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3,265,183

APPARATUS FOR TRANSFERRING CIGARETTES AND THE LIKE

Filed June 5, 1964

3 Sheets-Sheet 1

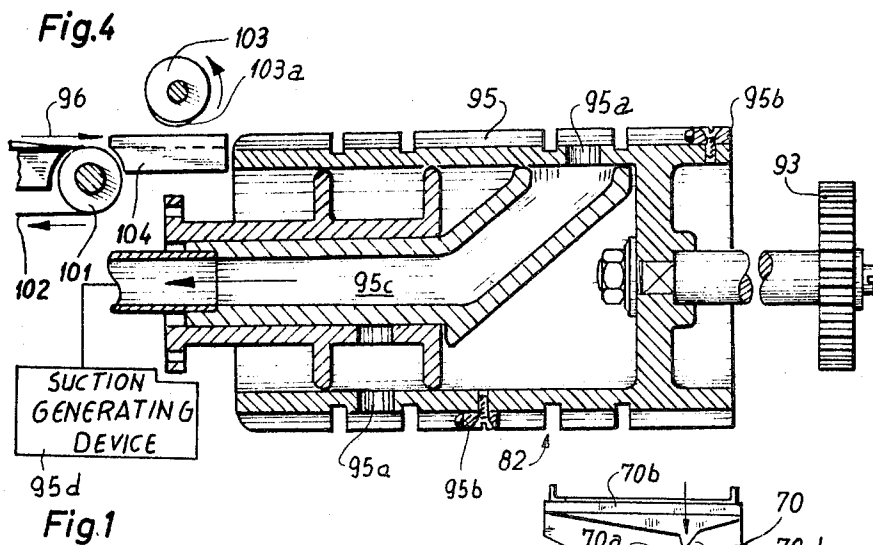


Fig. 1

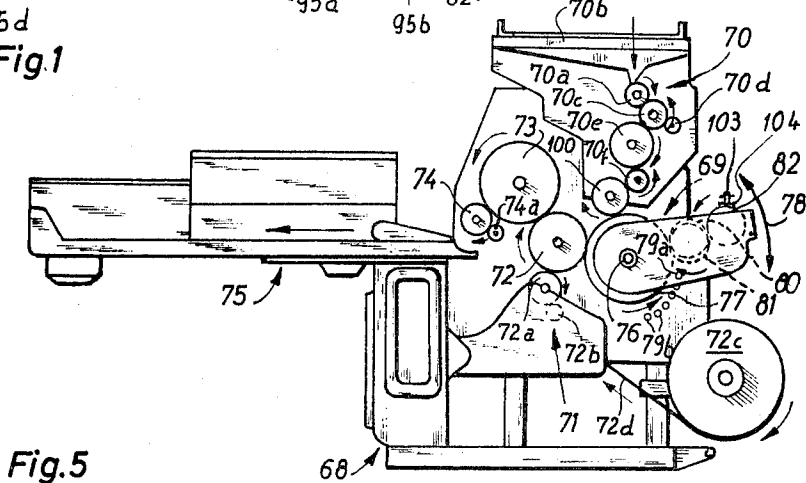
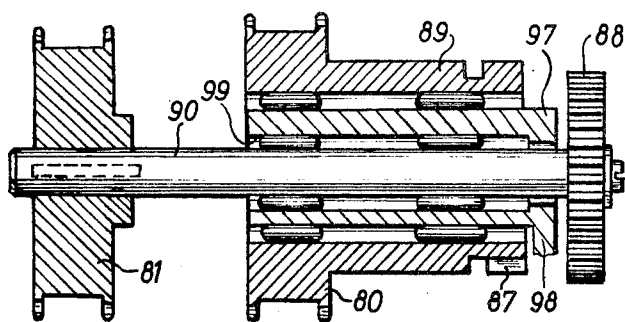


