendix 7' and arranged respect to the sliding block in such a manner that the block appendix 7' results substantially parallel to the sewing plane 14.

[0045] Always as represented in figure 1 and in greater detail in figure 5, the mobile sewing plane 14 of the sewing machine comprises a containment frame 14, for example realized in metal. The said guide 5 is rendered integral to the containment frame 14 in such a way that any move-

ment of the sewing plane 14 drags integrally with it also the blocking unit (5, 6, 7). The connection is represented schematically in figure 1 through a support element 15 configured in such a way as to not to interfere with the sliding of the sliding block on the guide and better detailed below with particular reference to figure 6 and figures 13 and 14.

[0046] For that purpose, figure 6 details better the support element 15 in the shape of a bent arm 15 and connected to the containment frame 14 through an ordinary group of bolts or the like. The bent arm 15 comprises a sliding platform 22 provided with two slots 22' through which to move vertically (up/down) the guide 5 and the sliding block 6 with respect to the sewing plane 14. Always figure 6 shows how such a vertical movement can be controlled through, for example, two symmetrical actuators 23 hinged to the two sides of the arm 15.

[0047] Naturally, any shape of support element 15 can be realized without for this moving apart from the present inventive concept.

[0048] The blocking unit (5, 6, 7) is therefore mobile vertically from/towards the containment frame 14. In such a manner, it is possible to bring the appendix 7' of the rod 7 substantially in contact with the sewing plane 14 to then lift it again, independently of the movement of the plane 14 itself.

[0049] Always figure 6 shows the actuator 20, for example an extractable piston, arranged preferably on the head 2 of the sewing machine in such a position as to be able to push the sliding block 6 along the guide 5 for a predetermined distance. The directions of the arrows applied to the sliding block 6 and to the actuator 20 show the direction of extraction of the actuator and the corresponding translation of the sliding block. As it has been said, even if the actuator in the preferred configuration of the invention is rendered integral to the head 2 of the sewing machine, it is still clear that another placement can be thought of without for this moving apart from the present inventive concept.

[0050] With reference to figure 5, the containment frame 14 comprises an opening 14', indifferently passing or non passing through the thickness of the frame 14 itself, in such a way as to be able to contain and delimit a block template 9 when coupled into such an opening.

[0051] Figure 5 shows, just for greater clarity purposes, the conformation of the frame 14, which is provided with the opening 14' to be able to hold and contain inside it the template 9.

[0052] In detail, as shown in figure 2, the block template 9 comprises a plane surface 11 having an opening 12. The opening can indifferently be passing through the entire thickness of the surface 11 or have a thickness inferior to the overall thickness of the surface 11. In the first case, the opening 12 faces directly the surface of the workbench 8 or of the frame 14 underlying when the template 9 is inserted into the frame 14 itself. In the second case (represented in the specific in figure 2), the opening 12 accesses to the plane that is part of the surface 11 itself.

[0053] In both cases, in correspondence of the opening 12 a sheet of high level friction material can be eventually arranged, as for example a sheet of emery paper. In particular, figure 2 shows with a dark background a sheet of emery paper arranged on the plane 12.

[0054] Always as shown in figure 2, the block template 9 comprises an articulated closing 10 arranged in such a way as to be able to close the opening 12 progressively. The articulated closing as a whole is therefore conformed with dimensions of width L and height h such as to match with the opening 12. In accordance with the invention, the articulated closing 10 is realized by means of a plurality of articulated rectangular blocks (10a-10g), connected among them along an edge in such a way that a block results rotatable with respect to another block along the said connection edge.

[0055] Such a connection can therefore be realized in a plurality of equivalent manners. For example, by connecting such blocks among them along the side of length L through the use of an ordinary adhesive tape or by realizing a real hinging.

[0056] As shown for descriptive clarity in figure 3 and figure 4, such a configuration of the articulated closing allows to close the opening 12 progressively. It is therefore possible to close progressively a portion of the opening turning over a block into the opening and leaving the tail, that is the remaining blocks, out of the opening.

[0057] In particular, figure 3 shows a partial closing by means of the arrangement of two consecutive blocks 10a and 10b into the opening 12, while the remaining blocks form a tail, bent out of the opening. Figure 4 shows the condition in which the blocks are arranged into the opening, closing it completely.

[0058] Any number of blocks can be realized. The dimensions of the same vary on the basis of the opening 12 to be closed.

[0059] Going back to figure 6, just for clarity purposes, it is highlighted that the containment frame 14 is rendered mobile in a substantially parallel manner to the work plane 8, as per the background art.

[0060] In particular, figure 6 shows movement axes X-Y, or a combination of the same, along which the frame is translatable through engines or actuators with respect to the plane 8 and therefore with respect to the head of the machine 1. In such a manner, being the frame 14 rigidly connected to the bent arm 15, it is clear that the entire blocking unit (5, 6, 7) and the template 9 are dragged integrally in translation along the said directions.

[0061] Going back to figure 1, the controller 13 handles the operation also of the said actuators (23, 20) for controlling the quantities and the directions of translation of the piston 20 and of the guide 5, together with the sliding block 6. Such movement engines can be, for example, electric and well known as per the background art.

[0062] Having structurally described the basic elements of the invention, we will now pass onto a description of the functioning.

[0063] The controller 13 arranges the sewing plane

(and therefore also the entire arrangement described above) in an initial working position below the head 2 so that the sewing can start. All the basic geometrical data of the pockets to be seamed are therefore inserted in the controller, for example the height h of each pocket and the number of pockets to be seamed one to the other. In this manner, the software is capable of calculating the quantities of translations (number of translations and width of translation) necessary for realizing the sewing, as described below.

[0064] In an initial first phase, figures 7 and 8, the arrangement of a first sheet 30 of material (material that will then constitute the finished product realized) is into the opening 12 takes place. Just for descriptive simplicity purposes, such figures have isolated the block template 9 out of the frame 14 into which it is arranged. It is therefore to be intended that in the method of functioning described the template 9 is correctly arranged into the frame 14 and that the entire arrangement described is correctly placed with respect to the sewing machine, as for example in figure 1. The sheet of emery paper, if applied, helps to avoid the sliding of the said sheet 30 into the opening 12.

[0065] As shown in the subsequent figure 9, the rotation of the articulated first block 10a into the opening 12 on the first sheet 30 is realized in such a way as to ensure to maintain the sheet 30 still in position and realize at the same time a reference matchboarding. As in fact described in subsequent figures 10 and 11, the height h of the blocks serves also as reference for the positioning of the second and the subsequent sheets overlapped. In such a manner, in the realization of each pocket they are overlapped among them according to a staggered order of the said quantity h .

[0066] The height h depends, as already said, on the characteristics of the product to be realized and therefore, in virtue of this, different block templates 9 can be realized for each range of product to be realized.

[0067] As shown in figure 10, a second sheet 40 is then overlapped to the first one 30 in such a way that it can be sewn again to form the first pocket of the product. The height H of the second one and subsequent sheets is naturally inferior with respect to that of the first sheet in such a way as to be able to sew different pockets among them overlapped in a staggered manner.

[0068] Figure 10 and figure 11 therefore show the overlapping of the second sheet 40. In particular, figure 11 shows that the block previously rotated 10a on the first sheet 40 becomes now a reference matchboarding for the second sheet 40 to be placed into the opening. Once the second sheet 40 is overlapped to the first one 30, it is possible to rotate the second articulated block 10b on the second sheet 40 so as to block it in position with respect to the first one 30 (see figure 12).

[0069] At this point the real sewing phase can start.

[0070] Following a command by the operator, the controller 13 starts and controls the operation of the actuators 23 that cause the guide group 5 - sliding block 6 to trans-

late down along the sliding platform 22. In such a manner, the appendix 7' of the rod overlaps the sheet 40 on the opposite side to the edge of the turned over articulated block 10b. In that sense, therefore, the appendix serves as further block and traces the theoretic line 60 on which the seam takes place. Figure 13 shows in an overall view such a phase in which the arrow orientated towards the bottom applied to the guide 5 indicates the lowering in such a way that the appendix 7' overlaps the sheet 40, further blocking it.

[0071] At this stage (see figure 14), the sewing phase starts, in which the controller 13 controls the operation of the electric engines that translate the whole along the direction X indicated in figure, through the translation of the frame 14. In such a manner, the template 9 arranged into the frame 14, together with the appendix 7', translate in an integral way along such a direction. The sheet 40 slides under the needle, which has its normal movement alternated vertical in such a way as to realize the seam 60 in parallel to the appendix 7' itself.

