Dec. 18, 1945. S. CLAUSEN 2,391,294

PASTER FOR CIGAR BINDERS AND THE LIKE

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FIG. 2

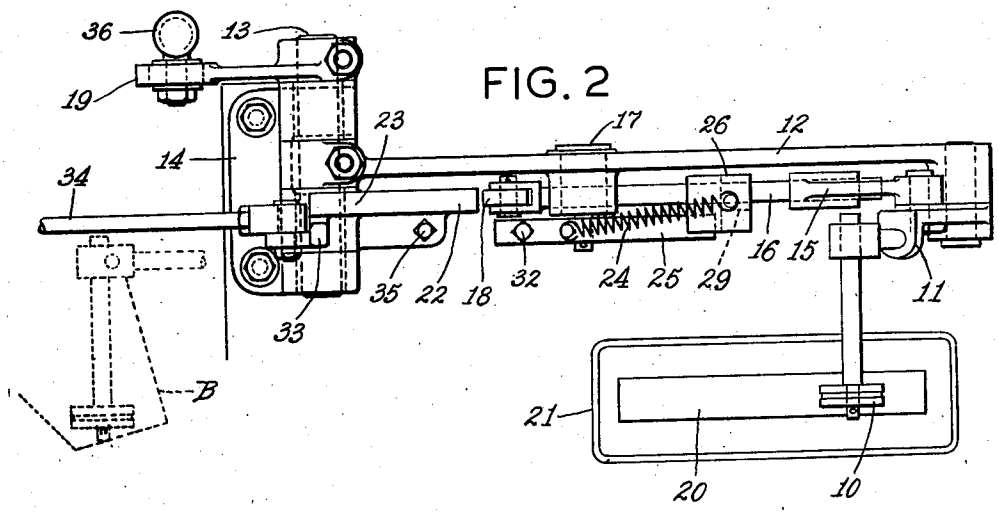
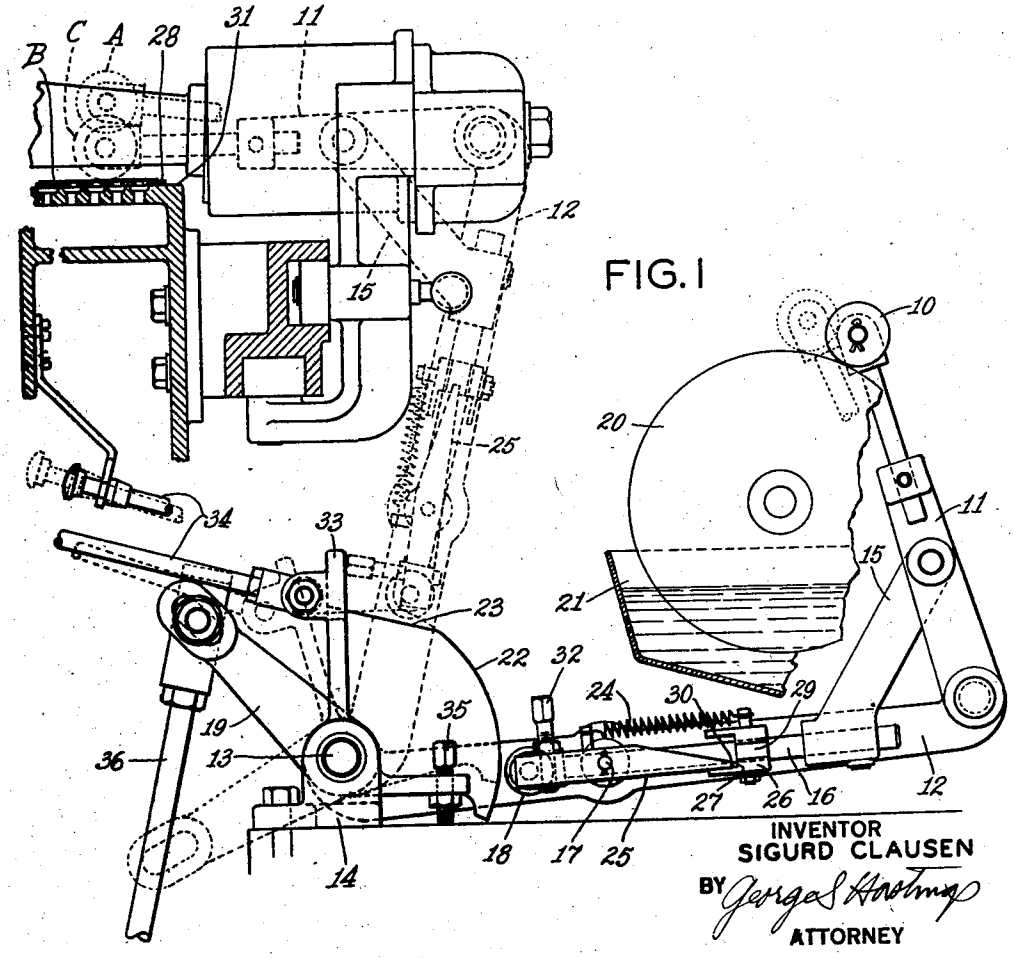


