

June 30, 1925.

1,543,876

R. E. RUNDELL

CIGAR BUNCH MAKING MECHANISM

Filed March 24, 1924

2 Sheets-Sheet 1

Fig. 1.

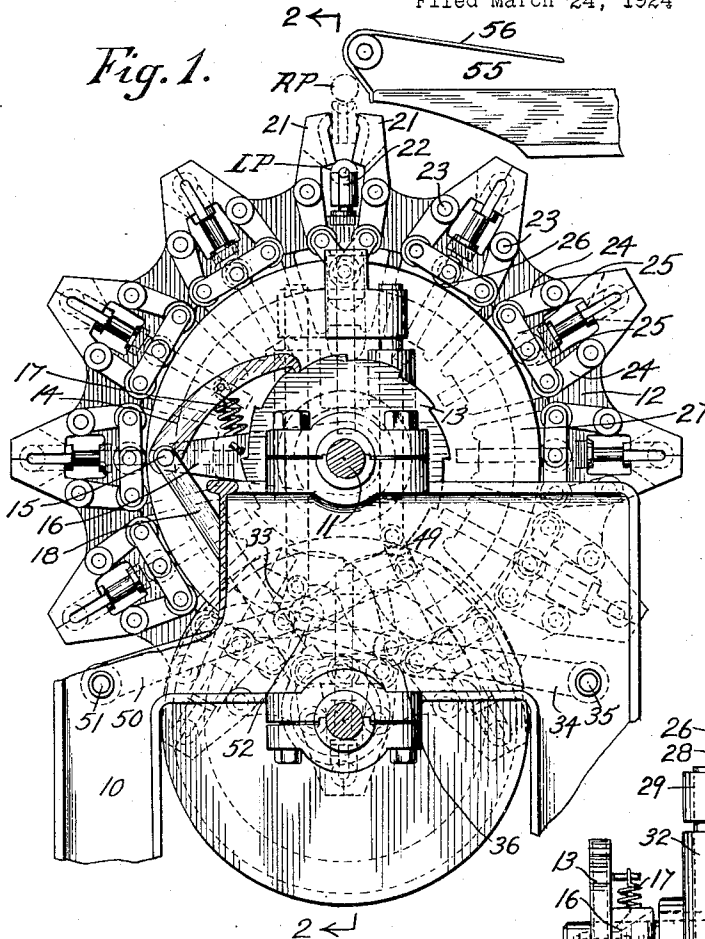


Fig. 2.

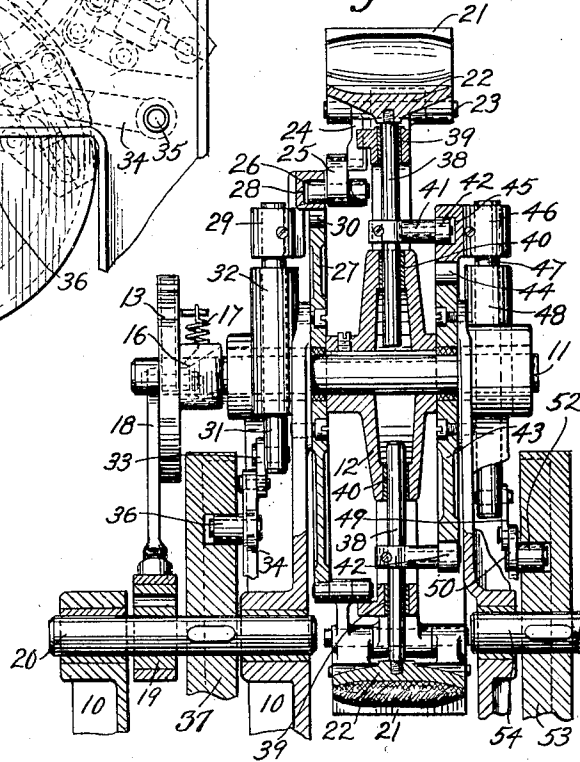
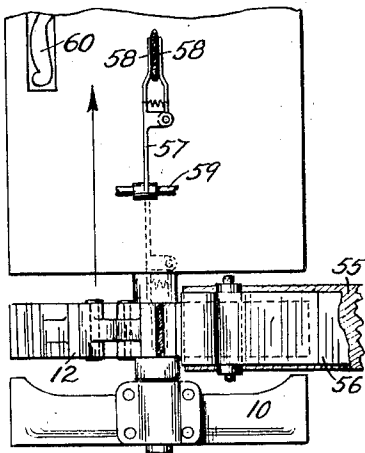