[0072] Figure 15 shows, for clarity purposes, a top view that extrapolates the block template 9 and shows the first seam line 60 realized in parallel to the appendix thanks to the translation indicated with an X under the needle 3 of the sewing machine.

[0073] In particular, figure 15 shows the second sheet 40 overlapped to the first one 30 and blocked through the turnover of the second articulated block 10b into the opening and contemporarily through the lowering of the rod 7. The thin dotted line 40' indicates the edge of the sheet 40 blocked under the block 10b and facing towards the block 10a (not visible as under the block 10b). The translation of the template 9, through the translation of the plane 14, puts the sheet 40 under the head of the sewing machine in such a way that the needle 3' can realize the seam line 60.

[0074] At this stage, at the end of such a first seam line, the blocking unit (5, 6, 7) is lifted, as per figure 16, and translates of such a quantity d as to allow The seam of a further pocket as per figure 17.

[0075] In particular, figure 16 shows the guide 5 and the sliding block 6 in a phase of vertical lifting from the plane 14 in such a way that the appendix 20 detaches from the plane 14 and, contemporarily, the actuator 20 can translate the sliding block of a certain quantity d along the guide.

[0076] As shown in figure 17, a second sheet 70 has been overlapped to the previous sheet 60, matching the edge of the block 10b, and blocked through the turnover of the subsequent block 10c. The figure highlights in dotted line the edge 70' in contact with the edge of the block 10b, not visible as below the turned over block 10c. Always the same figure 17 shows the lowering of the rod 17 and the new seam line 60.

[0077] In accordance with the preferred configuration of the invention, as shown in figure 17, the piston 20 is fixed to the head of the machine and has a fixed exit stroke. In such a manner, after each seam (60, 70) real-

ized, the software of the controller 13 calculates the translation coordinates (X; Y) for driving the sliding block 6 close to the piston 20, in such a way that the piston, going out, is able to move the sliding block of the predetermined quantity **d**. Subsequently, the sewing plane 14 is appropriately repositioned with respect to the head 2. The translation for the new positioning naturally takes as reference the position of the needle. Each translation (X; Y) is such as to position the needle along the new seam line. **[0078]** Such a procedure is repeated for the number of pockets to be sewn until the entire wallet is indeed realized.

[0079] Figure 18 shows schematically a front view of the realized product in which the wallet 100 is highlighted provided with a plurality of pockets overlapped and staggered 110 with the seam in dotted line of the first sheet 115 connected with the base sheet 120.

[0080] It is therefore possible now to close the pockets simply by completing the seam along the edges and centrally in a symmetrical manner.

[0081] For that purpose, it is enough to place the wallet under the head of the sewing machine in such a way that the controller moves the plane 14 according to the edges of the wallet. An appropriate block 200, schematised in figure 19, is arranged on the plane 14 similarly to the preceding template 9. This block comprises blocking units 210 arranged along the seam lines 230. Figure 19 shows therefore the wallet in position into the block 200 and the seam lines realized along the blocking units 210.

Claims

1. An equipment (1) for realizing the seam of pockets overlapped in a wallet or document case, the said equipment comprising an arrangement (5, 6, 7, 9, 15) configured to be applicable in an integral manner to a sewing plane (14) of a sewing machine, the said arrangement comprising a blocking unit (5, 6, 7), mobile, when in use, with respect to the sewing plane (14) between a lifted position from the said sewing plane (14) and a lowered position substantially in contact with the sewing plane and further translatable in parallel with respect to the sewing plane; the said arrangement (5, 6, 7, 9, 15) further comprising a block template (9) provided with an opening (12) into which two or more sheets in material overlapped to be seamed can be placed and configured to be applicable in an integral manner to the sewing plane (14), **characterized by the fact that** the said block template further comprises an articulated closing (10), progressively extendable into the opening.
2. An equipment (1), according to claim 1, wherein the said arrangement (5, 6, 7, 9, 15) comprises a support element (15) configured to result applicable in an integral manner to the sewing plane (14), the blocking unit (5, 6, 7) being assembled in a sliding manner

vertically on the said support element (15).

3. An equipment (1), according to claim 1 or 2, wherein an actuator (20) is further provided arranged in such a way that its extraction causes the horizontal translation of the said blocking unit with respect to the sewing plane.
4. An equipment, according to claim 1, wherein the articulated closing (10) comprising a plurality of blocks (10a-10g) articulated among them in succession, the said articulated closing being arranged with respect to the opening in such a manner that each block in succession can be turned over into the opening (12), closing it progressively to block in succession different sheets overlapped.
5. An equipment (1), according to one or more of the preceding claims, wherein a control unit (13) is provided configured to control the said vertical or horizontal translation of the blocking unit.
6. An equipment (1), according to one or more of the preceding claims, wherein the blocking unit (5, 6, 7) comprises:
 - A guide (5);
 - A sliding block (6) mounted in a sliding manner along the guide, the said sliding block further comprising a block rod (7).
7. An equipment (1), according to claim 6, wherein the guide (5) is mounted in parallel to the sewing plane (14) and connected in a sliding manner vertically on the said support element (15).
8. An equipment (1), according to one or more of the preceding claims 2-7, wherein the support element (15) comprises a sliding platform (22) provided with at least one slot (22') through which an actuator element (23) moves vertically the said blocking unit (5, 6, 7) with respect to the sewing plane (14).
9. A sewing machine (1) for the seam of pockets overlapped in a wallet or document case in general and comprising:
 - A sewing head (2) and;
 - A sewing plane (14), mobile with respect to the sewing head, and configured in such a way as to be able to hold two or more sheets in material overlapped and to be seamed reciprocally;**and characterized in that** the sewing machine comprises an equipment (1) according to one or more of the preceding claims from 1 to 8.
10. A method for realizing the seam of pockets over-

lapped in a wallet or document case in general with a sewing machine that comprises a sewing head (2) and a sewing plane (14), mobile with respect to the sewing head, and provided with a block template (9), the block template having an opening (12) and a closing (10), articulated, comprising a plurality of blocks (10a-10g) articulated among them in such a way as to be turned over into the opening (12), closing it progressively, the said method comprising the operations of:

- Arrangement of a first base sheet in material into the opening (12) of the block template (9);
 - Block of the first base sheet into the opening by means of the turnover of a first block (10a) into the opening;
 - Overlapping of a second sheet to the first base sheet in such a way that the second sheet is substantially against the edge of the first turned over block;
 - Block of the second sheet by means of the turnover of the second block (10b) in such a way as to leave an excess of the second sheet;
 - Lowering of a blocking unit (5, 6, 7) on the block template (9) in such a way as to intercept the excess of the second sheet blocked along a seam line (60);
 - Movement of the sewing plane under the head of the machine in such a way as to realize the seam line (60);
 - Lifting of the blocking unit and translation of the blocking unit of a predetermined quantity such as to allow the sewing of a further sheet along a second seam line (60) ;
 - Overlapping of the said second sheet arranged against the edge of the second turned over block (10b) ;
 - Turnover of a third block (10c) in such a way as to leave an excess of the said further second sheet;
 - Repetition of the said cycle for the number of sheets to be seamed.
11. A method, according to claim 10, wherein at the end of the sewing cycle of the pockets overlapped along the seam lines (60) a further sewing operation is comprised to complete the closure of the pockets.
 12. A method, according to claim 11, wherein the said closure sewing comprises a seam along the edges of the pockets and a symmetrical central seam.
 13. A method, according to claim 11 or 12, wherein the said closure sewing is realized a single seam step.

