March 18, 1924. 1,487,029

R. E. RUNDELL

CIGAR BUNCH ROLLING MECHANISM CHARGER

Filed March 19, 1923 2 Sheets-Sheet 1

Fig. 1,

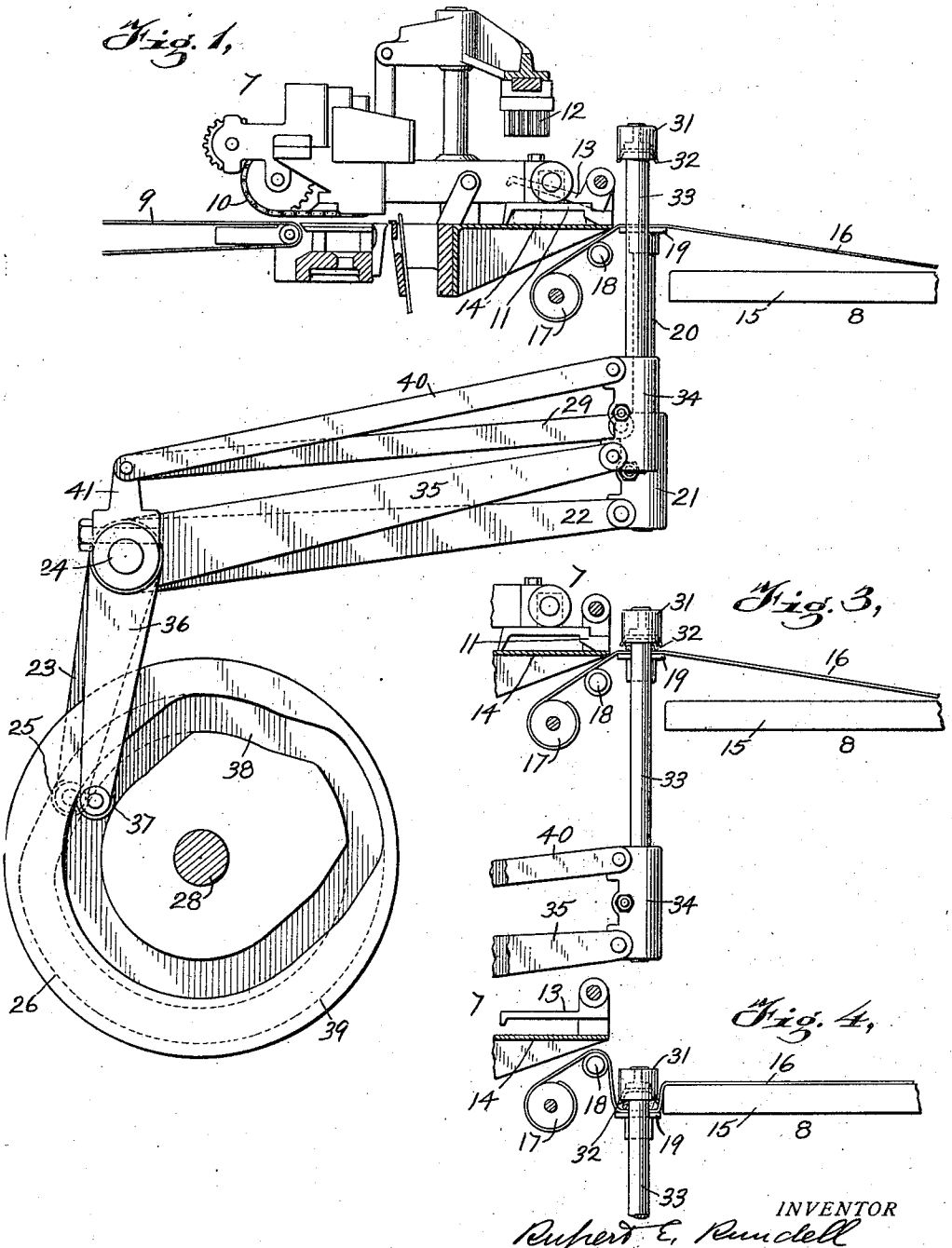

Fig. 3,

Fig. 4,

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Fig. 4,

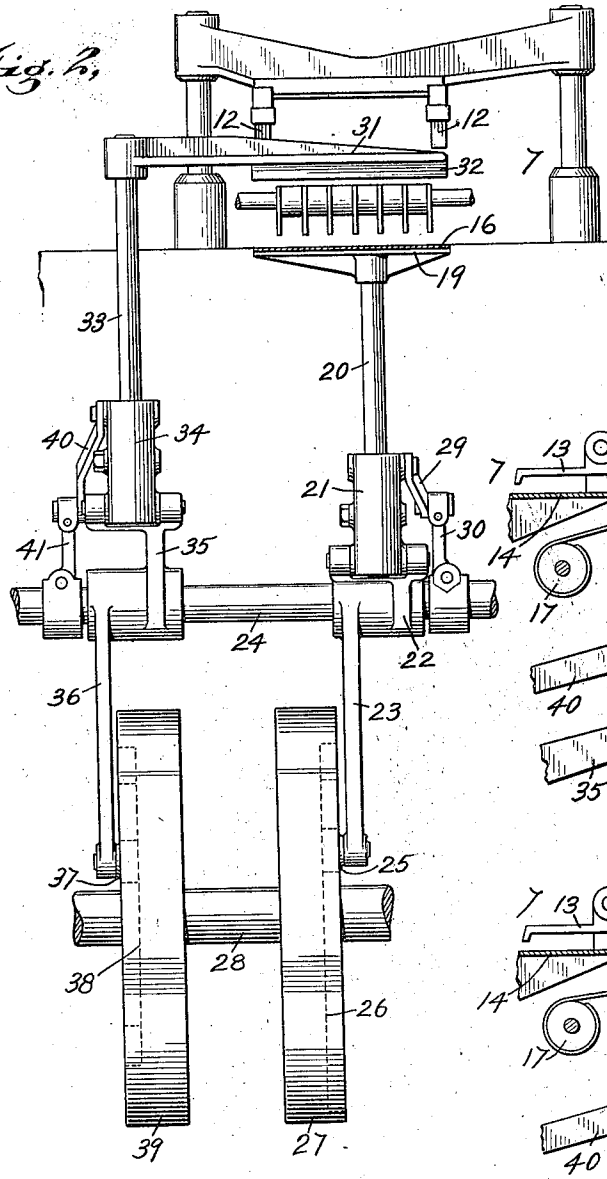


Fig. 5,

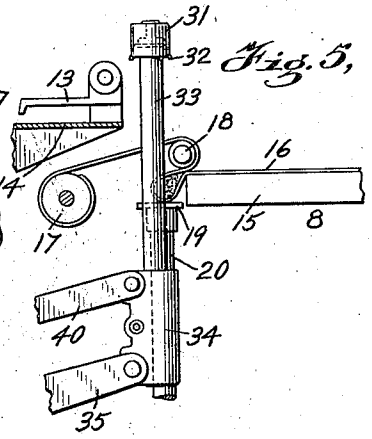
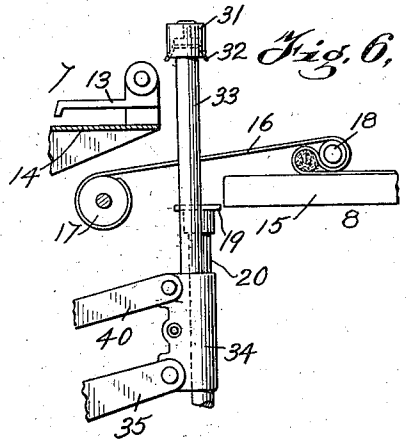


Fig. 6,



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Patented Mar. 18, 1924. 1,487,029

UNITED STATES PATENT OFFICE.

RUPERT E. RUNDELL, OF BROOKLYN, NEW YORK, ASSIGNOR TO INTERNATIONAL CIGAR MACHINERY COMPANY, A CORPORATION OF NEW JERSEY.

CIGAR-BUNCH-ROLLING-MECHANISM CHARGER.

Application filed March 19, 1923. Serial No. 625,998.

To all whom it may concern:

Be it known that I, RUPERT E. RUNDELL, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Cigar-Bunch-Rolling-Mechanism Chargers, of which the following is a specification.

This invention relates to an improvement in cigar bunch rolling mechanism chargers.

