

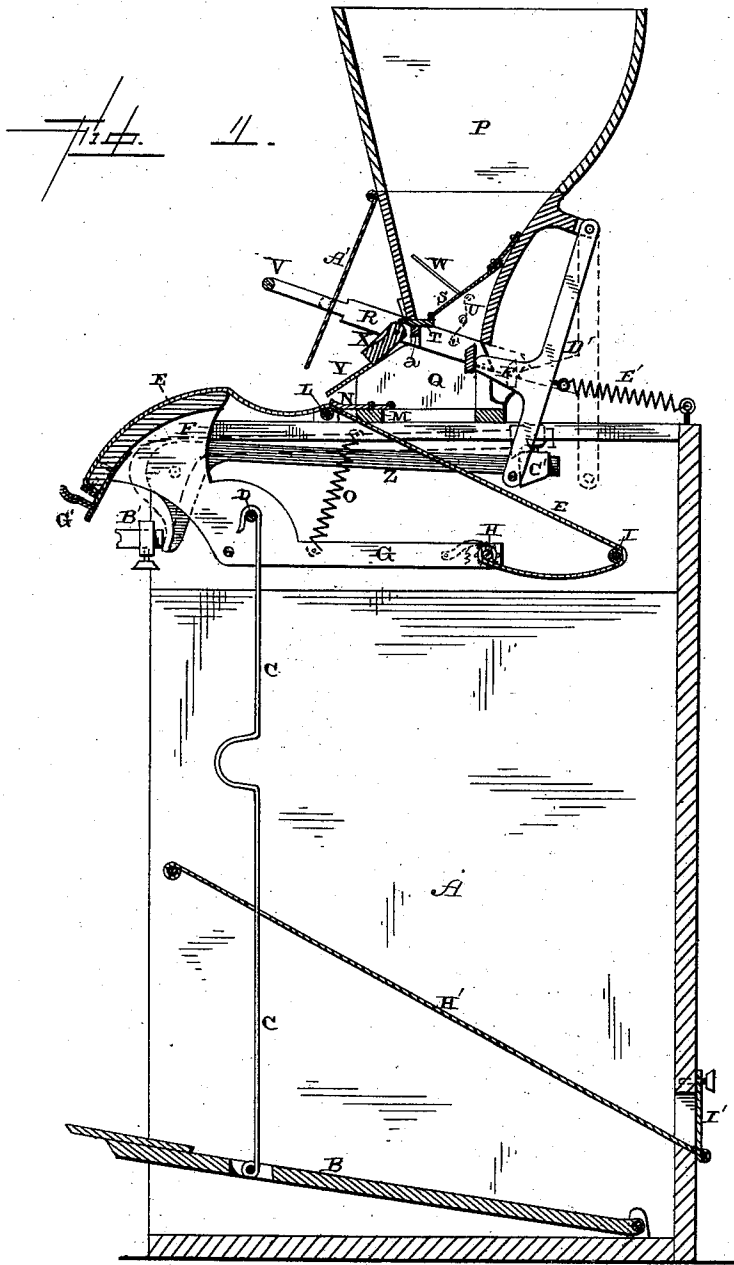
(No Model.)

3 Sheets—Sheet 1.

F. C. SMALSTIG.  
CIGAR BUNCHING MACHINE.

No. 352,012.

Patented Nov. 2, 1886.



Witnesses.

R. D. Gardner  
J. Davis

Inventor.

