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Patentanwälte

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(54) **Sticker press**

(57) A sticker press (1) includes primarily a plurality of divisional rollers (11) located at a feed-in end of a sticker roll (2), such that the sticker roll (2) can feed in a front sheet (21) and a back sheet (22) of the sticker separately by the means of the divisional rollers (11). A support roller (12) and a platen roller (13) are located in the pathway of the front sheet (21) in the press (1), such that the front sheet (21) can be fed into an interface between the two rollers (12,13) in a tangential direction, so as to enable

an adhesive layer (211) of the front sheet (21) to be in touch with the platen roller (13) by a single line for printing. Next, the front sheet (21) is fed into a dryer (14) for drying an ink, and is fed out of the dryer (14) to be re-pasted with the back sheet (22), thereby successfully accomplishing a printing operation on the adhesive layer (211) of the sticker.

EP 1 710 078 A1

Description**BACKGROUND OF THE INVENTION****a) Field of the Invention**

[0001] The present invention relates to a sticker press, and more particularly to a press structure that can print pictures and texts on a surface of an adhesive layer of a sticker.

b) Description of the Prior Art

[0002] A structure of an ordinary sticker consists of a layer of adhesive at a back surface of a front sheet of the sticker with a piece of detachable back sheet attached to an exterior side of the layer of adhesive. And, a pattern of the sticker is printed on a front surface of the front sheet of the sticker. Therefore, when the detachable back sheet of the sticker is peeled off, the front sheet of sticker can be pasted on a chosen object by the means of the adhesive layer at its back surface, and the pattern printed can be viewed in front of the front sheet of the sticker.

[0003] When an advertisement sticker is to be pasted on an inner surface of a glass in order to view a content of the advertisement from an exterior surface of the glass, a front sheet of the advertisement sticker can only be made of a transparent material, such that a printed layer on a surface of the front sheet can be viewed through the transparent front sheet and the glass. However, only a single-color printing method can be suitable for the printed layer of such an advertisement sticker, as when a chromatic layout of a color-separation printing method is used, a registering effect applied by the printing technique will expose the pattern at an edge of impression of a registering platen of color-separation on the back surface of the front sheet, thereby creating an imperfect view. In order to overcome this phenomenon, in each time of a registering printing, the pattern needs to be precisely printed on a chosen location, as a printing may be left out if there is a minor deviation in registering. Therefore, it is not easy to achieve a precise registering technique necessary for a chromatic printing of such an advertisement sticker.

SUMMARY OF THE INVENTION

[0004] The primary object of the present invention is to provide a sticker press to print a pattern on a surface of an adhesive layer of a front sheet of a sticker, so as to broaden an area of application of the stickers, and to perfectly manifest a precise chromatic layout with an ordinary color-separation printing technique.

[0005] Another object of the present invention is to provide a sticker press wherein a plurality of divisional rollers are located at a feed-in end of a sticker roll, such that the sticker roll can transmit a front sheet and a back sheet separately by the means of divisional rolls.

[0006] Yet another object of the present invention is to provide a sticker press wherein a support roller and a platen roller are located in a midway to a feeding path of the front sheet, such that the front sheet can be fed into an interface between the two rollers in a tangential direction, which enables the surface of adhesive layer of the front sheet to be in touch with the platen roller by a single line for performing a printing operation.

[0007] Still another object of the present invention is to provide a sticker press wherein the front sheet will be fed into a dryer for drying an ink, after accomplishing the printing on the surface of adhesive layer of the front sheet.

[0008] Still another object of the present invention is to provide a sticker press wherein the front sheet can be re-pasted with the back sheet after being fed out of the dryer, and the sticker on which a one-time registering printing is accomplished is further fed into a printing compartment for performing a registering printing.

[0009] To enable a further understanding of the said objectives and the technological methods of the invention herein, the brief description of the drawings below is followed by the detailed description of the preferred embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS**[0010]**

FIG. 1 shows a schematic view of a planar structure layout of the present invention.

FIG. 2 shows a schematic view of a feeding angle in feeding a front sheet to a platen roller.