Patentansprüche

1. Vorrichtung (1) zur Ausführung der Naht von überlappenden Fächern in einer Briefftasche oder Dokumententasche, wobei die Vorrichtung eine Anordnung (5, 6, 7, 9, 15) umfasst, die konfiguriert ist, in integraler Weise an einer Nähzebene (14) einer Nähmaschine anwendbar zu sein, wobei die Anordnung eine Sperreinheit (5, 6, 7) umfasst, beweglich, wenn in Betrieb, bezüglich der Nähzebene (14) zwischen einer angehobenen Position der genannten Nähzebene (14) und einer abgesenkten Position im Wesentlichen in Kontakt mit der Nähzebene und weiter parallel verschiebbar bezüglich der Nähzebene; die genannte Anordnung (5, 6, 7, 9, 15) umfasst ferner eine Blockvorlage (9), die mit einer Öffnung (12) versehen ist, in die zwei oder mehrere Bahnen überlappendes Material, das genäht werden soll, platziert und konfiguriert werden können, um in integraler Weise an der Nähzebene (14) anwendbar zu sein, **gekennzeichnet durch die Tatsache**, dass die genannte Blockvorlage ferner einen gelenkigen Verschluss (10) umfasst, der schrittweise in der Öffnung erweiterbar ist.
2. Vorrichtung (1) nach Anspruch 1, worin die genannte Anordnung (5, 6, 7, 9, 15) ein Stützelement (15) umfasst, so konfiguriert, um in der Folge in integraler Weise an der Nähzebene (14) anwendbar zu sein, und die Sperreinheit (5, 6, 7) auf gleitende Weise senkrecht auf dem genannten Stützelement (15) zusammengesetzt ist.
3. Vorrichtung (1) nach Anspruch 1 oder 2, worin ein Stellglied (20) zusätzlich vorgesehen ist und so angeordnet ist, dass seine Extraktion die horizontale Verschiebung der genannten Sperreinheit bezüglich der Nähzebene bewirkt.
4. Vorrichtung gemäß Anspruch 1, worin der gelenkige Verschluss (10) aus einer Vielzahl von Blöcken (10a-10g) besteht, die in der Folge gelenkig untereinander sind, und der genannte gelenkige Verschluss bezüglich der Öffnung so eingerichtet ist, dass jeder Block in der Folge in die Öffnung (12) umgedreht werden kann und sie schrittweise schließt, um in der Folge die Überlappung verschiedener Bahnen zu blockieren.
5. Vorrichtung (1) nach einem oder mehreren der vorangehenden Ansprüche, worin eine Steuereinheit (13) vorgesehen ist, die konfiguriert ist, die vertikale oder horizontale Verschiebung der Sperreinheit zu kontrollieren.
6. Vorrichtung (1) nach einem oder mehreren der vorangehenden Ansprüche, worin die Sperreinheit (5, 6, 7) Folgendes umfasst:

- eine Führung (5);
 - einen Gleitblock (6), der in gleitender Weise entlang der Führung montiert ist, und der genannte Gleitblock ferner eine Blockstange (7) umfasst.
7. Vorrichtung (1) nach Anspruch 6, worin die Führung (5) parallel zu der Nähebene (14) montiert ist und in einer gleitenden Weise vertikal auf dem genannten Stützelement (15) verbunden ist.
8. Eine Vorrichtung (1) nach einem oder mehreren der vorangehenden Ansprüche 2-7, worin das Stützelement (15) eine Schiebepattform (22) umfasst, die mit mindestens einem Schlitz (22') ausgestattet ist, durch den ein Stellgliedelement (23) die genannte Sperreinheit (5, 6, 7) vertikal bezüglich der Nähebene (14) bewegt.
9. Nähmaschine (1) für die Naht von überlappenden Fächern in einer Brieftasche oder Dokumententasche im Allgemeinen, bestehend aus:
- einem Nähkopf (2) und
 - einer Nähebene (14), beweglich bezüglich des Nähkopfs und so konfiguriert, dass zwei oder mehrere Bahnen überlappendes und wechselseitig zu nähendes Material gehalten werden können;
- und dadurch gekennzeichnet, dass** die Nähmaschine eine Vorrichtung (1) nach einem oder mehreren der vorangehenden Ansprüche von 1 bis 8 umfasst.
10. Eine Methode zur Ausführung der Naht von überlappenden Fächern in einer Brieftasche oder Dokumententasche im Allgemeinen mit einer Nähmaschine, die einen Nähkopf (2) und eine Nähebene (14) beweglich bezüglich des Nähkopfs umfasst und mit einer Blockvorlage (9) ausgestattet ist, wobei die Blockvorlage eine Öffnung (12) und einen Verschluss (10) aufweist, gelenkig, umfassend eine Vielzahl von Blöcken (10a-10g), die gelenkig untereinander sind, dass sie in die Öffnung (12) umgedreht werden können und sie schrittweise schließen, wobei das genannte Verfahren die folgenden Vorgänge umfasst:
- Anordnung einer ersten Basisbahn Material in der Öffnung (12) der Blockvorlage (9);
 - Blockieren der ersten Basisbahn in der Öffnung mittels des Umdrehens eines ersten Blocks (10a) in die Öffnung;
 - Überlappen einer zweiten Bahn auf der ersten Basisbahn so, dass das sich die zweite Bahn im Wesentlichen an der Kante des ersten umgedrehten Blocks befindet;
- Blockieren der zweiten Bahn durch das Drehen des zweiten Blocks (10b) in einer solchen Weise, dass ein Überschuss der zweiten Bahn verbleibt;
 - Absenken einer Sperreinheit (5, 6, 7) auf der Blockvorlage (9) in einer solchen Weise, dass der Überschuss der zweiten Bahn blockiert entlang einer Nahtlinie (60) aufgefangen wird;
 - Bewegung der Nähebene unter den Kopf der Maschine in einer solchen Weise, dass die Nahtlinie ausgeführt wird (60);
 - Anheben der Sperreinheit und Verschieben der Sperreinheit einer vorbestimmten Menge um das Nähen einer weiteren Bahn entlang einer zweiten Nahtlinie (60) zu ermöglichen;
 - Überlappen der genannten zweiten Bahn, die an der Kante des zweiten umgedrehten Blocks (10b) angeordnet ist;
 - Umdrehen eines dritten Blocks (10c) in einer solchen Weise, dass ein Überschuss der genannten weiteren zweiten Bahn verbleibt;
 - Wiederholung des genannten Zyklus für die Anzahl von zu nähenden Bahnen.
11. Verfahren nach Anspruch 10, worin am Ende des Nähzyklus der überlappenden Fächer entlang der Nahtlinien (60) ein weiterer Nähvorgang eingeschlossen ist, um den Verschluss der Fächer zu vervollständigen.
12. Verfahren nach Anspruch 11, worin das genannten Nähen des Verschlusses eine Naht entlang der Kanten der Fächer und eine symmetrische zentrale Naht umfasst.
13. Verfahren nach Anspruch 11 oder 12, worin das genannten Nähen des Verschlusses in einem einzigen Nahtschritt ausgeführt wird.

Revendications

1. Équipement (1) pour réaliser la couture de poches qui se chevauchent dans un portefeuille ou un portedocument, ledit équipement comprenant un agencement (5, 6, 7, 9, 15) configuré pour s'appliquer de façon intégrale à une surface de couture (14) d'une machine à coudre, ledit agencement comprenant une unité de blocage (5, 6, 7) mobile, lors de l'utilisation, par rapport à la surface de couture (14) entre une position levée depuis ladite surface de couture (14) et une position abaissée sensiblement en contact avec la surface de couture et en outre pouvant subir une translation parallèle à la surface de couture ;
- ledit agencement (5, 6, 7, 9, 15) comprenant en outre un gabarit de bloc (9) pourvu d'une ouverture (12) dans laquelle deux feuilles ou plus de matériau se

