

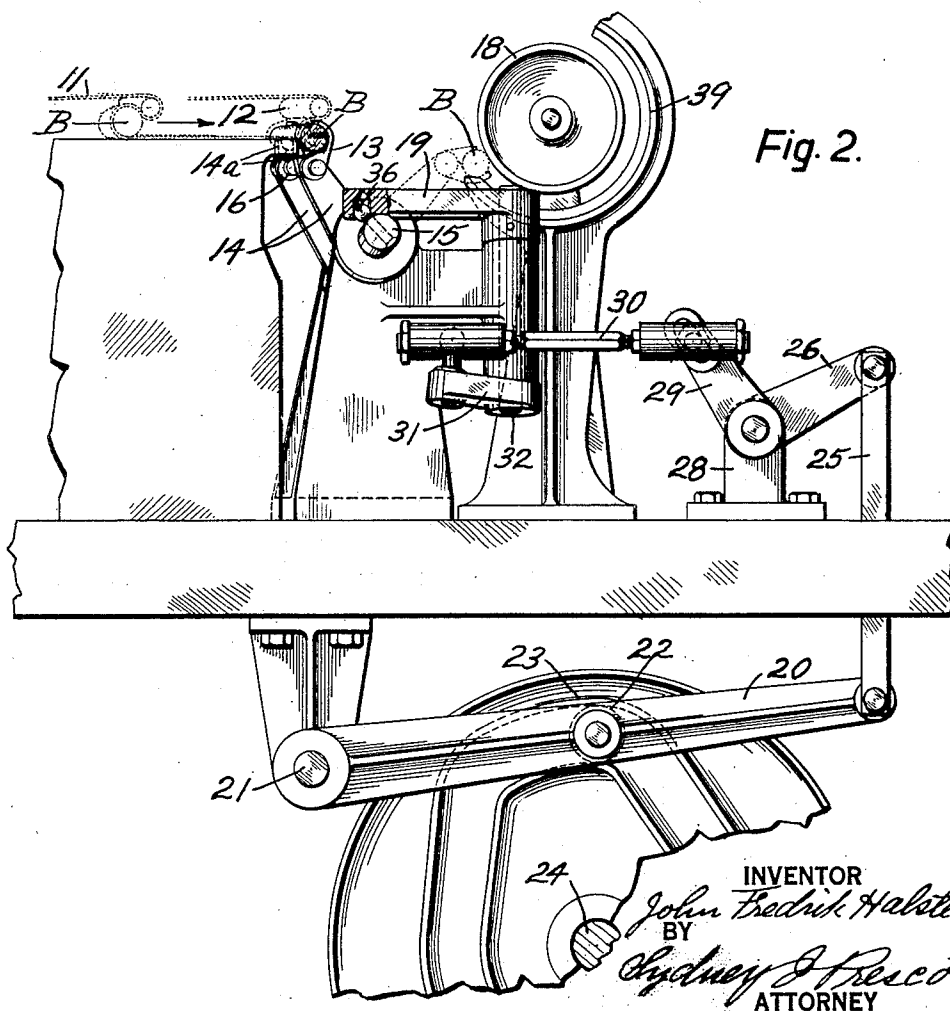
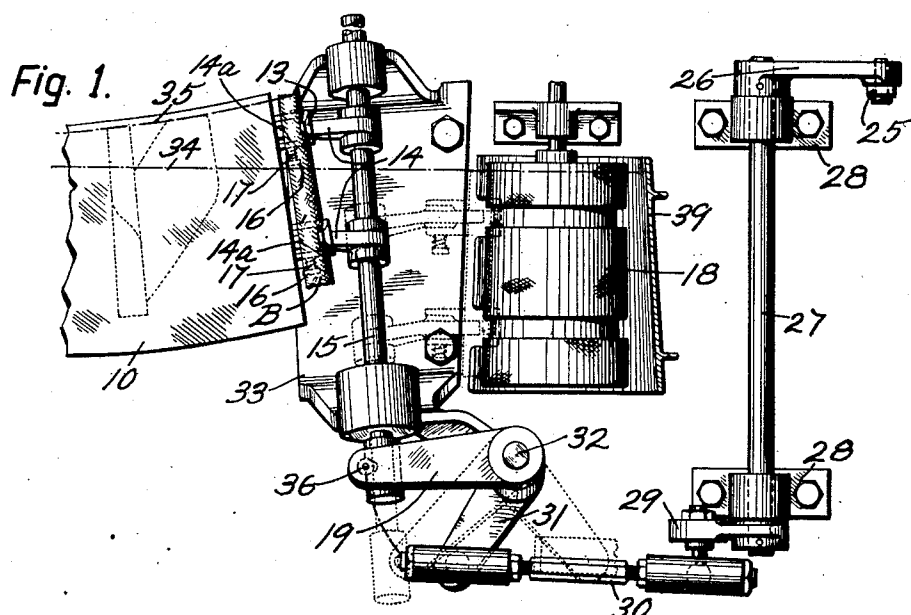
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BUNCH TRANSFER FOR CIGAR MACHINES

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BUNCH TRANSFER FOR CIGAR MACHINES

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This invention relates to bunch transfers for cigar machines, and more particularly to bunch transfers for transporting a bunch from a receiving position to a delivery position which is offset from and at an angle to said receiving position.

