

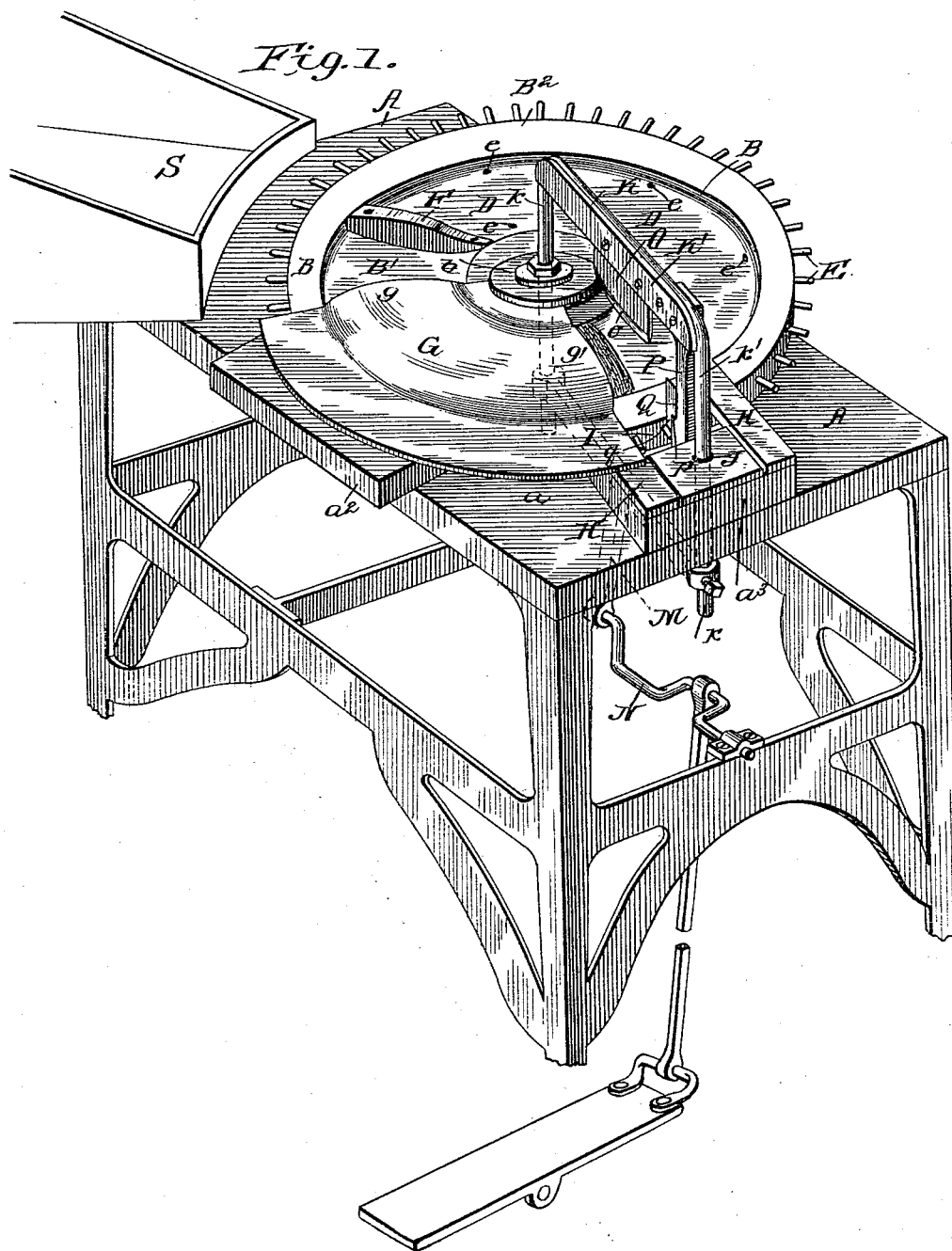
(No Model.)

3 Sheets—Sheet 1.

T. & L. B. HANCOCK.
MACHINE FOR FORMING CIGAR FILLERS.

No. 458,271.

Patented Aug. 25, 1891.



