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(54) **Book cover**

(57) Outer cover for covering books comprising a sheet (13) cut to size and having two end flaps, first (12a) and second (12b) folded back on themselves, each in correspondence with a respective lateral fold (112a) and sealed to said sheet (13) on two opposite peripheral sides (112b, 112c), said flaps (12a, 12b) having the respective front sides (112d) open and defining an open zone (15) in which to position the spine of the

book (11) and suitable for respective parts (14a, 14b) of the inner cover of the book (11) to be inserted, said outer cover (10) including a median axis (16) substantially equidistant from said lateral folds (112a), said two flaps (12a, 12b) being different in width, so that said open zone (15) is laterally off-set with respect to said median axis (16).

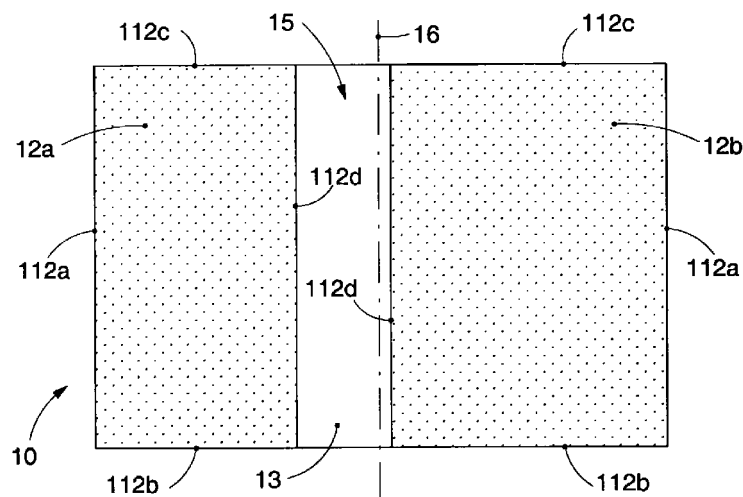


fig. 1

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Description

FIELD OF THE INVENTION

[0001] This invention concerns an outer cover for covering books as set forth in the main claim.

[0002] The cover according to the invention is applied preferably to automatic covering machines which use prepared covers of a substantially standard size for covering books of various format.

BACKGROUND OF THE INVENTION

[0003] There are automatic covering machines on the market used to apply a film, usually of plastic material, in order to cover the outer sheets, whether they be rigid or flexible, of books, exercise books, volumes, etc.

[0004] These covering machines include cutting and sealing means and generally use strips or rolls of continuous film which are made to advance beyond said cutting and sealing means for the desired extent, correlated to the size, width and thickness of the book to be covered; the strips are then trimmed to size.

[0005] As an alternative to said continuous strips, automatic covering machines can use pre-prepared covers of pre-cut sheets, and also covers which have the two closing flaps already folded back onto the central sheet and partly sealed thereto.

[0006] The closing flaps define a central aperture with which the spine of the book which is to be covered cooperates; this central aperture allows the front and rear sheets of the inner cover of the book to be inserted inside the folded and sealed flaps of the outer cover.

[0007] One problem with this type of covers with folded and sealed flaps is that they do not adapt efficiently and aesthetically to the covering of books which have a very variable range of sizes.

[0008] In fact, covers with a central aperture between the two flaps need a cutting and sealing cycle which comprises at least three successive cuts, one to adapt the cover in height, and two to adapt the cover in width, with results which are unsatisfactory in quality, particularly with regards to cuts relating to the width.

[0009] The present Applicant has devised and embodied this invention to overcome these shortcomings and to obtain a cover of a standard size which can be adapted efficiently to books of an extremely variable format, both in thickness and in width.

SUMMARY OF THE INVENTION

[0010] The invention is set forth and characterized in Claim 1.

[0011] Purpose of the invention is to achieve an outer cover for covering books which has a substantially standard size in terms of width, and is suitable to cover a vast range of book sizes, ensuring an excellent result both from the point of view of quality and from the point

of view of the operating cycle.

[0012] The outer cover consists of a sheet pre-cut to size which has the respective two end flaps folded back on themselves and sealed on two opposite sides to said sheet, with only the relative front side remaining open so that the respective front and rear sheets of the inner cover of the book can be inserted.

[0013] The front sides of the two folded back flaps lie at a reciprocal distance which defines the open zone of the cover, used to rest the spine of the book to be covered and to insert the sheets of the inner cover.