- chevauchant à coudre peuvent être placées et configurées de façon à s'appliquer de manière intégrale à la surface de couture (14) **caractérisé par le fait que** ledit gabarit de bloc comprend en outre une fermeture articulée (10), pouvant s'étendre progressivement dans l'ouverture.
2. Équipement (1), selon la revendication 1, dans lequel ledit agencement (5, 6, 7, 9, 15) comprend un élément d'appui (15) configuré pour pouvoir s'appliquer de façon intégrale à la surface de couture (14), l'unité de blocage (5, 6, 7) étant assemblée de façon coulissante verticalement sur ledit élément d'appui (15).
3. Équipement (1), selon les revendications 1 ou 2, dans lequel un actionneur (20) est en outre disposé de façon à ce que son extraction entraîne la translation horizontale de ladite unité de blocage par rapport à la surface de couture.
4. Équipement, selon la revendication 1, dans lequel la fermeture articulée (10) comprend une pluralité de blocs (10a-10g) articulés entre eux successivement, ladite fermeture articulée étant agencée par rapport à l'ouverture de façon à ce que chaque bloc consécutif puisse être retourné automatiquement dans l'ouverture (12), afin de la fermer progressivement et bloquer successivement les différentes feuilles qui se chevauchent.
5. Équipement (1), selon une ou plusieurs des revendications précédentes, dans lequel une unité de commande (13) est configurée pour commander ladite translation verticale ou horizontale de l'unité de blocage.
6. Équipement (1), selon une ou plusieurs des revendications précédentes, dans lequel l'unité de blocage (5, 6, 7) comprend :
- un guide (5) ;
 - un bloc coulissant (6) monté de façon coulissante le long du guide, ledit bloc coulissant comprenant en outre une tige de blocage (7).
7. Équipement (1), selon la revendication 6, dans lequel le guide (5) est monté parallèlement à la surface de couture (14) et relié verticalement de façon coulissante sur ledit élément d'appui (15).
8. Équipement (1), selon une ou plusieurs des revendications précédentes de 2 à 7, dans lequel l'élément d'appui (15) comprend une plateforme coulissante (22) dotée d'au moins une fente (22') à travers laquelle un élément actionneur (23) déplace verticalement ladite unité de blocage (5, 6, 7) par rapport à la surface de couture (14).
9. Machine à coudre (1) pour la couture de poches qui se chevauchent dans un portefeuille ou un porte-document en général et comprenant :
- une tête de couture (2) et ;
 - une surface de couture (14), mobile par rapport à la tête de couture, et configurée de façon à pouvoir porter deux feuilles ou plus de matériau qui se chevauchent et qui doivent être cousues réciproquement ;
- et caractérisée en ce que** la machine à coudre comprend un équipement (1) selon une ou plusieurs des revendications précédentes de 1 à 8.
10. Procédé pour réaliser la couture de poches qui se chevauchent dans un portefeuille ou un porte-document en général avec une machine à coudre qui comprend une tête de couture (2) et une surface de couture (14), mobile par rapport à la tête de couture et comprenant un gabarit de bloc (9), le gabarit de bloc ayant une ouverture (12) et une fermeture (10), articulée, comprenant une pluralité de blocs (10a-10g) articulés entre eux de façon à être retournés dans l'ouverture (12), afin de la fermer progressivement, ledit procédé comprenant les opérations suivantes :
- agencement d'une première feuille de base de matériau dans l'ouverture (12) du gabarit de bloc (9) ;
 - blocage de la première feuille de base dans l'ouverture par le biais du retournement d'un premier bloc (10a) dans l'ouverture ;
 - chevauchement d'une deuxième feuille sur la première feuille de base de façon à ce que la deuxième feuille soit sensiblement contre le bord du premier bloc retourné ;
 - blocage de la deuxième feuille par le biais du retournement du deuxième bloc (10b) de façon à laisser un excédent de la deuxième feuille ;
 - abaissement d'une unité de blocage (5, 6, 7) sur le gabarit de bloc (9) de façon à intercepter l'excédent de la deuxième feuille bloquée le long d'une ligne de couture (60) ;
 - déplacement de la surface de couture sous la tête de la machine de façon à réaliser la ligne de couture (60) ;
 - levage de l'unité de blocage et translation de l'unité de blocage d'une quantité prédéterminée de façon à permettre la couture d'une autre feuille le long de la deuxième ligne de couture (60) ;
 - chevauchement de ladite deuxième feuille agencée contre le bord du deuxième bloc retourné (10b) ;
 - retournement d'un troisième bloc (10c) de façon à laisser un excédent de ladite deuxième

feuille supplémentaire ;
- répétition dudit cycle pour le nombre de feuilles
à coudre.

11. Procédé, selon la revendication 10, dans lequel à la fin du cycle de couture des poches se chevauchant le long des lignes de coutures (60) une autre opération de couture est prévue pour terminer la fermeture des poches.
12. Procédé, selon la revendication 11, dans lequel ladite couture de fermeture comprend une couture le long des bords des poches et une couture centrale symétrique ;
13. Procédé, selon les revendications 11 ou 12, dans lequel ladite couture de fermeture est réalisée en une seule étape de couture.

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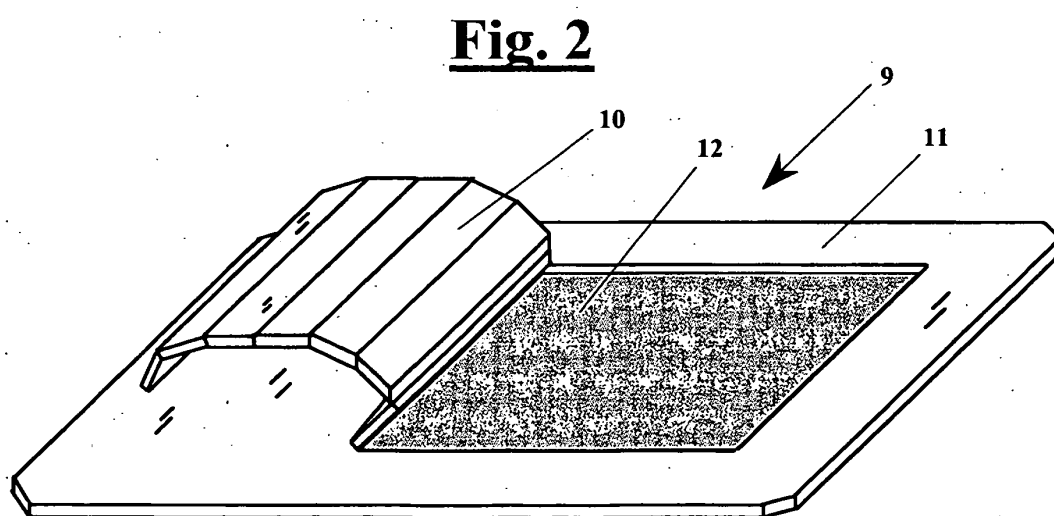
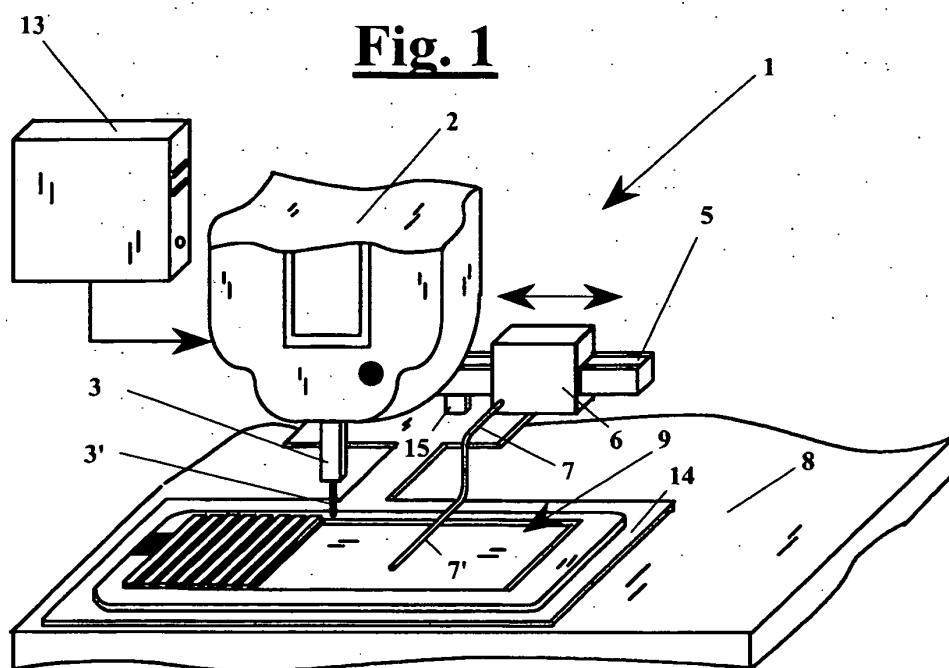


