No. 607,051. Patented July 12, 1898.

F. R. KEYES.

CIGAR BUNCH ROLLING MACHINE.

(Application filed May 13, 1897.)

(No Model.) 3 Sheets—Sheet 1.

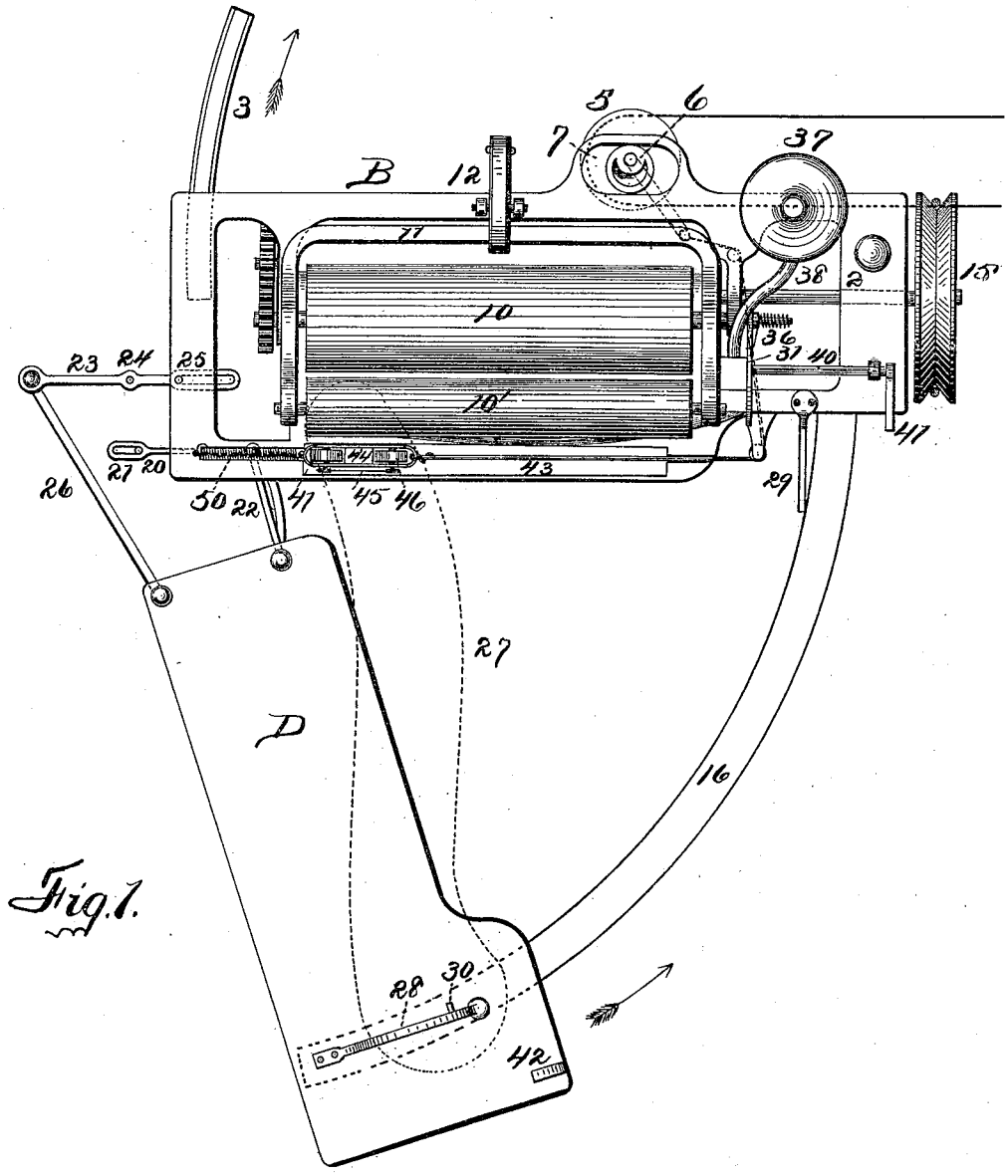


Fig. 1.

