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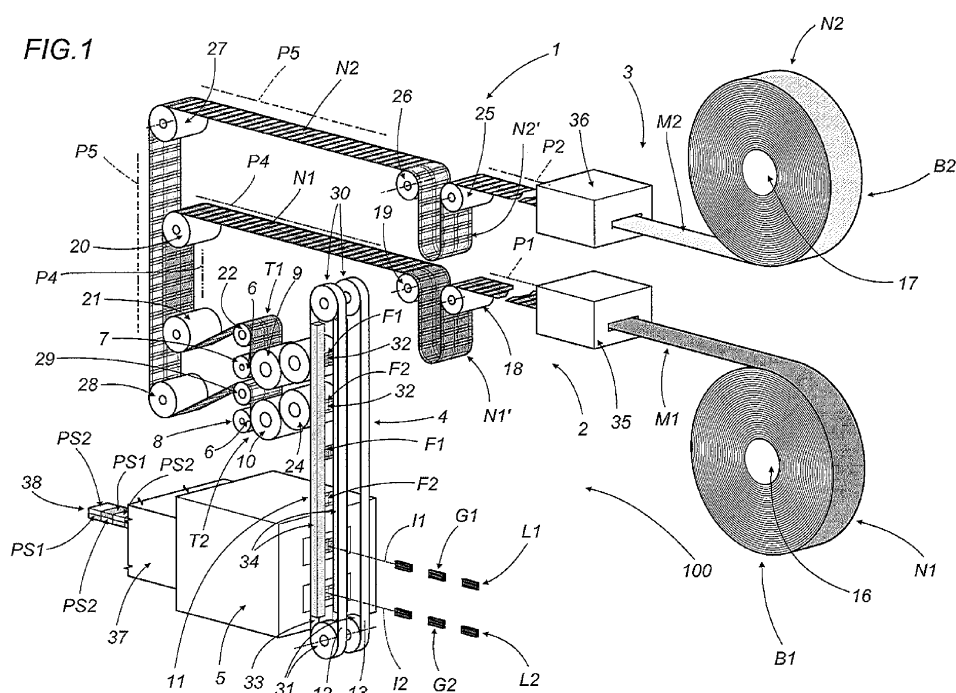
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(54) **Unit and method for supplying sheets of material for wrapping cigarette packets and machine for packing said packets**

(57) A feed unit (1) supplying sheets (F1, F2) of wrapping material for cigarette packets comprises a first feed assembly (2) supplying first sheets (F1) of a first type of wrapping material (M1); a second feed assembly (3) supplying second sheets (F2) of a second type of wrapping material (M2); and a device (4) for taking up the first sheets (F1) and the second sheets (F2) respectively from

the first feed assembly (2) and second feed assembly (3) and for transferring successions of a first sheet (F1) and a second sheet (F2) to the same wrapping station (5); the wrapping station (5) comprises at least one line (L1) supplying successions of groups (G1) of cigarettes intended to be enveloped, alternately, by the first wrapping sheets (F1) and by the second wrapping sheets (F2).
[Figure 1]



Description

[0001] The present invention relates to a unit and a method for supplying sheets of wrapping material for cigarette packets and a machine for packing said packets.

[0002] As is known, cigarette packets are divided into packets of the soft type and rigid type, the latter frequently having a hinged lid.

[0003] The soft packets comprise a group of cigarettes enveloped by an internal wrapping obtained from a sheet of wrapping material and by an external label surrounding the internal wrapping with the exclusion of the top part thereof.

[0004] The rigid packets comprise a group of cigarettes enveloped by an internal wrapping obtained from a sheet of wrapping material and an external casing obtained by means of folding of a blank, typically made of cardboard, defining a box-shaped body and a lid hinged with the said box-shaped body.

[0005] The wrapping sheet generally consists of tin foil or a paper material.

[0006] It is also to known to provide cartons for packaging a plurality of cigarette packets, usually ten in number and arranged in two rows consisting of five packets each, arranged next to each other. Recently on the market there has been a need to produce these cartons in such a way that the individual packets have, alternately, the associated groups of cigarettes wrapped in wrapping sheets of different types.

[0007] In other words, these cartons must be made so that the packets arranged alongside each other in the packaging have wrapping sheets of different types, for example made of the same material, but with a different colour, or even made of different material.

[0008] The object of the present invention is to provide a unit and a method for supplying sheets of wrapping material for cigarette packets able to satisfy the above-mentioned requirement.

[0009] In accordance with the invention, this object is achieved by a unit and a method for supplying sheets of wrapping material for cigarette packets, comprising the technical features contained in one or more of the accompanying claims.

[0010] The present invention will now be described with reference to the accompanying drawings which show a non-limiting example of embodiment thereof, where:

- Figure 1 shows a schematic perspective view of a preferred embodiment of the feed unit and the machine according to the present invention;
- Figures 2 to 4 show a schematic side view of a portion of the feed unit and the machine according to the present invention in respective operating configurations; and
- Figure 5 shows a simplified variant of the feed unit and the machine according to Figures 1 to 4. With reference to Figure 1, 100 denotes a machine for

wrapping cigarettes using two sheets of wrapping material of a different type, namely using first wrapping sheets F1 made of a first type of wrapping material M1 and second wrapping sheets F2 made of a second type of wrapping material M2.