In certain cigar machines heretofore known, a cigar bunch is initially formed by placing a binder on a chianti belt, depositing a charge of filler in the loop of the belt, then enclosing the charge of filler within the binder by means of the progressive rolling action of the belt. These machines are provided with filler feeding means operative above the plane of the chianti belt. In some of these machines, a charge is directly dropped from the feeding means into the loop of the chianti belt. In other machines, it is carried part way down by a swinging arm and then dropped in the loop of the chianti belt. In both cases, however, the charge of filler which has been compacted in the feeding means opens out when it is dropped into the loop of the chianti belt—not always in the same manner or to the same degree, because the tobacco itself varies. It has been found that this is the cause of more or less uneven bunches, and the main object of the present invention is the production of a device which removes the cause of this difficulty and thereby eliminates it. Another object of the invention is the production of a device having long-filler feeding means, bunch rolling means including a charge rolling element such as a chianti belt, or, in some constructions, a continuous rolling element, and means acting on said element to cause it to act as an extension of said feeding means, thereby receiving the compacted charge directly from the feeding means without at any time dropping the charge. 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 specifically 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 side elevation, partly in section, of a device constructed in accordance with the invention; Fig. 2 is a front elevation of the structure shown in Fig. 1, certain parts being omitted; and Figs. 3, 4, 5 and 6 are fragmentary views of a part of the structure shown in Figs. 1 and 2, and illustrating the operation of the device.

In carrying the invention into effect, there is provided a long-filler feeding means, bunch rolling means including a charge rolling element, and means acting on said element to cause it to act as an extension of said feeding means, thereby receiving the charge directly from the feeding means to avoid the difficulty heretofore encountered where the charge was dropped and opened up in dropping. In the best constructions, the feeding means includes a feed table operative in one plane; the rolling means includes a chianti belt operative in a lower plane; the means acting on the chianti belt to cause it to act as an extension of the feeding means includes an elevating device for raising the belt to the plane of the feeding means; and coacting means is provided for clamping a charge of filler on and for forming a loop in said belt as the charge is lowered to the plane of operation of the chianti belt. All of the above mentioned parts, devices and means may be widely varied in construction within the scope of the claims, for the particular device 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, 7 indicates generally long-filler feeding means including a feed table operative in a certain plane, and 8 indicates generally bunch rolling means operative in a lower plane. The particular feeding means selected for illustrative purposes include a feed belt 9, a pressure belt 10, a charging plunger 11, charge trimming knives 12, a charge retainer 13, and a feed table 14. The bunch rolling means includes a table 15, a chianti belt 16 overlying said table, a belt tension device 17, and a loop forming roller 18. All of the parts above described are old and well known in the art and since a more detailed

description of the same is unnecessary to a full understanding of the present invention, it is omitted in the interest of brevity and clearness.

The charges of long-filler are fed forward by the feeding means on the feed table 14, then they are successively pushed off this table by means of the plunger 11. When the plunger 11 is in operation to push a charge of long-filler from the table 14, the charge rolling element or chianti belt 16 is raised (by means of mechanism to be presently described) to the plane of operation of the feed table 14; that is, to the position shown in Fig. 1. By an inspection of this figure it will be readily understood that the charge is pushed by the plunger 11 from the table 14 directly on the belt 16 without disturbance of its compacted condition. After a charge has been thus placed directly on the chianti belt 16, the belt and the charge are lowered to the normal position of the chianti belt at the charge receiving stage of its operation.

For the purpose of raising the chianti belt to cause it to act as an extension of the feeding means, there is provided a platen 19 underlying said chianti belt and carried on the upper end of a flying plunger 20. The lower end of the plunger 20 is secured in a housing 21; this housing is pivotally connected to the arm 22 of a two-armed cam lever 22—23 fulcrumed on a bar 24 suitably supported in the side frames of the cigar machine of which the present mechanism is a part. This machine is well known in the art and its frames are therefore not shown in the drawings. The arm 23 carries a bowl 25 tracking in a cam groove 26 formed in a cam 27 fast on a shaft 28 which is one of the main cam shafts of the cigar machine. For the purpose of maintaining the flying plunger 20 and platen 19 in upright position during its movement, the housing 21 is also pivoted to one end of a parallel bar 29, the other end of this bar being pivoted on an upright 30 clamped to the bar 24 before referred to. The cam track 26 is timed to raise and lower the platen 19 at the proper time to cause the chianti belt 16 to receive a charge from the feeding means and to lower it to its proper position before the roller 18 comes into operation. For the purpose of clamping a charge deposited on the chianti belt 16 when the latter is in its elevated position, and to prevent the displacement of the charge during the descent of the chianti belt to its normal position, and to act as a loop forming mechanism, there is provided an arm 31 carrying an inverted trough 32 overlying the chianti belt 16 and carried by the upper end of a flying plunger 33. The lower end of the flying plunger 33 is carried by a housing 34 which is pivoted to an arm 35 of a cam lever 35—36 fulcrumed on the bar 24 before referred to. The arm 36 carries a bowl 37 tracking in a cam groove 38 formed in a cam 39 fast on the shaft 28 before referred to. The housing 34 is also pivoted to one end of a parallel bar 40, the other end of this parallel bar being pivoted to an upright 41 clamped on the bar 24 before referred to. The cam groove 38 is timed to cause the trough 32, carried by the arm 31, to descend and clamp a charge on the chianti belt above the platen 19 immediately after the charge has been deposited on said belt by means of the plunger 11. The relative position of the parts at this time is clearly shown in Fig. 3. Both flying plungers, the platen 19 and the arm then descend together to the position shown in Fig. 4, and during this movement the charge is held against displacement and the necessary loop is formed in the belt. The flying plunger 33, carrying the arm 31 and trough 32, is then raised to the position shown in Fig. 5. This permits the roller 18 of the bunch rolling means to come into operation, passing beneath the arm 31. As indicated in Fig. 6, the parts remain in this position until the charge is rolled into the binder and the bunch is thereby formed, and until the roller 18 returns to the position shown in Fig. 1; then the platen 19 moves upwardly to raise the chianti belt 16 to the plane of operation of the feeding means. This completes the cycle of operations which is then repeated.