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Fig. 2.

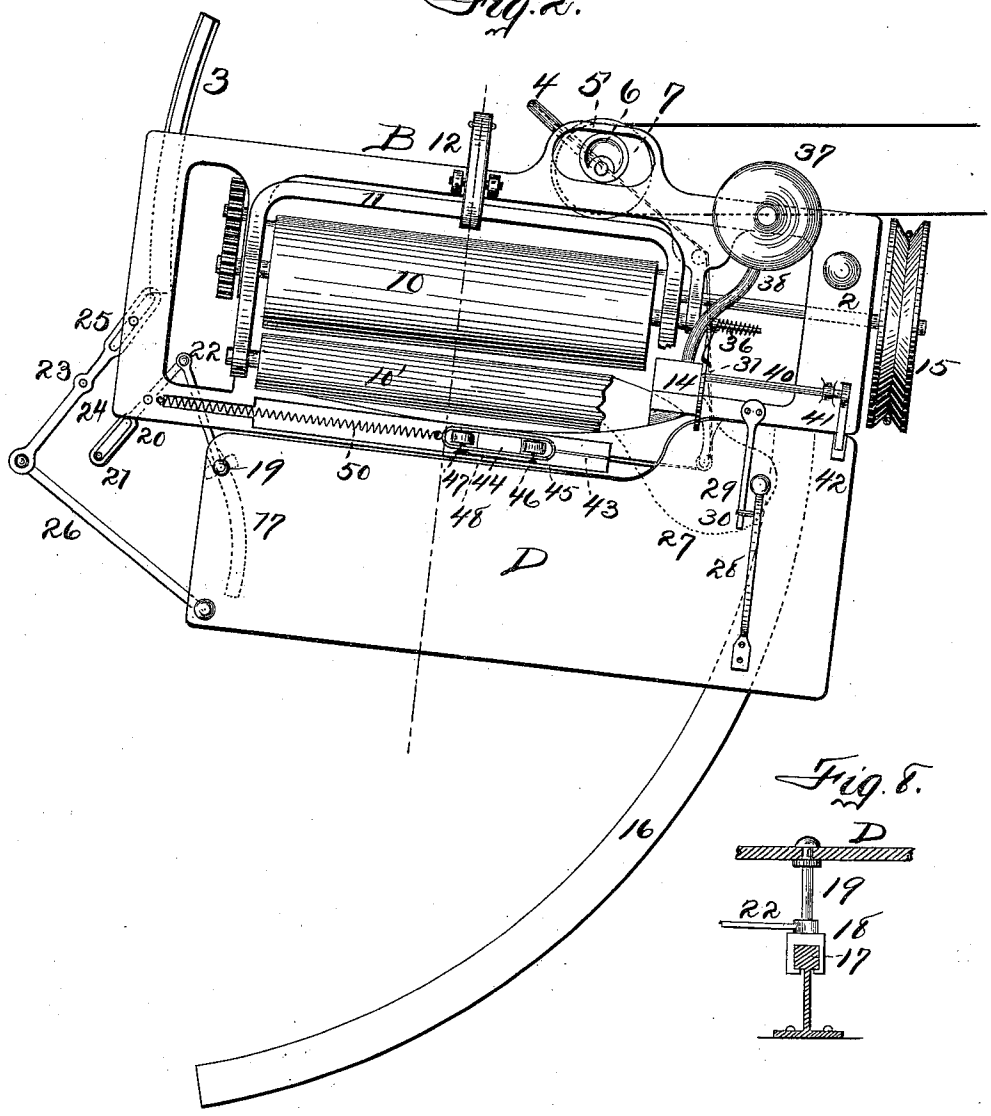
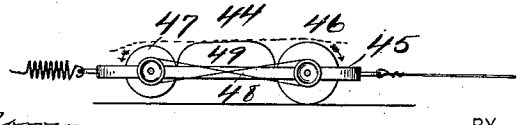


Fig. 8.

