



EUROPEAN PATENT APPLICATION

Application number : **93850002.2**

Int. Cl.⁵ : **B65C 1/02**

Date of filing : **08.01.93**

Priority : **08.01.92 FI 920033 U**

Inventor : **Paavola, Jarl**
c/o Oy M. Haloila Ab
SF-21250 Masku (FI)

Date of publication of application :
14.07.93 Bulletin 93/28

Representative : **Stolt, Lars C. et al**
L. A. Groth & Co KB, Box 6107
S-102 32 Stockholm (SE)

Designated Contracting States :
DE ES FR GB IT SE

Applicant : **OY M. HALOILA AB**
SF-21250 Masku (FI)

Label fixing means for affixing a label in a wrapping machine.

The invention concerns a label fixing means for affixing a label in a wrapping machine (10) which has been arranged to wind a wrapping film (F) around the product to be packaged (1) and, possibly, to cut the film off and to seam the film against the film wrapped around the product, the label fixing means (20) being provided with a transporter (21) for transporting the label (22) from a storage roll or a cassette (23) with the aid of driving rolls (24), driven by a power means (25), and a label applicator (26) having applicator members (27) disposed to grasp the label conveyed by the transporter and to push it against the product.

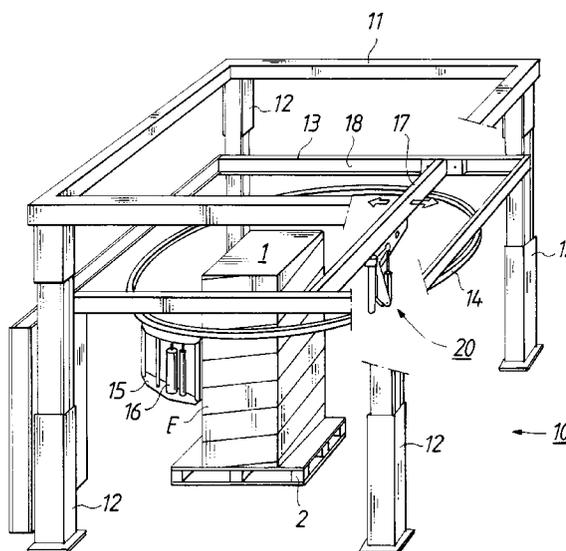


Fig 1

The present invention concerns a label fixing means for affixing a label in a wrapping machine which has been arranged to wrap a wrapping film around the product that has been conveyed into the wrapping station of the wrapping machine and, possibly, to cut the film off and to seam the film against the film that has been wound around the product.

Wrapping machines of above-mentioned type are known e.g. through the Finnish Patents FI 80418, FI 81539 and FI 83193, which are cited as state of art.

When packaging products with the aid of wrapping machines, one is compelled to affix the labels in a separate work step, e.g. employing human labour. This is obviously expensive. Moreover, the positioning and placement on the package of labels affixed with human labour are dependent on the worker's professional skill and experience; it is further possible that a label remains altogether unaffixed e.g. owing to carelessness, negligence or work hindrance.

The object of the present invention is to eliminate the above-mentioned drawbacks and to provide a novel wrapping machine by means of which the fixing of labels on packages can be accomplished positively, automatically and in an invariably consistent manner.

The invention is characterized in that the label fixing means is provided with a transporter for transporting the label from a storage roll, or cassette, with the aid of drive rolls and driven by a power means, and a label applicator comprising applicator members disposed to grab the label forwarded by the transporter and to push it against the product or against the film that has been wrapped around the product, and that the fixing means has been mounted to be borne by an auxiliary frame, laterally movable and mounted on the frame of the wrapping machine to be movable up and down, advantageously in conjunction with the wrapper seaming means.

With the invention, the objects stated in the foregoing will be achieved. Furthermore, thanks to the invention, the label can be attached to the product in connection with the wrapping thereof, e.g. under the wrapper, upon the wrapper or interposed between wrappers.

The invention is described in the following in detail with the aid of an embodiment example, referring to the attached drawings, wherein:-

Fig. 1 presents, in perspective, a wrapping machine according to the invention provided with a label fixing means, and schematically depicted, Fig. 2 presents the label fixing means, enlarged, Figs 3a to 3b present the label transporter means, in elevational view and from below, and Figs 4a to 4b present the label applicator means, in elevational view and from below.