FIG. 1



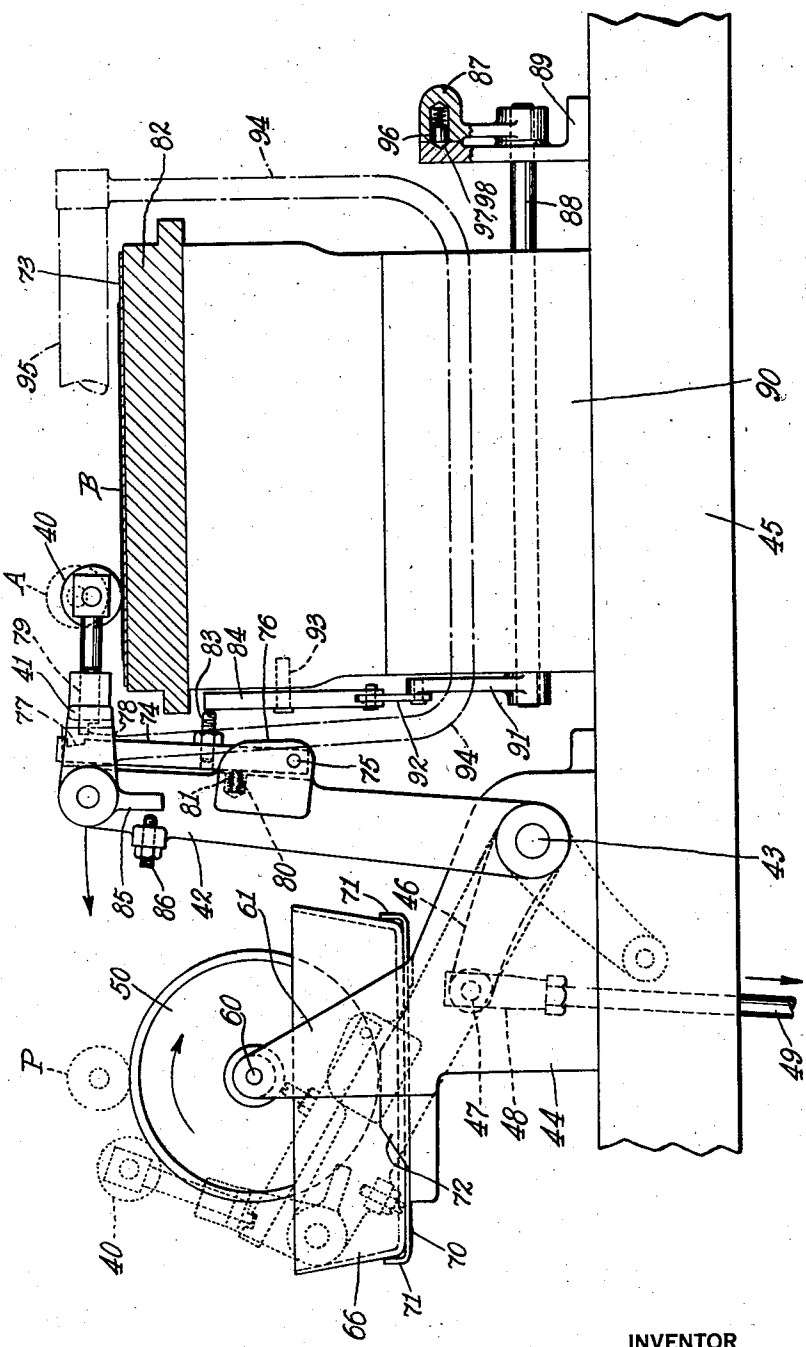
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FIG. 3