Fig. 5



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3 Sheets-Sheet 2

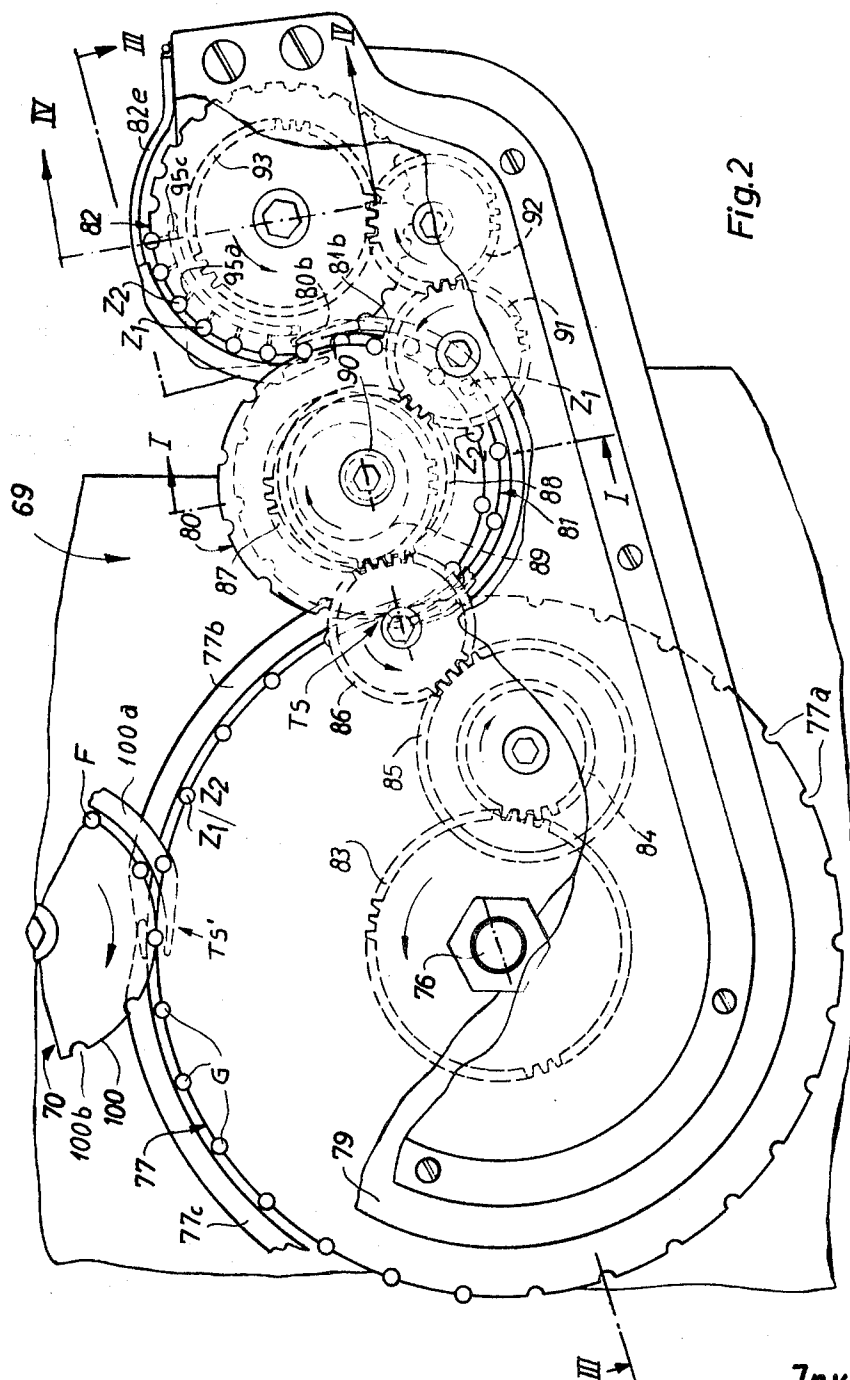


Fig. 2

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3 Sheets-Sheet. 3

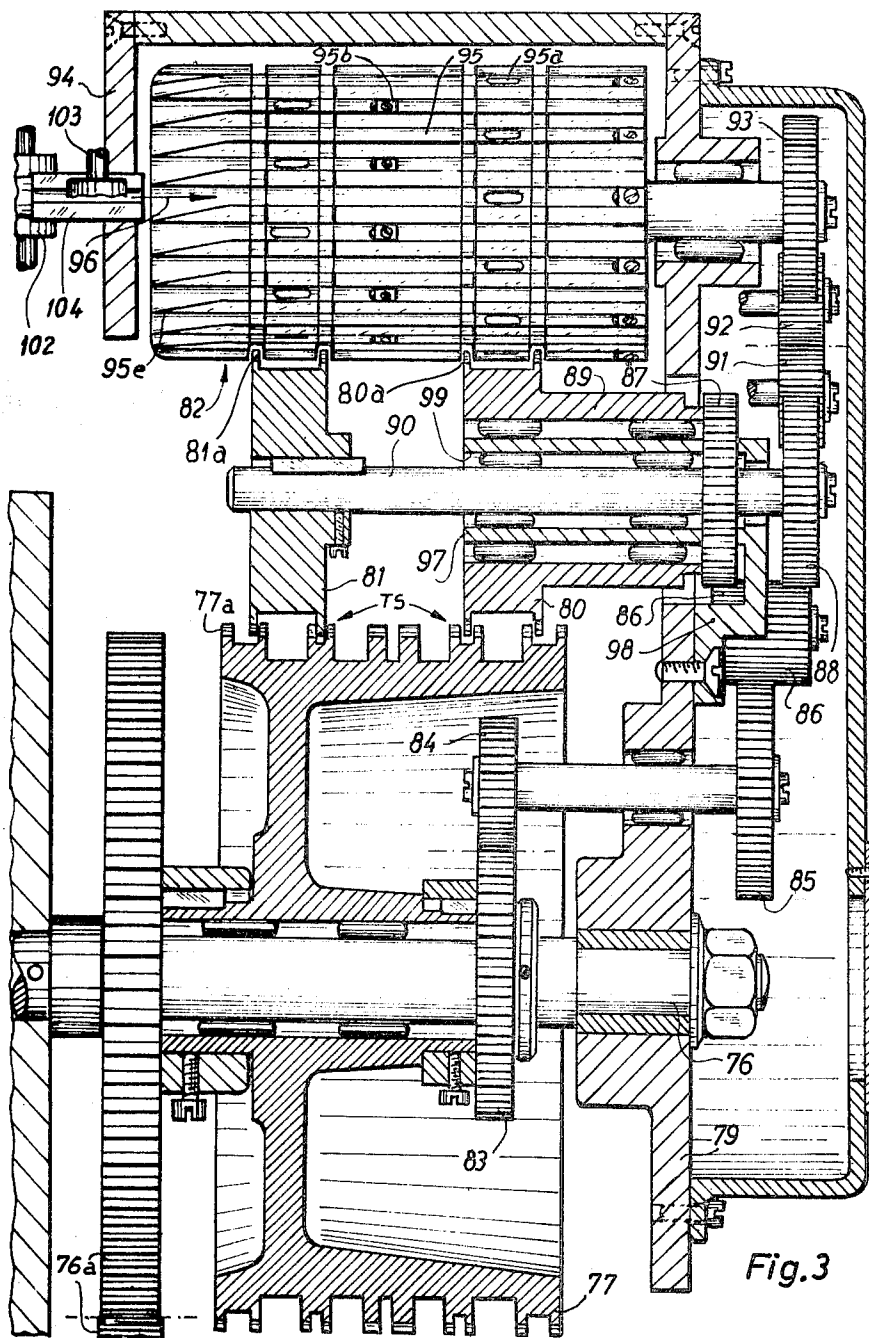


Fig.3

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APPARATUS FOR TRANSFERRING CIGARETTES AND THE LIKE

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H 49,432

20 Claims. (Cl. 198—20)

The present invention relates to apparatus for transferring cigarettes, cigars, cigarillos, filter mouth-pieces and similar rod shaped articles, and more particularly to an adjustable feed for such types of articles. Still more particularly, the invention relates to an adjustable feed which is especially suited for transferring one or more lines or files of parallel cigarette rod sections from a cigarette rod making machine to the assembling unit of a filter cigarette machine.

In many modern filter cigarette machines, it happens quite frequently that the assembling unit (namely, that part of the machine which assembles cigarette rod sections with filter mouthpieces) must be combined with different types of cigarette rod making machines each of which is constructed to discharge cigarette rod sections at a different level. In order to insure that the sections discharged by the cigarette rod making machine enter the assembling unit at the optimum level, the filter cigarette machine must be equipped with complicated and costly adapters which enable the cigarette rod sections to be aligned with the filter mouthpieces and to form therewith groups which are wrapped in adhesive coated tape, to yield filter cigarettes of unit length or multiple unit length in a manner well known in the art.

It is an important object of the present invention to provide a novel feed for sections of cigarette rod or similar rod shaped articles and to construct the feed in such a way that its article receiving end may be adjusted to receive rod shaped articles at different elevations above the ground.