It will be readily understood from the description and by an inspection of the drawings that the compacted charge delivered from the feeding means by the plunger 11 has no opportunity to open up and therefore is not displaced during its transfer from the filler feeding means to the bunch rolling means, and this control of the charge during its transit remedies the difficulty heretofore encountered in forming uniform bunches.

What is claimed is:

1. In a cigar machine, the combination with long-filler feeding means, of bunch rolling means including a charge rolling element, and means for moving said element to cause it to act as an extension of said feeding means.

2. In a cigar machine, the combination with a long-filler feed table, of bunch rolling means including a charge rolling element, and means for moving said element to cause it act as an extension of said table.

3. In a cigar machine, the combination with a long-filler feed table, of bunch rolling means including a charge rolling element, and cam-actuated means for moving said element to cause it to act as an extension of said table.

4. In a cigar machine, the combination with a long-filler feed table, of bunch roll-

ing means including a chianti belt, and means for moving said belt to cause it to act as an extension of said table.

5. In a cigar machine, the combination with a long-filler feed table operative in one plane, of bunch rolling means including a chianti belt operative in a lower plane, and means for raising said belt into the plane and at the delivery end of said table.

6. In a cigar machine, the combination with a long-filler feed table operative in one plane, of bunch rolling means including a chianti belt operative in a lower plane, means for raising said belt into the plane and at the delivery end of said table, and means for clamping a charge of filler on and for forming a loop in said belt.

7. In a cigar machine, the combination with a long-filler feed table operative in one plane, of bunch rolling means including a chianti belt operative in a lower plane, a platen underlying said belt, a flying plunger carrying said platen, and means for raising and lowering said plunger.

8. In a cigar machine, the combination with a long-filler feed table operative in one plane, of bunch rolling means including a chianti belt operative in a lower plane, a platen underlying said belt, a flying plunger carrying said platen, a cam-actuated lever for raising and lowering said plunger, and a parallel bar for maintaining said plunger in upright position throughout its movement.

9. In a cigar machine, the combination with a long-filler feed table operative in one plane, of bunch rolling means including a chianti belt operative in a lower plane, an arm overlying said belt, a flying plunger carrying said arm, and means for raising and lowering said plunger.

10. In a cigar machine, the combination with a long-filler feed table operative in one plane, of bunch rolling means including a chianti belt operative in a lower plane, an arm overlying said belt, a flying plunger carrying said arm, a cam-actuated lever for raising and lowering said plunger, and a parallel bar for maintaining said plunger in upright position throughout its movement.

11. In a cigar machine, the combination with a long-filler feed table operative in one plane, of bunch rolling means including a chianti belt operative in a lower plane, a platen underlying said belt, a flying plunger carrying said platen, an arm overlying said belt, a flying plunger carrying said arm, and cam-actuated means for raising and lowering said plungers.

12. In a cigar machine, the combination with a long-filler feed table operative in one plane, of bunch rolling means including a chianti belt operative in a lower plane, a platen underlying said belt, an arm overlying said belt, and means for raising and lowering said platen and said arm in part in synchronism.

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

RUPERT E. RUNDELL.