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[54] **APPARATUS FOR REGULATING THE START AND TERMINATION OF DELIVERY OF COMPONENTS OF ROD-SHAPED ARTICLES IN FILTER CIGARETTE MACHINES OR THE LIKE**

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[51] **Int. Cl.**....**A24c 05/34,** A24c 05/52, A24c 05/58

[58] **Field of Search**....131/21 R, 94; 192/148; 53/60, 53/64, 55; 29/208 C

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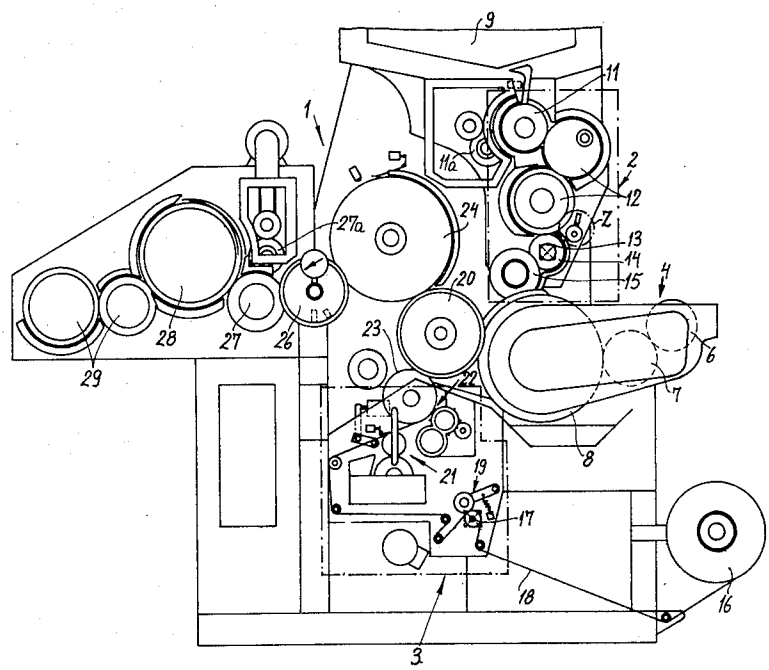
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[57] **ABSTRACT**

A machine for the production and/or processing of tobacco-containing rod-shaped articles, particularly a filter cigarette machine, wherein the feeding units which supply components of rod-shaped articles (such as filter plugs and adhesive-coated uniting bands) can be arrested only when the components therein are located in a predetermined position with reference to other moving parts of the machine. The feeding units can resume the delivery of respective components only in certain predetermined positions of the movable parts. This reduces the number of rejects and insures that each component can be properly assembled with other components or otherwise manipulated as soon as the respective feeding unit is started.