FIG. 3 shows a schematic view of another feeding angle in feeding a front sheet to a platen roller.

FIG. 4 shows a schematic view of a sticker product on which a pattern has been printed on a surface of an adhesive layer.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0011] Referring to FIG. 1, the present invention comprises primarily a press 1 provided with a printing compartment having a plurality of divisional rollers 11, a support roller 12, a platen roller 13, and a dryer 14. The divisional rollers 11 are located at a feed-in end of the press 1 to feed a front sheet 21 and a back sheet 22 of a sticker roll 2 into different pathways respectively. The support roller 12 is located in a midway to the pathway of the front sheet 21 in the printing compartment to feed the front sheet 21 together with the platen roller 13; a cylindrical surface of the support roller 12 is made of a rigid material, so as to enable the support roller 12 to be in touch with a surface of the front sheet 21. The platen roller 13 is a roller whose cylindrical surface installed a platen. The platen roller 13 is located next to the support roller 12, such that the platen roller 13 is in touch with an adhesive layer 211 of the front sheet 21 by a single line, and is

connected with an ink roller 15 at an opposite location to the support roller 12. The dryer 14 is located at a chosen position in a rear section of pathway of the front sheet 21 in the printing compartment, so as to perform a drying operation to a printed pattern on the adhesive layer 211 of the front sheet 21.

[0012] After using the aforementioned constructs to pull the sticker roll 2 into the printing compartment of the press 1, the front sheet 21 and the back sheet 22 are separated manually, so as to feed in the front sheet 21 and the back sheet 22 along their own pathways by the means of the divisional rollers 11. The front sheet 21 is fed into an interface between the support roller 12 and the platen roller 13 in a tangential direction along the pathway, such that the adhesive layer 211 of the front sheet 21 can be only in touch with the platen roller 13 by a single line for printing. Next, the front sheet 21 is fed into the dryer 14 for drying the ink, and is then re-pasted with the back sheet 22 after being fed out of the dryer 14. Accordingly, a printing operation on the adhesive layer of the sticker is successfully accomplished.

[0013] Moreover, as a printing surface of the present invention is operating on the adhesive layer 211 of the front sheet 21, upon entering the interface between the support roller 12 and the platen roller 13, the front sheet 21 must be fed in at an angle greater than or equal to a tangential angle at a contact point of the platen roller 13 (as shown in FIG. 2 or FIG. 3), in order that the front sheet 21 will not be stuck on the platen roller 13 by the adhesive layer, during a printing process. Accordingly, the adhesive layer 211 of the front sheet 21 can be kept at a single-line contact with the platen roller 13, to avoid a sticking of the front sheet 21. Similarly, along a pathway made by the divisional rollers 11, the front sheet 21 is in touch with the divisional rollers 11 by its surface, thereby avoiding a sticking phenomenon.

[0014] Furthermore, a printing technique on the adhesive layer of the present invention can be easily applied to a color-separation printing on the adhesive layer 211 of an advertisement sticker, so as to display an enriched chromatic advertisement pattern 3 (as shown in FIG. 4) of the advertisement sticker at a back surface of a glass, without a precise overprinting. Therefore, the process would be very easy and a chromatic printing would be accurate. In addition, the front sheet 21 of the advertisement sticker is not necessarily made of a transparent material, and all kinds of opaque patterns can be chosen as a background pattern of the color advertisement, so as to enable the advertisement sticker to have a design of more versatile advertisement pattern.

[0015] It is of course to be understood that the embodiments described herein is merely illustrative of the principles of the invention and that a wide variety of modifications thereto may be effected by persons skilled in the art without departing from the spirit and scope of the invention as set forth in the following claims.