[0011] By way of example, the first wrapping material M1 and the second wrapping material M2 may both be made of the same paper material, but may differ in terms of surface colouring or may be made of different materials such as paper material and tin foil.

[0012] Each wrapping sheet F1, F2 has preferably a long rectangular form.

[0013] Below the term "first sheets" F1 will be used to refer to the wrapping sheets of the first wrapping material M1 and the term "second sheets" F2 will be used to refer to the sheets of the second wrapping material M2.

[0014] The wrapping machine 100 comprises a feed unit 1 supplying the wrapping sheets F1, F2 and a station 5 for wrapping groups G1, G2 of cigarettes G1, G2 using these wrapping sheets F1, F2.

[0015] The feed unit 1 is intended to supply the wrapping sheets to the wrapping station 5.

[0016] In accordance with that shown in Figure 1, the feed unit 1 is designed to supply in a cyclically alternating manner the first sheets F1 along a first feed path P1 and the second sheets F2 along a second feed path P2.

[0017] Below firstly supplying of the first sheets F1 along the first feed path P1 and then supplying of the second sheets F2 along the second feed path P2 will be described.

[0018] The machine 100 is provided with a first reel B1 which is unwound so as to supply a first continuous strip N1 of the first type of material M1. Preferably, the first reel B1, is mounted on a motor-driven spindle 16 which can be imparted a rotational movement so as to unwind and supply the first strip N1.

[0019] The machine 100 also comprises a plurality of rollers 18, 19, 20, 21, 22 which are intended to be partly flanked by the first strip N1.

[0020] The rollers 18, 19, 20, 21, 22 define a path P4 for supplying the first strip N1, namely a path for unwinding the first strip N1 from the reel B1. Along this path P4 a station for forming weakening lines on the first strip N1 is shown schematically and denoted by 35.

[0021] It is evident that this station 35 may not be present.

[0022] Figures 1 to 4, show by way of a non-limiting example five rollers which are identified by progressive numbers 18, 19, 20, 21, 22 in a direction away from the reel B1 along the path P4 for supplying the first strip N1.

[0023] It is pointed out that the number of the rollers 18, 19, 20, 21, 22 and their relative arrangement are not to be regarded as limiting, but are to be understood as being provided exclusively by way of example.

[0024] One of the rollers 18, 19, 20, 21, 22, preferably the roller 22 furthest from the reel B1, namely the last of the rollers 18, 19, 20, 21, 22 along the path P4 for sup-

plying the first strip N1, is provided with peripheral suction members (not shown) for applying a vacuum so as to retain the first strip N1.

[0025] This roller 22 is motor-driven so as to allow driving of the first strip N1.

[0026] According to another aspect of the invention, a buffer for storing the strip N1 is provided between the roller 18 and the roller 19 situated after it along the path P4 for supplying the first strip N1, said buffer defining a portion N1' of the first strip N1, having a variable length.

[0027] This portion N1' with a variable length acts as a buffer, namely it allows unwinding of the strip N1 from the first reel B1 upstream of the roller 18 to be disconnected from driving of the strip downstream of the roller 19; this is able to prevent over tensioning or slackening of the strip N1, in particular during changes in the operating speed.

[0028] The feed unit 1 supplying the sheets F1, F2 also comprises a first station T1 for cutting the first strip N1, provided with cutting members 6 for performing severing of the strip N1.

[0029] The first cutting station T1, allows the formation of the first wrapping sheets F1.

[0030] The said rollers 18, 19, 20, 21, 22 define a first conveyor for transferring the first strip N1 of the first wrapping material M1 to the first cutting station T1.

[0031] The first cutting station T1, by way of a non-limiting example, is provided with a first drum 7 and a second drum 9 co-operating so as to perform severing of the first strip N1.

[0032] The drums 7, 9 are provided with peripheral cutting members 6 intended to co-operate so as to cut the first wrapping strip N1 supplied by the first conveyor for transferring the first strip N1.

[0033] These drums 7, 9 are intended to rotate in opposite directions, denoted by W1 and W2 in Figure 2, about their central axis.

[0034] The second drum 9 is provided with peripheral suction members (not shown) for retaining the first wrapping sheet F1 on its periphery and for conveying it circumferentially.

[0035] Preferably the feed unit 1 comprises a first drum 23 configured to take up the first wrapping sheets F1 from the second drum 9 of the first cutting station T1.

[0036] The third drum 23 is rotationally driven about its central axis in the direction W1.

[0037] The drum 9 of the first cutting station T1 and the third drum 23 define a first conveyor D1 for transferring the first wrapping sheets F1 to a take-up device 4, which will be described in detail in the continuation of the present description.

[0038] The said rollers 18, 19, 20, 21, 22, the first cutting station T1 and the first conveyor D1 for transferring the first sheets F1 from the first cutting station T1 to the take-up device 4 define, together, a first feed assembly 2 supplying the first wrapping sheets F1 of the first type of wrapping material M1.

[0039] Supplying of the second sheets F2 along the

second feed path P2 will be described more briefly than supplying of the first sheets F1 since it is similar to supplying of said first sheets F1.