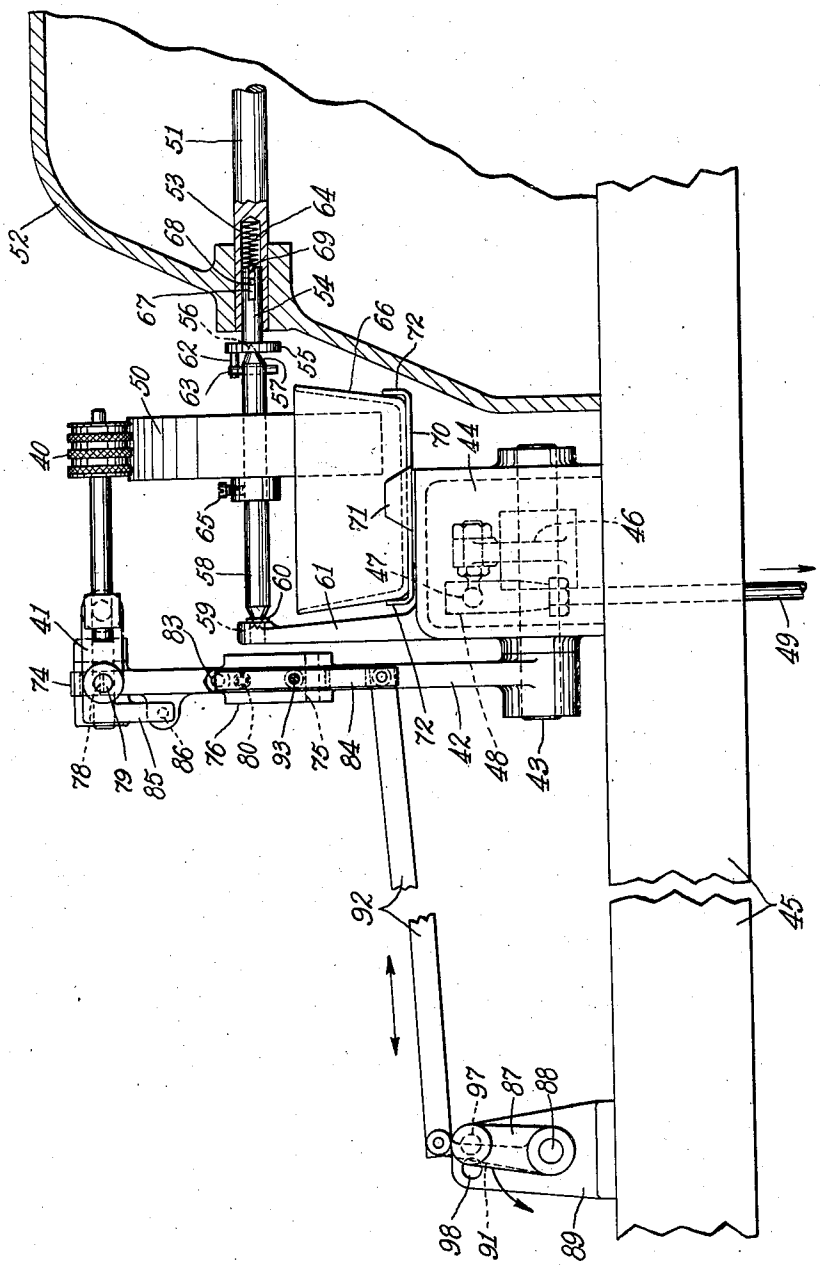
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FIG. 4



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UNITED STATES PATENT OFFICE

2,391,294

PASTER FOR CIGAR BINDERS AND THE LIKE

Sigurd Clausen, Brooklyn, N. Y., assignor to International Cigar Machinery Company, a corporation of New Jersey

Application January 23, 1942, Serial No. 427,854

5 Claims. (Cl. 131—37)

The present invention relates to improvements in cigar machine pasting devices and constitutes a continuation in part of my former application, Serial No. 206,561, which was issued as Patent No. 2,292,317, to which reference may be had for further details not herein set forth.