Fig. 9.



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(No Model.) 3 Sheets—Sheet 3.

Fig. 3.

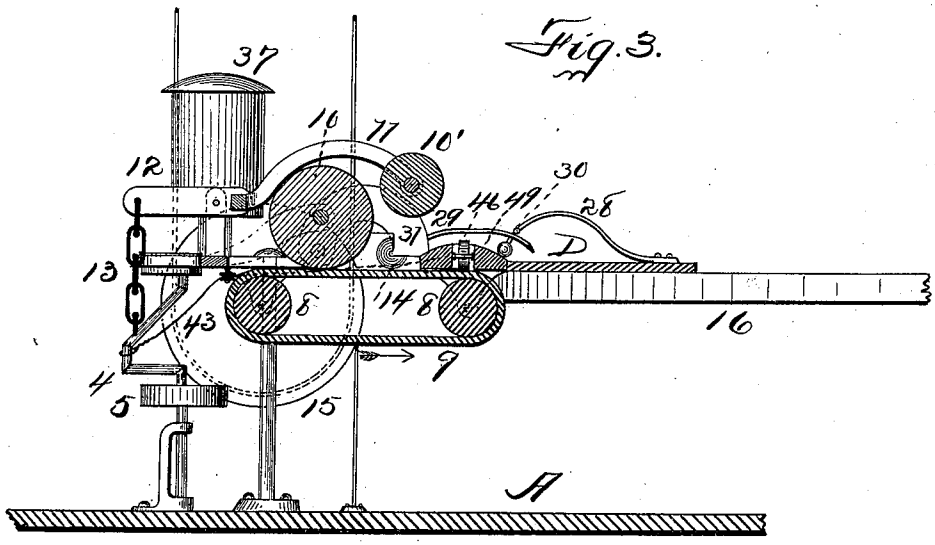


Fig. 4.

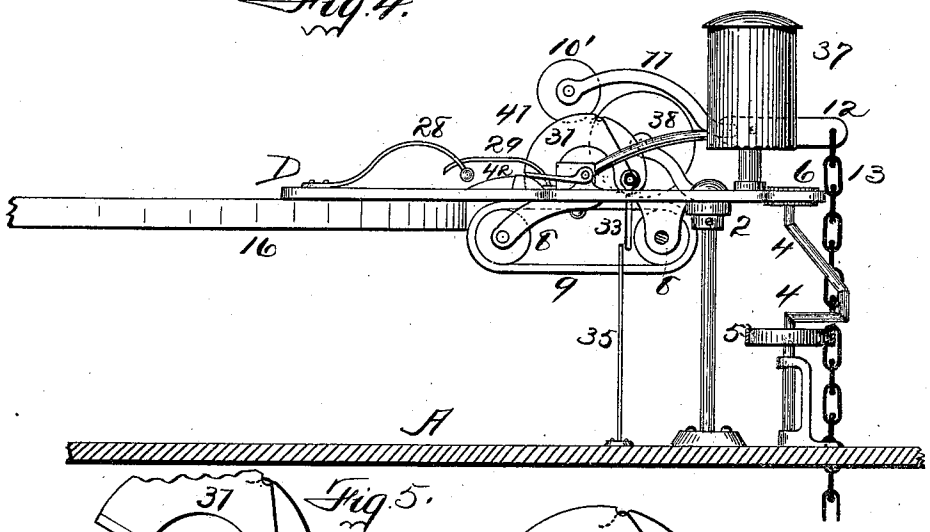


Fig. 5.

