(No Model.)

F. C. MILLER.

CIGAR BUNCH ROLLER.

No. 421,296. Patented Feb. 11, 1890.

Fig. 1.

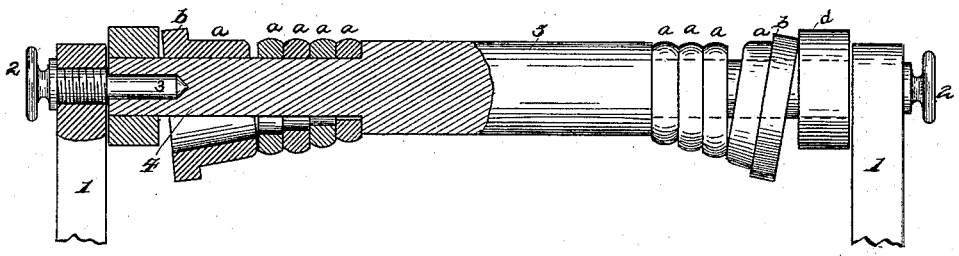


Fig. 2.

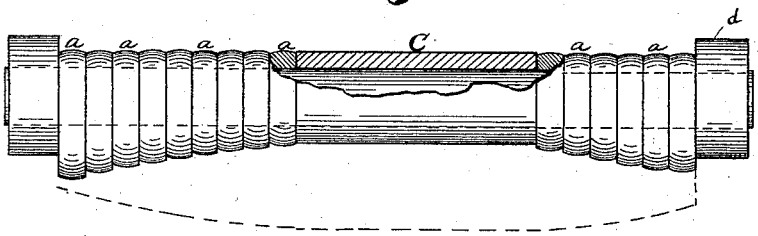


Fig. 4.

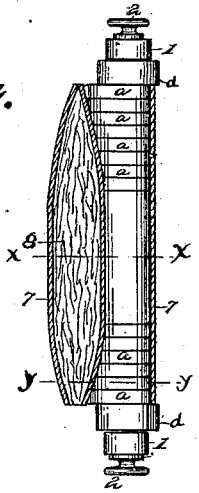


Fig. 3.

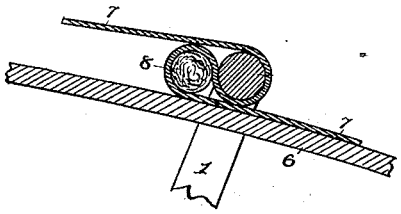
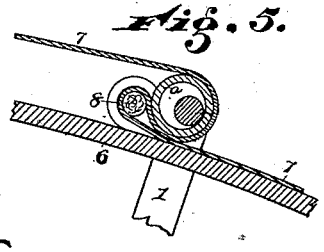


Fig. 5.



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UNITED STATES PATENT OFFICE.

FREDRICK C. MILLER, OF NEWPORT, KENTUCKY.

CIGAR-BUNCH ROLLER.

SPECIFICATION forming part of Letters Patent No. 421,296, dated February 11, 1890.

Application filed April 1, 1889. Serial No. 305,522. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK C. MILLER, a citizen of the United States, and a resident of Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Cigar-Bunch Rollers, of which the following is a specification.

My invention relates to that class of cigar-machines which employ an apron to roll the cigar-bunch, such as is shown in my patent, No. 416,117, application for which was filed of even date herewith.

Heretofore it has been difficult to roll bunches of various shapes. The rolls have been made integral and generally concave to correspond somewhat to the swell of a cigar. Now, as a concave roll travels under the strain of the apron to form the bunch the apron is drawn unevenly. The larger portion of the roll, traveling faster than the smaller portion, draws the apron faster, causing it to crease in some parts and slip in others, and, besides, rapidly wearing out the apron and making a rough uneven bunch. If the roll is made cylindrical, the bunch is of similar shape. My invention overcomes these difficulties and enables a bunch to be made of any desired shape, preserving a uniform tautness of apron across the face of the roll and over the cigar.

My roll is made of sections which can be readily changed for others of any desired shape, as will be fully set forth herein.