In cigar making machines, particularly those in which fresh bunches are made, a binder is placed on a bunch rolling table prior to the enclosure of a charge of filler in the binder and paste is applied to the binder on the rolling table before the charge enclosing operation occurs. The paste conveyor automatically travels between paste receiving position and the bunch rolling table where it delivers paste once during each machine cycle of operations. It sometimes happens that the binder is improperly positioned on the rolling table or not positioned on the table at all before the paste conveyor reaches paste delivering position; and in that event the paste is applied, not to the binder, but to the table itself. This is undesirable because it not only soils but also damages the rolling apron.

An object of the present invention is the production of a device which eliminates this trouble by preventing the paste conveyor from delivering paste to the bunch rolling table when a binder is not in proper position thereon.

In some types of cigar machines, various mechanisms such as the support for the roller coacting with the rolling apron form obstacles past which the paste applying arm must travel. It is an object of the present invention to provide an improved arm which will carry the paste applying member in elevated position past said obstacles and over the binder, and which will then cause the paste applier to descend into engagement with the binder lying upon the rolling apron.

A further object is to provide an improved and simplified paste applying mechanism for applying paste to a binder located upon the rolling apron.

Other objects and features of the invention will appear as the description of the particular physical embodiments selected to illustrate the invention progresses.

In the accompanying drawings, which form a part of this specification, like characters of reference have been applied to corresponding parts throughout the several views which make up the drawings, in which:

Fig. 1 is a side elevation of the binder leaf paster mechanism, showing its relation to the rolling mechanism.

Fig. 2 is a plan view of Fig. 1 (the rolling mechanism being omitted in order to more clearly show the paster mechanism).

Fig. 3 is a side elevation of a modified binder leaf paster mechanism, showing its relation to the rolling mechanism.

Fig. 4 is an end view of Fig. 3 (the rolling mechanism being omitted in order to more clearly show the paster mechanism).

Referring to Figs. 1 and 2, the paste applier, which in the embodiment shown is a roller 10, is adjustably attached to an arm 11, which is pivotally connected to a lever 12 attached to a shaft 13 in a bearing block 14, secured to the frame of the machine. Connection 15 is pivoted to arm 11 and adjustably attached to a rod 16 which is slidably mounted in a pivot 17 on lever 12, and carries a cam follower 18. Also secured to shaft 13 is a lever 19 which is adjustably connected to the driving mechanism of the machine.

The drive of the paster mechanism is so timed with relation to the drive for the binder rolling mechanism of the machine that the paste roller 10 is swung up into position, deposits paste on the binder B, while the binder rolling mechanism is at rest, and is withdrawn from the path of the oncoming rolling mechanism parts, the operation of which is well known to those skilled in the art.

While the paster mechanism occupies its retracted position, as shown in Figs. 1 and 2, the paste roller 10 rides on the paste supply wheel 20, which is continuously rotated by conventional and well known means (not shown). The wheel 20 is partly submerged in the paste in pot 21.

At the proper time in the machine cycle, the paster mechanism operates to swing away from the supply wheel 20, but the applier 10 remains in contact with the wheel 20 until the cam follower 18 contacts the circular track of cam 22. When the follower runs off the circular track 22 and above the straight portion 23 thereof, it permits arm 11 to swing a certain amount under the action of spring 24, one end of which is attached to a trigger 25 which is pivoted at 17 upon arm 12, and the other end of which is attached to a trigger block 26 mounted upon rod 16. It will be observed that trigger block 26 is provided with shoulders 27 with which the nose of the trigger is adapted to engage in order to maintain the applier 10 above the binder leaf section B on the rolling apron 28 until the trigger is tripped to allow the applier to be moved against the binder. A slot 29 is formed in the trigger block through which the trigger may move when its nose 30 is disengaged from shoulder 27. It will be observed, therefore, that spring 24 performs

the functions of preventing the free swing of paste roller arm 11 from the center of motion, and of operating the trigger means.