In the figure, the wrapping machine in general has been indicated with reference numeral 10. The wrapping machine comprises a frame structure, com-

prising a frame 11, and legs 12. The wrapping machine 10 is, as to its type, a so-called wrapping frame machine provided with a wrapping frame 14 which during the wrapping operation carries along with itself a film distribution slide 15. The wrapping film F is unwound from a film material roll 16 on the film distribution slide 15 to enwrap the product 1 which has to be packaged. The product to be packaged, 1, consists in the embodiment here depicted, of a pallet load disposed upon a load pallet 2. The wrapping frame 14 is mounted on a wrapping frame supporting frame 13, which is disposed within the frame structure 11, 12 of the wrapping machine, movably in vertical direction so that the film distribution slide can be moved into proper position in height, in different stages of the wrapping process. The general design of the wrapping machine is commonly known e.g. through the reference FI 83193 cited above, and is not described in any greater detail in this context.

The label fixing means 20 of the invention is mounted on an auxiliary frame 17, disposed to move along guides 18 provided on the wrapping frame supporting frame 15. In the wrapping machine 10 according to the embodiment depicted in Fig. 1, the label fixing means 20 can be moved along with the supporting frame 11, up and down, and with the auxiliary frame 17, sideways along the guides 18.

The label fixing means 20 depicted in Figs 2 to 4 comprises a label transporter 21 for transporting the label 22 from a storage cassette 23 with the aid of rolls 24 and of a power means 25, and a label applicator 26, disposed to receive the label from the transporter and to place, or press, it against the product or against the wrapping F of the product. In Fig. 2, the label transporter 21 has been placed at an inclination, carried by a mounting member 31 in the horizontal plane, and the label applicator 26 is disposed rotatably about an axle 33, to be carried by a mounting member 32 projecting downward from the mounting member 31. The installation beam 31 also carries the top surface wrapper spreading means 40, which is not described in closer detail in this context.

Figs 3a and 3b reveal the design of the label transporter 21 in detail. The cassette 23 contains a plurality of labels 22, packed in a stack. Rolls or rollers 24, rubber-coated and driven by a power means 25, have been disposed to transport the labels 22 with the aid of the power means 25 and of a particular control means (not depicted) from the cassette to the label applicator 26. In Fig. 2, the label has just been transported to the applicator members 27 of the label applicator, i.e., into reach of the jaws, upon the base 34. The applicator members 27 are then pressed together, e.g. with the aid of a force means such as a cylinder, with the label impacted between the jaws, and turned into the position indicated with interrupted lines 30, pulling the label downward.

Finally, the label 22 which the applicator mem-

bers 27 hold between themselves is moved up against the package or against the wrapper by moving the label fixing means appropriately with the aid of the transport mechanism of the supporting frame 13 and/or the auxiliary frame 17 (not depicted in the figure), in a manner known in itself in the art. Turning of the label applicator 26 about the axle 33 and, further, its restoring to the position shown in solid lines is accomplished e.g. with the aid of a turning means 35. It is recommended to wrap upon the label a wrapper, which holds the label in position under the wrapper course. If this is done, cementing or any other fixing of the label is obviated.

With the aid of the label fixing means of the invention the label can be affixed e.g. upon the package under the wrapper, upon a wrapper course that has been wrapped upon the package, before wrapping the next wrapper course, and/or even upon the wrapper that has been wrapped on the package.

The label fixing means of the invention can be placed e.g. in conjunction with the top film pulling means of the wrapping machine and/or e.g. in conjunction with the wrapper seaming and/or grabbing means of the wrapping machine, or apart from these.

Claims

1. A label fixing means for affixing a label in a wrapping machine (10) which has been arranged to wind a wrapping film (F) around the product to be packaged (1) that has been conveyed into the wrapping station of the wrapping machine and, possibly, to cut the film off and to seam the film against the film wrapped around the product, characterized in that the label fixing means (20) is provided with a transporter (21) for transporting the label (22) from a storage roll or a cassette (23) with the aid of driving rolls (24), driven by a power means (25), and a label applicator (26) having applicator members (27) disposed to grasp the label conveyed by the transporter and to push it against the product.
2. Means according to claim 1, characterized in that the fixing means (20) is mounted to be borne by an auxiliary frame (17) which is laterally movable and mounted on a supporting frame (13) mounted upward and downward movably to be borne by the frame (12) of the wrapping machine.
3. Means according to claim 1 or 2, characterized in that the fixing means (20) is mounted in conjunction with the wrapper seaming means (19).