F. C. Smalstig,  
per J. A. Lehmann, atty.

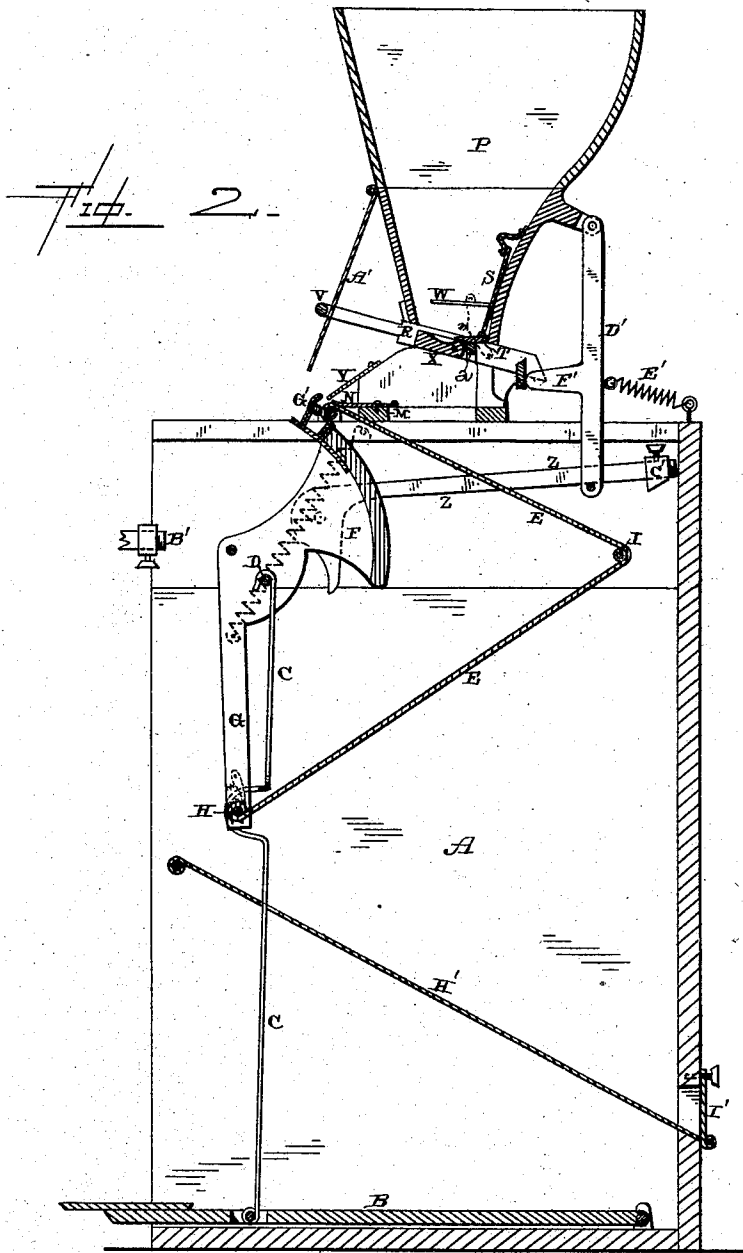
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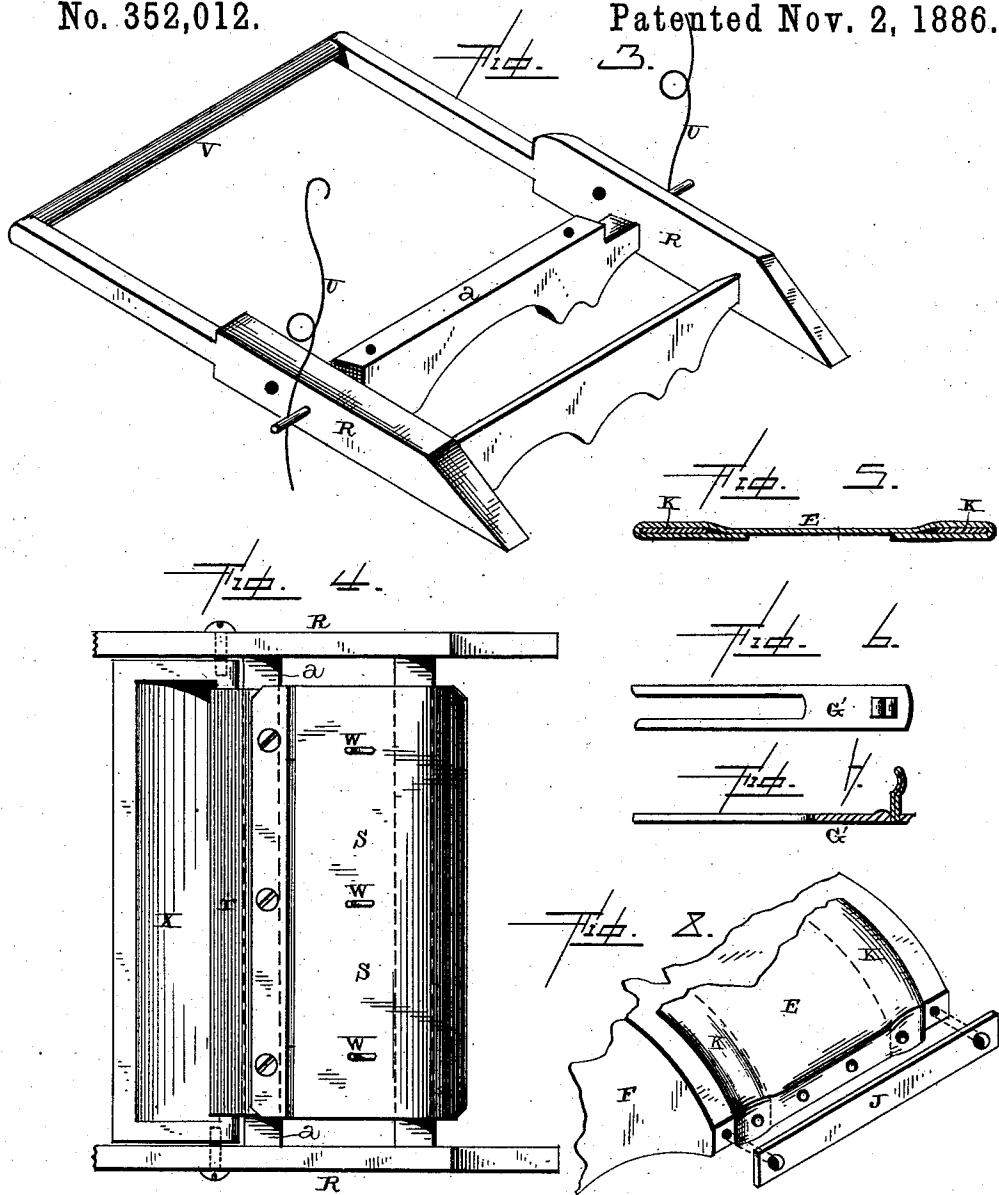
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# UNITED STATES PATENT OFFICE.