It is common in cigar machines to provide arcuate rolling tables on which the bunch is rolled to a more or less tapered form, either because a cigar of tapered shape is to be produced or because it is desirable to make the bunch taper down towards the head end in order to counteract the tendency towards expansion of the head end of the bunch when released from the chianti belt in which the bunch is rolled.

Since in rolling the bunch follows an arcuate path, it will arrive at the end of the rolling table in an offset position with respect to a straight or right line path between the front end of the rolling table and the bunch manipulator which is to perform the next operation on the bunch. For the same reason it is at an oblique angle to this path. Before it enters the manipulator, or other means for operating on a bunch, it is important that the bunch be restored to properly centered position with respect to said manipulator and to a right angular position with respect to a straight or a right line path to the manipulator, so that it will be delivered in correct position to be properly rolled or otherwise manipulated thereby.

The principal object of the present invention, therefore, is to provide a cigar bunch transfer for use in situations such as the above to transport a bunch from a receiving position to a delivery position which is offset from and at an angle to said receiving position. Another object is to produce such a transfer which is simple and reliable and is not subject to gumming up by tobacco particles.

With these and other objects not specifically mentioned in view, the invention consists in certain constructions and combinations which will be hereinafter fully described and then set forth in the claims hereunto appended.

In the accompanying drawings which form

a part of this specification and in which like characters of reference indicate the same or like parts:

Fig. 1 is a plan view of the cigar bunch transfer showing its relation to the rolling table and the bunch manipulator;

Fig. 2 is a side elevation, partly broken away, of the cigar bunch transfer shown in Fig. 1.

In carrying the invention into effect, there is provided a bunch support and means for producing movement of said support which is the resultant of an endwise movement and a traversing movement in order to transport the bunch carried by the support from a receiving position to a delivery position, which is offset from and at an angle to said receiving position. In the best constructions, said means includes a member for carrying the said support and means for reciprocating and oscillating said member. Preferably, the support includes spring-pressed bunch grippers and, in the best forms, these bunch grippers are mounted on the oscillating member at unequal distances from its axis.

The means above referred to may be widely varied in construction within the scope of the claims, for the particular machine thus selected to illustrate the invention is but one of many possible concrete embodiments of the same. The invention, therefore, is not to be restricted to the precise details of the structure shown and described.

Referring to the drawings, the improved bunch transfer is shown in connection with an arcuate rolling table 10 and a drum type bunch manipulator 18, all forming a part of the cigar machine. A chianti belt 11 and a cooperating rolling pin 12 roll the slightly tapered bunch B in an arcuate path (the path of the head end of the bunch being indicated in Fig. 1 by dash dot line 35), along the table to the position at the end of the table at which the bunch is received between the gripper fingers 13 and 14a. These fingers, together with the arms 14, form the support for the bunch during transfer. The fingers 13 are pivoted to the arms 14 and are spring pressed against fingers 14a, which are integral with the arms 14, by springs 17.

In order to move the bunch from this receiving position to the delivery position, which position as shown in Fig. 1 is offset from and at an angle to the receiving position by the amount of deviation of the arcuate path 35 from the straight line path 34, a movement of the bunch support 13—14, which is the resultant of an endwise movement and a traversing movement, is produced. This movement is obtained by mounting the bunch support for oscillation about an axis between the receiving and delivery positions and at approximately the same inclination to each of said positions, and for endwise reciprocating movement along said axis, and then providing suitable means for oscillating and reciprocating said support. In the form shown, this is done by carrying the support on a shaft 15 slidably and rotatably mounted in a suitable bearing bracket 33, and oscillating and reciprocating the shaft 15.

The axis of the shaft 15 which, of course, coincides with the axis of oscillation of the support 13—14, is positioned with the parts thereof opposite the receiving and delivery positions, respectively, at equal distances from said receiving and delivery positions and at an equal angle of inclination to each of said positions.

Simultaneously with the endwise movement, the shaft is thus oscillated, causing a resultant movement of the support which brings the bunch into delivery position. The two arms 14 are of unequal length in order that they may support their respective gripper members in position to engage the bunch near either end, which are necessarily at different distances from the shaft 15.

As a result of the traversing and endwise movement of the support and the inclination of the bunch supported by the arms of unequal length, the bunch will be brought back into the position shown in dotted lines in Fig. 1, in parallel relation to the drum 18 and concave surface 39 of the bunch manipulator and at right angles to the straight path 34 from the head end position of the bunch at the front end of the rolling table to the head end of the bunch in the manipulator.