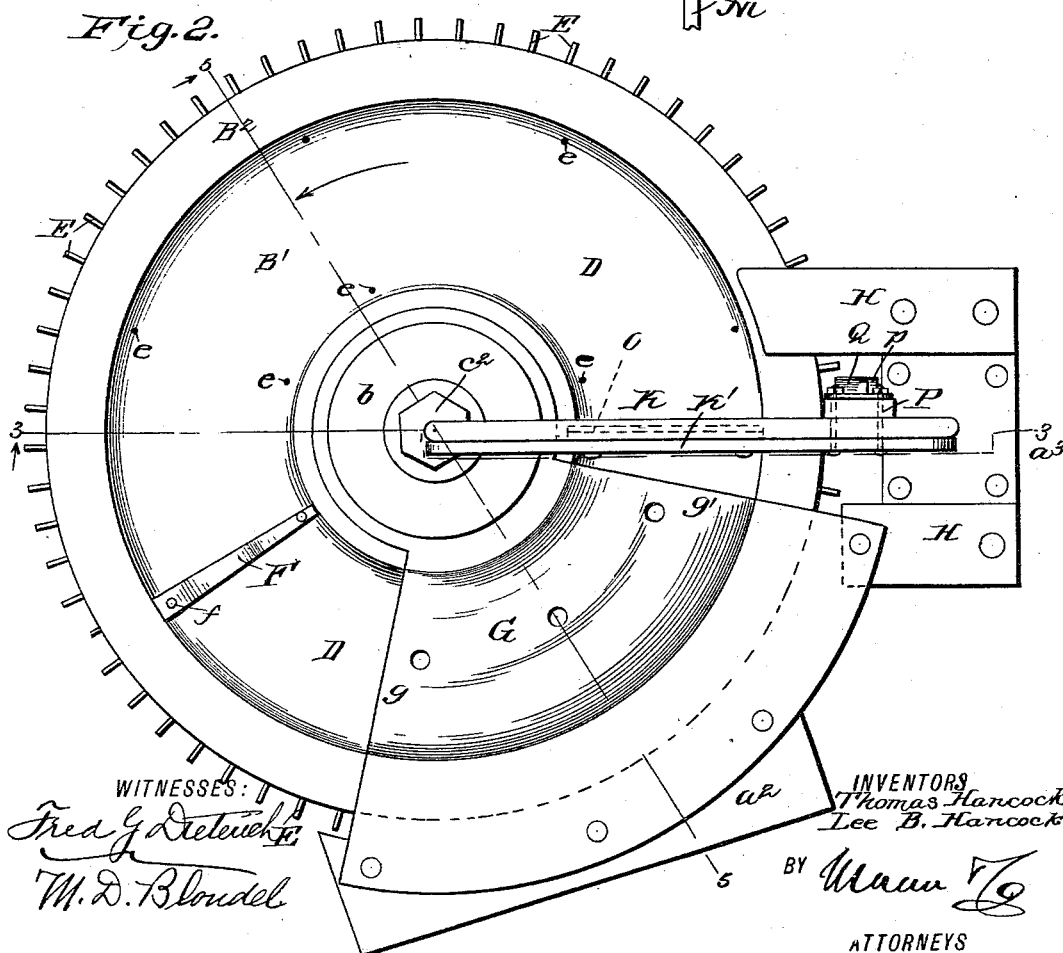
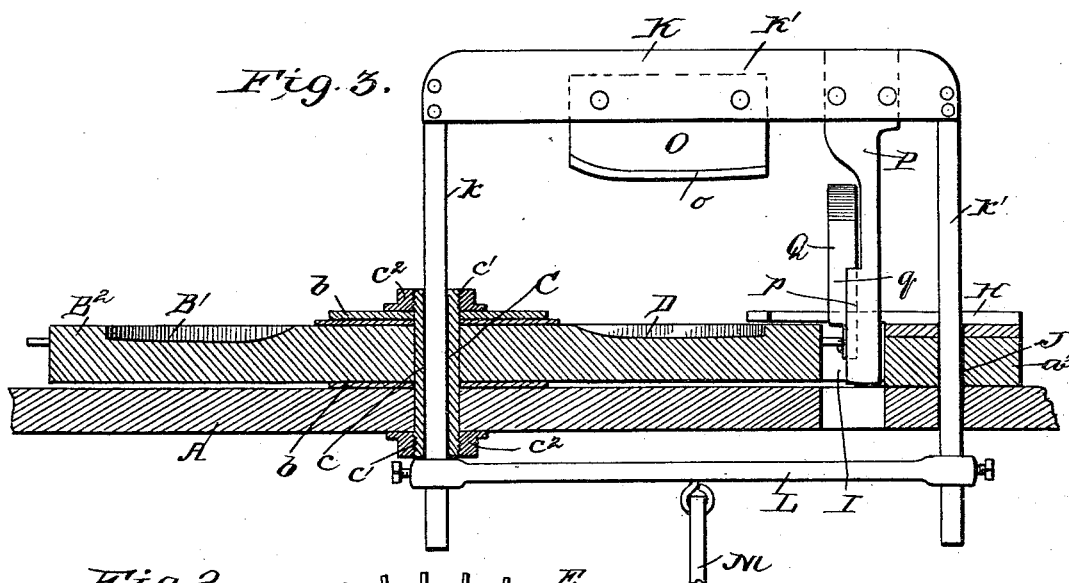
WITNESSES:
Fred G. Dietrich
W. D. Blondel

INVENTORS,
Thomas Hancock,
Lee B. Hancock,
BY *Wm. L. La*
ATTORNEYS

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UNITED STATES PATENT OFFICE.

THOMAS HANCOCK AND LEE B. HANCOCK, OF RICHMOND, VIRGINIA.

MACHINE FOR FORMING CIGAR-FILLERS.

SPECIFICATION forming part of Letters Patent No. 458,271, dated August 25, 1891.

Application filed October 3, 1890. Serial No. 367,015. (No model.)