[0040] The machine 100 is provided with a second reel B2 which is unwound so as to supply continuously a second strip N2 of the second type of material M2. Preferably, the second reel B2 is mounted on a motor-driven spindle 17 which can be imparted a rotational movement so as to unwind and supply the second strip N2.

[0041] The machine 100 also comprises a plurality of rollers which are identified by progressive numbers 25, 26, 27, 28, 29 in a direction away from the reel B2 along a path P5 for supplying the second strip N2 and intended to be partially flanked by the second strip N2. The rollers 25, 26, 27, 28, 29 are configured so as to rotate about their central axis.

[0042] Along this path P5 a station for forming weakening lines on the second strip N2 has been shown schematically and denoted by the reference number 36. The station 36 may not be provided.

[0043] One of the rollers 25, 26, 27, 28, 29, preferably the roller 29 furthest from the reel, namely the last of the rollers 25, 26, 27, 28, 29 along the path P5 for supplying the strip N2, is provided with peripheral suction members (not shown) for applying a vacuum so as to retain the second strip N2.

[0044] This roller 29 is moreover motor-driven so as to allow driving of the strip N2 retained by means of the peripheral suction members.

[0045] Preferably, also the second feed path P2 has a buffer with a portion of the strip N2' of variable length, having the same technical and functional features described above with regard to the first strip N1.

[0046] The feed unit 1 supplying the sheets F1, F2 also comprises a second station T2 for cutting the second strip N2, provided with cutting members 6 for performing severing of the second strip N2 and forming the second wrapping sheets F2.

[0047] The said rollers 25, 26, 27, 28, 29 define a second conveyor for transferring the second strip N2 of the second type of wrapping material M2 to the second cutting station T2.

[0048] This second cutting station T2 is provided with a pair of drums 8, 10 co-operating so as to sever the second strip N2, namely is provided with a first drum 8 and a second drum 10.

[0049] The drums 8, 10 are provided with peripheral cutting members 6 intended to co-operate so as to sever the second wrapping strip N2 supplied by the second transfer conveyor.

[0050] These drums 8, 10 are intended to rotate in the said opposite directions, W1 and W2 respectively, about their central axis.

[0051] The second drum 10 is provided with peripheral suction members (not shown) for retaining the second wrapping sheets F2 on their periphery and conveying them circumferentially.

[0052] The feed unit 1 comprises a third drum 24 con-

figured to take up the second wrapping sheets F2 from the second drum 10 of the second cutting station T2.

[0053] The drum 24 is rotationally driven by means of associated actuating members (not shown) in the direction W1.

[0054] The second drum 10 of the second cutting station T2 and the third drum 24 define a second conveyor D2 for transferring the second wrapping sheets F2 to the take-up device 4.

[0055] The said rollers 25, 26, 27, 28, 29, the second cutting station T2 and the second conveyor D2 for transferring the second sheets F2 from the second cutting station T2 to the take-up device 4 define, together, a second feed assembly 3 supplying the second wrapping sheets F2 of a second type of wrapping material M2.

[0056] The machine 100 also comprises a conveyor member 11 intended to receive the first sheets F1 and second sheets F2 from the respective feed assemblies 2, 3. Preferably, the conveyor member 11 is of the belt type.

[0057] The conveyor member 11, also referred to below as conveyor 11, comprises a pair of belts 12, 13 which are wound onto end rollers 30, 31 of the conveyor 11 so as to define a closed-loop path.

[0058] Preferably the rollers 30 are idle, while the rollers 31 are motor-driven.

[0059] The belts 12, 13 extend parallel to each other and are arranged alongside each other so as to engage on either side with the wrapping sheets F1, F2, leaving free, or accessible, a central portion 32 of the said sheets F1 and F2.

[0060] Preferably, the belts 12, 13 are air-permeable, for example perforated, and have a branch 33 for conveying the sheets F1, F2, which travels above a chamber 34 (shown schematically) in which a vacuum is created by means of a suction pump (not shown). The suction pump is activated so as to allow the belts 12, 13 to retain the sheets F1, F2 by means of a vacuum force.

[0061] According to the embodiment shown in Figure 1, the conveyor 11 is configured so as to convey the sheets F1, F2 substantially along a vertical transfer path P3.

[0062] The first feed assembly 2 supplying the first sheets F1 transfers the said first sheets F1 to the conveyor 11, releasing them in a first release zone A, and the second feed assembly 3 transfers the second sheets F2 to the conveyor 11, releasing them in a second release zone B.

[0063] With reference to Figure 1 and relative to the direction of transfer of the sheets F1 and F2 along the path P3 for transfer thereof, the first release zone A is located upstream of the second release zone B.

[0064] The conveyor member 11 defines a device 4 for taking up the sheets F1, F2, configured to transfer the sheets F1, F2 taken up by the respective feed assemblies to the same wrapping station 5, which forms part of the wrapping machine 100 and which will be described in the continuation of the present description.

[0065] It should be noted that the conveyor member 11 transfer successions of first and second wrapping sheets F1, F2 to the wrapping station 5, i.e. the conveyor member 11 transfers simultaneously groups composed of a first sheet F1 and a second sheet F2 to the wrapping station 5, or, according to an alternative mode of operation, transfers a first wrapping sheet and a second wrapping sheet cyclically, as will be described more fully below.