Another object of the invention is to provide a feed of the just outlined characteristics which is particularly suited for transferring cigarette rod sections of unit length or multiple unit length from a cigarette rod making machine to the assembling unit of a filter cigarette machine, and to construct the feed in such a way that its article receiving end may be accurately, rapidly and conveniently aligned with the discharge end of the cigarette rod making machine.

A further object of the invention is to provide an adjustable feed for cigarette rod sections and to construct the feed in such a way that the sections are automatically arranged in two files or lines of parallel sections which are separated from each other by a gap wide enough to accommodate a filter mouthpiece of double unit length so that the thus obtained groups of rod shaped articles may be joined to form filter cigarettes of double unit length.

An additional object of the invention is to provide a novel drive for the moving parts of the improved feed so that such parts may receive motion from the main drive of the filter cigarette machine.

A concomitant object of the invention is to provide the improved feed with a novel system of intermediate conveyors which are capable of automatically aligning cigarette rod sections in such a way that the assembling unit of the filter cigarette machine receives pairs of accurately aligned sections which may be immediately assembled with mouthpieces of multiple unit length.

Still another object of the invention is to provide a feed of the above outlined characteristics which may be

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readily installed in many types of presently known filter cigarette machines without necessitating any, or by necessitating minimal, alterations in the construction and mounting of the remaining parts in such machines.

Another object of the instant invention is to provide an improved feed of the above outlined characteristics which may be combined with all, or nearly all, types of presently known cigarette rod making machines.