Claims

1. A sticker press including a printing compartment provided with a plurality of divisional rollers, a support roller, a platen roller, and a dryer, enabling printing a pattern on an adhesive layer of a front sheet of a sticker roll; the divisional rollers located at a feed-in end of the press to create different pathways for a front sheet and a back sheet of the sticker roll; the support roller located at a midway to the pathway of the front sheet in the printing compartment, whose cylindrical surface made of a rigid material so as to enable the support roller to be in touch with the surface of the front sheet; the platen roller located next to the support roller and whose cylindrical surface installed a platen, so as to enable the platen roller to be in touch with the adhesive layer of the front sheet by a single line; the dryer located at a chosen position at a rear end of the pathway of the front sheet in the printing compartment; the front sheet and the back sheet being fed into different pathways with the divisional rollers, after pulling the sticker roll into the printing compartment, by the means of the aforementioned constructs, to feed the front sheet into an interface between the support roller and the platen roller in a tangential direction along the pathway, enabling the adhesive layer of the front sheet to be in touch with the platen roller by a single line for printing, then feeding the front sheet into a the dryer for drying an ink, next feeding the front sheet out of the dryer followed by re-pasting the front sheet with the back sheet, thereby successfully accomplishing a printing operation on the adhesive layer of the sticker.
2. The sticker press according to claim 1, wherein the support roller together with the platen roller are used to feed in the front sheet of a sticker.
3. The sticker press according to claim 1, wherein the platen roller is located at an opposite position to the support roller, and is connected with an ink roller.
4. The sticker press according to claim 1, wherein the front sheet is fed in at an angle greater than a tangential angle at a contact point between the platen roller and the support roller.
5. The sticker press according to claim 1, wherein the front sheet is fed in at an angle equal to a tangential angle at a contact point between the platen roller and the support roller.
6. The sticker press according to claim 1, wherein the front sheet is in touch with the divisional rollers by its surface along the pathway.