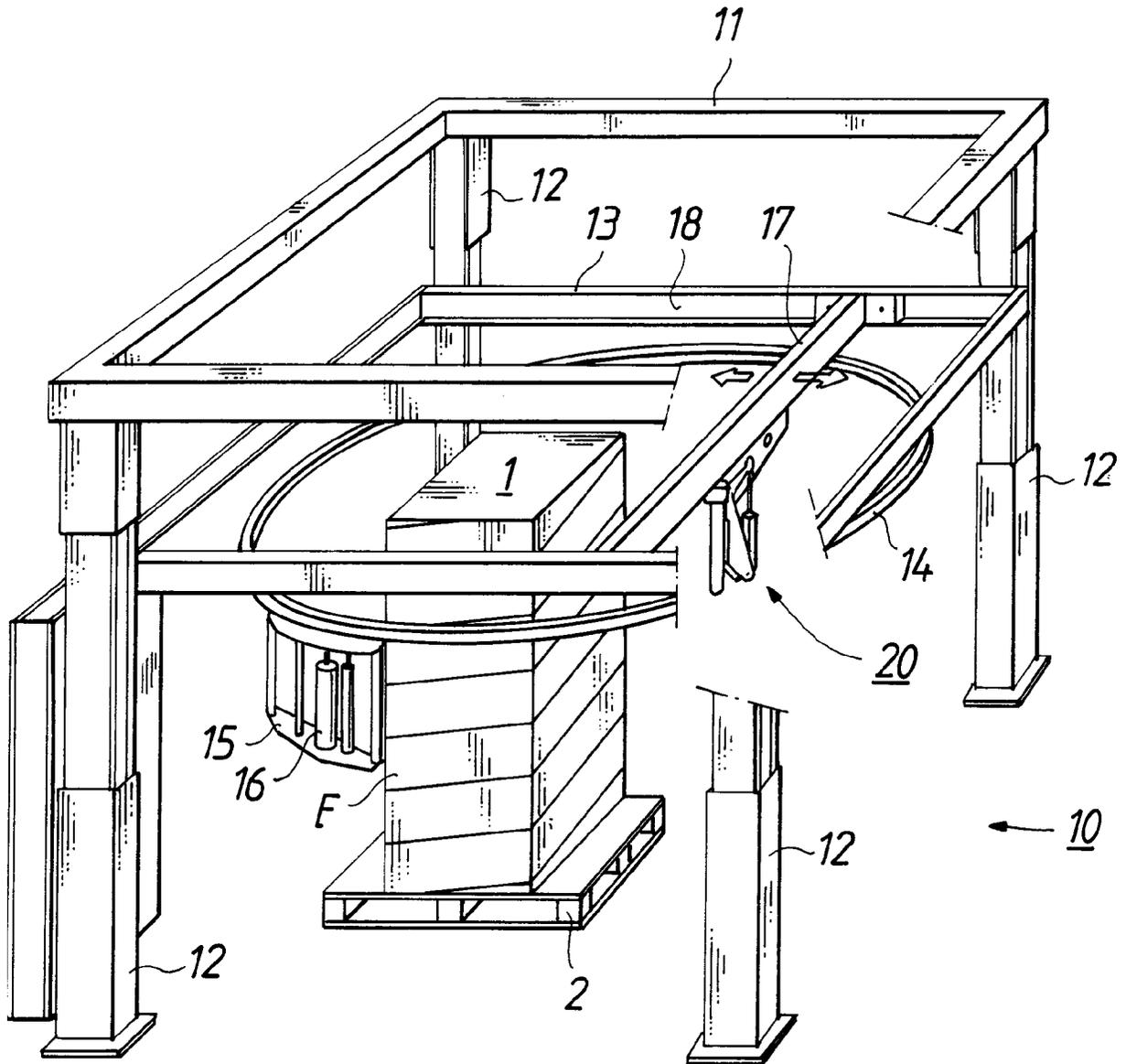
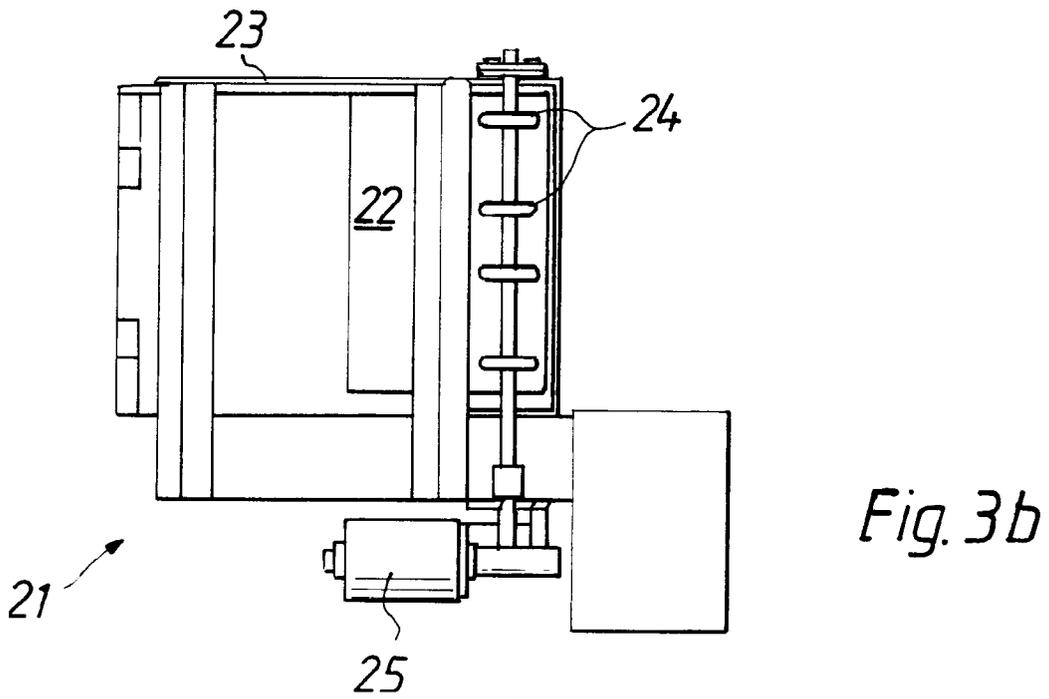
