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(21) International Application Number: PCT/NO96/00046 (22) International Filing Date: 29 February 1996 (29.02.96) (30) Priority Data: 950791 1 March 1995 (01.03.95) ✓ NO (71)(72) Applicants and Inventors: VONHOLM, Christian [NO/NO]; Arne Ulstrupsvet 3F, N-1322 Høvik (NO). KNUTSEN, Stian, Valentin [NO/NO]; Neslsen 11A, N-1360 Nesbru (NO). (74) Agent: ONSAGERS PATENTKONTOR A/S; P.O. Box 265 Sentrum, N-0103 Oslo (NO).	(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MN , MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG , SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	
(54) Title: METHOD FOR APPLICATION OF INFORMATION/ADVERTISING INDICIA ON CONVEYER BELTS  (57) Abstract Method for application of information/advertising indicia (1) on conveyer belts (2a) in, e.g., cashier counters (2), consisting of a special print (1) applied by the use of a heat/pressure press (3), wherein the lower plate (7) and upper plate (8) obtains a temperature in the range of 70-130 °C and the lower plate (7) and upper plate (8) are brought together, wherein the conveyer belt comprising information/advertising indicia (1) on top is placed between the lower plate (7) and upper plate (8) by the use of pressure in the range of 6-9 bar, which results in that the information/advertising indicia (1) becomes an integrated part of the surface of the conveyer belt (2a) by applying said means of heat/pressure press (3), without reducing the quality or longevity of the conveyer belt (2a).		

☒	Description	: paged ...1... to paged ...3...
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☐	Drawing(s)	: paged ... to paged ...
☐	Abstract	: paged ... to paged ...

Method for application of information/advertising indicia on conveyer belts

5 The present invention relates to the method for application of an information/advertising indicia for placing on conveyer belts which can be used in cashier counters in supermarkets, airports, etc., utilizing a special print type for the production of said information/advertising indicia, furthermore its application on said conveyer belts, as defined in claim 1.

10 The use of information on conveyer belts is known from DE patent 4128664, where one by the use of a special technique cuts out a part of the conveyer belt and refills it with rubber of different colours in order to build up the desired information/advertising indicia. The quality achieved when utilizing this technique proves to be inadequate as the joint/splice between the existing belt and the new coloured rubber, which has been filled in to make up the indicia, is peeled off after a while due to the belt guided over the rollers in the cashier counter. Furthermore, said technique only allows for very simple information/advertising indicia, due to inability of the technique to make more detailed motifs. In addition to being very time-consuming, this technique is also expensive. Other solutions to silk-screen processing directly onto the conveyer belt, or to applying stickers, etc., are inadequate, as the information/advertising indicia is peeled off or apart in very short time. Experiments performed by Marks & Spencers in England (1990) is referred to, e.g., where the indicia cracked up.

25 In addition, US patent 4 979 591 discloses a conveyer belt for a cashier counter, wherein information/advertising indicia is applied to a conveyer belt. A distinctive print is transferred by transfer-printing to the outer surface of the conveyer belt by applying dye and adhesive from a backing paper at a temperature of 120-160°C and a pressure of 2-6 bars. Accordingly, a protective film is required for the product to be effective.

30 These problems can be solved by utilizing another kind of printing technique as well as form of application. The purpose of this invention is to produce a improved method for the application of said printing technique for placing information/advertising indicia on conveyer belts which does not have said disadvantages concerning reduced quality, with regards to both the demand to details of the information/advertising indicia and its longevity.





According to the present invention this is achieved by the characterizing part of claim 1, as well as the dependant claims.

Thus, an improved quality of the information/advertising indicia is provided by utilizing a special kind of print which allows for more detailed motifs,
5 combined with a technique for application where the print is melted into the conveyer belt which becomes an integrated part of the conveyer belt and accordingly can not be peeled off, and this results in a quality print which is expected to last for maximum 2 years.

As described in the following drawings, the special print can be applied to
10 the conveyer belt by the use of required equipment such as a combined heat/pressure press which melts and secures the information/advertising indicia into the conveyer belt by the use of a combination of pressure (bar) and heat (°C).