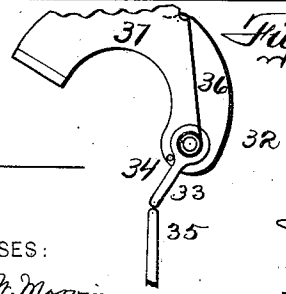


Fig. 6.

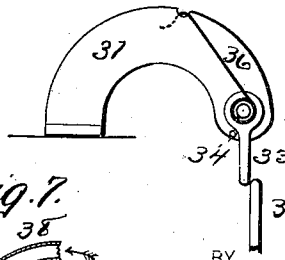
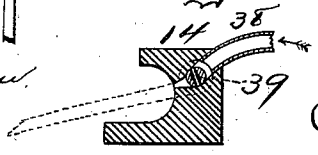


Fig. 7.



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UNITED STATES PATENT OFFICE.

FRANK REGINALD KEYES, OF BINGHAMTON, NEW YORK.

CIGAR-BUNCH-ROLLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 607,051, dated July 12, 1898.

Application filed May 13, 1897. Serial No. 636,320. (No model.)

To all whom it may concern:

Be it known that I, FRANK REGINALD KEYES, 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 cigar-bunch-rolling machines.

My object is to produce a machine of that class embodying a swinging wrapper-table, a swinging carriage upon which the bunch-rotating mechanism is mounted, a wrapper-stretcher adapted to traverse the front of the carriage, a nicker actuated by the swing of said carriage, a paste-valve operated by the swing of said table, an eccentric for swinging the carriage, suitable connections whereby the swing of the carriage swings the wrapper-table, and other connections whereby the swing of the carriage traverses the stretcher upon the carriage. The carriage can be stationary and the table mounted to swing, or vice versa, or the wrapper-stretcher can be stationary in connection with either a stationary or swinging carriage or a stationary or swinging table. The object of the swing of either the carriage or table, or both, is to vary the angle of the presentation of the wrapper to a rotating bunch to regulate the spirality of the winds of the wrapper by mechanically directing it the same as it is ordinarily manipulated by the fingers of an operator.

The machine to which my invention is here shown to be applied is of the class shown in the patent to Bunn, Baker, and Keyes, dated March 5, 1895, No. 535,048, in its general features, and the wrapper-stretcher therein shown can be used instead of a traversing one. It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan of the carriage and wrapper-table in their normal positions, as when starting to roll a bunch. Fig. 2 is a like view of the same in their positions assumed at about the time when the rolling is finished. Fig. 3 is a transverse section of Fig. 2 on the dotted line. Fig. 4 is an end elevation of Fig. 2. Figs. 5 and 6 show a side elevation of the nicker in the open and closed positions. Fig. 7 is a sectional detail of the header and paste-valve. Fig. 8 is a sectional detail of the pivotal mounting and track of the wrapper-table. Fig. 9 is an enlarged front elevation of the stretcher and smoother, showing the means for operating the rollers.

A is a suitable bed, and B is a suitable carriage erected thereon, either stationary, as shown in the above-named patent, or pivoted, as at 2, above said bed and resting upon a track 3 thereon to traverse it. A crank-shaft 4, driven by power suitably applied to a pulley 5 thereon from any convenient source, drives an eccentric 6 in a slotway 7 in said carriage and oscillates it backward and forward from the normal position shown in Fig. 1 to that shown in Fig. 2, these figures showing the range or limits of these movements. Upon this carriage a bunch-rolling mechanism of any kind is suitably mounted, the one shown being the same as that shown in said patent and comprising rollers 8, carrying an endless apron 9, a roller 10, constituting the rear wall of the rolling-chamber, a presser-roller 10′, mounted in a suitable frame 11, having an arm 12 and an operating-chain 13 connected thereto, and a suitable header 14, receiving the tip of the bunch, said rollers and apron being driven by a pulley 15, belt, and suitable intermediate connections.

