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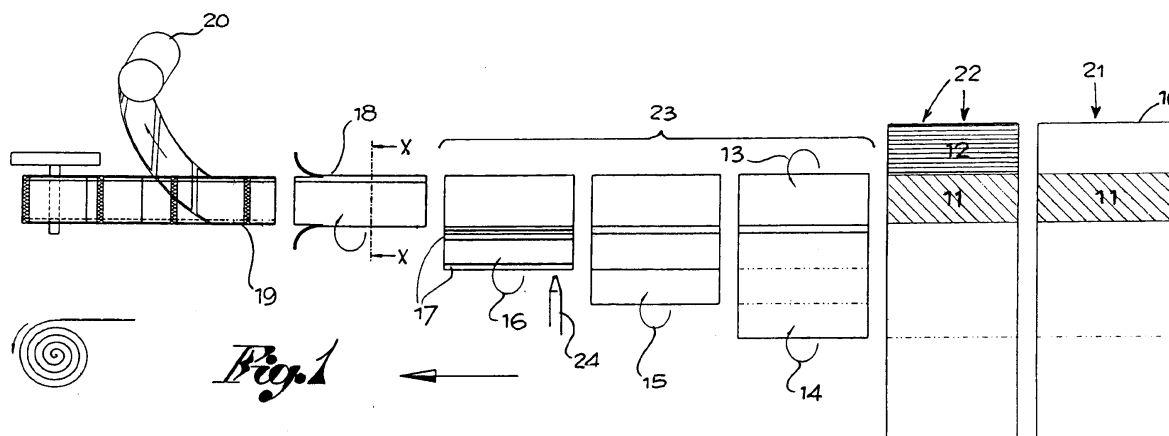
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(54) Method and machine for making multi-page self-adhesive labels

(57) This is a method and a machine to create multi-page self-adhesive labels. Starting from at least one sheet of paper or printed synthetic material (10) a non-stick substance (11) is applied to one portion of one face of the said sheet; glue (12) is spread onto a part of the

sheet, coinciding or not coinciding with the part bearing the non-stick substance; the sheet is folded to form a paper-glue-non-stick substance-paper multi-layer; the sheet is folded again onto itself one or more times to form a multi-page pack and then everything is closed.



EP 1 090 741 A2

Description

[0001] This invention concerns a method and a machine for making multi-page self-adhesive labels.

[0002] A multi-page, self-adhesive label is usually created by starting from a reel or a sheet of previously fabricated coupled material (adhesive) and from a reel or a sheet of paper or synthetic material that can, if necessary, be printed on both sides (pack).

[0003] The adhesive is composed of a paper or synthetic material with adhesive applied to one side, and if necessary, printable from the other (front of the adhesive), then coupled on the glue side with a material treated with products which make it non-stick (silicon treated support).

[0004] The multi-page label is created by partially or completely bonding the adhesive front face with the flexible face with one or more zones of glue.

[0005] When used, the label prepared in this way is detached from the silicon treated support sheet and stuck to the desired product packaging.

[0006] Nevertheless, using a pre-fabricated adhesive implies considerable costs that reflect negatively on the cost of the label produced.

[0007] The purpose of this invention is to offer a method and a machine to create multi-page, adhesive labels capable of excluding the use of a completely pre-fabricated adhesive or possibly of substituting this with a silicon treated sheet permitting the fabrication of a multi-page label starting substantially from mere paper or synthetic material with or without the contribution of silicon treated material.

[0008] By silicon treated, we hereby and hereafter mean the description of whatsoever sheet of material treated with silicon or another composite to render it non-stick: in other words, one that glue does not stick to.

[0009] This purpose is reached with the invention through a method to create a multi-page self-adhesive label according to claim 1 and with a machine for applying this method according to claim 2.

[0010] The invention will be described in more detail with reference to the schematic and purely indicative enclosed drawings, in which:

Fig. 1 shows a process scheme for the creation of a multi-page self-adhesive label, starting from a sheet of paper.

Fig. 1a shows an analogous scheme for a variation on the process;

Fig. 1b shows a label as seen according to the X-X arrows in Figures 1 and 1a;

Fig. 2 shows the scheme of a process for creating a multi-page self-adhesive label starting from a sheet of paper and a silicon treated sheet;

Fig. 2a shows a variation of the process in Fig. 2; and

Fig. 2b shows a label as seen according to the X-X arrows in Figures 2 and 2a;

[0011] According to an initial execution, the method illustrated (Figures 1 and 1a) foresees starting from a continuous sheet of paper or similar (10) coming from a reel and previously printed according to need.

[0012] On one portion of the face of the initial sheet (10) the non-stick substance (11) is applied and when necessary, left to dry. Next, some glue (12) is spread and left to dry, if required, on the sheet (10) on a part not coinciding (Fig. 1) or coinciding (Fig. 1a) with the part rendered non-stick. Next, the sheet is folded so as to create a multi-layer paper-glue-non-stick-paper (13) then the sheet is folded over onto itself once, twice or several times as in (14), (15), and (16) to bring the dimensions of the multi-page to those required. At this point, the glue is spread - generally in at least two strips (Fig. 1b) onto the surface of the flexible sheet and/or of the multi-layer previously created. At the end, the pack group is folded again to close it onto the multi-layer and to complete it by side trimming and top cutting (18) punching and off-cutting (19) and then re-reeling (20).