When cam follower 18 runs off the circular cam track 22, it would contact the straight portion 23, and tend to permit the paste applier arm 11 to swing the paste roller 10 into a position where it would contact the binder section B on the apron 28 which is stretched over the rolling table 31, while the applier was still moving forward. Since this coaction between the binder and applier would result in an undesirable situation, and in all probability tend to cause the applier to lift the binder B from the apron 28, the above described trigger mechanism has been provided for insuring that the applier cannot move into engagement with the binder B until the maximum swing of arm 11 has been effected. When this has been done, applier 10 has been located over the binder at the proper point A, and mechanism to be presently described is then set into operation to effect the movement of the applier to a position C for application of paste to the binder.

At the extreme position of movement of arm 12, trigger 25 through spring 24 tends to keep follower 18 in contact with straight cam section 23, and through the engagement of nose 30 with shoulder 27 of the trigger block 26 holds the paste applier in fixed position away from binder B, until adjustable trip screw 32 mounted upon the trigger abuts a projection 33 fixed to the cam 22. The movement of the arm 12 against the projection 33 causes the tripping of the trigger with the net result that nose 30 is swung away from engagement with shoulder 27, and is forced by spring 24 into slot 29, thereby allowing the spring to pull the applier down upon the binder section B. Thus as the paste applier 10 is permitted to descend upon the binder leaf, and as the return movement of the paster mechanism starts anew, applier 10 deposits the required quantity of paste upon the binder B.

The paste applier remains in contact with the binder leaf until the cam follower 18 moves back onto the circular portion of cam 22, whereupon it causes a relative longitudinal movement between trigger 25 and block 26. After the paste applier 10 has been brought into engagement with supply wheel 20, spring 24 rocks the trigger on its pivot 17 so as to engage nose 30 thereof with shoulder 27, thereby resetting the trigger mechanism for the next cycle of the machine.

All necessary adjustments for properly timing the several periods of action are arranged for.

The binder leaf B is placed on the apron 28 before the bunch rolling movement starts, and is held in a predetermined position on the apron by suction in a conventional manner well understood by those skilled in the art. The paste is applied to the binder to secure the binder when it is wrapped about the filler by the rolling apron 28.

At the completion of the rolling operation, the bunch is dropped over the edge of the rolling table 31 ready to be transferred by conventional means (not shown) for the wrapping and finishing operation.

In order to prevent the paste applier 10 from descending upon the rolling apron 28 when no binder leaf B is in position, the operator pulls a rod 34 connected to cam 22 and locks it in a desired position, as shown by the dotted lines in Fig. 1.

When the arm 12 is swung toward the binder, the arm 11 will be held in elevated position by latch 27, 30 and since the trip plate 33 has been retracted by means of rod 34, the trip screw 32 will not engage therewith. As a result, the arm will remain elevated throughout the normal paste applying cycle. The cam roller 18 will also be constrained to remain over the circular sector of cam 22 and this too would prevent the arm 11 from dropping paste applier 10 onto the apron. Two different precautions are thereby provided to prevent the past applier from placing paste upon the apron when no binder leaf is present.

Set screw 32 provides a convenient device for increasing or decreasing the amount of time allowed for the paste applier 10 to remain in contact with the binder B. By turning screw 32 in one direction or the other, it is possible to fix the point at which it is desired to have paste applier 10 fall into engagement with the binder leaf B. Suitable adjustments are also made to regulate the swing of arm 12 so that it will have completed its forward swing at the time the applier 10 is unlatched. As arm 12 starts its return swing, paste applying roller 10 travels on top of the binder leaf B, applying paste thereto. When cam roller 18 strikes circular cam 22, roller 10 is lifted out of engagement with the binder leaf B. The point at which paste applier 10 is lifted out of engagement with binder leaf B can be regulated by set screw 35. By means of the foregoing adjustment, it will be possible to regulate the location and area to which paste is applied.