9 Claims, 5 Drawing Figures



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SHEET 1 OF 2

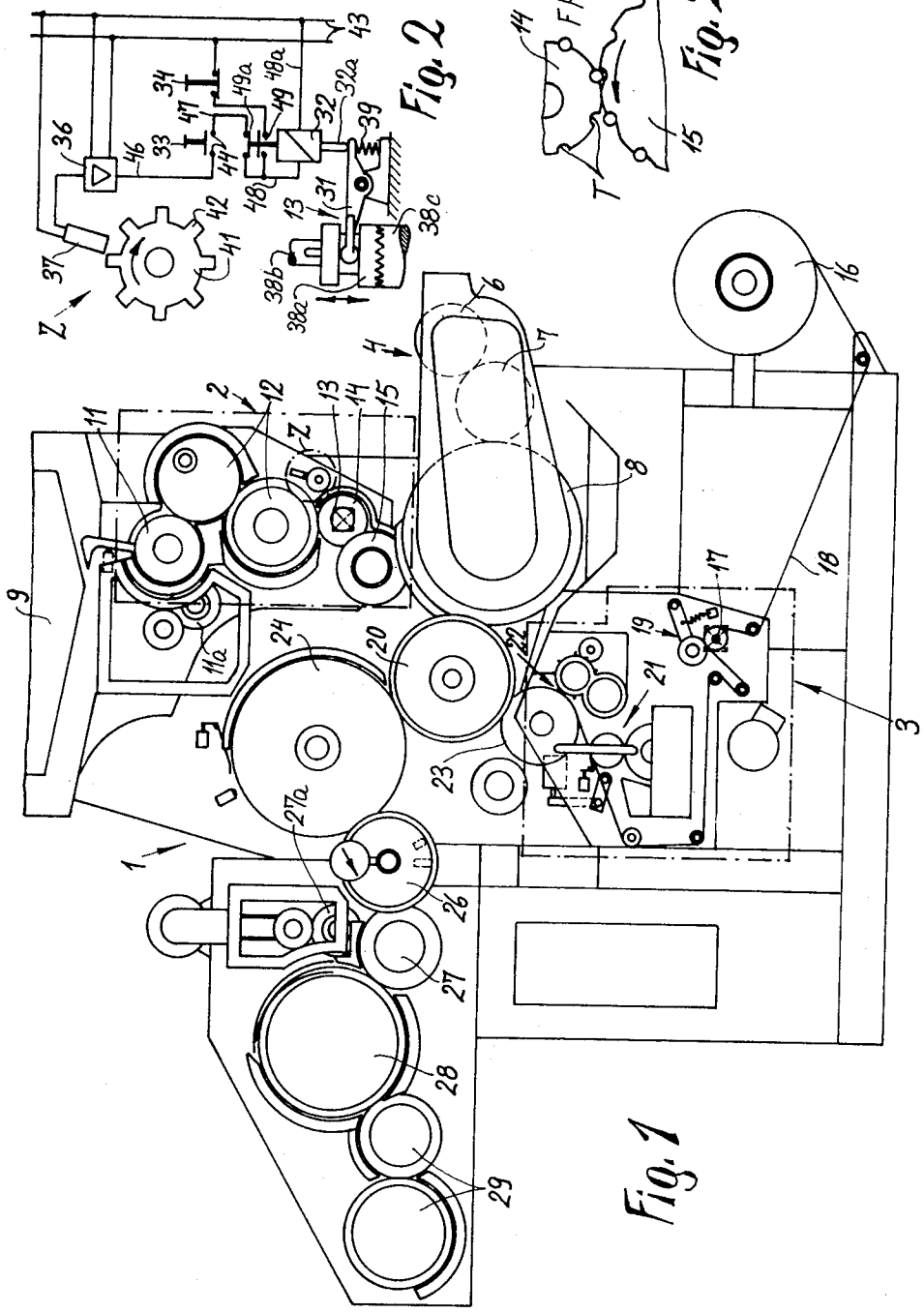


Fig. 1

Fig. 2

Fig. 2a

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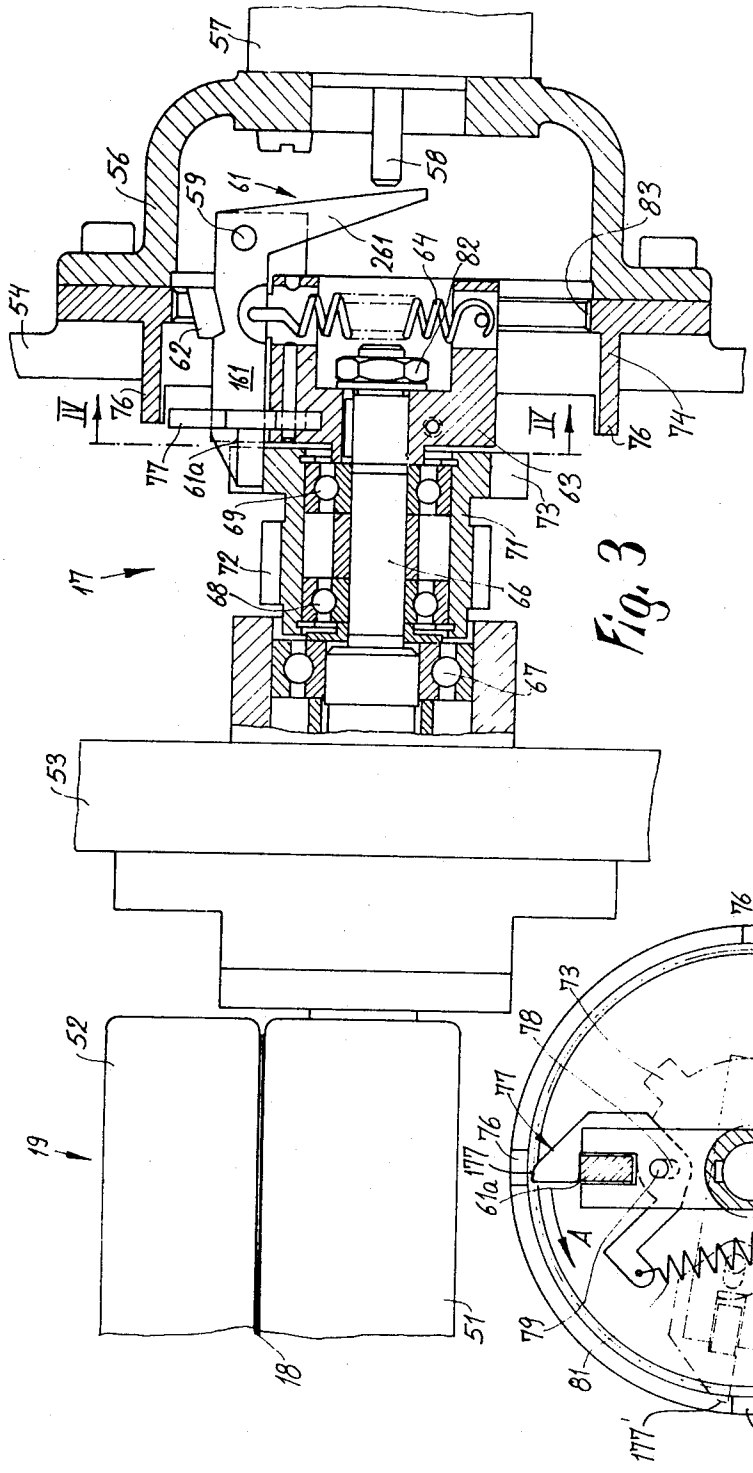