Fig. 3.



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Fig. 4.

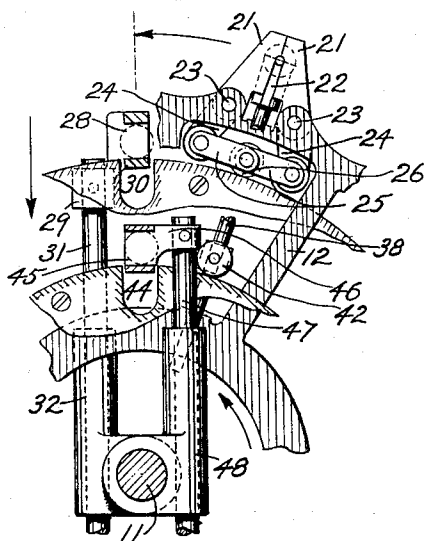


Fig. 5.

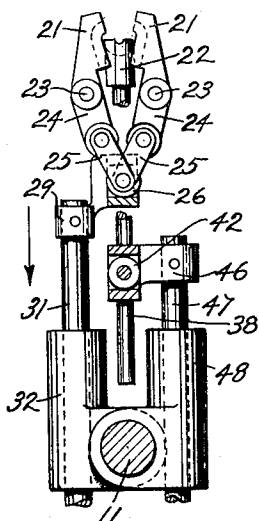


Fig. 6.

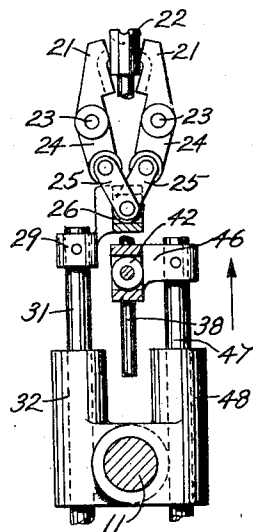


Fig. 7.

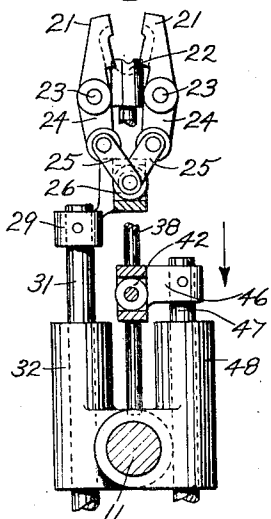


Fig. 8.

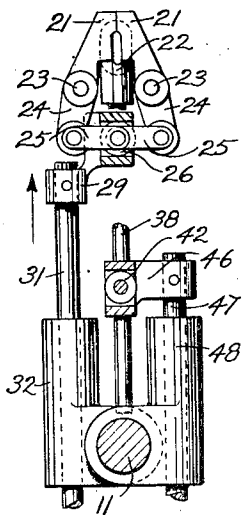
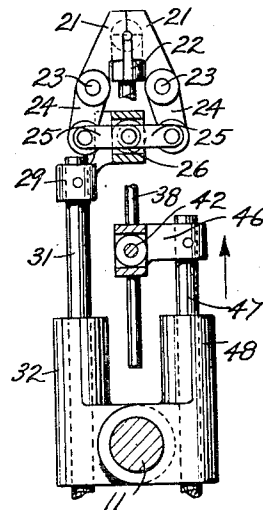


Fig. 9.