FREDRICK C. SMALSTIG, OF ALLEGHENY CITY, PENNSYLVANIA.

## CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 352,012, dated November 2, 1886.

Application filed July 21, 1886. Serial No. 208,648. (No model.)

*To all whom it may concern:*

Be it known that I, FREDRICK C. SMALSTIG, of Allegheny City, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Cigar-Bunching Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in machines for making cigar-bunches; and it consists in, first, the combination of the movable table, and mechanism for moving it, with the levers which are pivoted at their front ends upon opposite sides of the table, suitable stops on the frame for the outer front ends of the levers to strike against, a rod connected to the inner ends of the levers, a lever pivoted to the rear side of the hopper, and the sliding carriage; second, the combination of the hopper, the supports placed below the hopper and having inclined edges, with the carriage which moves back and forth between the hopper and the supports, the agitator pivoted to the carriage and extending into the hopper, and the knife or cut-off, also attached thereto; third, the combination of the hopper, the supports having inclined edges, the sliding carriage, the agitator pivoted thereto and extending into the hopper, the knife or cut-off on the carriage, the receiver pivoted to the carriage, and the guide; fourth, the combination of the hopper, the supports having inclined edges, the carriage, the lever pivoted upon the hopper for forcing the carriage forward, a mechanism for operating the lever and carriage, and the springs for forcing the carriage backward when left free to move; fifth, the carriage provided with a handle upon its front end, in combination with the pivoted discharger, and the knife or cut-off, all of which will be more fully described hereinafter.

The object of my invention is to produce a machine for making cigar-bunches in which the bunch is formed by the apron, in contradistinction to a formation-roller, in which the feed-slide or carriage can be moved by hand independently of the other parts, and in which

all of the waste tobacco is caught inside of the frame.

Figures 1 and 2 are vertical sections of a machine embodying my invention, showing the different parts in different positions. Fig. 3 is a perspective of the slide or carriage, the different attachments being removed. Fig. 4 is a plan view of the carriage, showing the attachments applied thereto. Fig. 5 is a vertical cross-section of the apron. Figs. 6 and 7 are detail views of the receiver. Fig. 8 is a perspective showing the fastening for the apron.

A represents a suitable frame-work, of any desired construction, in the bottom of which the treadle B is pivoted. This treadle is connected by the rod C with the cross-bar D upon the table. The top portion of the table is made circular in the usual manner, and over the top of it passes the apron E.

Formed as a part of the frame of the table F is the arm or extension G, in the rear end of which there is journaled the rod H, to which the inner end of the apron is fastened. This rod H is provided with a ratchet upon one end, and upon the arm G is pivoted a spring-actuated pawl, which takes into the ratchet, whereby the belt can be loosened or tightened at the will of the operator. By forcing the spring-actuated pawl out of contact with the ratchet the rod H can be turned so as to slacken or tighten the apron, according to the degree of compression it is desired to give to the bunch. This apron E passes over the guiding-roller I, arranged in the framing in the rear of the table, for the purpose of changing the direction of its movement. Through the front end of the apron are made a series of openings, as shown in Fig. 8, so that this end can be hooked over projections extending from the outer side of the table F. A blind washer or plate, J, is then fastened to the edge of the table, over the end of the apron, so as to hold it securely in position.

