No. 628,677. Patented July 11, 1899.

R. M. RUSSELL.

CIGAR BUNCH ROLLING MACHINE.

(Application filed Aug. 20, 1896.)

(No Model.)

Fig. 1.

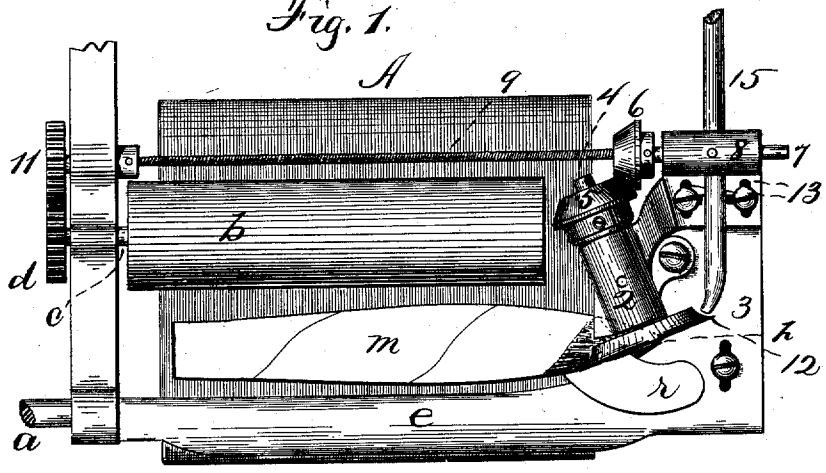


Fig. 2.

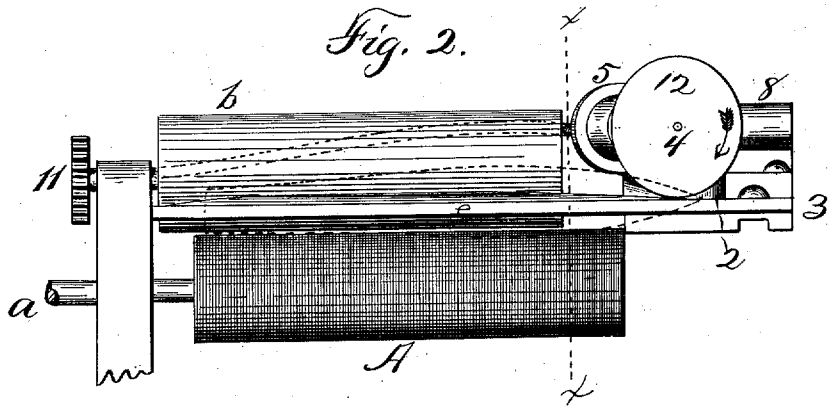
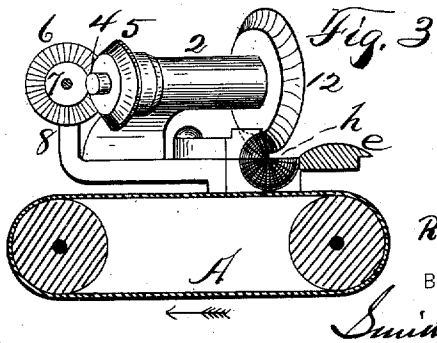


Fig. 4.



Fig. 3



INVENTOR

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BY

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WITNESSES:

Charles W. Morrin

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROSS M. RUSSELL, OF BINGHAMTON, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE KEYES-BAKER CIGAR ROLLING MACHINE COMPANY, OF SAME PLACE.

CIGAR-BUNCH-ROLLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 628,677, dated July 11, 1899.

Application filed August 20, 1896. Serial No. 603,334. (No model.)

To all whom it may concern:

Be it known that I, ROSS M. RUSSELL, of Binghamton, in the county of Broome, in the State of New York, have invented new and useful Improvements in Cigar-Bunch-Rolling Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to a cigar-bunch-rolling machine, and particularly to mechanisms for shaping and finishing the tip as the wrapper is being wound onto it by the rotation of a bunch in a bunch-rolling chamber.

My object is to produce a mechanism which will first shape the tip of the bunch by gathering the stock more or less to build the tip out until it assumes a perfect shape and which will then gather each wind of the wrapper around the tip, so that it will lie smooth upon and conform to the shape of the perfected tip of the bunch, building out more or less to accomplish the result.

A further object is to apply the paste to the wrapper just in advance of each wind as it is being wound or rolled onto the tip.

A further object is to provide a mechanism which will take the place of a workman's fingers in finishing the point or head of a tip, thus performing mechanically what a cigar-maker does manually.

My mechanism comprises a rotary gatherer operating upon the tip of the bunch to gather the stock therein and true it up to the shape desired. Then operating upon each successive wind of the wrapper onto the tip after it has been wound thereon it gathers the wrapper thereonto and smooths it down and fills out the head, so that the tip is perfect. This gatherer also receives the paste and applies it to the wrapper in advance of each of the final winds, so that each of them is stuck down, including those upon the point of the tip, as fast as wound. It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan of my device applied to a cigar-bunch-rolling machine, part of which is also shown. Fig. 2 is a front elevation of the same. Fig. 3 is a transverse sectional elevation on line $x\,x$ in Fig. 2. Fig. 4 is a vertical section of the gathering-roller and part of its driving-shaft, the dotted lines representing a bunch and wrapper being rolled or wound thereon.

For the purpose of illustrating the principle and operation of my invention I have shown it as applied to the cigar-bunch-rolling machine upon which a patent was issued to John Bunn, Charles A. Baker, and Frank R. Keyes, dated March 5, 1895, and numbered 535,048, and of which the following parts are shown, being the greater part of those constituting the bunch-rolling chamber.