With the above objects in view, one feature of my invention resides in the provision of a filter cigarette machine comprising a transfer apparatus, hereinafter simply called feed or cigarette feed, having a housing secured to the frame of the assembling unit in the filter cigarette machine in such a way as to be rockable about a fixed horizontal axis, a cigarette rod making machine which comprises a supply conveyor arranged to deliver cigarette rod sections seriatim and lengthwise at a predetermined level above the ground, a first receiving conveyor mounted in the housing of the cigarette feed and arranged to receive cigarette rod sections seriatim from the supply conveyor of the cigarette rod making machine and to advance such sections sideways, and a second receiving conveyor (for example, the assembly drum in the assembling unit of the filter cigarette machine) which is arranged to receive cigarette rod sections from the first receiving conveyor. If the cigarette rod making machine is replaced by a different machine or if this machine is adjusted in such a way that its supply conveyor moves to a different level above the ground and is out of registry with the first receiving conveyor, the housing of the cigarette feed is simply pivoted to and thereupon locked in a new angular position so as to return its receiving conveyor in registry with the supply conveyor.

In accordance with another feature of the present invention, the first receiving conveyor is preferably mounted in such a way that it may deliver cigarette rod sections to the second receiving conveyor sideways and in any desired angular position of the housing. Thus, no adjustments in the filter cigarette assembling unit or in the mechanism of the cigarette feed are necessary when the housing is moved to a new angular position in which its receiving conveyor is again in accurate alignment with the supply conveyor of the cigarette rod making machine.

The novel features which are considered as characteristic of the invention are set forth in particular in the appended claims. The improved feed 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 drawings, in which:

FIG. 1 is a somewhat schematic front elevational view of a filter cigarette machine embodying a feed for cigarette rod sections which is constructed in accordance with the present invention;

FIG. 2 is an enlarged front elevational view of the feed with certain parts broken away for the sake of clarity;

FIG. 3 is a substantially horizontal section as seen in the direction of arrows from the line III—III of FIG. 2;

FIG. 4 is a substantially vertical axial section through the receiving conveyor of the feed as seen in the direction of arrows from the line IV—IV of FIG. 2; and

FIG. 5 is a substantially vertical axial section through the intermediate conveyors of the feed as seen in the direction of arrows from the line V—V of FIG. 2.

Referring to FIG. 1, there is shown a filter cigarette machine which comprises a main frame 68 supporting a transfer apparatus or feed 69 which is constructed and mounted in accordance with the present invention. This feed receives cigarette rod sections from the upper stringer of a supply conveyor belt 102 in a conventional

cigarette rod making machine (see FIG. 3 or 4) and, subsequent to sidewise deflection of cigarette rod sections in a direction substantially at right angles to their axes, delivers two lines or files of cigarette rod sections to a receiving or assembly drum 77 in such a way that each cigarette rod section in one file is axially aligned with a cigarette rod section in the other file whereby the axially parallel pockets or holders 77a on the periphery of the assembly drum 77 receive pairs of coaxial cigarette rod sections which are to be assembled with filter mouthpieces F of double unit length to form groups G of coaxial rod-shaped articles each including two cigarette rod sections of the unit length and a filter mouthpiece of double unit length therebetween. The mouthpieces F are delivered by a filter feed 70 which comprises a first transfer drum 70a arranged to receive filter rods of sextuple unit length from a suitable magazine 70b, a second transfer drum 70c which cooperates with rotary disk-shaped cutters 70d (only one shown) to sever each filter rod into three mouthpieces F of double unit length, a series of staggering drum 70e (only one shown) which stagger the mouthpieces circumferentially so the the mouthpieces are out of axial alignment, a shuffling drum 70f which cooperates with suitable cams (not shown) to form a single line or file of filter mouthpieces F which move sidewise, and a supply drum 100 which receives the mouthpieces from the shuffling drum 70f and delivers them into the pockets 77a of the assembly drum 77 so that each mouthpiece F comes to rest in the gap between a pair of coaxial cigarette rod sections Z_1, Z_2 .

The exact construction of the filter feed 70 forms no part of this invention.

The thus obtained groups G of cigarette rod sections Z_1, Z_2 and filter mouthpieces F are transferred into the pockets of a wrapper applying drum 72 which forms part of wrapper feed 71 and which receives requisite lengths of adhesive-coated wrapper material from a suction drum 72a cooperating with a rotary cutter 72b. The wrapper feed 71 further comprises a reel 72c of paper web 72d which is advanced past an adhesive applying roller (not shown) in a manner well known in the art, and the adhesive-coated web 72d is then led between the drum 72a and cutter 72b to form a single file of adhesive-coated wrappers which are applied to consecutive groups G in such a way that each wrapper adheres to the mouthpiece F and overlies the adjacent end portions of the respective cigarette rod sections. The wrapper applying drum 72 delivers such groups to a wrapping or rolling drum 73 which is provided with instrumentalities necessary to convolute the wrappers around the respective mouthpieces F so that each group G forms a filter cigarette of double unit length. Such cigarettes are then delivered to the pockets of a transfer drum 74 which cooperates with a rotary cutter 74a so as to sever the cigarettes midway across the convoluted wrappers whereby each such cigarette yields two filter cigarettes of ultimate (unit) length. One row of cigarettes may be reversed on its way to a take-off conveyor 75 which delivers the products to a stacking or storing station, not shown.