An adjustment to vary the swing of paster lever 12 can be made by shifting the position of connecting rod 36 in lever 19.

In the modified embodiment shown in Figs. 3 and 4, the paste applier is a roller 40 adjustably attached to an arm 41, which is pivotally connected to a lever 42 attached to a shaft 43 in a bracket 44 secured to the bed 45 of the machine. Also fastened to shaft 43 is a lever 46 which is provided with a ball shaped stud 47 engaging in a socket 48 carried by a rod 49 which is adjustably connected to the driving mechanism of the machine.

The drive of the paste mechanism is so timed, with relation to the drive for the binder rolling mechanism of the machine, that the paste roller 40 is swung into position to deposit paste on the binder B while the binder rolling mechanism is at rest, and is withdrawn as the bunch roller commences to roll the binder B about a filler charge in a manner well known to those skilled in the art.

While the paster mechanism occupies its retracted position, as shown in dotted lines in Fig. 3, the paste roller 40 rides on the rim of the paste supply wheel 50, which is continuously rotated by a shaft 51 (Fig. 4) supported in a housing 52 of the machine. The end of shaft 51 is provided with an aperture 53 in which a stud 54 is slidably mounted. The head 55 of stud 54 is provided with a V-shaped depression 56 adapted to receive the pointed end 57 of shaft 58; the opposite end of said shaft has a similar pointed end which fits into a V-shaped depression 59 in a stud 60 fastened in the upper end of an arm 61 which extends from the bracket 44. The head 55 is equipped with a pin 62 adapted to engage the vertically mounted pin 63 secured in shaft 58 and in this manner impart motion to said shaft. The stud 54 is normally retained in the position shown in Fig. 4 by a compression spring 64 inserted in the aperture 53. The paste supply wheel 50 is adjustably attached to shaft 58 by means of a

screw 65, and is positioned so that the lower portion thereof rotates in the paste in pot 66.

Occasionally it is necessary to remove the paste supply wheel and its shaft for cleaning purposes. To facilitate the removal of the same, the stud 54 is provided with an open end slot 67 engaging a pin 68 secured in shaft 51. By grasping the head 55 of stud 54 and pressing it inwardly against the pressure of spring 64, the shaft and its wheel 50 will be free for removal from the remaining mechanism. Stud 54 also has a stop pin 69 provided to rest against pin 68, thus holding the stud in its desired position.

The paste pot 66 in the present embodiment is retained in position by simple means consisting of a flat plate 70 having upturned ears 71 and 72, the former engaging the end walls of the pot, and the latter engaging the side walls of the same. In this manner the pot can be readily removed for cleaning purposes and replaced in its previous position in a quick and easy fashion. The plate 70 is secured to the bracket 44.

At the proper time in the machine cycle, the paster mechanism operates to swing away from the supply wheel 50 and move the paste applier 40 to a position above the binder leaf section B on the rolling apron 73. When the applier 40 is in correct paste applying position, a latch (hereinafter described) is tripped to allow the paste applier 40 to descend upon the binder. The latch arm 74 is loosely mounted on a stud 75 supported in the slotted lug portion 76 of lever 42. The upper end of the arm 74 has a notch 77 which engages with a tooth 78 formed on the end of a stud 79 carried by arm 41. Notch 77 and tooth 78 are normally held in engagement by a compression spring 80 inserted in an aperture 81 provided in lever 42.

When lever 42 swings from its dotted line position (Fig. 3) to its full line position, the paste applier 40 is carried into a position where it will contact the binder section B on the apron 73 which is stretched over a conventional rolling table 82, while the applier is still moving forward. Since this contact between the binder and applier would be undesirable and in all probability tend to cause the applier to lift the binder B from the apron 73, the above described latch mechanism has been provided to prevent the applier from moving into engagement with the binder B until the maximum swing of lever 42 has been effected. When this has been done, applier 40 has been located over the binder at the proper paste applying point A, shown in dotted lines in Fig. 3, and mechanism which will now be described is set into operation to cause the paste applier 40 to engage with the binder leaf B.