Fig. 3

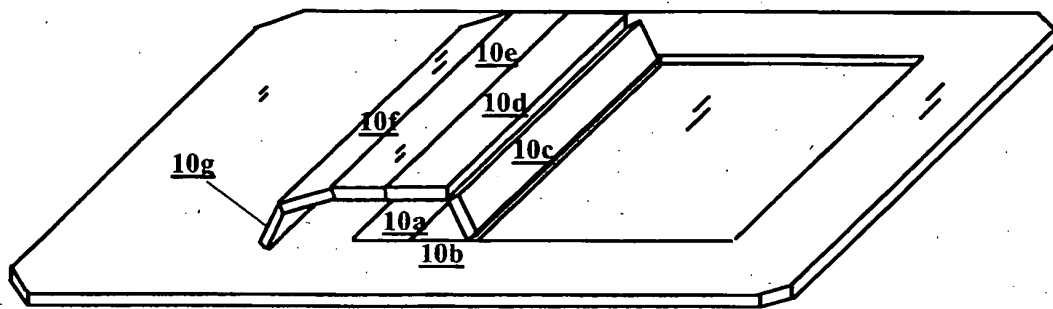


Fig. 4

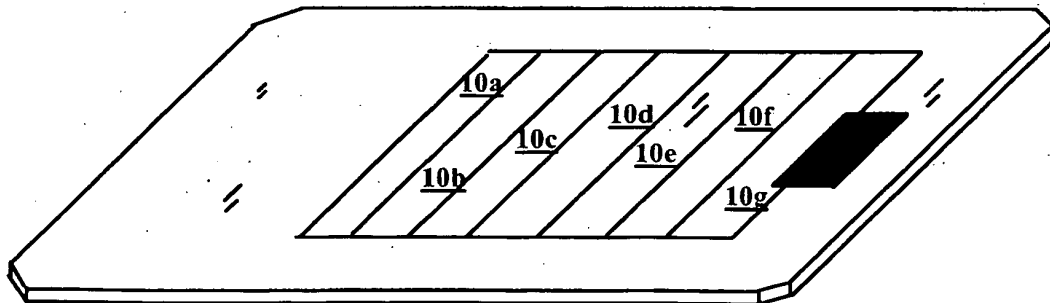


Fig. 5

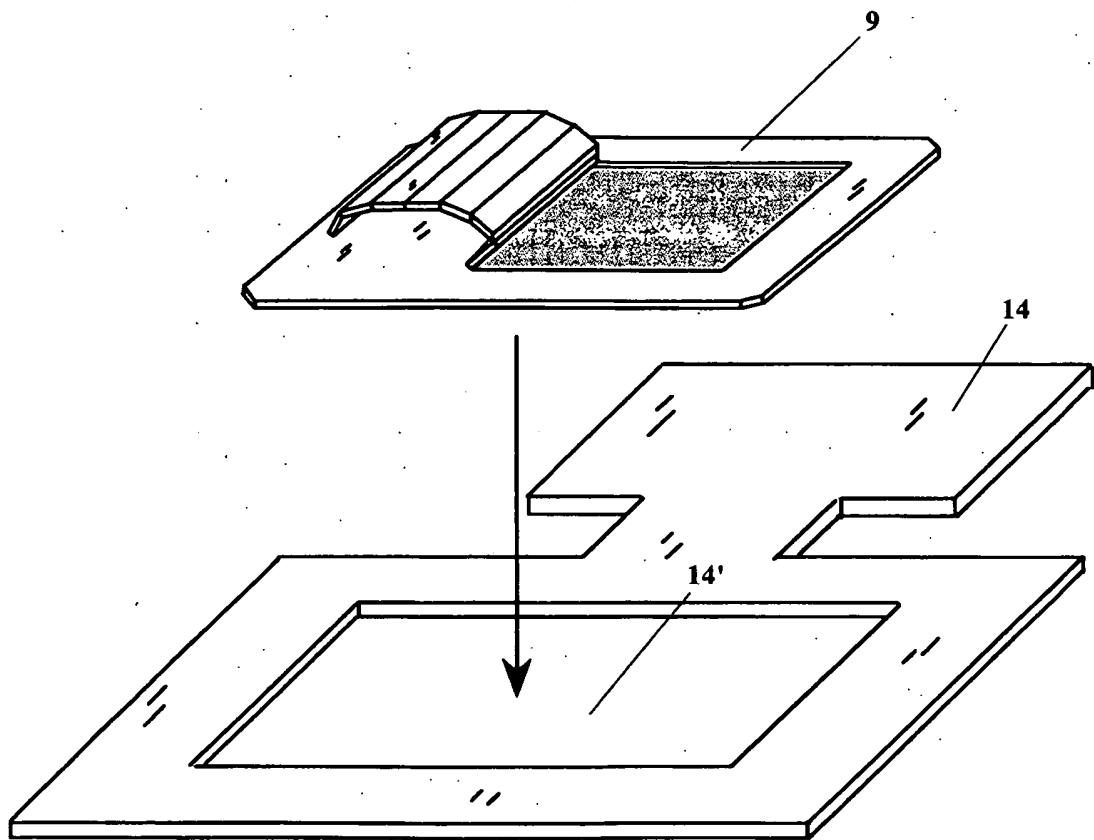


Fig. 6

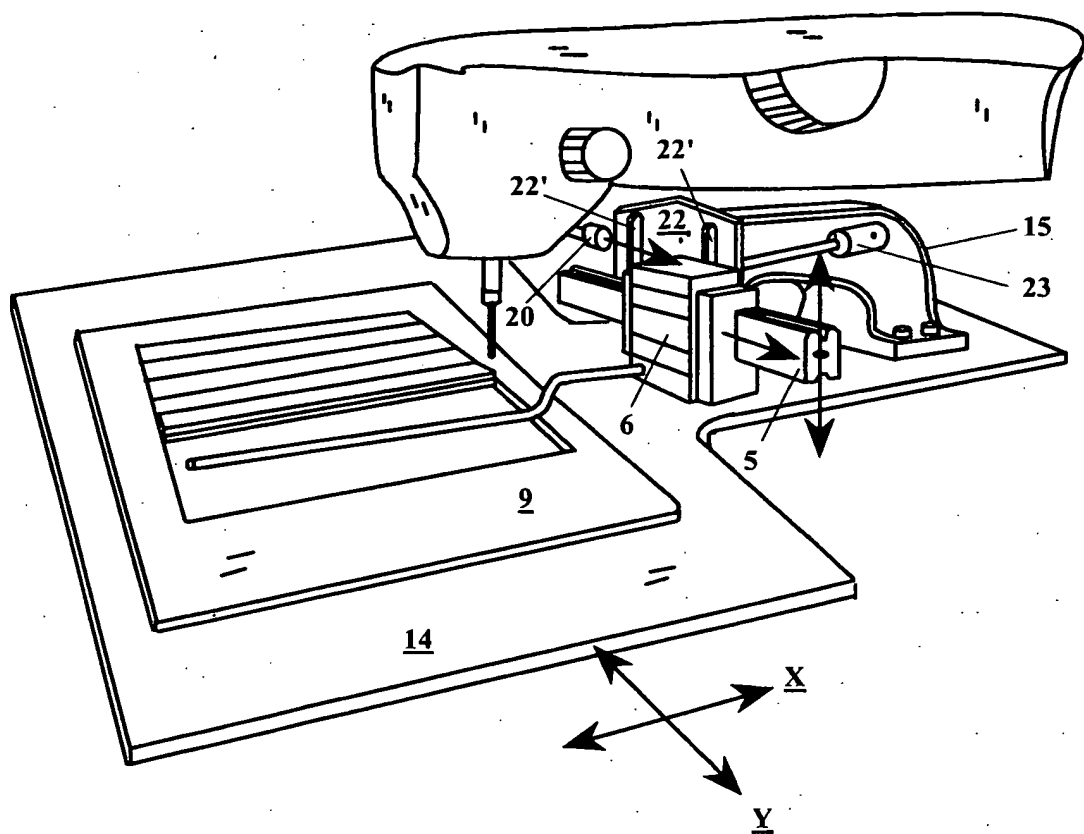


Fig. 7

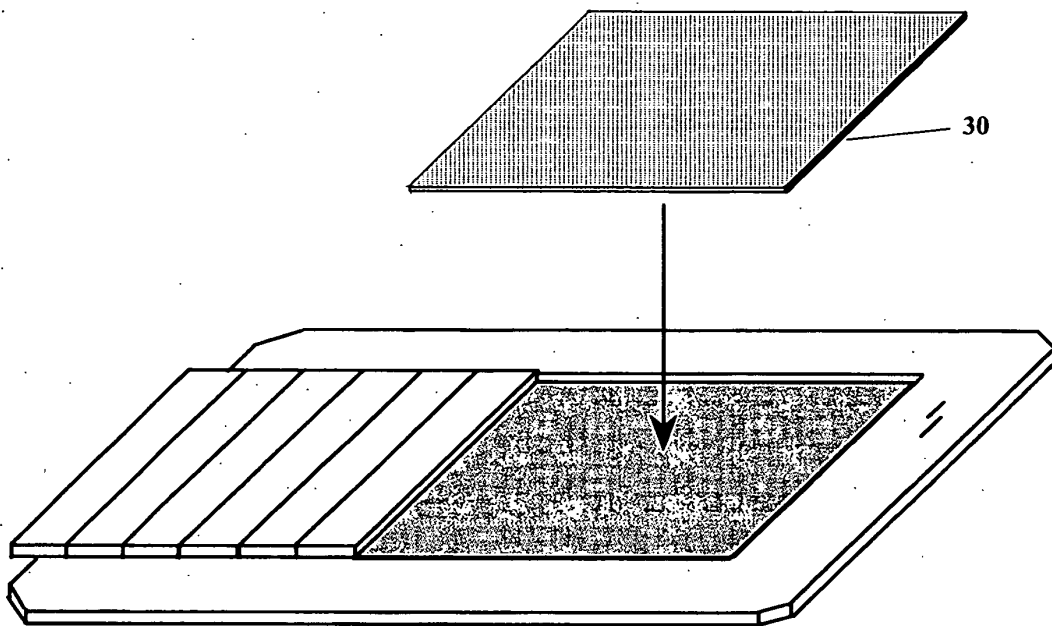