Heretofore bunches have been shaped by means of formation-rollers, which are concave at their centers for this purpose. In order to do away with this style of roller, I so construct the apron itself that the bunch is shaped by the apron in the act of being rolled. For this purpose the opposite edges of the apron are

turned over around the strips K, of any suitable material, so as to increase the thickness of its edges, leaving a hollow at the center of the apron. Upon the tops of these two raised edges there is a sufficient surface to guide the movements of the bunch while it is being rolled. This apron passes over the formation-roller L, under which the bunch is rolled, and it is between this formation-roller L and the rearedge of the table F where the slack is formed in order to construct the bunch.

In order to compel the slack of the belt to form a pocket to receive the bunch, a cross-piece, M, extends across the frame just in the rear of the formation-roller L, and upon the top of this cross-piece M is a spring or lever, N, which serves as a friction device, and which bears upon the top of the apron, as shown in Figs. 1 and 2, and which friction device N is held by a suitable set-screw, so that the device can be adjusted to increase or decrease the amount of friction upon the apron, as may be desired. When the table F is being thrown forward, the apron slips freely over the roller L; but when the table is being moved backward this friction device N prevents the slack of the apron from being carried past the roller L, and hence a pocket is formed, in which the bunch is constructed. The table F is thrown backward by means of the treadle B and connecting-rod C, and then the springs O return the head to the position shown in Fig. 1.

The hopper P is supported in position by a suitable metallic frame-work, which is provided for the purpose, and which is held raised above the supports Q, upon which the carriage R moves. This carriage consists of a metallic frame-work, such as is shown in Figs. 3 and 4, and which is provided with a cross-piece, a, to which the traveling agitator S and knife T are secured.

It will be seen that the upper edges of the supports Q for the carriage are inclined backward, so that after the carriage has been forced forward for the purpose of discharging a suitable amount of tobacco it will slide backward and downward from the combined action of its own gravity and the springs U, which are applied thereto. These springs U are fastened to the outer side of the hopper and bear against suitable projections upon opposite sides of the carriage for the purpose of forcing it along.

Formed upon the front end of the carriage R is a suitable handle, V, by means of which the carriage can be freely operated by hand without the necessity of having to operate the other portions of the machine. By means of this construction a sufficient quantity of tobacco can be discharged into the pocket formed by the apron without having to move the table when the operator first begins work, in order to have the tobacco discharged from the hopper. This construction makes the carriage entirely independent of the operation of the other parts of the machine. Connected to this carriage is the traveling agitator S, which con-

sists of a piece of sheet metal or other similar material, and which forms the bottom of the hopper. As this agitator moves constantly with the carriage, it keeps all of the tobacco in the bottom portion of the hopper constantly stirred up, and serves to force the tobacco from the hopper whenever the carriage is moved forward.

Projecting forward from this agitator S are a suitable number of points, W, which move through the tobacco in the lower portion of the hopper and keep it constantly loosened up. Fastened by means of set-screws to the same cross-rod as the agitator S is the knife or cut-off T, which serves to cut away any portions of the tobacco which may be left protruding from the bottom of the hopper.

Pivoted loosely between the sides of the carriage is the receiver X, in which the tobacco is discharged. This receiver is pivoted loosely between the sides of the carriage, and is carried back and forth with the carriage in all of its movements. This receiver rests upon the front inclined edges of the supports Q when the parts are in the position shown in Fig. 1; but when the carriage is moved backward this receiver moves under the bottom portion, as shown in Fig. 2, so as to receive the charge of tobacco. As the carriage is moved forward, this tobacco is dropped upon the guide Y and guided directly into the pocket in the apron, as shown in Fig. 1.

Pivoted to the front side of the hopper is a dash-board or protector, A', which passes down below the front portion of the carriage, for the purpose of preventing the tobacco from being thrown too far outward. This dash, in connection with the guide Y, always insures that the tobacco shall be delivered directly into the pocket formed by the apron.