When the lever 42 swings in the direction of binder B with the paste applier 40 held in raised position by the latch 77, 78, an adjustable trip screw 83 mounted upon the latch arm 74 comes into contact with a projecting trip arm 84 placed in its path. This causes the latch arm 74 to be pushed toward lever 42, thereby unlatching members 77 and 78 and causing paste applier 40 to descend upon the binder section B to apply paste thereto.

On the return swing of lever 42, the paste applier remains in contact with the binder leaf until the depending lug 85 of arm 41 contacts an adjustable screw 86 carried by lever 42, whereupon the paste applier is lifted from the binder. By regulating screw 86 it is possible to fix the point at which the paste applier 40 is lifted away from the binder B. In this way, no paste is applied to the apron because the applier is lifted out of contact with the table before it has any chance to roll off the binder leaf B.

With the lever 42 approaching its starting position, as shown in dotted lines in Fig. 3, the paste applier contacts the paste supply wheel 50 at the position P and in riding along the rim of the wheel the latch 77—78 is reset for the start of the next cycle of the machine.

The binder leaf B, as heretofore described, is placed on the apron 73 before the bunch rolling movement starts, and is held in a predetermined position on the apron by suction. Paste is applied to the binder to secure the same after the binder is rolled about the filler by the rolling apron.

At the completion of the rolling operation, the bunch is dropped over the edge of the rolling table 82 ready to be transferred by conventional means (not shown) for the wrapping and finishing operation.

In order to prevent the paste applier 40 from descending upon the rolling apron 73 when no binder leaf B is in position, the operator manipulates a handle 87 which, through connections to be presently described, causes the arm 84 to be moved from the path of the screw 83. The latch 77—78 then will not be disengaged and will hold the paste applier 40 in raised position until the lever 42 returns to its starting position.

The handle 87 is secured to a rod 88 which passes through a bracket 89 attached to table 45 and is supported in a pedestal 90 also attached to the table. The opposite end of rod 88 carries an arm 91 which at its upper end supports a link 92 connected to the forked end of arm 84 pivoted on a stud 93 supported in pedestal 90. The tripping mechanism is mounted on the inside of the U-shaped bracket 94 (shown in dot and dash lines) of conventional design, which supports the rolling pin 95. In this manner the bracket is free to travel and perform its duty of rolling the bunch when the paste applier mechanism is in its retracted position. The dot and dash showing of the bracket 94 and rolling pin 95 is deemed sufficient for purposes of the present invention. For details of a bunch rolling mechanism not herein shown or described, reference may be had to such patents as Carlson 2,081,983 and Halstead 1,926,199 and 2,255,054.

The handle 87 is provided with a spring pressed plunger 96 adapted to register with the depressions 97 and 98 in bracket 89. With the handle 87 positioned as observed in Fig. 4, the arm 84 is held in the path of the paste applier trip screw 83. In this position the latch 77—78 will be disengaged, permitting arm 41 to drop the paste applier 40 onto the binder leaf. If no binder leaf is in position on the rolling apron 73, the operator moves handle 87 so that its plunger 96 will register with depression 98. The arm 84 is thereby swung out of the path of oncoming trip screw 83 so that the latch 77—78 will remain engaged and the arm 41 will not drop the paste applier 40 onto the apron.

The trip lever 74 is arranged to engage arm 41 at a point between the pivot of said arm and the end thereof to minimize as much as possible the tendency to multiply the extent to which arm 41 is elevated.

The inventions above described may be varied in construction within the scope of the claims, for the particular devices selected to illustrate the invention are but two of many concrete embodiments of the same. The invention therefore

is not to be restricted to the precise details of the structures shown and described.

What is claimed is:

1. In a cigar machine having a bunch rolling table and a rolling apron, mechanism for applying adhesive to a binder located on said apron comprising, a pivotally mounted arm normally traveling to and fro between paste receiving and delivering stations, a paste applying device supported by said arm, said device having a cam actuated member adapted to move relative to said arm, a latch means traveling with said arm for holding said device in elevated position, a stationary abutment for unlatching said elevated arm to permit said paste applying device to descend into engagement with a binder when at the paste delivering station, and a cam for actuating said member to raise said paste applying device out of engagement with said binder as said arm travels to the paste receiving station.