[0066] The wrapping machine 100 comprises a wrapping station 5 for groups G1, G2 of cigarettes.

[0067] This wrapping station 5 is configured, according to the preferred embodiment, to receive first groups G1 of cigarettes from a first feed line L1 supplying first groups G1 of cigarettes along a first wrapping path I1, and second group G2 of cigarettes from a second feed line L2 supplying second groups G2 of cigarettes along a second wrapping path I2. The first feed line L1 and the second feed line L2 are shown schematically in Figure 1.

[0068] The groups G1 and G2 of cigarettes are supplied along the feed lines L1, L2 by means of thruster members (not shown).

[0069] Preferably, the first and second wrapping paths I1, I2 are substantially horizontal straight paths.

[0070] In particular, it should be pointed out that the first and second paths I1, I2 extend at different heights, respectively at a first height and at a second height less than the first height.

[0071] The first and second wrapping paths I1, I2 intersect the transfer path P3 of the wrapping sheets F1, F2.

[0072] As shown in Figure 1 and described more fully below, the first and second groups G1, G2 of cigarettes intercept, respectively, the first and second sheets F1, F2 in their free central portion 32 not acted on by the belts 12, 13.

[0073] The wrapping station 5 preferably comprises a folding device, shown schematically in Figures 1 to 4 as a rectangle.

[0074] The folding device preferably has two wrapping ducts which are substantially identical to each other, each of them defining a folding channel 14, 15, for a sheet F1, F2 for wrapping on the associated group of cigarettes G1, G2.

[0075] The folding device therefore comprises a first and second folding channel 14, 15.

[0076] It should be noted that the first folding channel 14 is aligned with the first feed line L1 and is intended to receive the first groups G1 of cigarettes partially enveloped by the associated wrapping sheet F1 and the second folding channel 15 is aligned with the second feed line L2 and is intended to receive the second groups G2 of cigarettes partially enveloped by the associated wrapping sheet F2.

[0077] Each folding channel 14, 15 may be provided with fixed folding members, or folding vanes, and mobile folding members (not shown).

[0078] Figure 1 shows schematically, downstream of

the folding channels 14, 15, a cartoning unit or machine 37 which is configured to produce packages 38 containing packets of cigarettes, also called cartons, which comprise, in an alternating arrangement, packets PS1, PS2 of cigarettes provided with the first and second wrapping sheets F1, F2, respectively.

[0079] Figure 1 shows a carton 38 which comprises a plurality of packets PS1, PS2 of cigarettes arranged alongside each other and defining two horizontal rows.

[0080] The packets PS1, PS2 of each row comprise, alternately, a wrapping sheet of the first type of wrapping material M1 and a wrapping sheet of the second type of wrapping material M2.

[0081] Below, by way of example below a preferred mode of operation of the feed unit 1 is described with reference to the wrapping in the wrapping station 5 of two separate groups of cigarettes G1, G2 which are supplied on two respective lines L1, L2 with two wrapping sheets F1, F2 of different material. Figures 2 to 4 illustrate the operating stages relating to the wrapping of a first and a second sheet, with reference to the preferred mode of operation.

[0082] The first feed assembly 2 transfers the first sheets F1 to the conveyor 11 in the first release zone A and at the same time the second feed assembly 3 transfers the second sheets F2 to the conveyor 11 in the second release zone B (see Figure 2).

[0083] Release of the sheets F1 and F2 does not occur necessarily simultaneously, namely one of the two sheets F1 and F2 could also be transferred to the conveyor 11 in advance of the other one. Preferably, in order to optimize the speed of operation of the machine 100, the two wrapping sheets F1, F2 are released simultaneously.

[0084] It should be noted that the first feed assembly 2 and the second feed assembly 3 are operated in a suitable phase relationship with respect to each other, such that it is envisaged releasing the wrapping sheets F1, F2 to the conveyor 11 with a suitable synchronism.

[0085] The belts 12, 13 of the conveyor 11 retain the wrapping sheets F1, F2 by means of the vacuum exerted by the associated suction members.

[0086] The conveyor 11 is operated preferably stepwise, i.e. with an intermittent movement, so as to transfer both the sheets F1, F2 to the wrapping station 5.

[0087] The conveyor 11 for transferring the sheets F1, F2 to the wrapping station 5 may perform two steps, as illustrated in Figures 2 to 4, or a single double-length step.

[0088] At the wrapping station 5 the first line L1 supplies a first group G1 of cigarettes and the second line L2 supplies a second group G2 of cigarettes simultaneously with the first line. Preferably, the two groups of cigarettes G1, G2 are supplied to the wrapping station 5 substantially simultaneously.

[0089] It should be noted that, as shown in Figure 4, in the wrapping station the first group of cigarettes G1 engages with the first wrapping sheet F1 and the second group G2 of cigarettes engages with the second wrap-

ping sheet F2; this allows the wrapping of two groups G1, G2 of cigarettes simultaneously with wrapping sheets F1, F2 of different material. Preferably each group of cigarettes G1, G2 engages with the associated wrapping sheet F1, F2 at their front end, namely the bottom sides of the cigarettes of each group G1, G2 make contact with the surface of the associated wrapping sheet F1, F2. It should be noted in fact that the cigarettes are supplied along the wrapping paths I1 and I2 axially and therefore strike the associated wrapping sheet F1, F2 with their front end. It should also be noted that each group of cigarettes G1, G2 comes into contact with the associated wrapping sheet F1, F2 preferably in the free central portion 32 of the said sheet F1, F2.