Fig. 3

Fig. 4

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APPARATUS FOR REGULATING THE START AND TERMINATION OF DELIVERY OF COMPONENTS OF ROD-SHAPED ARTICLES IN FILTER CIGARETTE MACHINES OR THE LIKE

BACKGROUND OF THE INVENTION

The present invention relates to apparatus for regulating the start and termination of delivery of components of rod-shaped articles in filter cigarette machines or the like. More particularly, the invention relates to apparatus for regulating or controlling the start and termination of delivery of such components in machines for the production and/or processing of plain or filter cigarettes, cigars, cigarillos, filter plugs or analogous articles which, either alone or with other articles, or components, form rod-shaped smokers' products.

The feeding units which supply components in filter cigarette machines, cigarette rod making machines and similar producing or processing machines are normally started and arrested in response to engagement or disengagement of mechanical or electromagnetic clutches. When a conventional clutch receives a signal, it simply completes or interrupts the driving connection between a prime mover and the movable parts of the feeding unit. Problems arise in connection with the control of feeding units which are used to supply a continuous stream of components in a modern filter cigarette machine or the like wherein certain components, for example, filter plugs or adhesive-coated uniting bands, must be applied in synchronism with the supply and transport of other component or components and in synchronism with the speed of drums or other types of conveyors which move the components through the machine. Thus, when the supply of filter plugs is interrupted, there is no provision to insure that, on restarting, the feeding unit will begin to deliver filter plugs at an optimum instant for immediate transport of such plugs in synchronism with other components of filter cigarettes.

Attempts to utilize clawed or toothed clutches wherein the number of claws or teeth corresponds to the number of components which are transported per unit of time have met with limited success because, in the event of an emergency, the operator is still unable to disengage such a clutch at the exact moment when the components to be supplied by the feeding unit are in an optimum position for assembly with other components in response to renewed starting of the feeding unit. Thus, such a clutch might be capable of rapidly interrupting the drive for the feeding unit but there is no guarantee that the clutch will be engaged when the components in the feeding unit are in an optimum position with reference to the other components and/or the conveyors which receive components from the restarted feeding device.

SUMMARY OF THE INVENTION

An object of the invention is to provide a novel and improved apparatus for regulating or controlling the start and termination of delivery of components by one or more feeding units which deliver plain cigarettes, filter plugs, uniting bands and/or other components in machines wherein the components are assembled and/or otherwise manipulated.

Another object of the invention is to provide an apparatus for controlling the start and termination of delivery of discrete components, such as a series of filter plugs or adhesive-coated uniting bands, in such a way that the termination of delivery and/or the resumption of delivery takes place only when the components in the feeding device or devices and/or the moving parts of the machine are in optimum positions for proper continuation of the assembling process or other operation.

A further object of the invention is to provide an apparatus wherein the start and/or termination of delivery of one or more types of components can be effected only when the components to be fed and/or the moving part or parts of the machine are in optimum positions for resumption of an assembling process or other operation which results in the production and/or manipulation of rod shaped articles, such as filter plugs, plain cigarettes or filter tipped cigarettes, cigars or cigarillos.