The heretofore described details of the filter cigarette machine (save for the construction and mounting of the feed 69) form no part of the present invention, and this machine was described in such detail for the purpose of facilitating the understanding of my invention which is illustrated in FIGS. 2 to 5 of the drawings.

In accordance with the present invention, the feed 69 is mounted in such a way that it may be adjusted by swivelling or rocking about the axis of the shaft 76 for the assembly drum 77. The double-headed arrow 78 (FIG. 1) indicates that the feed 69 may swivel in a clockwise or anticlockwise direction, depending on the level of the upper stringer of the supply conveyor belt 102. This belt 102 serves to advance a single file of coaxial cigarette rod sections lengthwise in the direction indicated by arrow 96, and its discharge end is trained around a

driven roller 101. The single file of axially aligned cigarette rod sections travels along the upper side of a fixed bridge member 104 and its sections enter consecutive axially parallel pockets or holders 95 of a rotary receiving conveyor or drum 82 best shown in FIG. 4. A rotary accelerating roller member 103 is provided with a lobe 103a which engages and accelerates the cigarette rod sections Z_1, Z_2 so that each section is propelled into that pocket 95 of the receiving drum 82 which is in momentary alignment with the upper stringer of the belt 102.

The drum 82 is mounted in a support here shown as a housing 79 which is rockable about the axis of the shaft 76. Its pockets 95 accommodate stops 95b which are distributed in such a way that the cigarette rod sections entering consecutive pockets 95 form two lines or files of sections Z_1, Z_2 whereby the sections Z_1 are spaced axially and are staggered circumferentially with reference to the sections Z_2 . The housing 79 also supports two intermediate conveyors 80, 81 here shown as disks which respectively receive sections Z_1 and Z_2 and are driven in such a way that their axially parallel pockets 80a, 81a are aligned at a transfer station TS at which they deposit cigarette rod sections Z_1, Z_2 into consecutive pockets 77a of the assembly drum 77. The receiving drum 82 is provided with radially extending suction ducts 95a which communicate with suction channels 95c provided in the interior of the drum 82 and leading to a suitable suction generating fan 95d, shown in FIG. 4, so that the cigarette rod sections entering the pockets 95 are retained by suction during their advance to the pockets 80a, 81a of the disks 80, 81. The distribution of channels 95c is illustrated in FIGS. 2 and 4. The disks 80, 81 cooperate with arcuate shields 80b, 81b which keep the cigarette rod sections Z_1, Z_2 in the respective pockets 80a, 81a all the way to the transfer station TS. While advancing with the pockets 77a, the cigarette rod sections are held by arcuate shields 77b which extend along the periphery of the assembly drum 77, and the drum 100 of the filter feed 71 is surrounded by a shield 100a which keeps the filter mouthpieces F in the pockets 100b. Additional shields 77c extend along the periphery of the drum 77 in a zone beginning at a second transfer station TS' at which the pockets 100b of the drum 100 deliver mouthpieces F into the gaps between consecutive pairs of axially aligned cigarette rod sections Z_1, Z_2 . It is clear that the remaining drums and other conveyors of the filter cigarette machine are provided with similar shields and/or suction ducts and channels to retain the rod shaped articles in the respective pockets. FIG. 2 merely shows additional shields 82e which surround a portion of the receiving drum 82 to insure that the sections Z_1, Z_2 remain in the pockets 95 even if the suction generating device 95d should fail to create a pressure differential which is sufficient to hold the cigarette rod sections against the action of centrifugal force.

The housing 79 may be locked in selected positions of adjustment by a locking pin 79a which extends through one of a series of apertures 79b in the frame 68.

The parts of the feed 69 are driven by a first spur gear or driver gear 83 which is mounted on the shaft 76 of the assembly conveyor 77 and forms a part of a gear train including three intermediate gears 84, 85, 86 the last of which drives the eccentric gears 87, 88 of the disks 80, 81. The disks 80, 81 are mounted on parallel shafts 89, 90. Thus, a single gear 86 may drive both transfer disks. The gear 88 drives two intermediate gears 91, 92 the latter of which drives a gear 93 for the receiving drum 82. It will be noted that the gear 84 will merely roll along and will remain in mesh with the driver gear 83 when the operator decides to rock the housing 79 about the axis of the shaft 76. The shaft 76 is driven by a gear train 76a from the main drive of the filter cigarette machine.