[0014] According to the main characteristic of the invention, the two flaps have a different width, so that said open zone is displaced laterally with respect to the central axis of the cover, equidistant from the lateral edges of the cover itself. This lateral displacement allows to obtain significant advantages both in terms of quality and also in terms of operating in the covering cycle, particularly in the case of an application on books of a very varied format.

[0015] In fact, by displacing the aperture with respect to the median axis of the cover and by obtaining two flaps of different width, it is possible, during the covering cycle and after the two sheets of the inner cover of the book have been inserted inside the respective flaps which are closed on three sides, to laterally translate the book from one side to the end-of-travel, making the edge of one of the sheets of the inner cover of the book cooperate with the end fold of one of the two flaps. According to one characteristic, this allows to make a single trimming cut on the width and, according to another feature, to have an efficacious result regarding quality at least for one sheet of the inner cover of the book.

[0016] In fact, at least for books of particular formats, if the aperture were central with respect to the cover, the lateral translation of the book would not allow to take the book to the end-of-travel, taking the edge of the sheet of the inner cover against the fold of one of the folded flaps; therefore, it would in any case be necessary to make two trimming cuts, and the quality result consequent to two such cuts would not be satisfactory.

[0017] Moreover, in the case of books with an inner cover having a size similar to that of the cover to be applied, the laterally off-set aperture facilitates the insertion of the second sheet of said inner cover inside the relative flap, after the first sheet has been inserted; on the contrary, the central aperture makes it very difficult and sometimes impossible to insert said sheet, particularly when the sheets of the inner cover are rigid or semi-rigid.

[0018] It is obvious that the cover thus described can be already prepared in sheets which have been pre-cut to size in height too, or it may arrive from a substantially continuous roll or film, and may be cut according to the defined length during the covering operation.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] The characteristics and advantages of the invention will become clear from the description of the preferential embodiment, with reference to the attached drawings, given as a non-restrictive example wherein:

Fig. 1 is a view from above of the outer cover according to the invention;
Figs. 2a-2g show the sequence of the operating steps of the covering cycle using the cover of Fig. 1.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0020] The outer cover according to the invention to cover books 11 as shown in Fig. 1 is denoted generally by the reference number 10.

[0021] It consists of a sheet 13, generally made of plastic material, which has two lateral flaps, respectively first 12a and second 12b, folded back on themselves in correspondence with a fold 112a and pre-sealed to said sheet 13 on two peripheral and opposite sides 112b and 112c, while the respective front side 112d of each flap 12a and 12b remains open.

[0022] The respective front sides 112d of the two flaps 12a and 12b face each other and allow to insert the respective sheets, front 14a and rear 14b of the inner cover of the book 11 which is to be covered.

[0023] Since the two flaps 12a and 12b are of a different width, the front sides 112d define an open zone or aperture 15 which, according to the invention, is offset with respect to the central axis 16 of the cover 10.

[0024] Figs. 2a to 2g show the cycle to cover a book 11 using a machine 17 able to trim and simultaneously seal the cover 10 according to the size of the book 11.

[0025] The machine 17 is suitable to operate both on covers 10 which are already substantially pre-cut to size, which only have to be trimmed in height and width, and also on covers 10 fed from a roll which are cut to size during the covering operation.

[0026] The cover 10 is laid down on the plane 18 of the machine 17 and the book 11 is rested thereon, with its spine inserted into the aperture 15.

[0027] Then, the front sheet 14a and the rear sheet 14b of the inner cover of the book 11 are inserted into the respective flaps 12a and 12b of the cover, taking the book 11 to the end-of-travel position, in abutment against the lower sides 112b of the cover 10, to allow it to be trimmed in height (Fig. 2a).

[0028] The book 11 with the cover 10 is displaced towards the cutting and sealing zone of the machine 17 to be trimmed in height (Fig. 2b).

[0029] Then, the book 11 is distanced from the cutting zone (Fig. 2c) and is closed (Fig. 2d); in this closed position the two outer edges of the cover 10, in correspondence with the respective folds 112a, protrude for

an entity "1" with respect to the sheets 14a and 14b of the inner cover of the book 11, according to the greater width of the cover 10 with respect to the book 11.

[0030] Subsequently, the book 11 is displaced backwards with respect to the cover 10, in the direction 19, until the edge of the front sheet 14a is taken to abut against the edge of the first flap 12a defined by the fold 112a.

[0031] In this way, it is not necessary to trim the width in correspondence with the front sheet 14a, since the front sheet 14a is already in a condition wherein it completely covers the book and with an excellent aesthetic effect.