[0090] The contact between each group of cigarettes G1, G2 and the associated wrapping sheet F1, F2 in the free central portion 32 causes U-shaped folding of the wrapping sheet F1, F2 so that said sheet partially envelops the group of cigarettes G1, G2. The group of cigarettes G1, G2 and the associated wrapping sheet F1, F2 partially enveloping the group G1, G2 are supplied to the associated folding channel 14, 15, where the wrapping sheet F1, F2 is further folded so that the wrapping sheet F1, F2 totally envelops the group of cigarettes G1, G2.

[0091] It should be noted that the operations described above are cyclically repeated for the successive groups of cigarettes G1, G2 / wrapping sheets F1, F2.

[0092] According to a variant, not shown, it is envisaged operating alternately the first and second feed assembly 2, 3 so as to release and transfer individually one sheet F1, F2 at a time.

[0093] By way of a non-limiting example, supplying to the wrapping station 5 of two wrapping sheets F1, F2 of different material, performed in accordance with this variant, will be described briefly below.

[0094] The first feed assembly 2 is activated so as to transfer to the conveyor 11 the first sheet F1 in the first release zone A.

[0095] The conveyor 11 is operated so as to transfer the first wrapping sheet F1 to the wrapping station 5.

[0096] At the wrapping station 5 the first group G1 of cigarettes is supplied and therefore the first feed line L1 is activated to supply a first group G1 of cigarettes.

[0097] The first group G1 of cigarettes is wrapped with the first sheet F1 in the manner described with reference to the preferred mode of operation.

[0098] At the same time as transfer of the first wrapping sheet F1 to the wrapping station 5, the second feed assembly 3 is activated so as to transfer to the conveyor 11 the second sheet F2 in the second release zone B.

[0099] The conveyor 11 is then operated so as to transfer the second wrapping sheet F2 to the wrapping station 5, where it is envisaged repeating the sequence of operations described above with reference to the first sheet F1.

[0100] It should be noted that this variant also allows the production in a simple manner of cigarette cartons containing alternately packets with the first wrapping

sheet F1 and with the second wrapping sheet F2, although in terms of performance it is preferable to operate the feed unit 1 in accordance with the preferred mode of operation.

[0101] It should also be noted that, in accordance with this variant, the machine 100 may also comprise a single feed line L1 since the first and second sheets F1, F2 are removed and transported individually to the wrapping station 5.

[0102] According to embodiments not shown, the feed unit 1 comprises a plurality of feed assemblies 2, 3 supplying sheets F1, F2 of different types of wrapping material.

[0103] Each feed assembly 2, 3 is configured to supply a wrapping sheet F1, F2 of a predetermined type of wrapping material M1, M2.

[0104] Therefore, it is possible to configure the unit 1 so that the same is able to produce packages or cartons of cigarettes which alternately contain packets with more than two sheets of different types of wrapping material, this increasing considerably the flexibility of the unit 1 and the machine 100.

[0105] It should be noted, finally, that in the case where it is required to supply to the take-up device 4 only wrapping sheets of one type, for example the said wrapping sheets F1, the feed unit described could assume the configuration shown in Figure 5, in which the sheets F1 separated from the strip N1 and conveyed by the roller 9 are released alternately to the rollers 23 and 24, and from these rollers 23 and 24 are transferred to the take-up device 4 so as to be supplied with correct synchronism to the arrival zone of the groups G1 and G2 of cigarettes.

Claims

1. Feed unit supplying sheets of wrapping material for packets of cigarettes, **characterized in that** it comprises:

- a first feed assembly (2) supplying first sheets (F1) of a first type of wrapping material (M1);
- a second feed assembly (3) supplying second sheets (F2) of a second type of wrapping material (M2);
- a device (4) for taking up the first sheets (F1) and the second sheets (F2) respectively from the first feed assembly (2) and the second feed assembly (3) and transferring successions of a first sheet (F1) and of a second sheet (F2) to the same wrapping station (5), the wrapping station (5) comprising at least one first feed line (L1) supplying groups (G1) of cigarettes to be enveloped, alternately, by first wrapping sheets (F1) and by second wrapping sheets (F2).

2. Unit according to claim 1, **characterized in that** it comprises a further feed line (L2) supplying further

groups (G2) of cigarettes. the groups (G1, G2) of cigarettes of the first line (L1) and the further line (L2) being intended to be enveloped respectively by the first wrapping sheets (F1) and by the second wrapping sheets (F2).

3. Unit according to claim 2, **characterized in that** the feed lines (L1, L2) are intended to supply, in a cyclically alternating manner, a cartoning unit (37) configured to produce cartons (38) containing packets of cigarettes (PS1, PS2) arranged alongside each other and comprising alternately the first wrapping sheets (F1) and the second wrapping sheets (F2).