The gear train 83-88, 91-93 is shown again in FIG. 3 which also illustrates the manner in which the shafts of these gears are mounted in the housing 79 and the manner

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in which the drums 82, 77 cooperate with the disks 80, 81 to transfer pairs of cigarette rod sections Z_1 , Z_2 and mouthpieces F toward the pockets of the wrapper applying drum 72. The housing 79 comprises an L-shaped extension 94 in the form of a composite bracket which straddles the drum 82 and which extends beneath the discharge end of the belt 102. The belt 102 delivers cigarette rod sections Z_1 , Z_2 lengthwise in the direction indicated by arrow 96 and, since the housing 79 is pivotable about the axis of the shaft 76 (which is rotatable in the machine frame 68), the discharge end of the belt 102 may be brought in registry with the uppermost pocket 95 of the receiving drum 82. If desired, the disks 80, 81 may be driven by internal gears.

FIG. 5 illustrates the manner in which the hollow shaft 89 of the disk 80 is mounted on the shaft 90 of the disk 81. The shaft 90 rotates in a bearing sleeve 97 which is secured to a bracket 98, see also FIG. 3. The sleeve 97 is provided with an eccentric bore 99 for two sets of roller bearings which surround the shaft 90. The eccentricity of the bore 99 is selected in such a way that the disks 80, 81 will transfer pairs of coaxial cigarette rod sections Z_1 , Z_2 into the pockets 77a of the assembly drum 77.

The improved cigarette feed 69 operates as follows:

The belt 102 discharges a single file of coaxial cigarette rod sections Z_1 , Z_2 (arrow 96) onto the bridge member 104 whereon the sections are engaged by the accelerating cam roller 103 to be advanced into the respective pockets 95 so that each cigarette rod section comes to a halt when it abuts against the corresponding stop 95b. It will be noted that these stops are arranged in two annular groups in order to align the file of cigarette rod sections Z_1 with the disk 81 and to align the file of cigarette rod sections Z_2 with the disk 80. The pockets 95 retain the respective sections by suction which is effective through the ducts 95a and deliver them into the pockets 80a, 81a of the disks 80, 81 whereon the sections are caused to be aligned so that each pocket 77a receives a cigarette rod section Z_1 and a cigarette rod section Z_2 . While the pairs of coaxial cigarette rod sections advance beneath the supply drum 100 of the filter feed 70, this feed discharges a filter mouthpiece F of double unit length between each pair of consecutive cigarette rod sections so that the pockets of the wrapper applying drum 72 will receive groups G which consist of two cigarette rod sections of unit length and a filter mouthpiece of double unit length. The remainder of the operation of the filter cigarette machine has been described hereinbefore.

In all embodiments of our improved feed, the pockets or similar holders for rod shaped articles are preferably formed in such a way that the articles are received with some clearance to facilitate transfer of such articles to and from the conveyors.

If the assembling unit on the frame 68 of the filter cigarette machine is to receive cigarette rod sections from a different cigarette rod making machine, i.e., from a cigarette rod making machine whose supply conveyor belt 102 is located at a level above or below the level of the belt 102 shown in FIGS. 3 and 4, the operator merely withdraws the locking pin 79a and rocks the housing 79 to a different angular position in which the housing is locked by inserting the pin 79a into another aperture 79b. Such angular adjustments of the feed 69 do not affect the accuracy at which the disks 80, 81 transfer cigarette rod sections into the pockets 77a because the gears of the drive for the feed 69 remain in mesh at all times.

The belt 102 preferably delivers cigarette rod sections into that pocket 95 which is momentarily located at the top of the receiving drum 82. If the feed 69 is to deliver a single file of cigarette rod sections, the disks 80, 81 may be omitted and the receiving drum 82 then delivers directly into the pockets 77a of the assembly drum 77. The pockets 95 are provided with enlarged intake ends, as at 95e, to insure that the sections Z_1 , Z_2 may enter such pockets while the drum 82 rotates at high speed.

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Instead of locking the housing 79 to the frame 68, the bracket 94 may be detachably secured to a fixed part of the cigarette rod making machine.

The distance between the centers of the pockets 95 on the periphery of the receiving drum 85 is one-half the distance between the centers of pockets 80a, 81a or 77a. If the drum 82 were to form three files of cigarette rod sections (this can be achieved by arranging the stops 95b in three annular series), the distance between the centers of the pockets 77a, 80a or 81a will be three times the distance between the centers of the pockets 95.

The diameters of the disks 80, 81 are the same and the eccentricity of the bore 99 is such that a trailing pocket 80a catches up with the preceding pocket 81a while the two pockets advance from the corresponding pockets 95 of the drum 82 to the transfer station TS.