[0032] The trimming in width therefore only concerns, in this case, the rear sheet 14b of the book 11, for a protruding segment which substantially has an entity "2" if at the beginning the book 11 was positioned central with respect to the cover 10 (Fig. 2e).

[0033] The book 11, with the relative cover 10, is then rotated by 90°, then displaced in the direction 20 in correspondence with the cutting zone of the machine 17 (Fig. 2f); then a trimming operation is carried out to trim only the excessive part of the cover, in order to complete the covering cycle (Fig. 2g).

[0034] For books 11 with certain formats, the translation pass shown in Fig. 2e would not have allowed, if the aperture 15 had been coaxial with the median axis 16 of the cover 10, to make the edge of the sheet 14a abut on the folded side 112a of the cover 10.

[0035] Therefore, it would have been necessary to make two trimming cuts in width apart from the trimming in height, and the same aesthetic result would not have been obtained as that obtained with the invention in correspondence with the edge of the front sheet 14a.

[0036] Moreover, for large-size books 11, with an open dimension similar to that of the cover 10, the offset aperture 15 considerably facilitates the insertion of the first sheet 14a of the inner cover inside its flap 12a, after having inserted the second sheet 14b inside the relative flap 12b and pushing the edge of said sheet 14b against the fold 112a.

Claims

1. Outer cover for covering books comprising a sheet (13) cut to size and having two end flaps, first (12a) and second (12b) folded back on themselves, each in correspondence with a respective lateral fold (112a) and sealed to said sheet (13) on two opposite peripheral sides (112b, 112c), said flaps (12a, 12b) having the respective front sides (112d) open and defining an open zone (15) in which to position the spine of the book (11) and suitable for respective parts (14a, 14b) of the inner cover of the book (11) to be inserted, said outer cover (10) including a median axis (16) substantially equidistant from said lateral folds (112a), the cover being characterized in that said two flaps (12a, 12b) are different in

width, so that said open zone (15) is laterally off-set with respect to said median axis (16).

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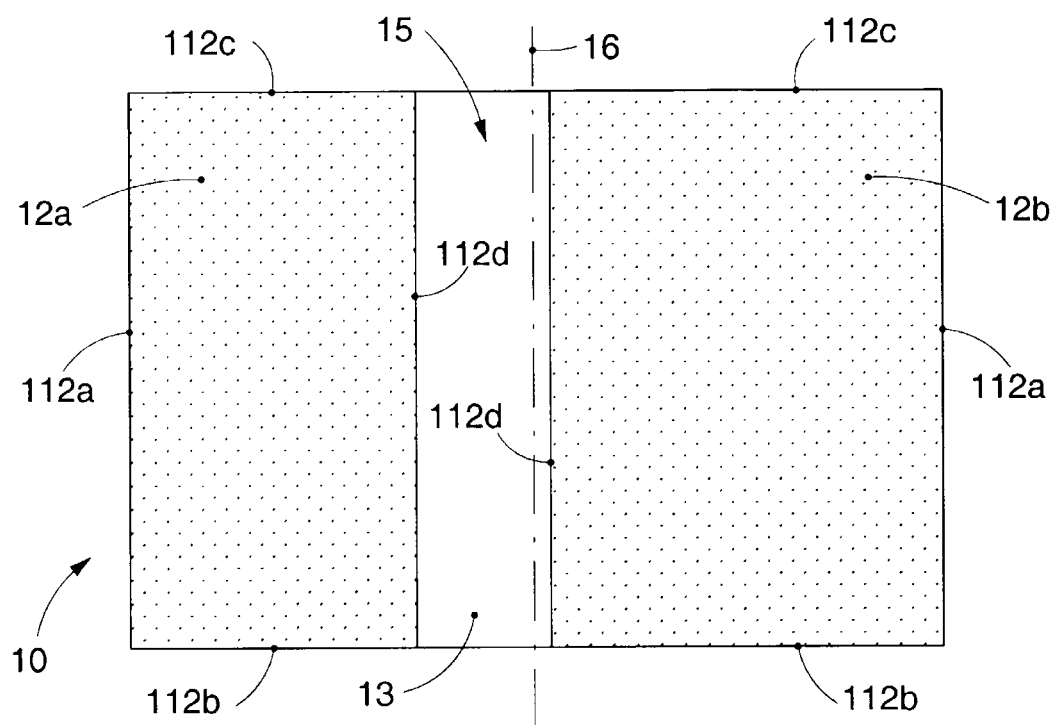