D is a wrapper-table adapted to traverse a track or way 16 with a combined movement of swinging upon an arc and also reciprocating longitudinally, said track being suitably supported above said bed. The other end of said table is suitably mounted upon a supplemental track 17, as by means of a slide 18 and post 19. A longitudinal reciprocating movement is given to said table by means of a lever 20, pivoted upon the carriage, with a sliding fulcral bearing 21 at one end and having the other end suitably connected by a rod 22 to said post or direct to said table, so that when said eccentric swings said carriage backward said table is shifted longitudinally, according to the movement of said lever. A lever 23, suitably pivoted at 24 and having a sliding bearing 25 upon the carriage, is suit-

ably connected to said table by a rod 26, so that as said carriage is swung said table is also swung upon the post 19 as a pivot until said table and carriage assume the relative positions shown in Fig. 2, which is at about the time when the wrapper 27 has been wound onto the body of the bunch and is about to be wound onto the head. A spring-finger 28 upon the table holds the wrapper thereon until by its swing the trip 29 upon the carriage engages with a pin 30 upon said finger to release the wrapper, as shown in Fig. 4.

A wrapper-nicking knife 31 is secured to a rock-shaft 32, upon which a lever 33 is pivoted and engages with a pin 34 upon said knife, so that as the carriage is swung said lever engages with an upright 35 upon said bed. Said knife being thus swung upward, Fig. 5, produces a tension upon the spring 36 until when said lever passes said upright said spring will throw said knife to nick the wrapper for rolling around the tip. A paste-reservoir 37 is erected upon said carriage and suitably connected to the header by a suitable conduit 38, in which a suitable rocking valve 39 is mounted upon a rocking valve-stem 40, provided with an arm 41, which engages intermittently with a wedging-lug 42 upon the table to rock the stem and open the valve, which is automatically closed by any suitable means as soon as said arm and lug are disengaged.

A suitable cord or chain 43 is carried over pulleys in a suitable manner to connect the crank of the crank-shaft 4 to the wrapper-stretcher 44, which is shown as comprising a frame 45, a supporting roller or wheel 46, a second roller or wheel 47, driven by a crossed belt 48, so that both are driven outwardly, and an intervening body or saddle 49, substantially level or even with the tops of said wheels. This body is connected to a suitable spring 50, adapted to be elongated when the stretcher is drawn forward by the rotation of said crank, and is by its tension retracted when the strain is removed from the cord. The wheel 46 travels in or upon a suitable trackway along the front of the carriage. The wrapper is drawn longitudinally by the rotation of the bunch and smoothed out laterally and at the same time more or less stretched by this stretcher. When this stretcher and smoother is omitted, a stationary stretcher like that shown in the patent aforesaid can be used in connection with finger manipulation. When the oscillating carriage is used, it will be evident that the driving mechanism must have a certain amount of flexibility to accommodate itself to and permit of this movement, an ordinary flexible shaft being particularly adapted to this purpose, or the carriage can be stationary without either longitudinal or oscillatory movement, in which case power can be applied to the wrapper-table to give it either a swinging movement upon a stationary pivot or a combined or double movement, as aforesaid, upon a traversing pivot by any ordinary means known to a good mechanic.

It will be seen that the wrapper-table is moved bodily as an entirety whether simply swung upon its vertical pivot or whether swung and simultaneously shifted longitudinally.

It will be seen that the oscillating carriage when used in conjunction with a stationary wrapper-table operates to vary the presentation of the bunch to the wrapper, particularly when rolling that part between the central bulge and the head, in order that the wrapper may be better wound onto the taper without wrinkling and may also be more readily wound onto the head and the tip or head wrapped and finished without any flag.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine of the class described, the combination with a suitable bunch-rotating mechanism, of a horizontal single-piece wrapper-table in front thereof mounted to permit its being bodily shifted upon a vertical pivot to vary the angle of presentation of a wrapper to a rotating bunch.