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 this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. In a machine for manipulating cigarettes or similar rod shaped articles, first conveyor means constructed and arranged to travel about a fixed horizontal axis; second conveyor means for advancing rod shaped articles at a predetermined level above the ground; and a feed for delivering rod shaped articles from one of said conveyor means to the other thereof, said feed comprising a support mounted to rock about said fixed axis and third conveyor means mounted in said support and arranged to transfer rod shaped articles from said one to said other conveyor means, said support being rockable with reference to said fixed axis into a position of angular adjustment in which said third conveyor means registers with said second conveyor means.

2. In a machine for manipulating cigarettes and similar rod shaped articles, in combination, a first conveyor comprising a plurality of axially parallel holder means and being constructed and arranged to travel about a fixed horizontal axis; a second conveyor arranged to deliver a single file of rod shaped articles lengthwise at a predetermined distance above the ground so that the articles are substantially parallel with said holder means; and a feed for transferring the articles sideways in a direction from said second conveyor to said first conveyor, said feed comprising a housing mounted to rock about said fixed axis, and at least one driven conveyor mounted in said housing so as to rotate about an axis which is parallel with said fixed axis, said driven conveyor having holder means parallel with said fixed axis for receiving articles from said second conveyor, said housing being rockable with reference to said fixed axis to move said driven conveyor into such position with reference to said second conveyor that the holder means of said driven conveyor receive articles seriatim from the second conveyor and transfer such articles in a direction toward said first conveyor, said driven conveyor remaining equidistant from said first conveyor during adjustment of said housing with reference to said fixed axis.

3. In a filter cigarette machine, in combination, a cigarette rod making machine comprising a substantially horizontal supply conveyor arranged to deliver a series of cigarette rod sections lengthwise at a predetermined distance above the ground; an assembling unit including a frame and an assembly conveyor mounted in said frame for rotation about a fixed horizontal axis and being spaced laterally from said supply conveyor, said assembly conveyor having a plurality of equidistant axially parallel holders each adapted to receive at least one section; and

a feed for transferring sections sideways from said supply conveyor into the holders of said assembly conveyor, said feed comprising a housing mounted to rock about said fixed axis between a plurality of angular positions, and at least one additional conveyor mounted in said housing to rotate about an axis which is parallel with said fixed axis and having axially parallel holders arranged to receive sections seriatim from said supply conveyor for transfer toward said assembly conveyor upon requisite angular adjustment of said housing with reference to said fixed axis so that the holders of said additional conveyor are moved seriatim into registry with said supply conveyor in response to rotate of said additional conveyor.

4. A structure as set forth in claim 3, further comprising means for locking said housing in any one of a series of positions of angular adjustment with reference to said fixed axis.

5. In a filter cigarette machine, in combination, a cigarette rod making machine comprising a substantially horizontal supply conveyor arranged to deliver a series of cigarette rod sections lengthwise at a predetermined distance above the ground; an assembling unit including a frame and an assembly conveyor mounted in said frame for rotation about a fixed horizontal axis and being spaced laterally from said supply conveyor, said assembly conveyor having a plurality of equidistant axially parallel holders each adapted to receive at least one section; and a feed for transferring sections sideways from said supply conveyor into the holders of said assembly conveyor, said feed comprising a housing mounted to rock about said fixed axis between a plurality of angular positions, a receiving drum mounted in said housing to rotate about a horizontal axis which is parallel with said fixed axis so that the distance between said assembly conveyor and said receiving drum remains unchanged when the housing is rocked about said fixed axis, said receiving drum having axially parallel peripheral holders arranged to receive cigarette rod sections from said supply conveyor upon requisite angular adjustment of said housing with reference to said fixed axis so that the holders of said additional conveyor are moved seriatim into registry with said supply conveyor in response to rotation of said additional conveyor, and at least one intermediate conveyor mounted in said housing between said assembly conveyor and said receiving conveyor and having means for transferring cigarette rod sections from the holders of said receiving drum to the holders of said assembly conveyor.

6. In a filter cigarette machine, in combination, a cigarette rod making machine comprising a substantially horizontal supply conveyor arranged to deliver a series of cigarette rod sections lengthwise at a predetermined distance above the ground; an assembling unit including a frame and an assembly conveyor mounted in said frame for rotation about a fixed horizontal axis and being spaced laterally from said supply conveyor, said assembly conveyor having a plurality of equidistant axially parallel holders each adapted to receive at least one section; and a feed for transferring sections sideways from said supply conveyor into the holders of said assembly conveyor, said feed comprising a housing mounted to rock about said fixed axis between a plurality of angular positions, a receiving conveyor mounted in said housing to rotate about an axis parallel with said fixed axis and having a plurality of peripheral holders arranged to receive sections seriatim from said supply conveyor upon requisite angular adjustment of said housing with reference to said fixed axis, said receiving conveyor comprising stop means for arresting the sections in different axial positions with reference to the respective holders so that such sections form a plurality of files each containing a series of parallel sections which move sideways in response to rotation of said receiving drum, a plurality of intermediate conveyors rotatably mounted in said housing between said receiving conveyor and said assembly conveyor, there be-

ing one such intermediate conveyor for each file of sections on said receiving conveyor, said intermediate conveyors having holders arranged to transfer sections from the respective files on said receiving conveyor into consecutive holders of said assembly conveyor so that each holder of said assembly receives one section from each of said files, and means for driving said conveyors at such speed that the sections forming said files are transferred seriatim first into the holders of said intermediate conveyors and then into consecutive holders of said assembly conveyor.