fig.1

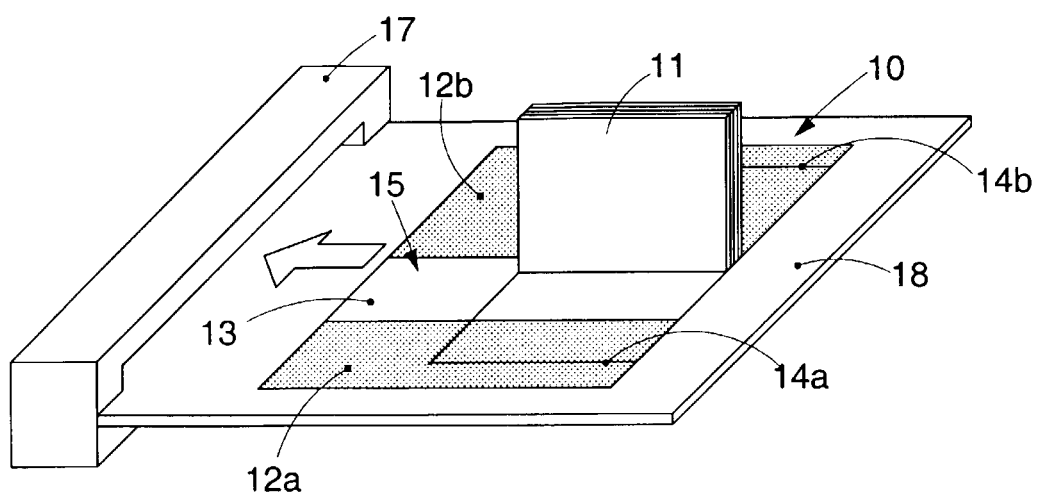


fig.2a

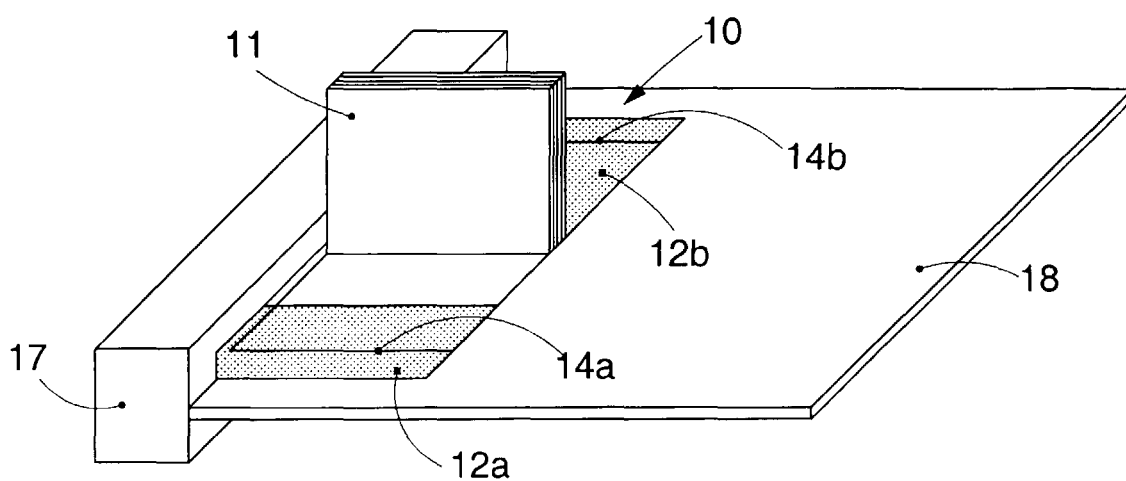


fig.2b