The novel features which are considered as characteristic of the invention are set forth in particular in the appended claims. The improved apparatus itself, however, both as to its construction and its mode of operation, together with additional features and advantages thereof, will be best understood upon perusal of the following detailed description of certain specific embodiments with reference to the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a schematic side elevational view of a filter cigarette machine which embodies the apparatus of the present invention;

FIG. 2 is a diagrammatic view of a control assembly which is used in the machine of FIG. 1 to start and terminate the delivery of filter plugs;

FIG. 2*a* illustrates portions of two transfer conveyors in the plug feeding unit of the machine shown in FIG. 1;

FIG. 3 is an enlarged sectional view of a second control assembly which is used in the machine of FIG. 1 to regulate the start and termination of delivery of adhesive-coated uniting bands; and

FIG. 4 is a sectional view as seen in the direction of arrows from the line IV—IV of FIG. 3.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The processing apparatus 1 for rod-shaped articles which is shown in FIG. 1 is a filter cigarette machine of the type "MAX" produced by Hauni-Werke, Körber & Co. KG, of Hamburg-Bergedorf, Western Germany. The machine comprises a feeding unit 2 for filter rod sections of double unit length (hereinafter called filter plugs), a feeding unit 3 for adhesive-coated uniting bands, and a feeding unit 4 for pairs of coaxial cigarette rod sections (hereinafter called cigarettes or plain cigarettes) or unit length. The feeding unit 4 receives such cigarettes from a cigarette rod making machine, for example, a machine known as "Garant" and also produced by Hauni-Werke. The feeding units 2 and 4 deliver the respective rod-shaped components to an assembly conveyor 8 here shown as a drum which serves to assemble each pair of coaxial cigarettes (delivered by conveyors or drums 6, 7) and a filter plug into a group of three coaxial rod-shaped components wherein

the plug is located in the gap between the adjoining cigarettes. Thus, the drum **8** is a moving part of a receiving means which receives filter plugs from the feeding unit **2** and pairs of plain cigarettes from the feeding unit **4** and manipulates such components to assemble groups of coaxial components. The drum **6** has peripheral flutes each of which receives from the cigarette rod making machine a single cigarette whereby such cigarettes form two rows which travel sideways. The purpose of the drum **7** (which comprises two relatively movable rotary elements) is to place each cigarette of one row into axial alignment with a cigarette of the other row and to deliver the thus aligned pairs of cigarettes into successive flutes of the assembly drum **8**.

The feeding unit **2** receives filter rod sections of six times unit length from a magazine or hopper **9** and includes a so-called cutting conveyor or drum **11** whose flutes carry the rod sections of six times unit length past two revolving coaxial disk-shaped cutters **11***a* which subdivide each rod into three coaxial plugs of double unit length. The numeral **12** denotes a set of co-operating shuffling drums which convert the three rows of filter plugs delivered by the drum **11** into a single row wherein the filter plugs travel sideways and are carried by intermediate conveyors or drums **14, 15** toward the transfer station between the feeding unit **2** and the assembly drum **8**.

The feeding unit **3** for adhesive-coated uniting bands comprises a reel or bobbin **16** for a supply of convoluted web or tape **18** of cork, cigarette paper or the like, an advancing device **19** which draws the web **18** off the reel **16** and feeds it toward a suction drum **23**, a suitable paster **21** which coats the underside of the web **18** with a film of adhesive, and a rotary cutter **22** which is provided with radial blades serving to sever the leading end of the web **18** on the suction drum **23** to form a succession of adhesive-coated uniting bands. Such bands are attached to groups of cigarettes and filter plugs in the flutes of a transfer conveyor or drum **20** which receives the groups from the assembly drum **8** and delivers them into successive flutes of a wrapping conveyor or drum **24**. The transfer drum **20** is the moving part of a receiving means which receives groups from the assembly drum **8** and uniting bands from the suction drum **23** and manipulates such components for delivery to the wrapping drum **24**. The wrapping drum **24** is provided with and/or co-operates with means for convoluting each uniting band around the respective filter plug and the inner end portions of the respective plain cigarettes to convert each such group into a filter cigarette of double unit length. The filter cigarettes of double unit length are then delivered into successive flutes of a testing conveyor or drum **26** which is provided or co-operates with means for determining the resistance which the filter cigarettes offer to the flow of a gaseous testing fluid. The thus tested filter cigarettes are then delivered into the flutes of a cutting drum **27** co-operating with a disk-shaped rotary cutter **27a** which severs each filter cigarette midway across the convoluted uniting band to form pairs of filter cigarettes of unit length. An inverting conveyor or drum **28** thereupon inverts one filter cigarette of each pair end-for-end so that the filter plugs of all cigarettes face in the same direction. The conveyors or drums **29** thereupon transport such filter cigarettes of unit length to storage or to a further processing station, for example, to a tray filling device or directly to a packing machine.