The simultaneous oscillation and reciprocation of the shaft 15 is produced by a horizontal lever arm 19 which is actuated by cam lever 20 pivoted at 21 and having a roller 22 in engagement with a cam 23 on a shaft 24 of the cigar machine. The free end of the lever 20 is connected by a link 25 with a crank lever 26 secured to the shaft 27 in brackets 28. At the other end of shaft 27 is secured an arm 29 connected by an adjustable connecting rod 30 to a crank lever 31 secured through shaft 32 in pedestal 33 to the lever 19. Oscillation of the lever 19 causes its free end to move lengthwise and across the axis of the shaft as shown in dash dotted lines in Fig. 1, and this end of the lever is provided with a socket in

which is secured a ball-headed pin 36 projecting from the shaft. Since the head of the pin is eccentric to the shaft, the oscillation of the lever 19 will both reciprocate the shaft endwise and oscillate the shaft in an annular direction, as will be clear from an inspection of Figs. 1 and 2.

It is noted that in the preferred form shown, the oscillating lever 19 and the ball and socket connection between the lever and the shaft 15 are all to one side of the path of the bunch and, therefore, out of the path of falling tobacco which may be thrown by the chianti belt. Also, as shown in Fig. 1, the only rubbing parts are well protected from descending tobacco and the machine is therefore free from difficulties due to gumming up or piling up of tobacco between the rubbing parts.

It should also be observed that due to the fact that the end of the lever 19 during the first part of its outward travel moves for the most part axially of the shaft 15, during the latter part of its movement it has a greater transverse movement with respect to the shaft. This is desirable because the greater part of the traversing movement of the support 13—14 occurs near the end of the endwise movement and thus prevents sidewise scraping of the bunch against the manipulator and pushes the bunch into the range of action thereof.

What is claimed is:

1. A cigar bunch transfer comprising a bunch support, and means for producing a movement of said support which is the resultant of an endwise movement and a traversing movement, to transport a bunch carried by said support from receiving position to a delivery position which is offset from and at an angle to said receiving position.

2. A cigar bunch transfer comprising a bunch support, and means for producing a movement of said support which is the resultant of an endwise movement and a traversing movement, to transport a bunch carried by said support from receiving position to a delivery position which is offset from and at an angle to said receiving position, said support including spring pressed bunch grippers.

3. A cigar bunch transfer comprising a bunch support, and means for producing a movement of said support which is the resultant of an endwise movement and a traversing movement, to transport a bunch carried by said support from receiving position to a delivery position which is offset from and at an angle to said receiving position, said support including bunch carrying arms of unequal length.

4. A cigar bunch transfer comprising a bunch support, and means for producing a movement of said support which is the resultant of an endwise movement and a trav-

ersing movement, to transport a bunch carried by said support from receiving position to a delivery position which is offset from and at an angle to said receiving position, said means including an oscillating shaft and said support including a pair of bunch grippers and means mounting said grippers on said shaft at unequal distances from its axis.

5 5. A cigar bunch transfer comprising a bunch support, and means for producing a movement of said support which is the resultant of an endwise movement and a traversing movement, to transport a bunch carried by said support from receiving position to a delivery position which is offset from and at an angle to said receiving position, said means including a member carrying said support and means for reciprocating and oscillating said member.

20 6. A cigar bunch transfer comprising a bunch support, and means for producing a movement of said support which is the resultant of an endwise movement and a traversing movement, to transport a bunch carried by said support from receiving position to a delivery position which is offset from and at an angle to said receiving position, said means including a shaft carrying said support and means to one side of the path of the bunches for oscillating and reciprocating said shaft.

35 7. A cigar bunch transfer comprising a bunch support, and means for producing a movement of said support which is the resultant of an endwise movement and a traversing movement, to transport a bunch carried by said support from receiving position to a delivery position which is offset from and at an angle to said receiving position, said means including a member carrying said support and cam actuated mechanism for reciprocating and oscillating said member.

45 8. A cigar bunch transfer comprising a bunch support, and means for producing a movement of said support which is the resultant of an endwise movement and a traversing movement, to transport a bunch carried by said support from receiving position to a delivery position which is offset from and at an angle to said receiving position, said means including a member carrying said support and mechanism connected to said member by a ball and socket for oscillating and reciprocating the same.

55 9. A cigar bunch transfer comprising a bunch support, and means for producing a movement of said support which is the resultant of an endwise movement and a traversing movement, to transport a bunch carried by said support from receiving position to a delivery position which is offset from and at an angle to said receiving position, said means including a shaft carrying said support, an oscillating member having move-

ment lengthwise of and transverse to said shaft, and eccentric means on said shaft connected to the member for reciprocating and oscillating said shaft.

10. A cigar bunch transfer comprising a bunch support, and means for producing a movement of said support which is the resultant of an endwise movement and a traversing movement, to transport a bunch carried by said support from receiving position to a delivery position which is offset from and at an angle to said receiving position, said means including an oscillating member carrying said support and having its axis of oscillation equally inclined with respect to said receiving and delivery positions respectively.

In testimony whereof, I have signed my name to this specification.

JOHN FREDRIK HALSTEAD.