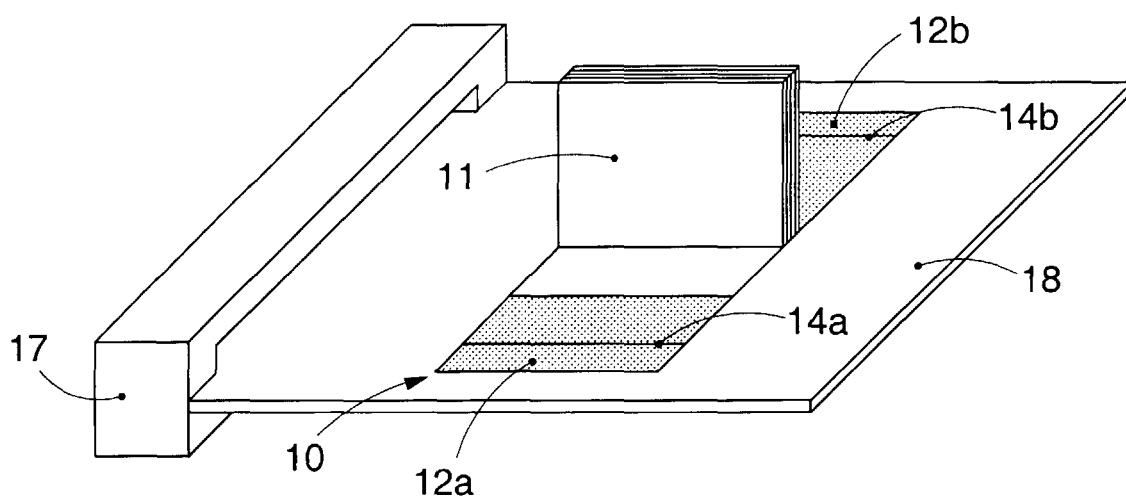


fig.2c

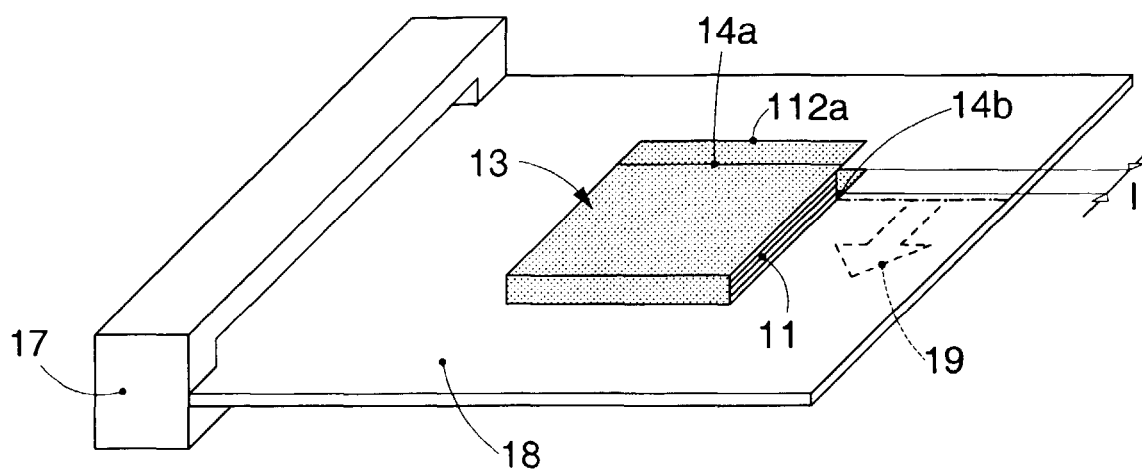


fig.2d

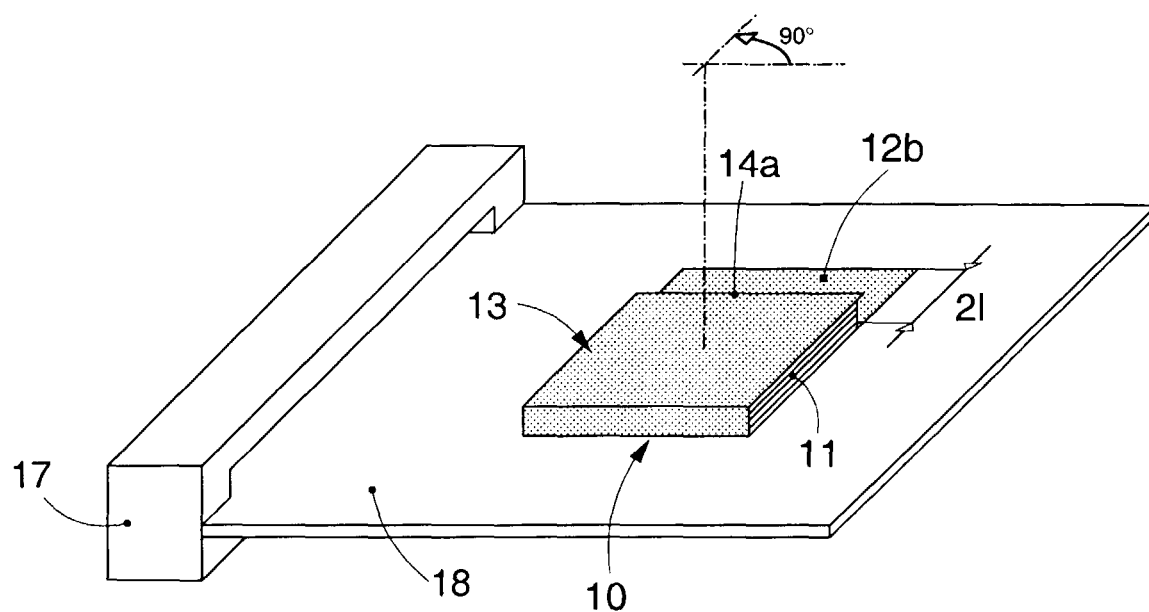