The machine of FIG. **1** further comprises two control assemblies **13, 17** including feed starting and terminating devices and respectively arranged to control the feeding units **2, 3** to initiate or terminate the delivery of filter plugs and uniting bands. These control assemblies include clutches which will be described hereinafter following a short description of operation of the filter cigarette machine **1**.

Each flute of the drum **6** in the feeding unit **4** receives from the cigarette rod making machine a single plain cigarette of unit length. The cigarettes in successive flutes of the drum are staggered axially with reference to each other so that they form two rows. The rotary elements of the drum **7** thereupon shift the cigarettes of one row with reference to the cigarettes of the other row so that the flutes of the assembly drum **8** receive pairs of axially aligned plain cigarettes which move sideways toward the transfer station between the drums **8** and **15**. The cigarettes of each pair of axially aligned cigarettes are separated from each other by a gap whose width at least equals the length of a filter plug of double unit length; such gaps can be formed during travel of cigarettes with the drum **8** or on one of the drums **6, 7**.

The hopper **9** supplies filter rod sections of six times unit length into successive flutes of the drum **11** whereby such sections travel past the cutters **11***a* and are subdivided into three filter plugs each. Such filter plugs are thereupon shuffled during travel with the drums **12** so that they form a single row of plugs which are transported by the drums **14, 15** toward the aforementioned transfer station and into the gaps between successive pairs of plain cigarettes in the flutes of the assembly drum **8**.

The advancing device **19** draws the web **18** off the reel **16** and the underside of the web is coated with adhesive during travel along the paster **21**. The suction drum **23** co-operates with the cutter **22** to form a succession of uniting bands which are caused to adhere to the filter plugs of successive groups in the flutes of the transfer drum **20**; the latter receives such groups from the flutes of the assembly drum **8**. The length of each uniting band at least equals the circumferential length of a filter plug. The uniting bands which adhere to the filter plugs of the groups moving with the transfer drum **20** are thereupon transferred onto the wrapping drum **24** where the bands are converted into tubes which surround the respective filter plugs and the adjoining end portions of the respective plain cigarettes to form therewith filter cigarettes of double unit length. The filter cigarettes of double unit length are tested with a fluid on the drum **26** and severed on the drum **27** to yield pairs of filter cigarettes of unit length. One filter cigarette of each such pair is inverted on the drum **28** and the filter cigarettes are thereupon transported by drums **29**, e.g., to a tray filling station.

FIG. **2** shows in greater detail a portion of the feeding unit **2** and the construction of the clutch in the control assembly **13**. This clutch is an electromagnetic clutch of the clutch and gear type wherein a clutch element or output element **38***a* slides on a feathered shaft **38***b* and

can move its teeth into engagement with or away from the teeth of an input element or driver gear **38***c*. The gear **38***c* rotates the shaft **38***b* in response to pivoting of a clutching lever **31** which is biased by a spring **39** tending to maintain the clutch element **38***a* in engagement with the driver gear **38***c*. The number of teeth on the clutch element **38***a* and gear **38***c* corresponds to the number of flutes for filter plugs FP provided on the drum **14**. The clutch of the control assembly **13** can be disengaged in response to energization of a disengaging relay **32** whose armature **32***a* can pivot the clutching lever **31** against the opposition of the spring **39**. A normally open switch **33** serves as a means for energizing the disengaging relay **32** and a normally closed switch **34** can be opened to effect deenergization of the relay **32** and to thus effect reengagement of the clutch. A disk **41** of a timer Z is rotated by the drive for the filter cigarette machine **1** so that its speed is synchronized with that of the machine. The disk **41** is provided with radially extending equidistant projections or lobes **42** which travel past a contactless electronic switch **37** of conventional design. The switch **37** serves as a means for generating pulses at a frequency which is a function of rotational speed of the disk **41**, i.e., a function of operating speed of the machine **1**. Such pulses are transmitted to an amplifier **36**. The leads **43** connect the amplifier **36**, the pulse generator **37** and relay **32** with a suitable source of electrical energy. The flutes T of the transfer drum **14** are shown in FIG. **2***a*. The distance between the centers of these flutes is the same as that between the centers of flutes on the transfer drum **15** which receives filter plugs from the drum **14**.