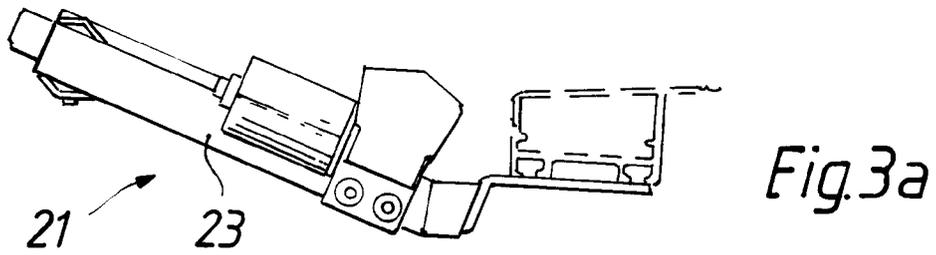
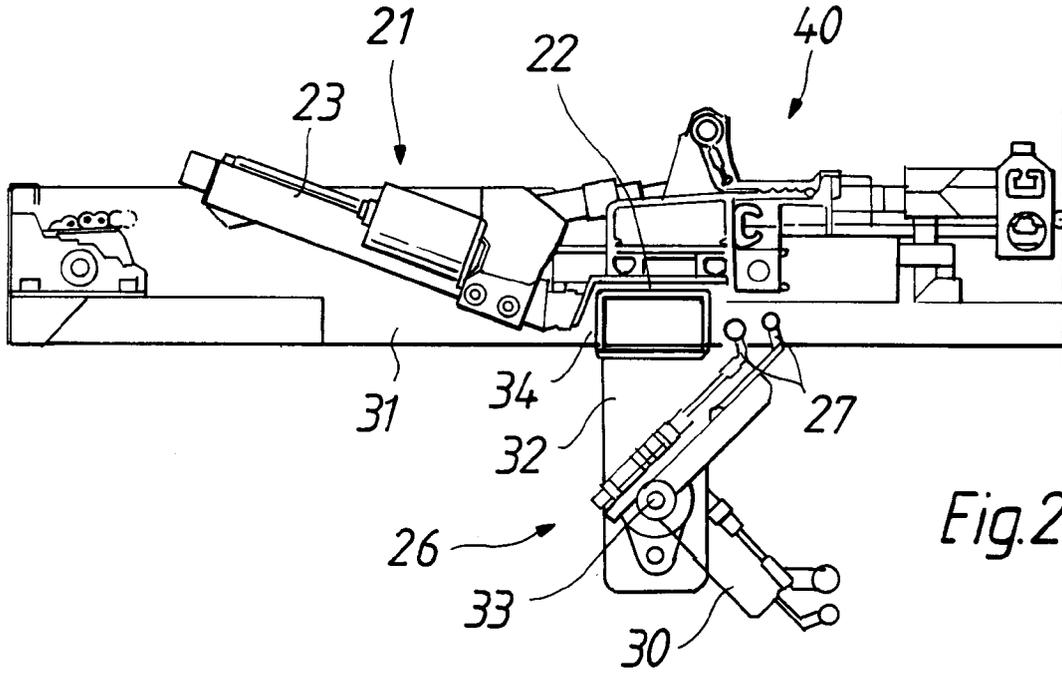