fig.2e

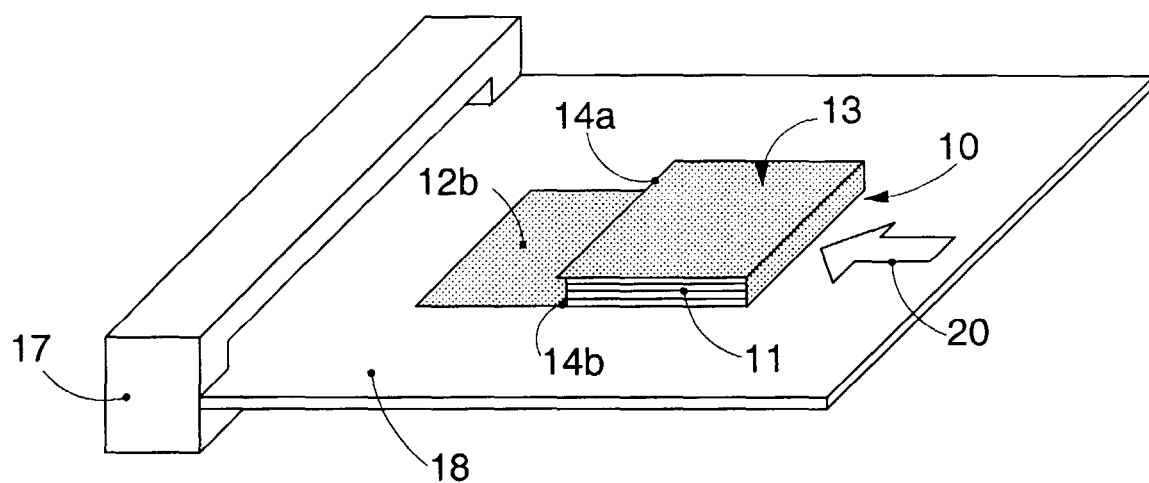


fig.2f

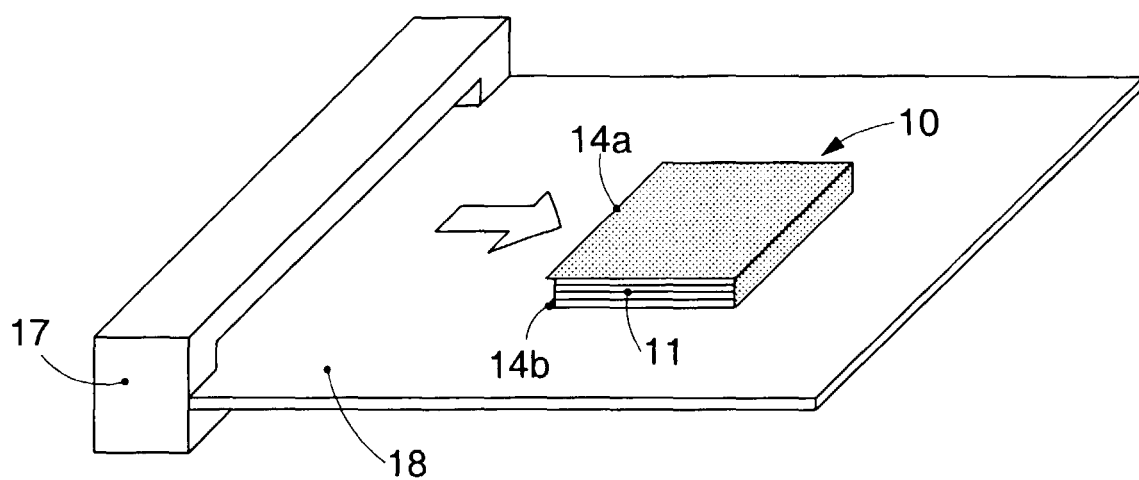


fig.2g