7. A structure as set forth in claim 6, wherein said receiving conveyor is arranged to form two files of sections which are spaced axially with reference to each other so that the gaps between said files are wide enough to receive filter mouthpieces of multiple unit length.

8. A structure as set forth in claim 6, wherein the distance between the holders of said receiving conveyor multiplied by the number of said files equals the distance between the holders of said assembly conveyor.

9. A structure as set forth in claim 8, wherein the distance between the holders of each of said intermediate conveyors is the same as the distance between the holders of said receiving conveyor.

10. A structure as set forth in claim 6, wherein said intermediate conveyors are disks having identical diameters.

11. A structure as set forth in claim 10, wherein said disks are eccentric with reference to each other.

12. A structure as set forth in claim 11, wherein each of said disks comprises a shaft and wherein one of said shafts is provided with an eccentric bore which receives the other shaft.

13. An apparatus for transferring rod shaped articles sideways, comprising a frame defining a fixed axis of rotation; a housing connected to said frame and rockable about said fixed axis; a device for locking said housing in any of a series of angular positions with reference to said axis; a first conveyor mounted in and rockable with said housing; means for rotating said first conveyor about an axis which is parallel with said fixed axis; and a second conveyor for supplying articles to said first conveyor, said second conveyor having a discharge end movable with reference to said first conveyor to a plurality of different levels above the ground.

14. An apparatus for transferring rod shaped articles sideways, comprising a frame defining a fixed axis; a housing connected to said frame and rockable about said fixed axis; a device for locking said housing in any of a series of angular positions with reference to said axis; a first conveyor mounted in and rockable with said housing, said conveyor having a plurality of equidistant peripheral holders parallel with said fixed axis; means for rotating said first conveyor about an axis which is parallel with said fixed axis; and a second conveyor for supplying articles to said first conveyor, said second conveyor having a discharge and movable with reference to said first conveyor to a plurality of different levels above the ground.

15. In a machine for manipulating rod shaped sections, the combination of an assembly drum having a horizontal axis of rotation with a feed for transferring pairs of axially aligned but spaced rod shaped sections to consecutive axially parallel holders provided in the periphery of said assembly drum, said feed comprising a support rotatable about the axis of said assembly drum, a receiving drum mounted to rock with said support and to rotate about an axis which is parallel with the axis of said assembly drum, said receiving drum having axially parallel peripheral holders adapted to receive sections seriatim from a supply conveyor and to convey such sections sideways toward said assembly drum, and an intermediate conveyor having two portions mounted in said support to rotate about axes which are parallel with the axis of said assembly drum, said por-

tions of said intermediate conveyor having axially parallel peripheral holders arranged to transfer sections from the holders of said receiving drum to the consecutive holders of said assembly drum in response to rotation of said drums and said conveyor at predetermined speeds.

16. In a filter cigarette machine as set forth in claim 15, wherein said portions of said intermediate conveyor are eccentric and spaced axially with reference to each other, said supply conveyor being arranged to deliver sections seriatim into consecutive holders of said receiving drum and said receiving drum having stop means for arranging such sections in two files of parallel section, each file being aligned with one portion of said intermediate conveyor.

17. An apparatus for transferring rod shaped articles sideways, comprising a frame defining a fixed axis; a housing connected to said frame and rockable about said fixed axis; a device for locking said housing in any of a series of angular positions with reference to said axis; a first conveyor mounted in and rockable with said housing, said first conveyor having a plurality of equidistant peripheral holders parallel with said fixed axis; means for rotating said first conveyor about an axis which is parallel with said fixed axis; and an intermediate conveyor mounted

in said housing between said fixed axis and said first conveyor, said intermediate conveyor having peripheral holders parallel with said fixed axis and the distance between the holders of said intermediate conveyor being the same as the distance between the holders of said first conveyor.

18. An apparatus as set forth in claim 17, wherein said first conveyor is a rotary drum and wherein said intermediate comprises rotary disks, said disks being eccentric with reference to each other.

19. An apparatus as set forth in claim 18, wherein said disks have identical diameters, and further comprising a drive including a gear for rotating said disks at identical speeds.

20. An apparatus as set forth in claim 17, wherein said first conveyor is provided with a plurality of stops extending into said holders thereof and forming a series of annuli, one for each of said rotary disks.

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