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UNITED STATES PATENT OFFICE.

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

CIGAR-BUNCH-MAKING MECHANISM

Application filed March 24, 1924. Serial No. 701,241.

To all whom it may concern:

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

This invention relates to an improvement in a cigar bunch making mechanism which may be used in the manufacture of concentrated bunches; and by substituting certain parts for others, it may also be used in the manufacture of fresh work cigar bunches having shaped ends. The main object of the invention is the production of a simple and compact mechanism of this general character, which may receive bunches to be concentrated, or to be shaped, directly from bunch forming means; and from which concentrated bunches, or shaped bunches, may be transferred to suitable wrapping mechanism wherein they are transformed into finished cigars. With this 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 pointed out 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 of a device constructed in accordance with the invention; Fig. 2 is a cross-sectional view taken on the line 2—2 in Fig. 1; Fig. 3 is a diagrammatic plan view indicating the general relation of bunch forming and bunch wrapping means to the structure shown in Figs. 1 and 2; and Figs. 4 to 9 inclusive are fragmentary sectional views illustrating the operation of the concentrating devices, or shaping devices, shown in Figs. 1 and 2.

In carrying the invention into effect, there is provided a turret having a horizontal axis; a plurality of sectional bunch containers arranged about and across the perimeter of said turret, each being adapted to contain a single bunch and to concentrate it when used for this purpose, or to shape it when used for that purpose; means for intermittently rotating the turret to successively bring the bunch containers into position to

receive bunches to be acted upon and to permit removal of bunches that have been acted upon; means for holding said containers in closed position during turret travel; and container opening and closing means successively engaging said containers at bunch charging and discharging position while the turret is at rest. In the best constructions, there is further provided means for successively forming bunches and supplying them directly to the containers, and means for transferring bunches away from said containers as to a suitable wrapping mechanism. The above mentioned parts 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, 10 indicates a frame of a cigar bunch machine in connection with which the present mechanism is used. The frame 10 supports a shaft 11, upon which is mounted a turret 12. The shaft 11 and turret 12 are given an intermittent rotating movement by a pawl and ratchet mechanism which includes a ratchet wheel 13, fast on the shaft 11. Engaging this ratchet is a pawl 14, pivoted at 15 to the outer end of an arm 16, which is loosely mounted on the shaft 11 just inside the ratchet 13. The pawl is held in operative relation with the ratchet wheel 13 by means of a spring 17, one end of which is fast to the pawl 14, and the other end to the arm 16. The arm 16 is oscillated about the axis of the shaft 11 by means of an eccentric rod 18 which is connected to the arm and pawl at 15. This rod is operated by an eccentric 19, fast on a short shaft 20, which is one of the cam shafts of the cigar bunch machine.

A plurality of sectional bunch containers are provided, and these containers are arranged about and across the perimeter of the turret 12. As shown, each bunch container consists of two oppositely disposed and swinging sections 21—21, and a third reciprocating section 22. When bunches are to be "concentrated", these sections extend throughout the length of the bunch; but

when the ends of a fresh work bunch are to be "shaped", then the mid-section of the container sections is cut away, so that it will not act upon the bunch when the sections are brought into closed inter-relation.

Each container section 21 is fulcrumed at 23 to the turret 12, and each has an arm 24 connected to one of the links 25—25 of a toggle mechanism having a cam roller 26 which rides on the periphery of a stationary cam 27 throughout the travel of the container around the circuit, excepting at bunch receiving and discharging position. This cam 27 serves to keep the containers closed during their traveling movement.