4. Unit according to any one of claims 1 to 3, **characterized in that** each feed assembly (2, 3) comprises:

- a first conveyor transferring a continuous strip (N1, N2) of the first type of wrapping material (M1) or the second type of wrapping material (M2) unwound from a reel (B1, B2);
- a cutting station (T1, T2) provided with cutting members (6) for severing the wrapping strip (N1, N2) and forming respectively the first wrapping sheets (F1) or second wrapping sheets (F2); and
- a conveyor (D1, D2) for transferring the associated wrapping sheets (F1, F2) from the cutting station (T1, T2) to the take-up device (4).

5. Unit according to any one of claims 1 to 4, **characterized in that** the conveyors (D1, D2) for transferring the wrapping sheets (F1, F2) comprise at least one rotating drum (7, 8) provided with suction members for retaining the said wrapping sheets (F1, F2).

6. Unit according to any one of claims 1 to 5, **characterized in that** the take-up and conveying device (4) comprises a conveyor member (11) provided with a pair of belts (12, 13) for engaging with the wrapping sheets (F1, F2) on either side; the belts (12, 13) of the conveyor member (11) being connected to suction members which can be activated to retain the sheets (F2, F2) with respect to the said belts (12, 13).

7. Machine for wrapping groups of cigarettes, **characterized in that** it comprises a feed unit (1) supplying sheets (F1, F2) of wrapping material for packets of cigarettes according to any one of claims 1 to 6.

8. Machine according to claim 7, further comprising:

- a station (5) for wrapping groups (G1, G2) of cigarettes with wrapping sheets (F1, F2), intended to receive successions of first wrapping sheets (F1) and second wrapping sheets (F2) from the take-up and transfer device (4) of the feed unit (1);
- at least one feed line (L1) supplying groups

(C1) of cigarettes to the wrapping station (5) along a first wrapping path (I1).

9. Machine according to claim 7 or 8, **characterized in that** it comprises a further feed line (L2) supplying further groups (G2) of cigarettes to the wrapping station (5) along a second wrapping path (I2), the groups (G1, G2) of cigarettes of the first feed line (L1) and the further feed line (L2) being intended to be enveloped respectively by the first wrapping sheets (F1) and by the second wrapping sheets (F2).

10. Machine according to any one of claims 7 to 9, **characterized in that** the wrapping station (5) comprises:

- a first channel (14) for folding the first sheets (F1) around the first groups (G1) of cigarettes; and
- a second channel (15) for folding the second sheets (F2) around the second groups (G2) of cigarettes.

11. Method for supplying sheets of wrapping material for packets of cigarettes to a wrapping station, **characterized in that** it comprises the following steps:

- a) supplying a first sheet (F1) of a first type of wrapping material (M1);
- b) supplying a second sheet (F2) of a second type of wrapping material (M2);
- c) taking up the first sheet (F1);
- d) taking up the second sheet (F2);
- e) transferring the first sheet (F1) taken up to the wrapping station (5);
- f) transferring the second sheet (F2) taken up to the wrapping station (5);

the steps of taking up, supplying and transferring the first wrapping sheet (F1) and the second wrapping sheet (F2) being performed in sequence in such a way that successions of a first sheet (F1) and a second sheet (F2) are transferred into the wrapping station (5).

12. Method according to claim 11, **characterized in that**:

- supplying of the first sheet (F1) and supplying of the second sheet (F2) are performed substantially simultaneously;
- taking up of the first sheet (F1) and taking up of the second sheet (F2) are performed substantially simultaneously; and
- transfer of the first sheet (F1) to the wrapping station (5) and transfer of the second sheet (F2) to the wrapping station (5) are performed simultaneously.

13. Method according to claim 11 or 12, wherein the step of supplying a first sheet (F1) of material includes the steps of:

- supplying a first strip (N1) of a first type of wrapping material (M1) to a first cutting station (T1); and
- severing, in the first cutting station (T1), the first strip (N1) of material to produce the first sheet (F1).

14. Method according to any one of claims 11 to 13, wherein the step of supplying a second sheet (F2) includes the steps of:

- supplying a second strip (N2) of a second type of wrapping material (M2) to a second cutting station (T2); and
- severing, in the second cutting station (T2), the second strip (N2) to produce the second sheet (F2).