The conveyer belt consists of 3 layers, wherein the 2 upper layers are PVC
15 and the lower is a sheet, as illustrated in fig. 2.

Other features of the invention which are described in the dependant claims, will be described in more detail in the following description of the invention by referring to the drawings.

In the drawings;

20 fig. 1 illustrates the information/advertising indicia,

fig. 2 illustrates a conveyer belt with information/advertising indicia applied to a cashier counter,

fig. 3 illustrates a conveyer belt with information/advertising indicia applied to a cashier counter,

25 fig. 4 illustrates a heat/pressure press which is utilized for the application of the special information/advertising indicia.

Fig. 1 illustrates the information/advertising indicia in perspective (1). Fig. 2 illustrates the conveyer belt (2a) in perspective, as well as its structure where the 2 upper layers (4, 5) are PVC and the lower layer (6) is a sheet. In fig. 3
30 the appearance of a conveyer belt (2a) is illustrated when mounted in a cashier counter (2) subsequent to the application of the information/advertising

indicia (1) by means of said heat/pressure press (3). The indicia (1) comprising the information/advertising has thus been applied to the conveyer belt (2a) by means of the heated lower plate (7) and upper plate (8) which are moved towards each other creating a pressure as well as a heat field. The lower plate (7) and upper plate (8) obtains a temperature of 70-130°C. The conveyer belt comprising information/advertising indicia (1) on top is placed between the lower plate (7) and upper plate (8) by the use of pressure in the range of 6-9 bar, which results in that the information/advertising indicia (1) becomes an integrated part of the surface of the conveyer belt (2a) by applying said means of heat/pressure press (3), without reducing the quality or longevity of the conveyer belt (2a). Thus, the conveyer belt (2a) which acts as a surface for displaying the print comprising the information/advertising indicia (1), can provide the customer clear information, such as payment by using credit cards, or to remind the personnel of cashier counters that it is illegal to sell alcohol/tobacco to under-aged, as well as enabling the application of desired indicia to the conveyer belt (2a).

The method of the invention will provide, when applied, the customers at supermarkets, airports, etc., clear and good information regarding which products and services that are offered/imparted through the shop, as well as providing the suppliers of goods and services to the shop the possibility of informing the customers of availability and existence of their products and services. While waiting to pay at the cashier counters, the customers have the opportunity to read/observe the information/advertising indicia which is in the conveyer belt.

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**PATENT CLAIMS**

1. Method for applying a information/advertising indicia (1) onto a conveyer belt (2a) which can be used in cashier counters (2) in supermarkets, airports, etc.,
- 5 characterized in that a printing technique is used which melts the information /advertising indicia (1) into the conveyer belt (2a) and thus becomes an integrated part of it by using a heat/pressure press (3) which secures the information/advertising indicia (1) to the conveyer belt (2a) by the combination of heat and pressure, wherein the information/advertising indicia (1) is applied
- 10 to the conveyer belt (2a) by pressing the lower plate (7) towards the heated upper plate (8).
2. Method of claim 1,
- characterized in that the surface of the used information/advertising indicia (1) does not exceed the surface/height of the conveyer belt (2a) and thus will
- 15 not be peeled off.
3. Method of claim 1 or 2,
- characterized in that the upper plate (8) and the lower plate (7) of the heat/pressure press obtains a temperatur and a pressure, respectively, which results in that the information/advertising indicia (1) becomes an integrated
- 20 part of the surface and/or material of the conveyer belt (2a) when applied at the heat/pressure press (3).