Fig. 8

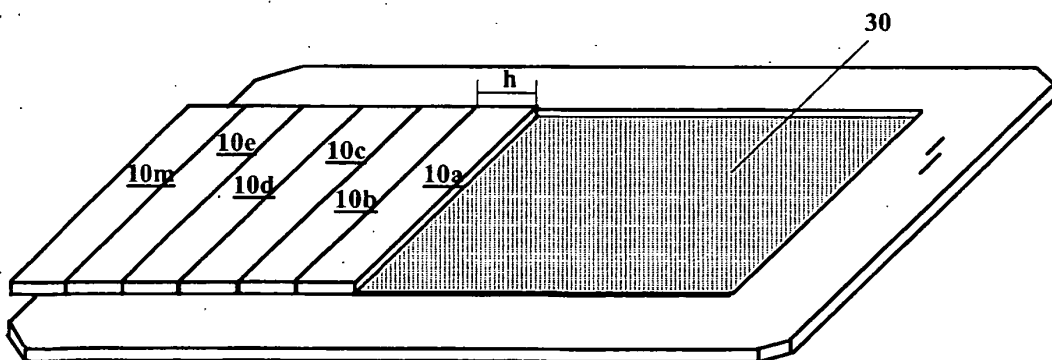


Fig. 9

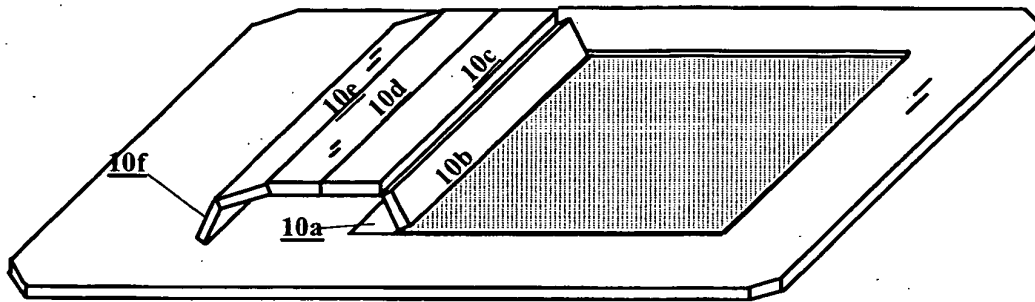


Fig. 10

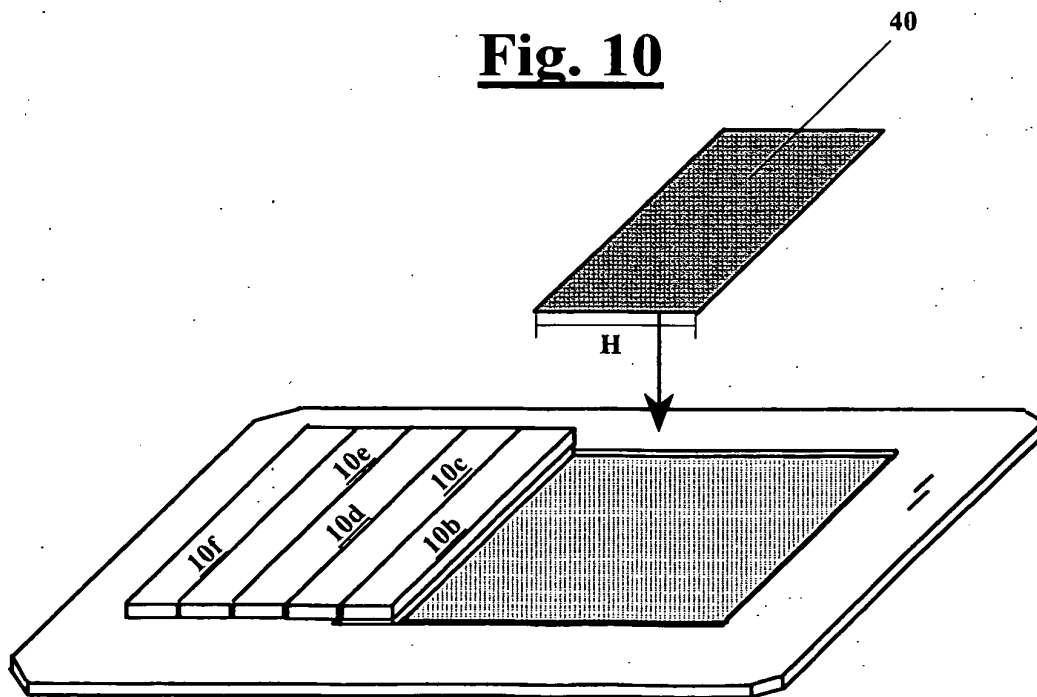


Fig. 11

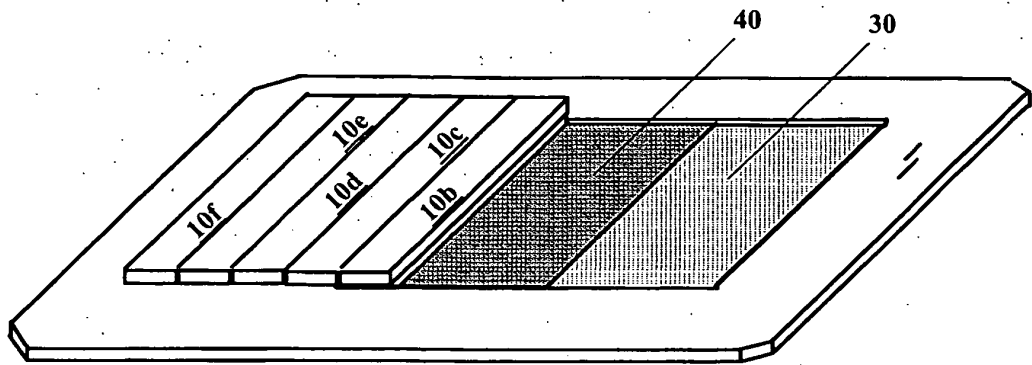


Fig. 12