The operation of the structure shown in FIG. **2** is as follows:

In normal operation, the transfer drum **15** delivers filter plugs FP (FIG. **2***a*) into the gaps between successive pairs of axially aligned plain cigarettes in the flutes of the assembly drum **8**. If the feed of filter plugs FP is to be interrupted for one or more reasons, for example, due to termination of feed of plain cigarettes by the unit **4**, the operator or an automatic detector closes the switch **33** which produces an operation-terminating signal by completing a path for the flow of electric current between fixed contacts **44** whereby the circuit of the winding of the disengaging relay **32** is completed by way of one of the leads **43**, amplifier **36**, conductor **46**, contacts **44**, conductor **47**, a normally closed relay switch **49***a*, conductor **48**, winding of the relay **32**, conductor **48***a*, and the other lead **43**. The amplifier **36** is designed to constitute a storing device for electrical signals in that it completes the just mentioned circuit only when a lobe **42** of the disk **41** moves past the signal generator **37**, i.e., in a predetermined angular position of a movable part of the feeding unit **2** (namely, the drum **14**). The shaft **38***b* drives all movable parts of the feeding unit **2**. Thus, when the clutch element **38***a* is disengaged from the driver gear **38***c*, the filter plugs in the feeding unit **2** are arrested in a predetermined position with reference to the moving part **8** of the machine **1**.

The energization of relay **32** results in immediate stoppage of the transfer drum **14** because the lever **31** then moves the clutch element **38***a* away from the driver gear **38***c*. When the relay **32** is energized, it opens the switch **49***a* and simultaneously closes a switch **49** in a holding circuit which maintains the relay **32** in energized condition by way of the normally closed switch **34**.

When the disturbance is eliminated, i.e., when the machine **1** is ready for operation, the operator opens the switch **34** which thereby produces an operation-starting signal serving to effect a deenergization of the relay **32** and to thus reengage the clutch element **38***a* with the driver gear **38***c*. Such reengagement takes place in the exact angular position of the rotating drum **8** in which the latter's flutes can receive filter plugs FP from the adjacent transfer drum **15**. This is due to the fact that the distribution of teeth on the clutch element **38***a* and driver gear **38***c* corresponds to distribution of flutes T and that the driver gear **38***c* rotates in synchronism with the drum **8**. It will be seen that the clutch of the control assembly **13** can be disengaged only when the filter plugs FP in the feeding device **2** assume a predetermined position with reference to the moving part (drum) **8** of the machine, and can be reengaged only when the part **8** of the machine **1** assumes a predetermined optimum position, namely, when the freshly started transfer drum **15** can immediately deliver filter plugs FP into successive flutes of the drum **8**. The switch **34** can be opened by hand or by a detector which senses the presence or absence of plain cigarettes in the flutes of the drum **8**. The clutch of the control assembly **13** constitutes a combined starting and arresting means for the feeding unit **2**.

FIGS. **3** and **4** illustrate the details of a mechanical clutch in the control assembly **17** for the feeding unit **3** which supplied uniting bands. The clutch normally drives an advancing roll **51** of the advancing device **19**. The web **18** passes between the driven advancing roll **51** and a counterroll or idler roll **52** which is biased toward the roll **51** (or vice versa). When the clutch of the control assembly **17** is engaged, the rolls **51**, **52** cooperate to draw the web **18** off the reel **16**. The clutch is mounted in walls **53** and **54** which form part of the frame of the machine **1**. A disengaging relay **57** is mounted on a domed cover member **56** which is affixed to the wall **54**, and the armature **58** of the relay **57** is moved axially to pivot a bell crank lever **61** when the circuit of the relay winding is completed. The armature **58** extends into the interior of the cover **56**, and the lever **61** is turnable on a pivot pin **59** which is mounted on the output element **63** of the clutch. The arm **161** of the lever **61** carries a blade **62** and is attached to one end of a spring **64** which tends to maintain it in the position shown in FIG. **3** in which the arm **261** of the lever **61** is located in the path of movement of the armature **58**. The output shaft **66** of the clutch is fixedly connected to the output element **63** by a nut **82** and is rotatable in an antifriction bearing **67**. The shaft **66** is further fixedly connected with the roll **51** of the advancing device **19**. The driving or input element **71** or the clutch comprises an annulus of gear teeth **72** which are driven by a transmission (not shown) of the machine **1** so that the input element **71** rotates at a speed which is synchronized with the operating speed of the machine. The input element **71** is further provided with four equidistant projections or lobes **73**. A stationary part **74** of the clutch resembles a ring and is also provided with four projections or lobes **76**. A locking pawl **77** has an elongated slot **78** (see FIG. **4**)