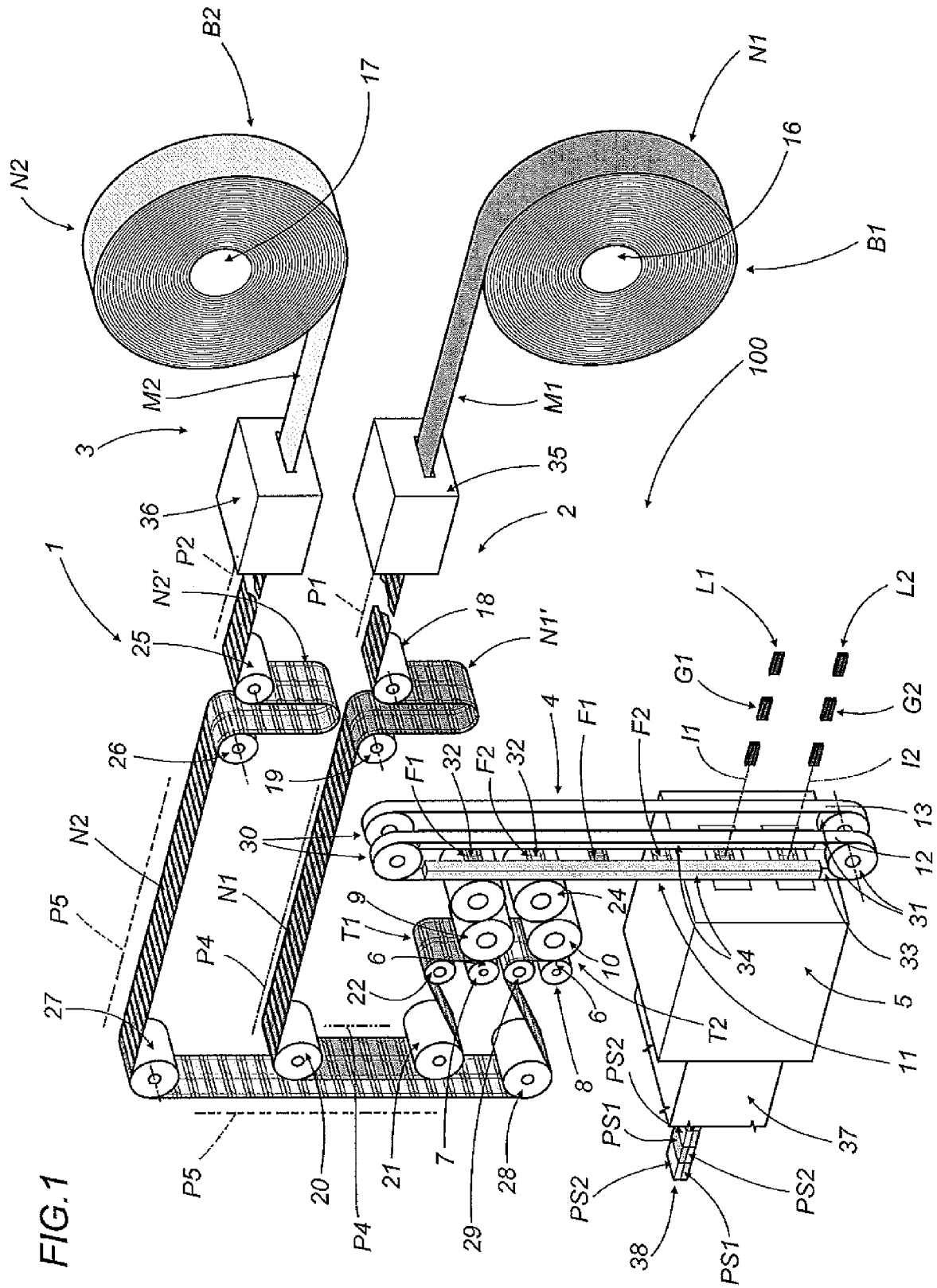


FIG.1

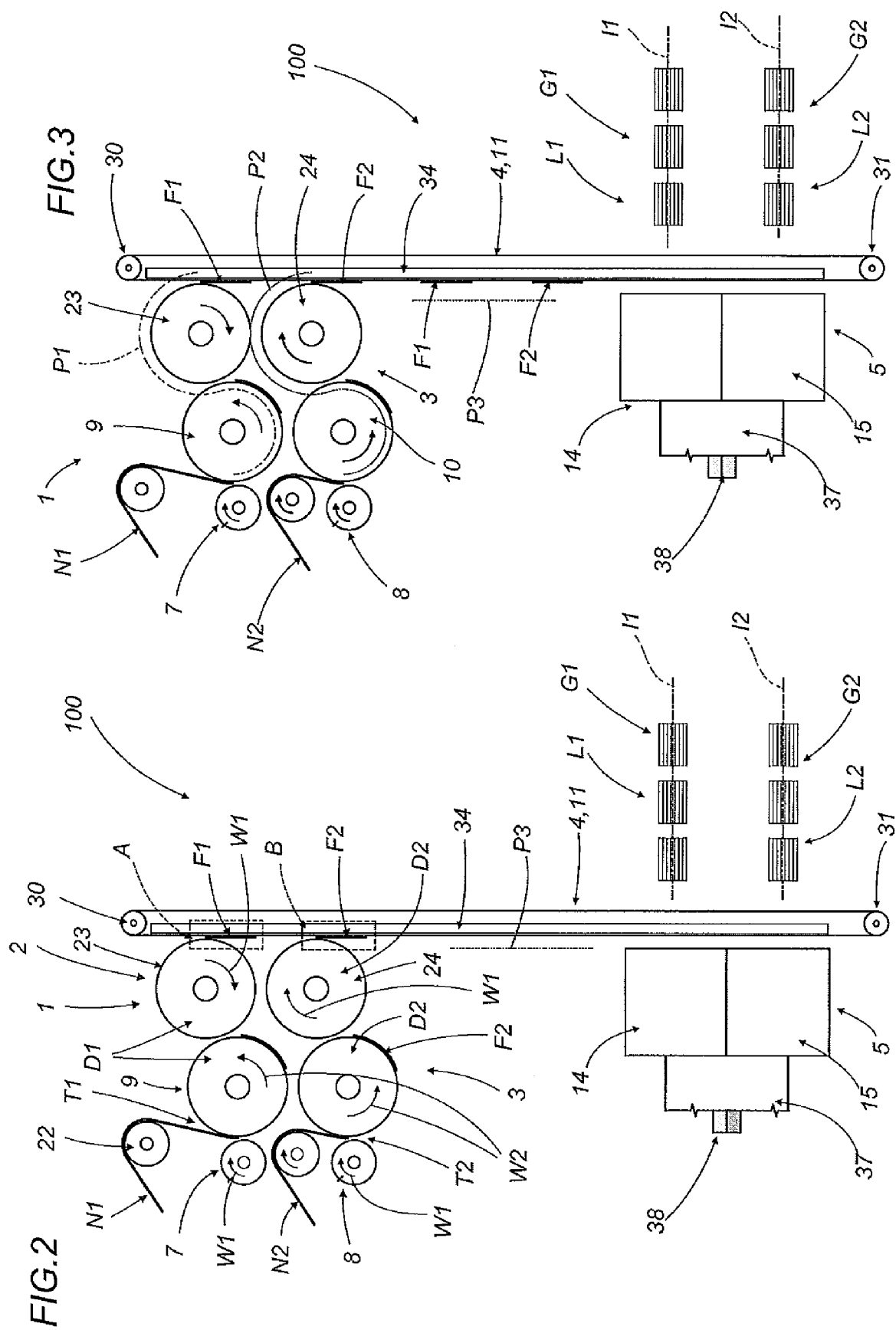
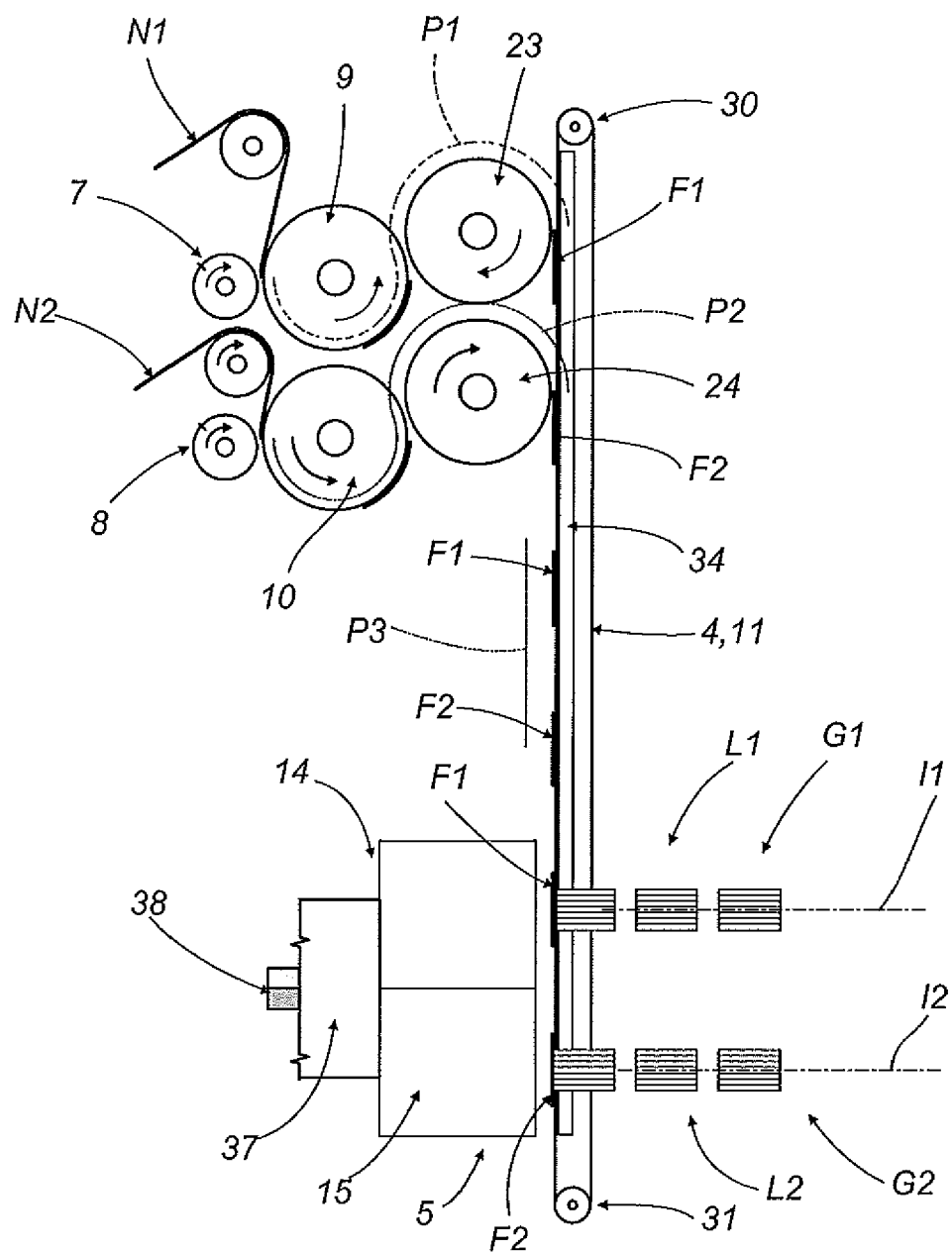


FIG.4





EUROPEAN SEARCH REPORT

Application Number
EP 11 17 1962

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