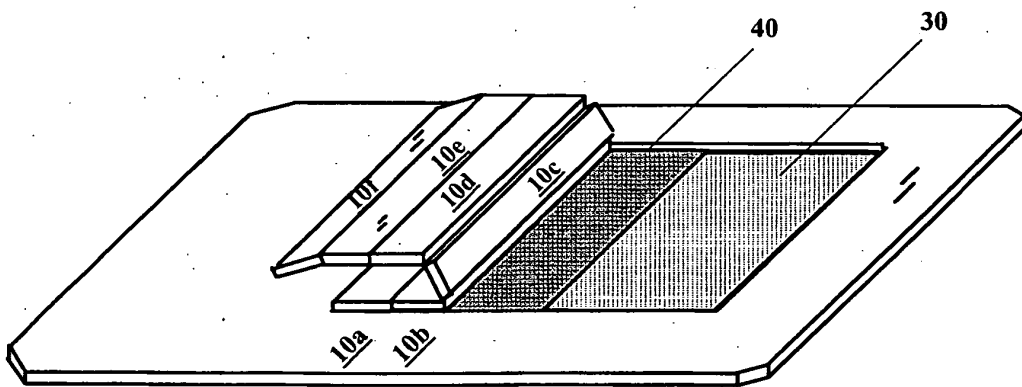


Fig. 13

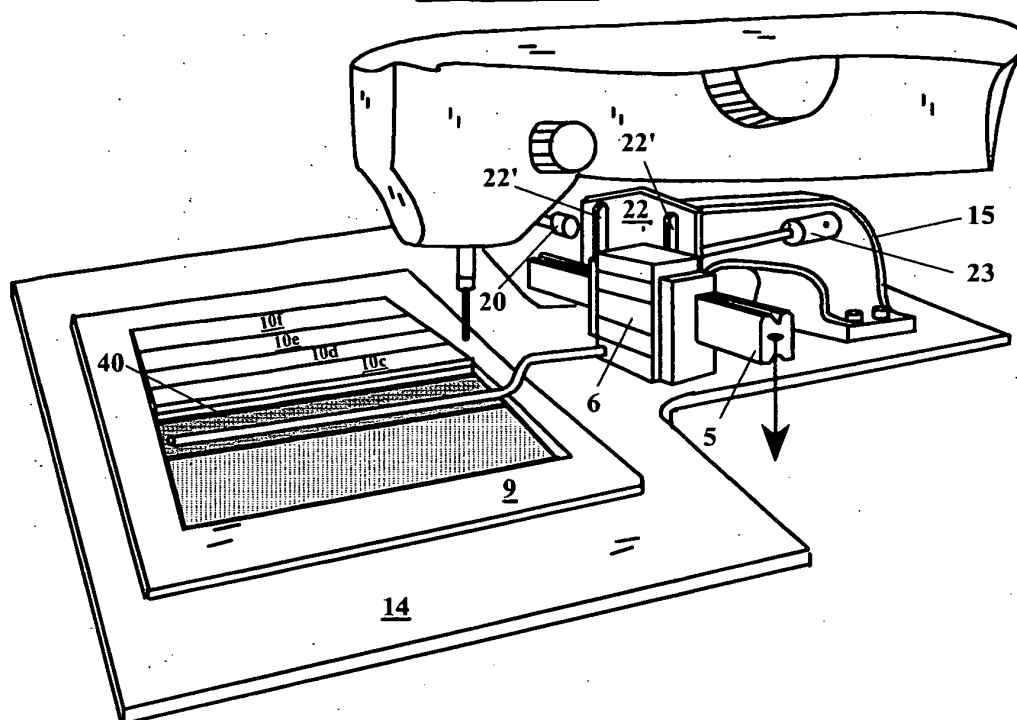


Fig. 14

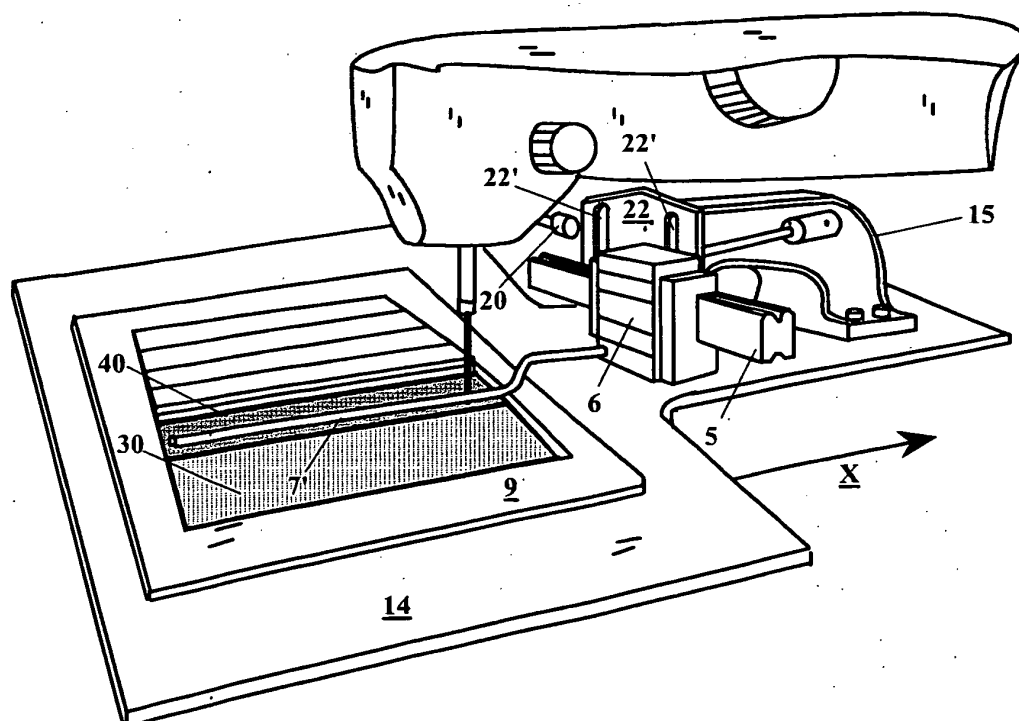


Fig. 15

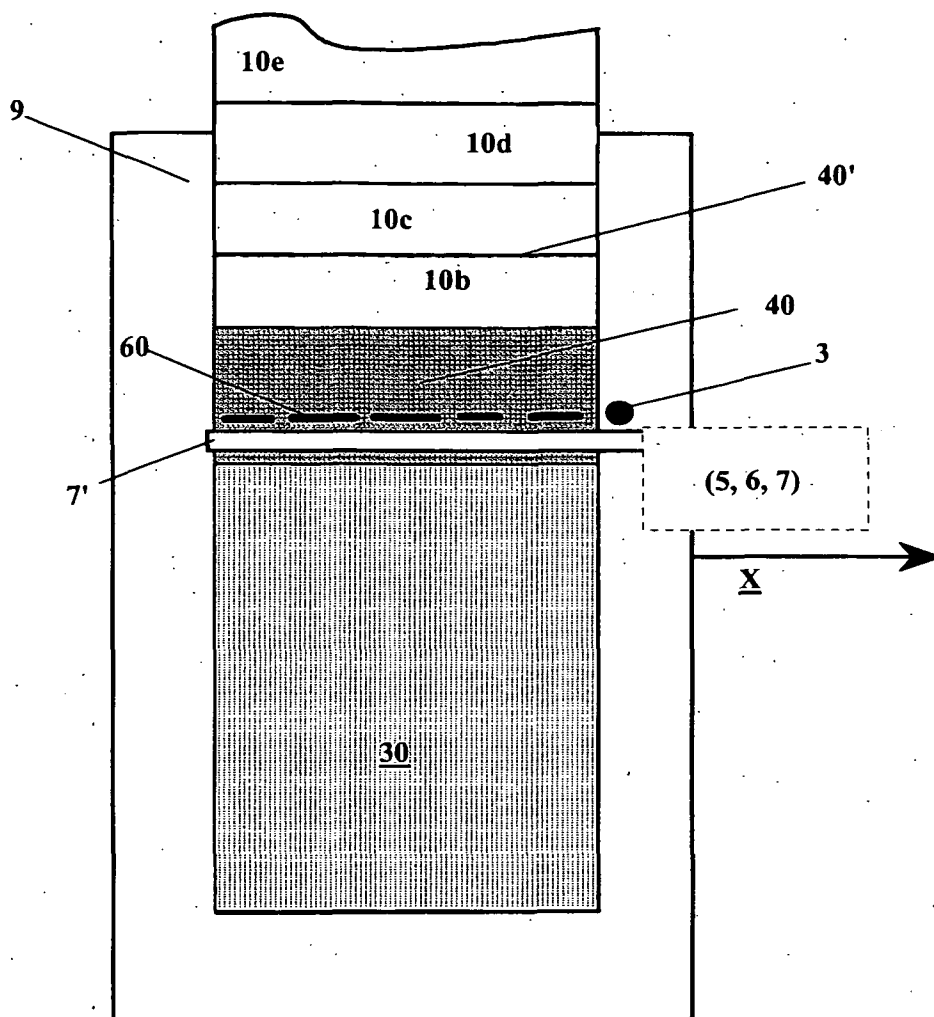


Fig. 16

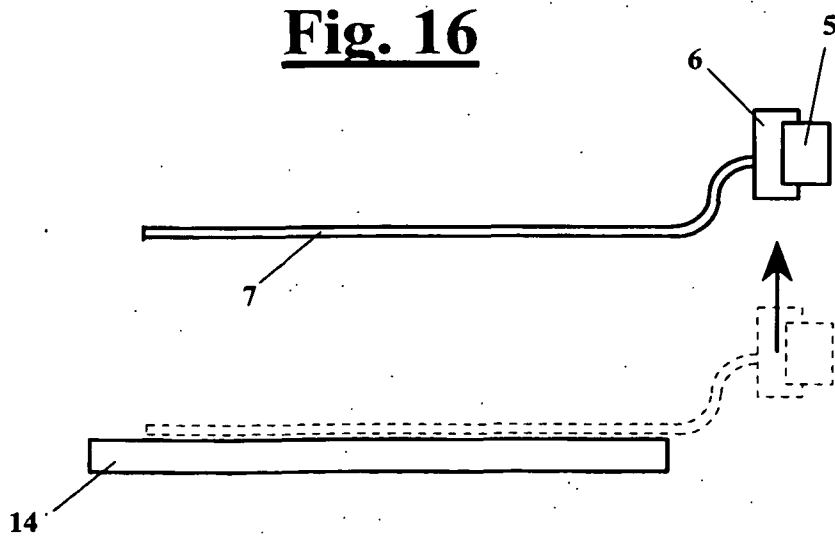


Fig. 17