for a pivot pin 79 which is mounted on the output element 63. A spring 81 biases the pawl 77 to the position shown in FIG. 4. In such position, the pawl 77 straddles a portion 61*a* of the arm 161 of lever 61.

The operation of the clutch 17 is as follows:

The dimensions of the web advancing device 19 are selected in such a way that each revolution of the driven advancing roll 51 results in forward transport of a length of web 18 which equals the combined length of four uniting bands. Thus, the length which is transported by the rolls 51, 52 in response to a complete revolution of the roll 51 is severed by the blades of the cutter 22 to yield four uniting bands of unit length. Were the length of the web 18 which is withdrawn and moved past the rolls 51, 52 less than four times unit length, one of the uniting bands obtained from such length would be shorter than necessary. Consequently, a filter cigarette of double unit length embodying such a short uniting band would be defective because of a leak at the point where the axially extending marginal portions of the convoluted band would fail to overlap. To avoid the formation of unsatisfactory uniting bands, the clutch of the control assembly 17 is designed in such a way that it can mechanically store a disengaging signal for an interval of time which is long enough to insure that the rolls 51, 52 of the advancing device 19 transport an optimum length of the web 18, namely, a length which suffices to yield four uniting bands of requisite length. Thus, the clutch insures that the feeding unit 3 is arrested at a time when a predetermined length of the web 18 assumes a predetermined (optimum) position with reference to the moving part 20 of the machine 1.

In normal operation, the input element 71 of the clutch rotates on antifriction bearings 68, 69 in response to transmission of torque from the aforementioned transmission to the gear including the teeth 72 on the input element 71. The portion 61*a* of the arm 161 of lever 61 abuts against a lobe 73 of the input element 71 and is rotated to drive the output element 63 which in turn rotates the shaft 66 and hence the advancing roll 51.

If the person in charge wishes to interrupt the feed of uniting bands, or if a detector detects a flaw in the operation of the machine 1, the relay 57 is energized and the armature 58 is moved axially to engage the arm 261 of the lever 61. However, the latter cannot pivot on the pin 59 because the portion 61*a* of its arm 161 is locked by the pawl 77 in a manner as shown in FIG. 4. All the armature 58 can do in immediate response to energization of the relay 57 is to move the locking pawl 77 radially outwardly, as viewed in FIG. 4, to the extent determined by the length of the slot 78. Such slight radial displacement suffices to move the pallet 177 of the pawl 77 into the space between two adjoining lobes 76 on the stationary element 74 of the clutch. The direction of rotation of the lever 61 and locking pawl 77 is indicated in FIG. 4 by arrow A. When the pallet 177 reaches the phantom-line position 177' of FIG. 4, it strikes against the adjacent lobe 76 and causes the pawl 77 to pivot against the opposition of the spring 81 so as to release the portion 61*a* and to permit further pivoting of the lever 61 under the action of the armature 58. Such pivotal movement of the lever 61 takes place suddenly whereby the blade 62 penetrates into the space between the adjoining teeth of an internal gear 83 provided on the stationary element 74. The gear 83 comprises a large number of closely adjacent teeth with narrow tooth spaces therebetween. The blade 62 co-operates with the adjoining teeth of the internal gear 83 to arrest the output element 63 in an accurately determined angular position in which the rolls 51, 52 have completed the transport of a length of web 18 which equals the combined length of four uniting bands. Thus, the clutch of FIGS. 3 and 4 insures stoppage of the web 18 in a position in which the drum 23 and cutter 22 can co-operate to form uniting bands of optimum length as soon as the feeding unit 3 is restarted. The length of the web 18 between the drum 20 and the nip between the advancing rolls 51, 52 is a whole multiple of the length of a uniting band whenever the driven clutch element 63 is arrested in response to entry of the blade 62 into a space between the teeth of the internal gear 83. The parts 62, 83 constitute a quickly reacting brake for the output element 63 in that they insure practically instantaneous stoppage of the element 63 when the pallet 177 of the locking pawl 77 engages one of the stationary lobes 76.