2. In a cigar machine having a bunch rolling table and a rolling apron, mechanism for applying adhesive to a binder located on said apron comprising, a single pivotally mounted arm normally traveling to and fro between paste receiving and delivering stations; a second arm and a paste applier supported on said second arm, said second arm being pivotally connected to said first named arm; a latching means mounted on said first named arm for holding said second arm in a predetermined position with respect to said first named arm; means for placing said second arm in said predetermined position to be held there by said latching means; an immovable support and a substantially stationary abutment positioned underneath one lateral edge of the bunch rolling table and extending across the path of travel of said latch means to engage therewith and release said paste applier when the latter is positioned above said binder at the paste delivering station to permit said paste applier to descend upon said binder and apply paste thereto, said abutment being movably mounted on said support; means for moving said abutment out of the path of travel of said latch means to avoid having said paste applier descend into engagement with said apron when the binder is not in place on the apron, said means including a rigid member arranged beneath said table and connected to said abutment, and mechanism for operating said member to move said abutment in and out of the path of travel of said latch means; and means for raising said paste applier out of engagement with said binder on the return stroke of said first named arm to prevent paste from being applied to the apron.

3. In a cigar machine having a bunch rolling table and a rolling apron, mechanism for applying adhesive to a binder located on said apron comprising, a single pivotally mounted arm normally traveling to and fro between paste receiving and delivering stations; a second arm, carrying a paste applier, pivotally connected to said first named arm; a latching means mounted on said first named arm for holding said second arm in a predetermined position with respect to said first named arm; means for placing said arm in said predetermined position to be held there by said latching means; a substantially stationary abutment positioned across the path of travel of said latch means to engage therewith and release said paste applier when positioned above said binder at the paste delivering station to permit said paste applier to descend upon said binder and apply paste thereto; means for moving said abutment out of the path of travel of said latch means to avoid having said paste applier descend into engagement with said binder; and means for raising said paste applier out of engagement with said binder on the return stroke of said first named arm to prevent paste from being applied to the apron, said raising means including a cam actuated member supported on and adapted to move relatively to said first named arm, and connected to said second arm, and a cam for operating said member to raise said second arm with said paste applier during the return stroke of said first named arm.

4. In a cigar machine having a bunch rolling table and a rolling apron, mechanism for applying adhesive to a binder located on said apron, comprising a single pivotally mounted arm normally swinging above a horizontal axis alongside said table toward and away from said table between paste receiving and delivering stations; a second arm pivotally connected at one end to said first named arm; a paste applier connected to the opposite end of said second arm; a latch lever pivotally connected to said first named arm for latching said second arm in a predetermined position with respect to said first named arm; a stationary abutment constructed and arranged to unlatch said latch lever from said second arm to permit said second arm to swing downwardly about its pivotal connection to said first named arm and cause the paste applier to engage with a binder leaf on the rolling apron and apply paste thereto; said second arm being provided with a downwardly extending lug adjacent said pivotal connection, and said first named arm being provided with a stop mounted thereon and arranged to engage a side of said lug remote from said table while said second named arm is unlatched and the first named arm is swinging in a direction away from said table, to elevate said second arm with the applier and prevent engagement of the latter with the uncovered portion of the apron underlying the return path of the paste applier.

5. In a cigar machine having a bunch rolling table and a rolling apron, mechanism for applying adhesive to a binder located on said apron comprising, a single pivotally mounted arm traveling to and fro between paste receiving and paste applying positions, a second arm pivotally connected to said first named arm, a paste applier supported on said second arm, means on said first named arm for holding said second arm in a predetermined position, an immovable support, a stationary abutment movably mounted on said support and extending across the path of said means to engage said means as said first named arm approaches paste applying position and release said second arm to permit said paste applier, when moved to a position above the binder on the rolling apron, to descend upon the binder and apply paste thereto, a rigid member connected to said abutment, a device for moving said member to displace said abutment out of the path of said means, and mechanism for raising said paste applier out of engagement with said binder while said first named arm is moving toward paste receiving position to thereby prevent the application of paste to the apron.

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