At bunch receiving and discharging position which, in the device selected to illustrate the invention, is at the top of the turret, there is provided container opening and closing means including dual operating members actuated in non-synchronism and movable radially with respect to the turret. One of these operating members controls the swinging movement of the container sections 21—21 of the group which at the time lies within the range of action. As the turret rotates and a bunch container comes into receiving and discharging position, the cam bowl 26 of its toggle mechanism rides off of the stationary cam 27 into a channel 28 formed in a head 29, a part of which lies in a gap 30 formed in the periphery of the stationary cam 27. The head 29 is secured to a plunger 31 slidably mounted in a long bearing 32 formed in the frame of the machine. The lower end of the plunger is connected by means of a link 33 to a cam lever 34, fulcrumed at 35 to the frame 10. This cam lever carries a cam bowl 36 tracking in a suitable groove in a cam 37, fast on the shaft 20 before referred to. The groove of the cam 37 is of the proper contour to cause the toggle links 25 to be pulled downwardly to open the sections 21—21, as shown in Fig. 1, only when the container is in bunch receiving and discharging position.

The third section 22 of each container is likewise operated when the container of which it is a part is in bunch receiving and discharging position. Each of the sections 22 is mounted upon a stem 38 slidable radially in bearings 39—40 formed in the turret 12. Between these bearings, each stem 38 carries an arm 41 which is clamped to it, and this arm 41 carries a cam bowl 42 which, during the travel of the turret, rides on the perimeter of a stationary cam 43. The cam 43, however, is provided with a gap 44 at bunch receiving and discharging position; and as one of the bunch containers approaches bunch receiving and discharging position, its cam bowl 42 rides off the perimeter of the cam 43 into the channel 45 of an oper-

ating member 46 which is fast on the top of a plunger 47 slidably mounted in a bearing 48 on the frame of the mechanism. The lower end of the plunger 47 is connected by means of a link 49 to a cam lever 50 fulcrumed at 51 to the frame 10. The lever 50 carries a cam bowl 52 tracking in a suitable groove in a cam 53 fast on a shaft 54 which is one of the cam shafts of the bunch machine.

When one of the bunch containers reaches bunch receiving and discharging position, the cam 37 first comes into operation to swing apart or open the contained sections 21—21. The cam 53 next comes into operation to elevate the container section 22. If at this time there is a bunch in the container, it will be discharged therefrom by the upward movement of the container 22; but if not, the container section 22, when it reaches its uppermost position, will be in position to receive a bunch and thereafter to lower it into position during the section retreating movement. The receiving position of the container section 22 is indicated by the reference characters RP in Fig. 1. During its retreating movement, the container section 22, carrying the bunch, is lowered to its lowermost position marked LP. Then the sections 21—21 are swung toward each other, and thereafter the section 22 is elevated from the position LP to coact with the closed sections 21—21, to either concentrate the entire bunch, or to shape its ends, as the case may be.

Means are provided for successively forming bunches and supplying them to the containers. As shown, this means includes a rolling table 55 and a bunch rolling chianti belt 56, of well known construction and operation, which delivers a rolled bunch directly to the position RP.

There is further provided means for transporting bunches away from said containers. This transporting means is indicated in Fig. 3 by an arm 57 having spring pressed bunch reining jaws 58—58. The arm 57 is mounted on and operated by a rock shaft 59 driven by suitable connections, not shown, from one of the power shafts of a cigar wrapping machine in connection with which the present device is used. This cigar wrapping machine has a wrapper cutting bed 60, as is customary in such machines. The arm 57 receives a bunch from the container section 22 when the latter is in its uppermost position, and transports and delivers it to the wrapping mechanism, not shown, just before the bunch rolling chianti belt 56 reaches the position shown in Fig. 1, in which it delivers a fresh bunch to the container section 22, from which a treated bunch has just been removed.

In view of the foregoing, a detailed de-

scription of the operation of the device is deemed unnecessary and is therefore omitted in the interest of brevity.

What is claimed is:

5 1. In a cigar bunch making mechanism, the combination with a turret having a horizontal axis, of means for intermittently rotating said turret, a plurality of sectional bunch
10 containers arranged about and across the perimeter of said turret, means for holding said containers in closed condition during turret travel, and container opening and
15 closing means successively engaging said containers at bunch charging and discharging position while said turret is at rest.