Fig. 1



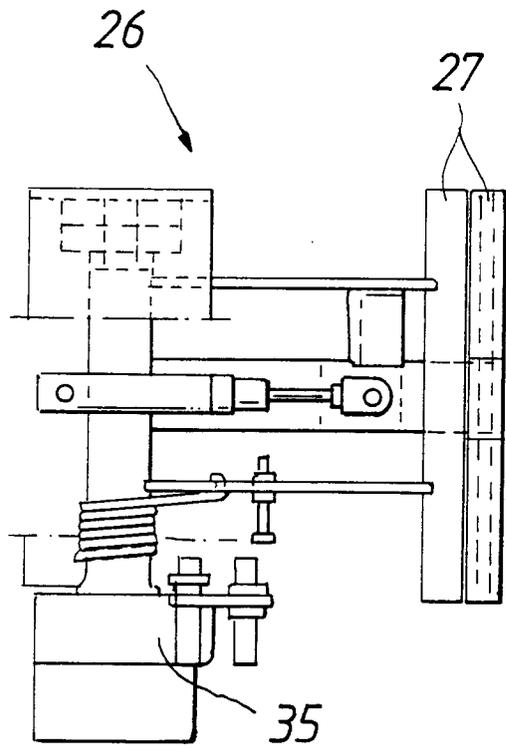


Fig. 4a

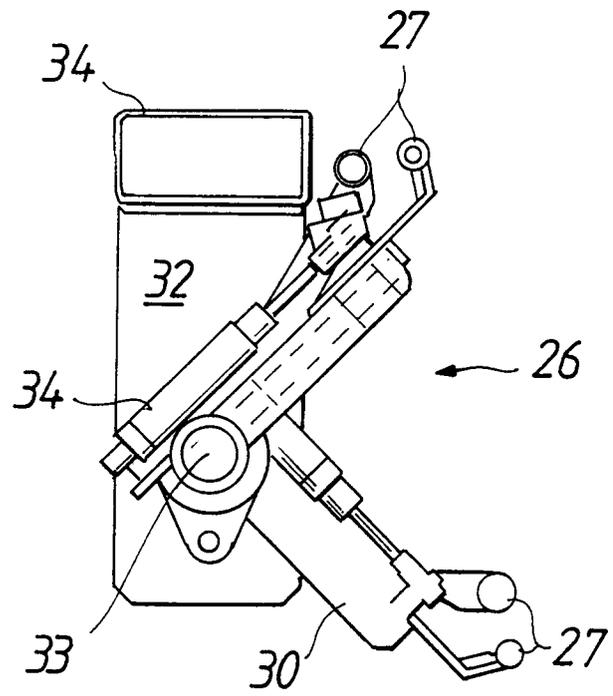


Fig. 4b



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 93 85 0002

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	EP-A-0 286 541 (KAYSERSBERG SA) * column 4, line 29 - column 5, line 6; figures 1,2 * ---	1	B65C1/02
X	GB-A-2 092 984 (ELSNER ENGINEERING) * claim 1; figures * ---	1	
A	EP-A-0 389 393 (HACHELLE AUTOMATION) ---		
A	FR-A-2 647 082 (ALBERT PLASTIQUES) -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B65C B65B
Place of search	Date of completion of the search	Examiner	
THE HAGUE	30 MARCH 1993	DEUTSCH J.P.M.	
CATEGORY OF CITED DOCUMENTS		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	
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			

EPO FORM 1503 03.82 (P0401)