Fig. 1



Fig. 2

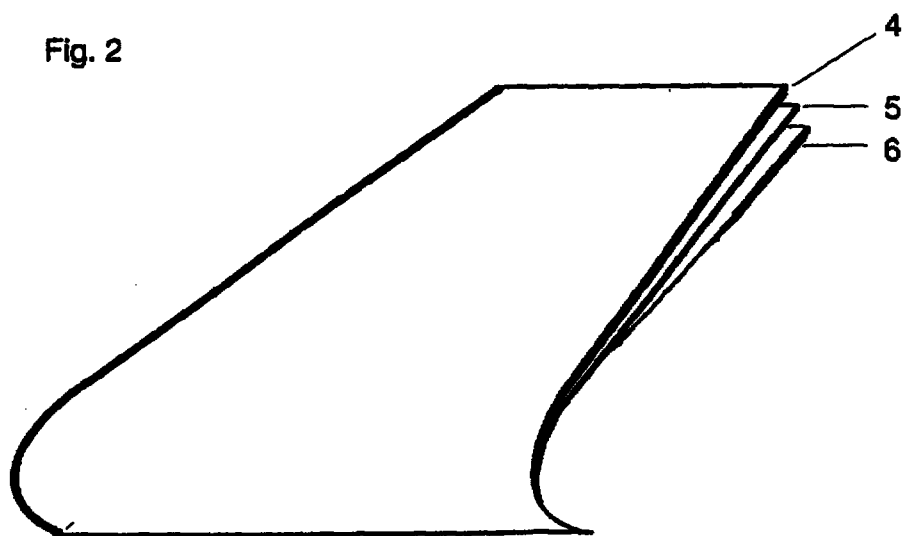


Fig. 3

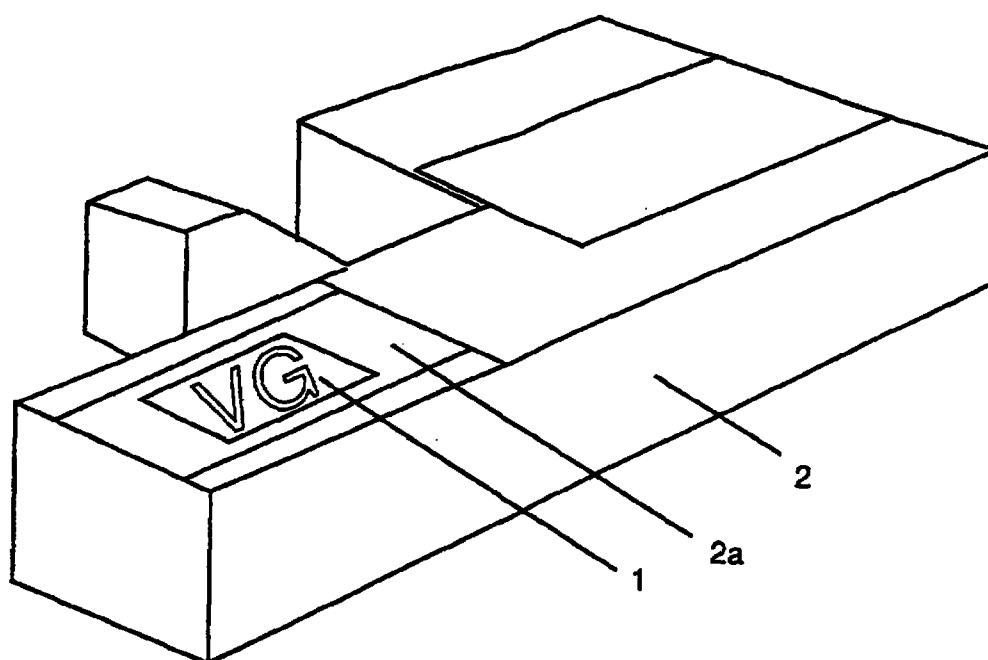
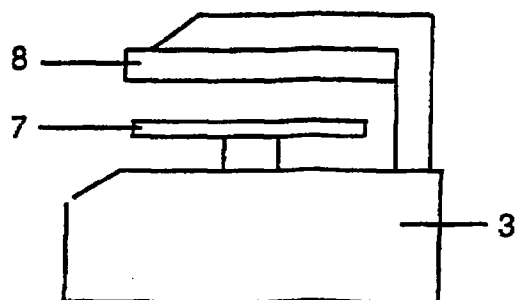


Fig. 4



Method for application of information/advertising indicia on conveyer belts

5 The present invention relates to the method for application of an information/advertising indicia for placing on conveyer belts which can be used in cashier counters in supermarkets, airports, etc., utilizing a special print type for the production of said information/advertising indicia, furthermore its application on said conveyer belts, as defined in claim 1.

