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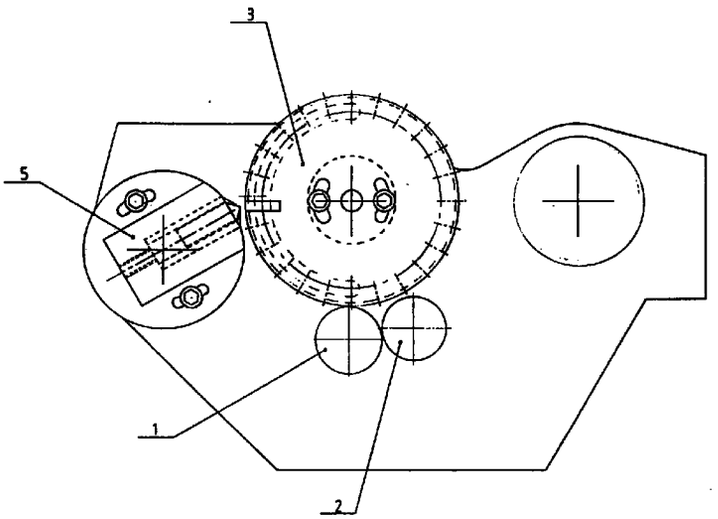
(54) Dispenser for self-sticking mark-strips

(57) A dispenser is composed by supply-, transportation- (1,2) and cutting-rolls (5) which is applied to supply self-sticking tape, to cut and then deliver self-sticking strip to the teartape and/or packing material, at the starting point of the teartape of in packing-foil packed articles like packages of cigarettes. The applicated packing material can be of different types of material, as long as the self-sticking strip can attach itself to this material.



FIGUUR 1

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Description

The invention relates to the application of self-sticking marking-strips positioned at the beginning of the teartape of an in packing-foil packed article like a pack op cigarettes, what by means of an in-line working machine, assembled to and driven by a packing-machine, will be realised.

Teartape will be applicated at an in packing-foil packed article like a pack of cigarettes to strip of the relevant article of it's packing-foil by the user. After the self-sticking strip has been attached to the packing foil, the u-shape knive will cut the packing foil and the tape at regular distances, by which a place of application arises, what will serve later on as a starting point when user will strip of the article from it's packing-foil.

Normally the teartape will be attached by means of an in-line placed teartape dispenser which continuously attaches the tape to the packing-foil. By this packing-method the above mentioned starting point will remain unmarked.

Another method to attache teartape to the packing-foil is to use the "cross feed-system". With this method a strip will be cut of from a roll, which is provided with a marking-line on one side, and be delivered to the packing-foil and by means of a heating machine attached to the packing-foil. This cross-feed system knows a lot of disadvantages:

- The system is only applyable to one type packing-machine
- For every length of packing-foil one needs a matchable width of the roll with the marking-line
- Quality-problems in connection with the possition of the tape and the heating during attachment.
- Limited speed
- Becomes quickly filthy
- Requires lots of maintenance and is difficult to advance

By application of this invention all above mentioned disadvantages fall into decay.

The advantage of this invention can be reached by delivering self-sticking marking-tape at the starting position by means of an in-line working machine. By application of self-sticking marking-tape the heating-element can fall into decay.

By keeping the proces of "adding the marking-tape" seperately from "the supply of the proper teartape" the last-mentioned can be supplied in-line and also continuously. If than self-sticking tape will be applicated, the heating-machine will be superfluous.

By replacement of the cross-feed system higher production-speed can be reached and the maintenance will for the biggest part fall into decay.

By using the driving gear of the packing-machine and a transportation-proportion of 1:1 between this packing-machine and the dispenser, the marking strips will automaticaly be delivered with an equal interval independent from the length of these intervals.

The invention will be illustrated on the basis of this drawings with this operation-principle:

Figure 1 is the front-view
Figure 2 is a cross-section

The mechanism operates as follows:
The self-sticking marking-tape is continuously supplied by means of the roll "1" and a press-roll "2". After the driving rolls the marking tape will be pulled at the vacuum-disk by vacuum. A stationary timing-disk "4" at the back-side of the vacuum-disk "3" will appoint the position where vacuum is present.
The outline speed of the vacuum-disk "3" on which the marking strip with the not-sticking side of the tape is sucked onto, has the same speed as the one of the packing-foil.
The transportation-proportion of the vacuum-disk "3" and the supply-roll "1" appoints the transportation-length of the tape. Halfway vacuum-disk "3" a rotating knive "5", which has the same number of revolutions as the disk "3", will cut the tape. The cut tape will by means of the vacuum-power remain at the disk and be accelerated equally to the speed of the vacuum-disk "3". At the upper point the self-sticking side of the marking-strip gets in contact with the packing-foil, by which the timing-disk "4" will take care of releasing the vacuum. Herethrough the marking-strip will be taken over by the packing-foil, right at the position where the U-shape knife cuts later on a starting point.
With a transportation-proportion of approximately 1:8 the supply-roll "1" will continuously supply marking-tape to the vacuum disk "3".

Claims

1. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packingmaterial with this feature that this will be continuously supplied, made at length and attached to the extending part of the pull-strip and/or packing-foil.

2. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packing material as per conclusion 1 with this feature that the marking-part will be acquired by cutting of the endless strip which is supplied from a spool.

3. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packing material as per conclusion 2 with this feature that the endless strip is on one-side self-sticking.

4. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the

packing material as per conclusion 2 and 3 with this feature that this strip will be supplied from a spool via two supply-rolls to a vacuum wheel.

5. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packing material as per conclusion 2, 3 and 4 with this feature that the not sticking side of the strip will be brought in contact with the vacuum-wheel.

6. operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packing material as per conclusion 4 and 5 with this feature that the stich to the vacuum-wheel is caused by little openings at the outline of the wheel, which at regular times will be brought in contact with the vacuum.

7. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packing material as per conclusion 6 with this feature that the regular junction at the vacuum is achieved by means of a timing-disk, which achieves the vacuum with the right openings in the vacuum wheel.

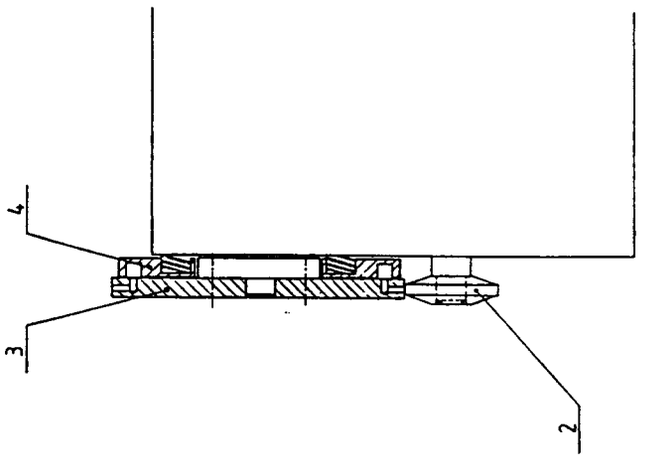
8. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packing material as per conclusion 5, 6 and 7 with this feature that the mark-strip at the vacuum-wheel will be cut at any desired length by means of a contra cutting-knive.

9. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packing material as per conclusion 8 with this feature that the cutting-knive is attached to a rotating disk, which turns the same number of revolutions as the vacuum disk.

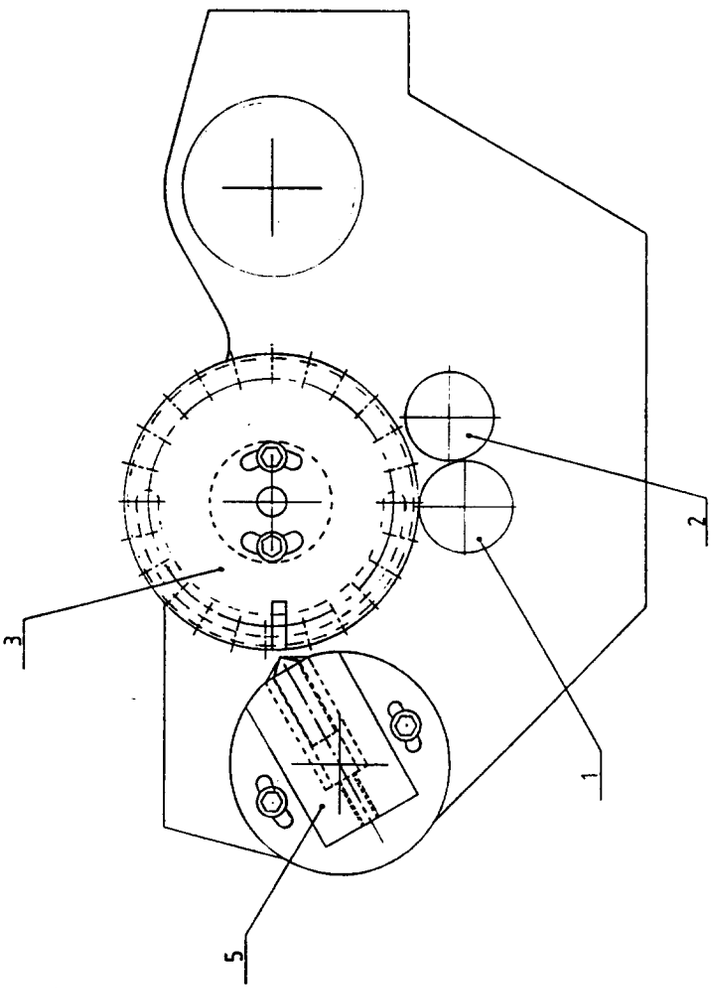
10. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packing material as per conclusion 5,6,7 and 8 with this feature that the strip-part at the vacuumwheel will be held up until the contact with the pull-strip and/or the packing-foil is achieved.

11. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packing material as per conclusion 5,6,7,8 and 9 with this feature that the rotationspeed of the vacuumwheel is approximately equal to the speed of the packing-foil.

12. Operation-methode, as well as machines for applying a mark at the pull-strip and/or packing-foil of the packing material 5,6,7,8,9,10 and 11 with this feature that the tranportation-proportion between the drivingshaft of the rotating-knife for cutting of the startingpoint in the packing-foil and the vacuumwheel is always 1:1.



FIGUUR 2



FIGUUR 1

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EUROPEAN SEARCH REPORT

Application Number
EP 95 20 3175

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.6)
X Y	US-A-3 379 364 (PILGER) * column 3, line 47 - column 4, line 44; figures 1-4 * ---	1,2 3-6	B65B61/18 B31B1/90
Y	US-A-4 045 275 (STOHLQUIST) * column 1, line 55 - column 2, line 67; figures 1-3 * -----	3-6	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

B65B
B31B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	14 March 1996	Claeys, H

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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E : earlier patent document, but published on, or after the filing date
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