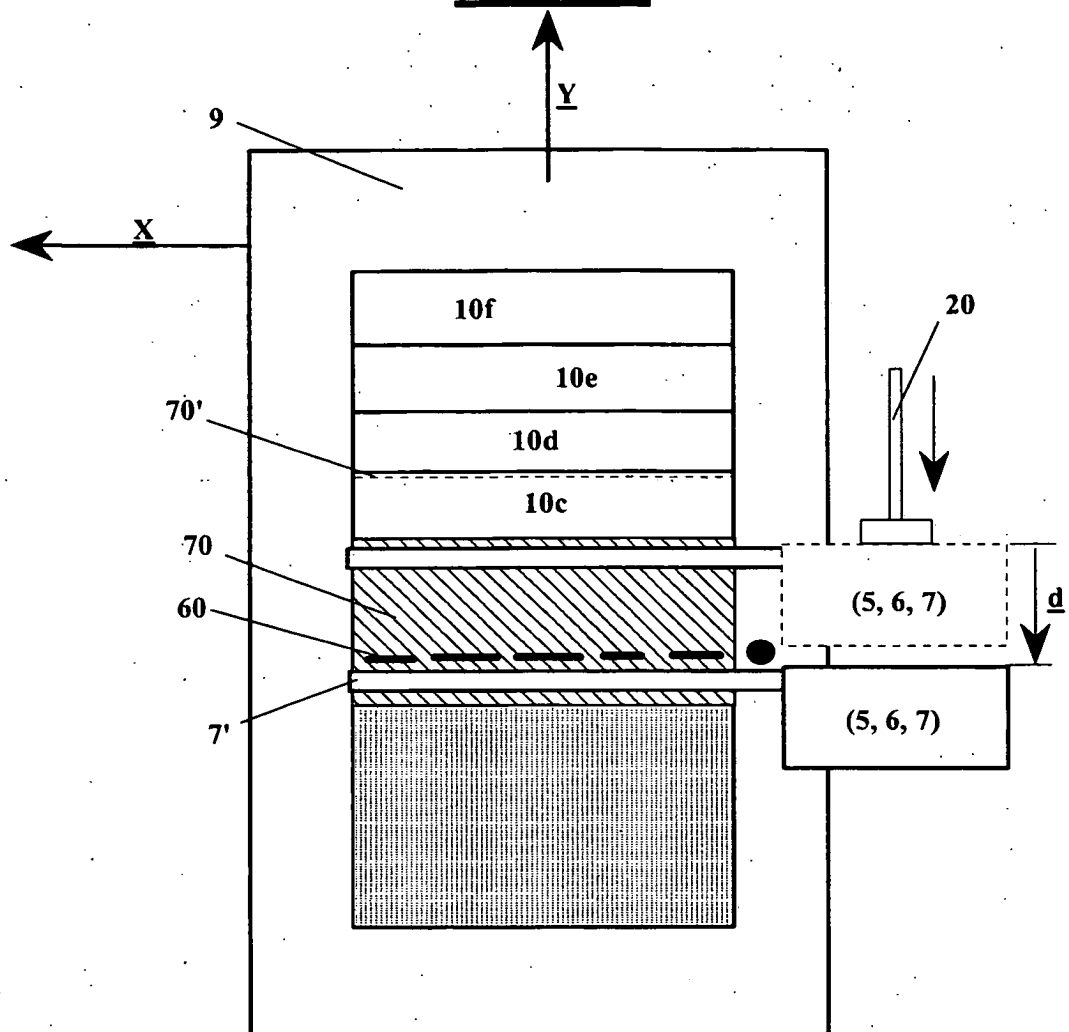


Fig. 18

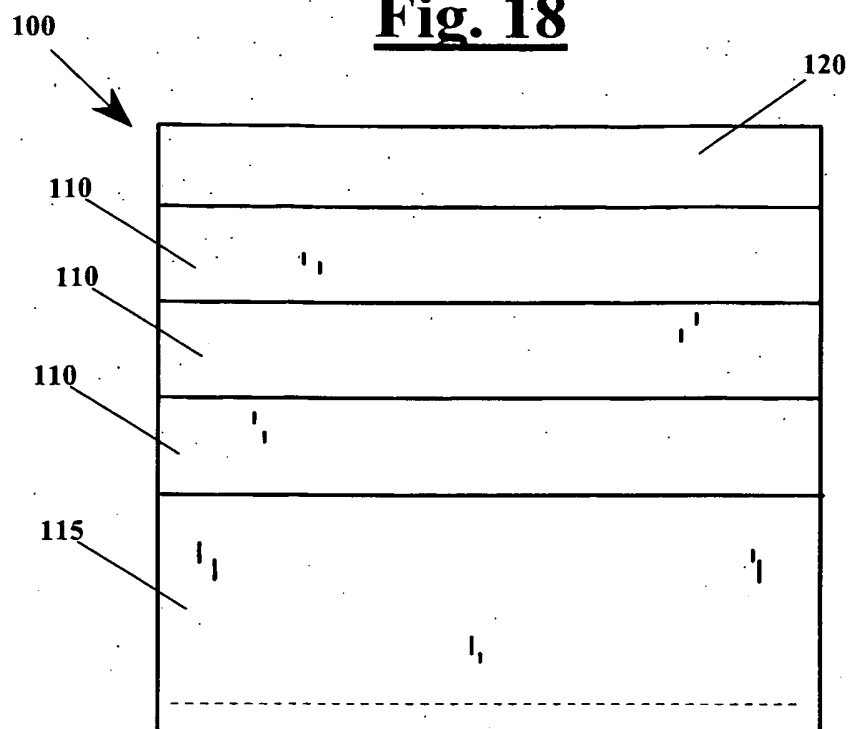
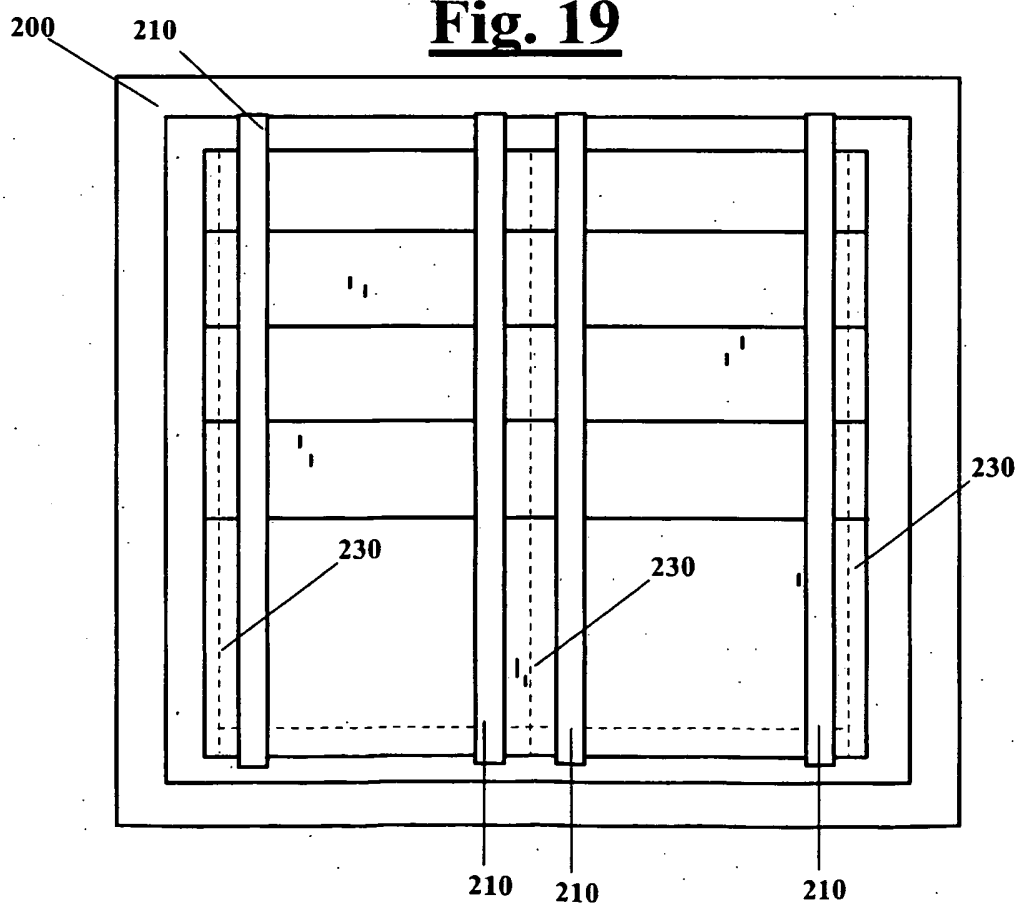


Fig. 19



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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