10 The use of information on conveyer belts is known from DE patent 4128664, where one by the use of a special technique cuts out a part of the conveyer belt and refills it with rubber of different colours in order to build up the desired information/advertising indicia. The quality achieved when utilizing this technique proves to be inadequate as the joint/splice between the existing belt and the new coloured rubber, which has been filled in to make up the indicia, is peeled off after a while due to the belt guided over the rollers in
15 the cashier counter. Furthermore, said technique only allows for very simple information/advertising indicia, due to inability of the technique to make more detailed motifs. In addition to being very time-consuming, this technique is also expensive. Other solutions to silk-screen processing directly onto the conveyer belt, or to applying stickers, etc., are inadequate, as the information/advertising indicia is peeled off or apart in very short time. Experiments
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25 belt. A distinctive print is transferred by transfer-printing to the outer surface of the conveyer belt by applying dye and adhesive from a backing paper at a temperature of 120-160°C and a pressure of 2-6 bars. Accordingly, a protective film is required for the product to be effective.

30 These problems can be solved by utilizing another kind of printing technique as well as form of application. The purpose of this invention is to produce a improved method for the application of said printing technique for placing information/advertising indicia on conveyer belts which does not have said disadvantages concerning reduced quality, with regards to both the demand to details of the information/advertising indicia and its longevity.

AMENDED SHEET

According to the present invention this is achieved by the characterizing part of claim 1, as well as the dependant claims.

Thus, an improved quality of the information/advertising indicia is provided by utilizing a special kind of print which allows for more detailed motifs,
 5 combined with a technique for application where the print is melted into the conveyer belt which becomes an integrated part of the conveyer belt and accordingly can not be peeled off, and this results in a quality print which is expected to last for maximum 2 years.

As described in the following drawings, the special print can be applied to
 10 the conveyer belt by the use of required equipment such as a combined heat/pressure press which melts and secures the information/advertising indicia into the conveyer belt by the use of a combination of pressure (bar) and heat (°C).

The conveyer belt consists of 3 layers, wherein the 2 upper layers are PVC
 15 and the lower is a sheet, as illustrated in fig. 2.

Other features of the invention which are described in the dependant claims, will be described in more detail in the following description of the invention by referring to the drawings.

In the drawings;

20 fig. 1 illustrates the information/advertising indicia,

fig. 2 illustrates a conveyer belt with information/advertising indicia applied to a cashier counter,

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The method of the invention will provide, when applied, the customers at supermarkets, airports, etc., clear and good information regarding which products and services that are offered/imparted through the shop, as well as providing the suppliers of goods and services to the shop the possibility of informing the customers of availability and existence of their products and services. While waiting to pay at the cashier counters, the customers have the opportunity to read/observe the information/advertising indicia which is in the conveyer belt.

AMENDED SHEET

PATENT CLAIMS

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5 characterized in that a printing technique is used which melts the information /advertising indicia (1) into the conveyer belt (2a) and thus becomes an integrated part of it by using a heat/pressure press (3) which secures the information/advertising indicia (1) to the conveyer belt (2a) by the combination of heat and pressure, wherein the information/advertising indicia (1) is applied
10 to the conveyer belt (2a) by pressing the lower plate (7) towards the heated upper plate (8).
2. Method of claim 1,
characterized in that the surface of the information/advertising indicia (1)
used does not exceed the surface/height of the conveyer belt (2a) and thus
15 will not be peeled off.
3. Method of claim 1 or 2,
characterized in that the upper plate (8) and the lower plate (7) of the heat/pressure press obtains a temperatur and a pressure, respectively, which results in that the information/advertising indicia (1) becomes an integrated
20 part of the surface and/or material of the conveyer belt (2a) when applied at the heat/pressure press (3).



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