If the person in charge wishes to restart the feeding unit 3, i.e., to start the withdrawal of web 18 from the reel 16, the relay 57 is deenergized so that the armature 58 returns to the retracted position of FIG. 3 under the action of a customary return spring, not shown. The spring 64 immediately pivots the lever 61 toward the position shown in FIG. 3 so that the portion 61a of the arm 161 moves into the space between two successive lobes 73 on the input element 71. The output element 63 begins to turn and to rotate the shaft 66 and the roll 51 as soon as the part 61*a* is engaged and entrained by the oncoming lobe 73. The lobes 73 determine the exact instant of restarting of the roll 51, and such restarting takes place when the movable parts of the machine 1 are in an optimum position for the production of satisfactory filter cigarettes. Thus, each of the uniting bands will have an optimum length and each such band will be applied to the adjacent groups consisting of two plain cigarettes and a filter plug in an optimum position for proper wrapping on the drum 24.

The quickly reacting brake including the parts 62, 83 shown in FIG. 3 insures that the advancing roll 51 is arrested in immediate response to disengagement of the clutch 63, 71, 74 in the control assembly 17. This is particularly desirable when the output elements of the clutch exhibit the tendency of continuing their movement, for example, due to inertia, when the clutch is disengaged. The signal storing device of the control assembly 17 includes the pallet 177 of the lever 77 and the lobes 76 of the stationary clutch element 74. These parts insure that a signal produced in response to energization of the relay 57 is stored if it is produced prematurely, namely, at a moment when the components (uniting bands) supplied by the feeding unit 3 to the drum 20 are not in an optimum position with reference to this drum. Thus, the signal storing device forms part of the clutch and therefore occupies little room in the control assembly 17.

An important advantage of the improved apparatus is that the control assemblies 13 and 17 are relatively simple but are nevertheless capable of insuring interruption of delivery of uniting bands, filter plugs or

other components of rod-shaped tobacco containing articles in an optimum position of such articles with reference to the moving parts (8, 20) of the respective receiving means, and that the resumption of operation of the feeding units 2 and 3 can be effected at the time when the moving parts of the receiving means are in an optimum position for reception of components from the feeding means. Proper timing of termination and resumption of operation of the feeding units insures that the various components are properly assembled and otherwise processed as soon as the feeding units resume their operation so that the number of rejects is reduced to a minimum, not only because the various components are fed to the respective receiving means at a proper time but also because certain components, such as the uniting bands, are formed in the apparatus with a view to insure that each thereof is immediately suited for further processing.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can, by applying current knowledge, readily adapt it for various applications without omitting features which fairly constitute essential characteristics of the generic and specific aspects of my contribution to the art and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the claims.

What is claimed as new and desired to be protected by Letters Patent is set forth in the appended

1. In an apparatus for assembling and/or processing components of cigarettes, packs or analogous smokers' products, a combination comprising receiving and manipulating means including at least one continuously moving first conveyor; feeding means operative to supply components to said receiving means and including at least one second conveyor; normally engaged clutch means for moving said second conveyor in synchronism with said first conveyor so that said feeding means can supply components to said receiving means; and control means actuatable to engage and disengage said clutch means to thereby respectively start and terminate the movement of said second conveyor in dependency on the position of said first conveyor relative to said second conveyor and in dependency on the position of said second conveyor relative to said first conveyor.

2. A combination as defined in claim 1, wherein said control means further comprises braking means arranged to arrest said second conveyor in response to disengagement of said clutch.

3. A combination as defined in claim 1, wherein said feeding means is arranged to supply uniting bands.

4. A combination as defined in claim 1, wherein said feeding means is arranged to supply filter plugs.

5. A combination as defined in claim 1, wherein said second conveyor is arranged to supply said components to said first conveyor at a predetermined first transfer station and further comprising second feeding means for supplying to said first conveyor components of a second type at a second transfer station, one of said transfer stations being located upstream of the other transfer station as considered in the direction of movement of said first conveyor.

6. A combination defined in claim 1, wherein said control means comprises means for producing clutch actuating signals and means for storing said signals until one of said conveyors assumes said position relative to the other of said conveyors.

7. A combination as defined in claim 6, wherein said means for producing signals is operated by hand.

8. A combination as defined in claim 6, wherein said means for producing signals is responsive to changes in the operating condition of said apparatus.

9. A combination as defined in claim 6, wherein said means for producing signals is responsive to changes in the operation of said feeding means.

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