2. In a cigar bunch making mechanism, the combination with a turret having a horizontal axis, of means for intermittently rotating said turret, a plurality of sectional
20 bunch containers arranged about and across the perimeter of said turret, means for holding said containers in closed condition during turret travel, and container opening and
25 closing means successively engaging said containers at bunch charging and discharging position while said turret is at rest, said holding means including stationary cams engaging
30 said containers except at bunch charging and discharging position.

3. In a cigar bunch making mechanism, the combination with a turret having a horizontal axis, of means for intermittently rotating said turret, a plurality of sectional
35 bunch containers arranged about and across the perimeter of said turret, means for holding said containers in closed condition during turret travel, and container opening and
40 closing means successively engaging said containers at bunch charging and discharging position while said turret is at rest, said holding means including stationary cams
45 provided with gaps at bunch charging and discharging position to provide clearance for said container opening and closing means.

4. In a cigar bunch making mechanism, the combination with a turret having a horizontal axis, of means for intermittently rotating said turret, a plurality of sectional
50 bunch containers arranged about and across the perimeter of said turret, means for holding said containers in closed condition during turret travel, and container opening and
55 closing means successively engaging said containers at bunch charging and discharging position while said turret is at rest, said opening and closing means having guiding
60 members movable radially with respect to said turret.

5. In a cigar bunch making mechanism, the combination with a turret having a horizontal axis, of means for intermittently rotating said turret, a plurality of sectional
65 bunch containers arranged about and across the perimeter of said turret, means for hold-

ing said containers in closed condition during turret travel, and container opening and closing means successively engaging said
70 containers at bunch charging and discharging position while said turret is at rest, said opening and closing means including dual operating members actuated in non-syn-

6. In a cigar bunch making mechanism, the combination with a turret having a horizontal axis, of means for intermittently rotating said turret, a plurality of sectional
75 bunch containers arranged about and across the perimeter of said turret, means for holding said containers in closed condition during turret travel, and container opening and
80 closing means successively engaging said containers at bunch charging and discharging position while said turret is at rest, said opening and closing means including container
85 operating devices movable radially with respect to said turret.

7. In a cigar bunch making mechanism the combination with a turret having a horizontal axis, of means for intermittently rotating said turret, a plurality of sectional
90 bunch containers arranged about and across the perimeter of said turret, means for holding said containers in closed condition during turret travel, and container opening and
95 closing means successively engaging said containers at bunch charging and discharging position while said turret is at rest, said opening and closing means including container
100 operating devices movable radially with respect to said turret, and plungers for actuating said operating devices reciprocating in stationary bearings on either side of the turret axis.

8. In a cigar bunch making mechanism, the combination with a turret having a horizontal axis, of means for intermittently rotating said turret, a plurality of sectional
105 bunch containers arranged about and across the perimeter of said turret, means for holding said containers in closed condition during turret travel, container opening and
110 closing means successively engaging said containers at bunch charging and discharging position while said turret is at rest, and means for successively supplying bunches to
115 said containers.

9. In a cigar bunch making mechanism, the combination with a turret having a horizontal axis, of means for intermittently rotating said turret, a plurality of sectional
120 bunch containers arranged about and across the perimeter of said turret, means for holding said containers in closed condition during turret travel, container opening and
125 closing means successively engaging said containers at bunch charging and discharging position while said turret is at rest, and means for successively forming bunches and
130 supplying them directly to said containers.

10. In a cigar bunch making mechanism, the combination with a turret having a horizontal axis, of means for intermittently rotating said turret, a plurality of sectional
6 bunch containers arranged about and across the perimeter of said turret, means for holding said containers in closed condition during turret travel, container opening and closing means successively engaging said containers at bunch charging and discharging position while said turret is at rest, and means for transporting bunches away from said containers. 10

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

RUPERT E. RUNDELL.