[0013] The resulting label looks essentially as represented in Fig. 1b. It should be noted that an analogous result can be reached starting from two sheets, instead of one, one of which will form the multi-layer (13) and the other, the multi-page label.

[0014] A machine to execute the method described above includes a unit (21) for applying a non-stick substance (11) and a unit (22) for spreading the glue onto the parts concerned of the initial sheet (10), devices for folding the sheet one, or several times, according to the process to form the pack, a glue application device (24) for closing the pack and mechanisms for trimming, punching and finishing the resulting multi-page labels.

[0015] In another execution, the invention method foresees on the one hand the creation of a pack starting from a sheet of paper (31) coming from a continuous reel by applying the glue (12) to a part of the sheet, folding this according to need until closing it as in (32) and on the other hand of conveying an additional, non-stick sheet (33) - or one pre-treated with silicon - to a station where either the initial sheet Fig.2 or the formed pack closed onto itself with one or more lines of glue (17) is superimposed and held in a permanent way on this non-stick sheet. Punching and re-reeling then follow. In one variation, such as shown in Fig. 2a, the glue 12, can be applied directly onto an additional non-stick - or silicon treated sheet (33) instead of onto the initial sheet (31).

[0016] The label resulting from this is represented in Fig. 2b.

[0017] The machine for the method according to this variation will be equipped with devices to feed the initial paper sheet (31) and to fold it on itself in several parts to obtain and close the pack, a non-stick sheet supply device and means to apply glue either to the initial sheet (31) or to the non-stick sheet (33).

[0018] It should finally be noted that modifications can be made to the method corresponding to the described machine without leaving the purpose of the invention.

For example, pre-printed packs and ones from another station with a machine prepared non-stick support sheet can be coupled, as can "coupon" self-adhesive labels can be prepared which do not require multiple folding.

Claims

1. A method for creating multi-page, self-adhesive labels characterised by the fact of starting from at least one sheet of paper or synthetic material coming from at least one reel, printed on one or both faces with the following steps:

(a) applying a non-stick substance onto one portion of one face of the said sheet;
 (b) spreading and drying the glue, if required, onto the part of the sheet coinciding with or not coinciding with the part prepared with the non-stick substance;
 (c) folding the sheet so as to create a multi-layer paper-glue-non-stick substance-paper group;
 (d) further folding the sheet on itself once or several times to form a multi-page pack;
 (e) applying at least one line of glue onto one surface of the pack and/or of the aforementioned multi-layer group;
 (f) lining up the pack with the multi-layer group by superimposition and fixing it there, closing it;
 (g) finishing the sides or using cutting tools on the resulting group; and
 (h) punching and re-reeling the resulting non-stick labels.

2. The method according to claim 1, in which the non-adhesive substance and the glue are applied to the same part of the initial sheet, one onto the other.

3. The method according to claim 1, in which the non-stick substance and the glue are applied to contiguous parts of the same initial sheet: these said parts are then folded onto one of the next to form the multi-layer group (c).

4. The method according to claim 1, in which the non-adhesive substance is applied to an initial starting sheet and the glue is applied to a second starting sheet; the two sheets are then laid on top of each other, aligning the non-stick part of the first with the glued part of the second to form the multi-layer group (c).

5. The method for creating multi-page self-adhesive labels characterised by the fact of starting from a sheet of paper or synthetic material, pre-printed on one or both faces and the following steps:

- conveying and sticking on an additional sheet

with one non-stick face to one part of the initial sheet using glue;

- folding the initial sheet one or several times to form a multi-page pack;
- applying at least one line of glue onto one surface of the pack and/or of the additional non-stick sheet;
- stopping and closing the pack on the said line of glue; and
- finishing the sides, punching and re-reeling the resulting self-adhesive labels.

6. The method according to claim 5, in which the glue placed between the initial sheet and the self-adhesive sheet is applied to one part of the initial sheet.

7. The method according to claim 5, in which the glue placed between the initial sheet and the non-stick sheet is applied to the non-stick sheet.

8. The method according to claim 5, in which the initial sheet and the non-stick sheet are coupled before folding the initial sheet to form the pack.

9. The method according to claim 5, in which the initial sheet is firstly folded to form the pack and then coupled with the non-adhesive sheet.

10. A machine for executing the method of claim 1, including a unit for spreading a non-stick substance and one for spreading the glue onto contiguous parts or ones coinciding with at least an initial sheet, devices for folding the sheet one or several times according to the process to form a pack, a glue application device and the means for trimming, finishing and re-reeling the resulting multi-page labels.

11. A machine for executing the method of claim 5, including the means to convey and superimpose a non-stick sheet over a pre-printed initial sheet, means to apply glue between the contact faces of the two sheets, means to pre-fold and successively fold the initial sheet, a glue application device to close the pack and means to finish the resulting product.