Pivoted to the outer opposite sides of the table F are the two levers Z, which serve to operate the discharging mechanism. The outer shorter ends of these levers are made to strike against suitable stops, B', secured to the front of the machine, and which stops cause the inner longer ends of the levers to fly upward sufficiently far to release the adjustable rod C' upon their inner ends from the lower ends of the levers D', and which adjustable rod C' serves to force the levers D' forward each time that the table F is returned to the position shown in Fig. 1. The cross-rod C' serves the double purpose of connecting the rods Z together, so that they always move as one, and to catch against the lower ends of the levers D' to pull them forward, and thus cause them to push the carriage forward and discharge the tobacco. These levers Z, being pivoted at their shorter ends, rise upward, as shown in dotted lines in Fig. 1, at their inner ends, when their outer ends come in contact with the stops, and thus raise the cross-rod C' up high enough to free it from the lower ends of the levers D'. As soon as the inner ends of the levers Z rise upward, while the head F is in the position shown in Fig. 1, the spring E' at once draws

the levers D' back into the position shown in dotted lines in Fig. 1. When the table is moved backward into the position shown in Fig. 2, the inner ends of the levers Z slide backward past the lower ends of the levers D', the lower edge of the rod C' being beveled away, as shown, so as to slip past easily, while its inner side projects vertically below the lower edges of the levers, so as to catch against them as the table is being moved into the position shown in Fig. 1. The rod C' is made adjustable upon the levers, so as to regulate the distance the rods D' shall be moved, and at what time during the formation of the pocket the tobacco shall be discharged. When the inner ends of the levers Z are raised upward, so as to release the cross-rod C' from the lower ends of the levers D', the levers D' can be thrown freely backward by the spring E', which is connected to them. When the table F is moved forward into the position shown in Fig. 1, the levers Z draw the lower ends of the levers D' forward, and these levers, by means of the projection F', force the carriage forward, so as to discharge the tobacco. As soon as the lower ends of the lever D' are released, the carriage independently returns to the position shown in Fig. 2, so that the receiver will again be filled with tobacco. The carriage is thus entirely detached from the other portions of the machine, and can be actuated at the will of the operator without ever bringing any of the other parts of the machine into use.

Secured to the under side of the front edge of the table F are the two receivers G', which are constructed as shown in Figs. 6 and 7, and in which the bunch is forced as soon as the table reaches the position shown in Fig. 2. This bunch must then be removed by the hand of the operator. These receivers G', as shown, are slotted, so that they can be made adjustable, and thus made to hold one, two, or more bunches, as may be desired. These receivers can also be turned upon their clamping-bolts, so as to be either made to approach or recede from each other, according to the length of the bunch that is to be made. These receivers, being separated from each other, hold nothing but the bunches, and hence all scraps of tobacco are dropped so as to fall upon the inclined dust-pan H', placed in the bottom of the frame A. This dust-pan extends forward sufficiently far to catch all of the dust and tobacco which may be dropped while the machine is in operation. This loose tobacco will slide

down upon the top of the pan H' to the door I', where it can be easily removed. This pan saves not only the tobacco from being wasted, but prevents it from falling upon the floor of the frame and getting under the operator's feet, and for the purpose of preventing pieces of iron or other hard substances from being swept up with the tobacco and dropped into the hopper.

Having thus described my invention, I claim—

1. The combination of the movable table, and a mechanism for moving it, with the levers which are pivoted at their front ends upon opposite sides of the table, suitable stops on the frame for the outer front ends of the levers to strike against, a rod, C', connected to the inner ends of the levers, a lever pivoted to the rear side of the hopper, and the sliding carriage, substantially as set forth.

2. The combination of the hopper, the supports placed below the hopper and having inclined edges, with the carriage which moves back and forth between the hopper and the supports, the agitator pivoted to the carriage and extending into the hopper, and the knife or cut-off, also attached thereto, substantially as specified.

3. The combination of the hopper, the supports Q, having inclined edges, the sliding carriage, the agitator pivoted thereto and extending into the hopper, the knife or cut-off on the carriage, the receiver pivoted to the carriage, and the guide Y, substantially as shown.

4. The combination of the hopper, the supports Q, having inclined edges, the carriage R, lever D', pivoted to the hopper, for forcing the carriage forward, a mechanism for operating the lever and carriage, and the springs for forcing the carriage backward when left free to move, substantially as set forth.

5. The carriage R, provided with a handle upon its front end, so as to be moved by hand independently of the other parts, in combination with the discharger X, pivoted upon the carriage, and the knife or cut-off rigidly secured to the carriage in the rear of the cut-off, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

F. C. SMALSTIG.

Witnesses:

F. A. LEHMANN,  
L. F. GARDNER.