The accompanying drawings, making a part of this specification, will now be described, in order that my invention may be fully understood, in which—

Figure 1 is a front elevation of my improved roller, partly in section. Fig. 2 is a similar view of a modified form of roller, part being broken away, without the supporting-arms and set-screws for securing it to the arms. Fig. 3 is a cross-section on line $x\,x$, Fig. 4. Fig. 4 is a plan view representing the apron, the bunch, and the bunch-roller in position for use, with the top portion of the apron broken off. Fig. 5 is a section on line $y\,y$, Fig. 4.

1 represents the usual arms, on which the bunch-roller is supported and oscillated over a bed or table.

2 represents set-screws for securing the roller to the arms. The inner ends 3 of these set-screws form the journals on which the roller revolves.

4 represents the axle of the roller.

5 represents a cylindrical portion of the roller, and $a\,a$ cylindrical rings. These rings are supported upon the axle 4 and revolve loosely thereon. In Fig. 2 the cylindrical part of the roller is shown as a sleeve C for forming the central portion of the cigar.

To form the taper of the cigar, the rings a are each made so that the distance between the inner sides thereof and the axle gradually increases toward the ends of the axle, and are each successively larger than the preceding one from the center outward.

As shown in the drawings, the internal diameter of each of the rings differs from the preceding one. The outside rings a' may, if desired, as shown in Fig. 1, have bosses b, so as to form the ends of the cigar, in which case, as the outer rings should be in the shape of truncated cones, one more ring a at each end of the roll (or more may be necessary) than the width of a ring a' should be removed or left off in order to permit the latter to tip, so that its upper side will be in line with the upper sides of rings a. The rings a will be forced by the strain of the apron into the position shown in Figs. 1 and 2, approximating to the shape of the cigar, as shown in Fig. 4. The cigars, therefore, at all times conform to the shape which is produced by the size of the rings $a\,a$ and differences in internal diameter and corresponding shape of the cylindrical portion 5 or sleeve C.

d are collars fitting tightly on the axle 4 to hold any desired number of rings that may be placed on the axle. It will thus be seen that the shape of the cigar can be variously modified by the use of more or less rings and a longer or shorter sleeve C or cylindrical part 5, and any desired shape of cigar-bunch may be quickly produced by changing the rings of the principal form and the rings and sleeve-sections of the modified form, and still have the apron supported by the plane surface and the opposite side of the roller approximating to the shape of the cigar-bunch.

In Fig. 3, 6 represents the table, 7 the apron, and 8 the bunch.

By the use of this sectional ring-roller the

apron is supported in a straight line across the front of the roller and subject to equal strain across the plane of the apron, as each ring will travel at a speed due to the strain, the smaller rings proportionally faster than the larger ones.

This principle of the invention may be embodied in several modifications, and I do not intend to limit myself to the form shown.

I have shown the rollers as adapted to be operated by traveling arms over a stationary table; but it is obvious that it is equally adapted to be used as a stationary roller with a traveling table.

Having thus described my invention, what I claim is—

1. The combination, with the apron of a cigar-bunch machine, of a bunch-roller having a gradually-enlarged portion formed on one side of the roller, so as to present a practically even face on the opposite side.

2. A bunch-roller for cigar-machines, composed of an axle and rings journaling loosely thereon, the distance between the inner sides of the rings and axle gradually increasing toward the ends of the axle, substantially as described.

3. A bunch-roller for cigar-machines, composed of an axle, rings of different internal diameter journaling loosely on the axle, the larger diameters being toward the ends of the axle, thereby forming a straight line on the axial side and an irregular line on the opposite side, substantially as described.

4. A bunch-roller for cigar-machines, composed of an axle and rings of different internal diameter journaling loosely on the axle, adapted to form a straight line on the axial side and an irregular line on the opposite side, substantially as set forth.

In testimony whereof I have hereunto set my hand.

FREDRICK C. MILLER.

Witnesses:
FRANK C. GAYMON,
T. SIMMONS.