A is the endless apron constituting the bottom of said chamber, being mounted upon rollers, as shown and described in said patent, the front roller being carried upon the shaft a. The roller b upon the shaft c, driven by the gear d, constitutes the rear of said chamber. The wrapper-stretcher e constitutes the front thereof, and h is the tip concavity. The presser-roller shown in said patent is omitted, as if shown it might tend to obscure or cover the bunch in the rolling-chamber.

This invention can be readily adapted and applied to any kind of cigar-bunch-rolling machine embodying or employing a bunch-rolling chamber whether said chamber is stationary or is mounted upon or carried by a reciprocating or traversing frame or carriage.

In a suitable upright 2, suitably erected upon the table 3, a shaft 4 is suitably journaled to be driven by suitable gearing, as the bevel-gears 5 on the shaft 4 and 6 upon the shaft 7, which is suitably journaled in an upright 8, suitably erected upon said bed. The shaft 7 is suitably driven, as by a flexible shaft 9, secured to the shaft which carries the driving-gear 11, driven, as shown, by the gear d upon the shaft of the rear roller b or in any other suitable manner. This drives the bevel-gears 5 and 6, the shaft 4, and the rotary bunch and wrapper gatherer 12 thereon. This consists of a disk of metal beveled and concaved substantially as shown. Its position is such that it stands in a plane more or less angular to the axis of the bunch m, and such alinement can be varied by adjusting it by

means of the set-screws and intersecting slots 13, and at all times its lower periphery will engage with either the bunch or wrapper. The concavity approximately, if not actually, represents a segment of the outer surface of the head as finished. The bunch is rotated from the rear over toward the front of the bunch-rolling chamber, and the gatherer is driven in the opposite direction, so that the engagement of the concave segment thereof exerts a force against the head in a direction substantially longitudinal to the bunch and at the same time in a direction of force or pressure angular to the axis of the bunch, whereby in the first place the head of the bunch is pressed and compressed and the stock therein is gathered and wedged laterally and otherwise, so that all of the inequalities existing in the head are filled out and smoothed down, and the head is brought to perfect shape and smoothed down, conical and more or less convex in its outer face back from the apex of the head. This prepares the head for the wrapper while the wrapper is being wound onto the rest of the bunch. Then as it is wound onto the head the gatherer engages with each wind after it is wound, gathers it more or less, and smooths it down until finally the apex or point of the head is wound, gathered, smoothed, and finished by said rotating gatherer, all of said head being true and smooth, and through the gathering action no space or cavity remains into which the wrapper can shrink while it is drying to make the head rough or uneven in shape or to create a neck adjacent to the apex of said head, all being gathered and filled out by the gathering action.

A pipe 15 is suitably connected to any suitable source for paste and is provided with a suitable orifice through which by any suitable means a modicum of paste is ejected or discharged at the will of the operator—as, for instance, intermittently—as shown and described in said patent. The paste is ejected onto said gatherer and in the concavity thereof, whereby it is thus mechanically and not manually distributed and spread onto each wind after it has been wound and so that the following wind is secured by the paste upon the preceding one down to and including the final wind onto the tip-point or apex of the head.

It will be seen that the gatherer engages with each wind of the wrapper after it has been wound and just in advance of the succeeding or following wind until the final wind and that it then engages with the final wind upon the apex of the head to roll it down, gather it, and smooth it to finish the head.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine of the class described, the combination with a suitable bunch-rotating mechanism and a concave tip-receiver of a single rotating gatherer adjacent thereto having a concaved face engaging with a rotating bunch, and means to rotate it in the opposite direction to that of the rotation of the bunch.

2. In a machine of the class described the combination with a suitable bunch-rotating mechanism and a concave tip-receiver, of a single rotating gatherer adjacent thereto having a concaved working face and erected at an angle to the axis of the rotating bunch and engaging with it, and means to drive said gatherer in the opposite direction to that of the rotation of the bunch.

3. In a machine of the class described a rotating gatherer erected at an angle to the axis of the rotating bunch, and having a beveled and concaved working face which engages with the head of the bunch, and means to drive said bunch and gatherer in opposite directions.

4. In a machine of the class described, a bunch-rolling chamber combined with a rotating gatherer having a concaved working face complementary to the inner face of said chamber and engaging with the head of a bunch in said chamber to apply force thereto upon a line longitudinal to said bunch, and means to drive said bunch and gatherer simultaneously in opposite directions.

5. In a machine of the class described, a tip-forming chamber, in combination with a power-driven gatherer engaging with the tip of a rotating bunch, within said chamber, before, and while, and after, the wrapper is wound thereon.

6. In a machine of the class described, a tip-forming chamber, and a rotating gatherer having a concaved working face in contact with the tip of a rotating bunch within said chamber, and means to apply paste to said concaved face while in motion, as and for the purposes specified.

7. The combination with a cigar-header having a tip-forming chamber, of a positively-driven gatherer mounted adjacent to said chamber so as to form a movable portion of the interior surface thereof.

8. The combination with a cigar-header having a tip-forming chamber, of a rotating gatherer having a concaved working face adjacent to said chamber so as to form a movable portion of the interior surface thereof, and mounted to rotate at an angle to the axis of the rotating bunch, and means to drive said gatherer in an opposite direction to that of the rotation of the bunch.

9. The combination with a cigar-header, having a tip-forming chamber, of a conical roller mounted adjacent to said chamber so as to form a movable portion of the interior surface thereof, and means to supply paste to the working face of said roller.

In witness whereof I have hereunto set my hand this 15th day of August, 1896.

ROSS M. RUSSELL.

In presence of—
ALEX. CUMMING,
GEO. C. RIXEON.