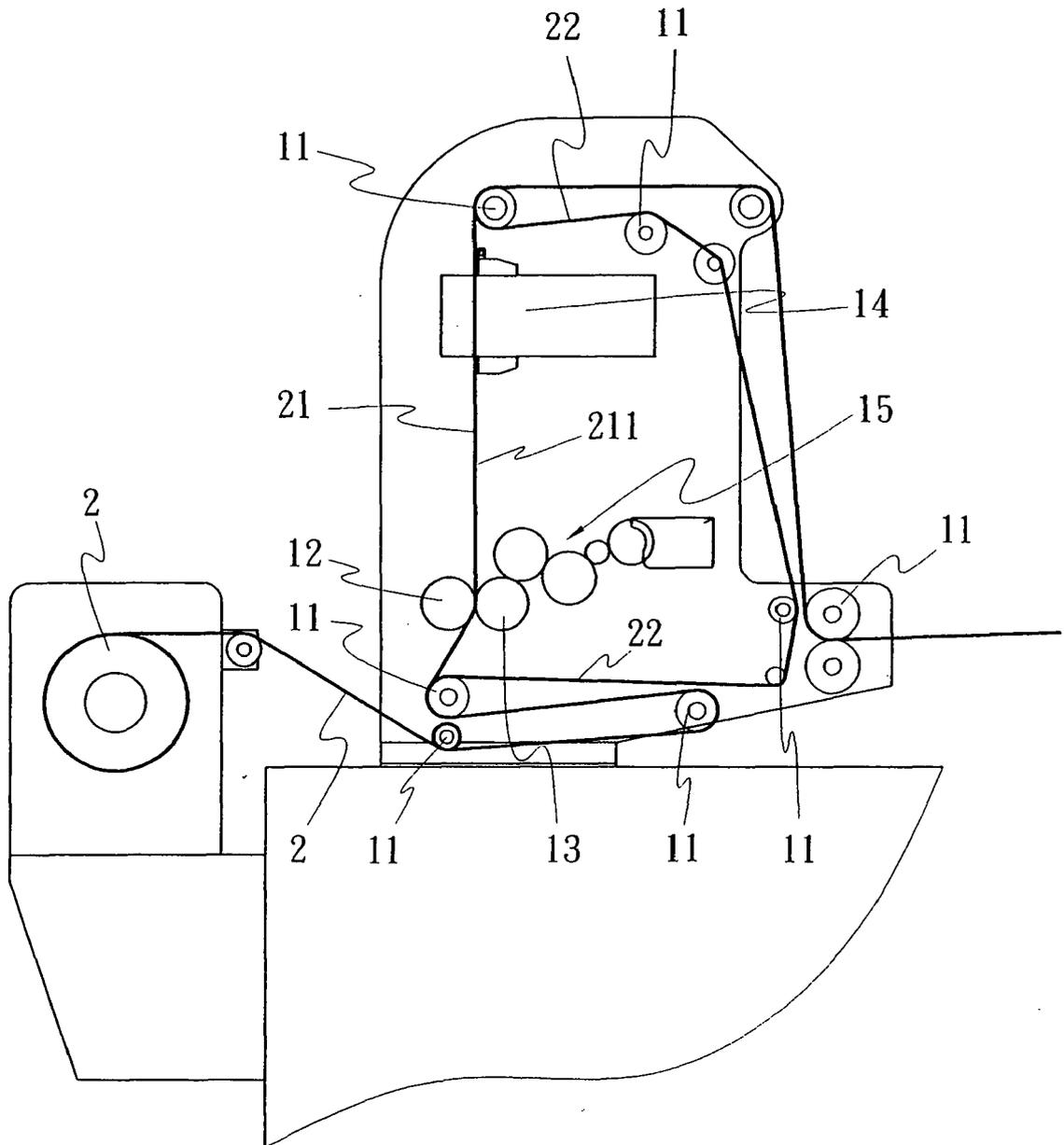


FIG. 1

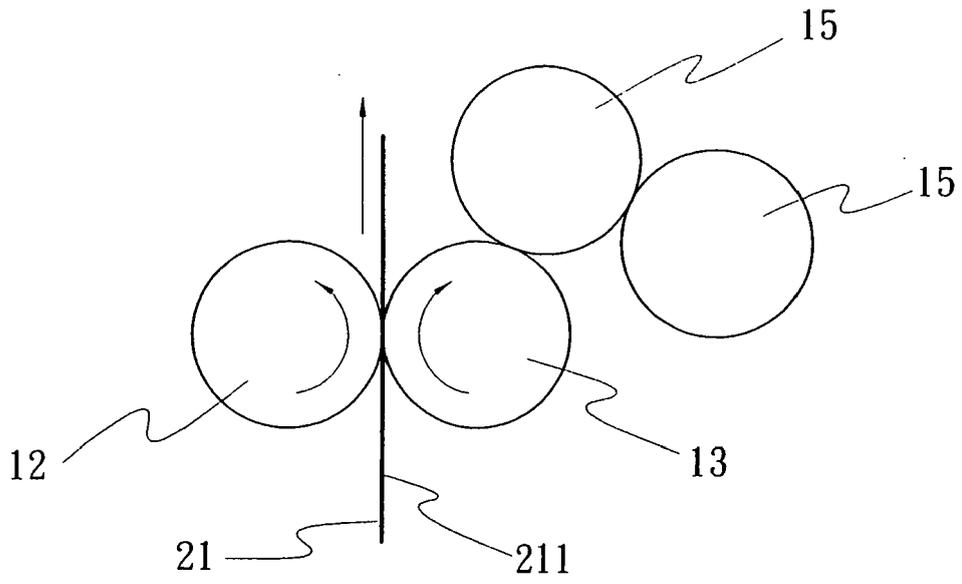


FIG. 2

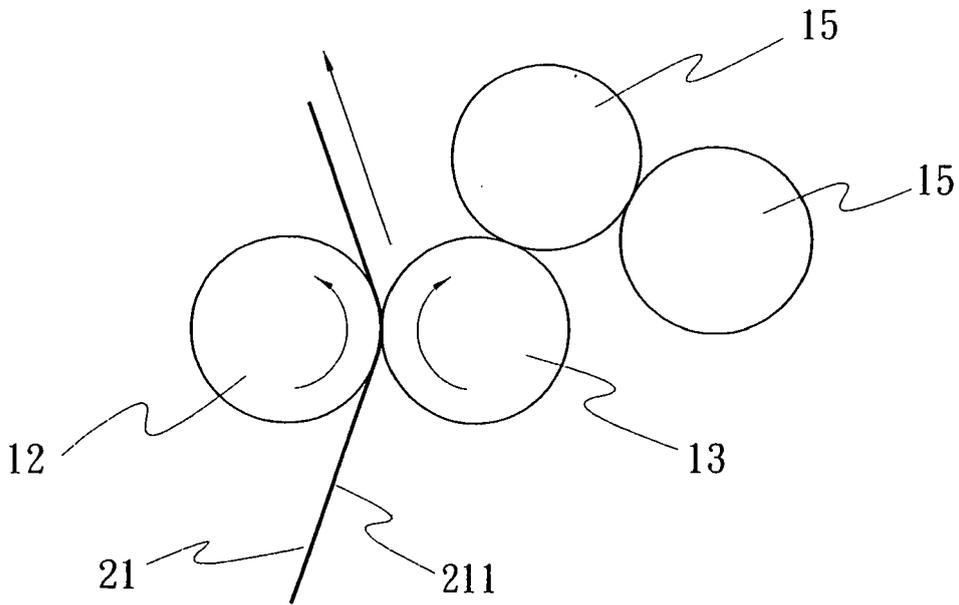


FIG. 3

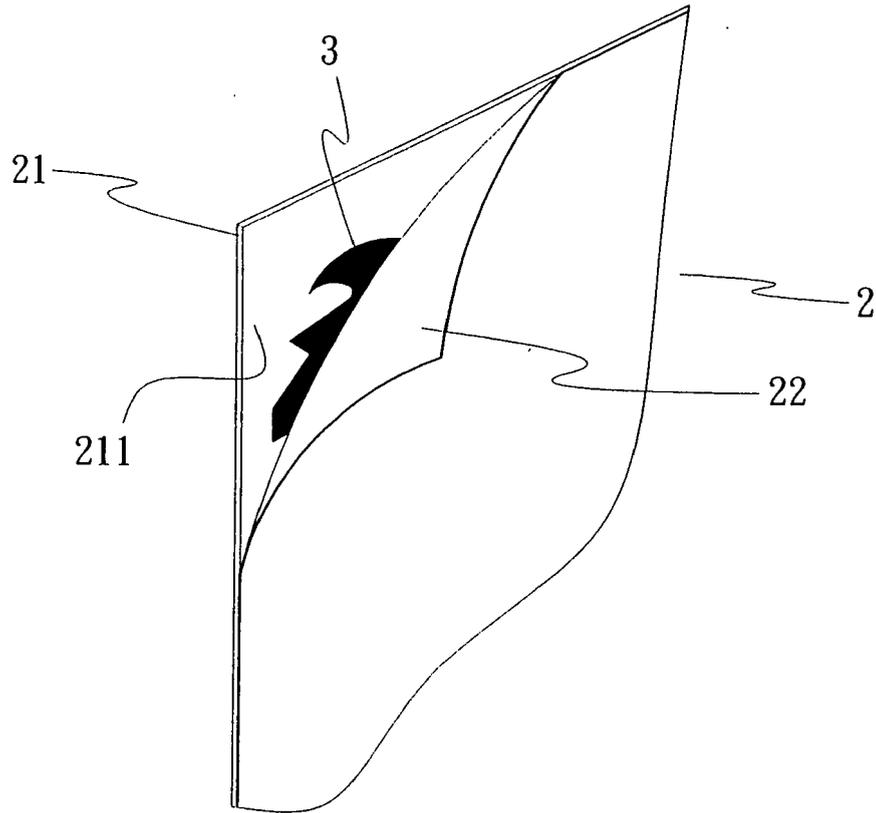


FIG. 4



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 068 028 A (SAMONIDES ET AL) 10 January 1978 (1978-01-10) * column 1, lines 1-38 * * column 4, line 17 - column 6, line 67 * * figure 3 *	1-6	B41F5/04 B41F17/00
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC) B41F B31D B65C
3	Place of search The Hague	Date of completion of the search 5 January 2006	Examiner Curt, D
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 05 00 7422

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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