2. In a machine of the class described the combination with a bunch-rotating mechanism of a wrapper-stretcher adapted to be traversed in front thereof, and means to present a wrapper to said stretcher.

3. In a machine of the class described having bunch-rotating means a wrapper-stretcher comprising a body, wheels mounted thereon, and means to revolve them in opposite directions whereby a wrapper passing over it longitudinally is stretched and smoothed laterally.

4. In a machine of the class described the combination with a bunch-rotating mechanism mounted upon a swinging carriage, of a wrapper-stretcher and means to traverse it along the front of said carriage.

5. In a machine of the class described the combination with a bunch-rotating mechanism mounted upon a swinging carriage, of a wrapper-stretcher comprising a body and rollers and means to drive them in opposite directions, and means to traverse said stretcher upon said carriage.

6. In a machine of the class described, the combination with a bunch-rotating mechanism mounted upon a swinging carriage, a wrapper-stretcher upon the front thereof, and a wrapper-table in front of said stretcher.

7. In a machine of the class described, the combination with a bunch-rotating mechanism mounted upon a swinging carriage of a swinging wrapper-table in front thereof whereby the angle of presentation of the wrapper to the bunch is varied.

8. In a machine of the class described, the combination with a bunch-rotating mechanism mounted upon a swinging carriage of a traversing wrapper-stretcher in front thereof, and a swinging wrapper-table in front there-

of and means for so traversing it whereby the angle of presentation of the wrapper to the bunch is varied.

9. In a machine of the class described, the combination with a bunch-rotating mechanism mounted upon a swinging carriage of a wrapper-table mounted in front thereof upon a supporting-pivot adapted to traverse such support and means whereby a combined swinging and reciprocatory movement upon said pivot is imparted to it.

10. In a machine of the class described, the combination with a bunch-rotating mechanism mounted upon a swinging carriage of a pivoted wrapper-table, and intermediate connections whereby the swing of one swings the other.

11. In a machine of the class described, the combination with a bunch-rotating mechanism mounted upon a swinging carriage, of a pivoted wrapper-table and intermediate connections whereby the carriage is swung, and a combined swinging and longitudinally-reciprocatory movement is given to the said table.

12. In a machine of the class described, the combination with a bunch-rotating mechanism mounted upon a swinging carriage, and a wrapper-stretcher upon said carriage, of a pivoted wrapper-table, and intermediate connections whereby the swing of said carriage traverses said stretcher, and swings said table.

13. In a machine of the class described, the combination with a bunch-rotating mechanism mounted upon a pivoted carriage, of a shaft, and an eccentric thereon engaging with said carriage to swing it upon its pivot.

14. In a machine of the class described, the combination with a bunch-rotating mechanism mounted upon a pivoted carriage, of a cranked shaft, an eccentric thereon engaging with said carriage, a wrapper-stretcher upon said carriage and a suitable connection to said crank whereby said eccentric swings said carriage and traverses said stretcher thereon.

15. In a machine of the class described, the combination of the following elements: a bunch-rotating mechanism mounted upon a pivoted carriage, a cranked shaft, an eccentric thereon engaging with said carriage, a wrapper-stretcher upon said carriage, a pivoted wrapper-table, and suitable connections whereby said eccentric swings said carriage and table, and traverses said stretcher.

16. The combination with a bunch-rotating mechanism upon a pivoted carriage, and an eccentric engaging with and swinging it upon its pivot, of a nicking-knife, a lever engaging with it, and a stationary rod with which it engages when said carriage swings.

17. The combination with a bunch-rotating mechanism, a paste-pot, a conduit therefrom, and a valve in said conduit, of a swinging wrapper-table provided with a lug adapted to be brought into engagement with the valve-stem by the swing of said table to open said valve.

In witness whereof I have hereunto set my hand this 29th day of April, 1897.

FRANK REGINALD KEYES.

In presence of—
ALFRED HENDRIKS,
JOHN T. KNOWLES.