To all whom it may concern:

Be it known that we, THOMAS HANCOCK and LEE B. HANCOCK, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Machines for Forming Cigar-Fillers, of which the following is a specification.

Our invention has for its object to provide a simple and effective machine whereby the tobacco is pressed into suitably-shaped bunches, which are cut at proper intervals into sizes suitable for the filler of the cigar and ready for the binder.

It has also for its object to render the construction of the machine such that the operation is substantially continuous and whereby the condition of the tobacco as it is being formed into the bunch can at all times be seen by the operator.

It further has for its object to provide means whereby the cutting operation and the feed operation is rendered positive and accomplished by the same means, thereby providing a machine for the purpose stated which is very simple in construction and which can be manufactured at a small cost.

To this end our invention consists in providing a suitable frame or table upon which is mounted and centrally journaled a revolving feed-table formed with an annular pocket, and upon which the tobacco of proper lengths is laid with its length arranged radially to the axis of the feed-table, and over a portion of said pocket is projected a former or bunching-housing of any suitable transparent material, at the discharge end of which is disposed a vertically-reciprocating cutter, which serves to cut the tobacco-body into suitable bunches as it passes from under the former, the frame of said knife being provided with a gravity dog or pawl, which in its vertical movement engages a series of radial projections on the revolving table and imparts to said table its motion about its axis.

Our invention further consists in certain novel features of construction and novel arrangement of parts, all of which will hereinafter be fully described in the annexed specification and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of our improved machine. Fig. 2 is a top plan view thereof. Fig. 3 is a vertical section on the line 3 3, Fig. 2. Fig. 4 is a detail view of the automatic table-feeding device. Fig. 5 is a detail sectional view on the line 5 5, Fig. 2, and Fig. 6 is a detail view of one of the detachable follower-blocks.

In the accompanying drawings, A indicates a frame, upon which is mounted the forming-table B, held to rotate horizontally about a central hub C, which is fixedly held to the main frame or table in a manner most clearly shown in Fig. 3 of the drawings, by reference to which it will be seen we form the said hub with a central aperture *c* and provide the upper and lower ends of such hubs with external threads *c' c'*, over which are fitted the apertured nuts *c² c²*, between which and the upper face of the revolving table B and the under face of the table-frame *a* are disposed suitable washers *b b*, which serve to steady and hold the several parts in true position. By this means of securing the table B to the frame about its hubs C the said parts may be readily adjusted into position and at the same time form a solid bearing-guide for one of the arms of the reciprocating cutter, presently described.

The upper face of the table B is formed with a central flat portion *B'* and a circumferential flange *B²*, between which a continuous tobacco-pocket D is formed, the base of which is shaped to cigar form, as clearly illustrated in the drawings. The peripheral edge of the said table is formed with a series of radial projections or teeth E, which in the drawings are shown spaced apart a distance equal the width of a cigar, for the purpose presently explained. In the same radial line with the projections E a series of dowel-openings *e e* are made in the base of the pocket D, into which a series of follower-blocks F can be quickly placed, said blocks having dowels *f* on their under face, which fit the openings *e e*.

By reference to Fig. 6 of the drawings, which shows one of said followers, it will be observed that the same is approximately cigar shape, it being also of such width as the bunches after they are cut by the cutter.

One side of the frame A is formed with a

projection a^2 , to which is secured one end of a segmental plate G, which projects over a segmental portion of the pocket D and is secured at its inner end to the upper washer b , or about the hub C, if desired. This plate is formed with its outer edges radial to the axis of the table B, the end g of which we will term the "inlet" end and the other g' the "discharge" end.

Referring now to Fig. 5 of the drawings, which shows the said table B and the plate G in vertical section, it will be seen that said plate G is bowed over the pocket, so the space between the pocket and the plate will be approximately cigar shape, said plate G, in connection with that portion of the table which is under same, serving as the forming-chamber—*i. e.*, the tobacco as it is forced under the plate G is pressed into proper shape longitudinally. To render the forming operation positive and to provide against choking or feeding too great a quantity of tobacco under the said plate G, we make same, preferably, out of glass or other transparent material. When, however, it is made of metal, it is formed with a series of sight-openings. We prefer, however, to make it of glass, so as to make the entire plate in a complete piece.

The main frame A is further provided with a projecting portion a^3 , which is formed with inwardly-extending arms H, which lap the outer rim of the table B, an opening I being formed between said arms in the main table, as shown, and in said projection a^3 is formed a vertical aperture J, which forms a guide for one arm of the cutter-frame, as shown.

By referring to Figs. 1 and 3 the construction of the reciprocating cutter will be clearly understood. The same consists of a frame K, formed with downwardly-extending arms k k' , which pass through the aperture c in the hub C and the aperture J in the projection a^3 , respectively, the lower ends of such arms being connected with a transverse bar L, which is connected to a pitman M, attached to a crank-shaft N, which receives motion from a treadle or other desired device.

Upon the upper or transverse portion K' of the frame a knife O is secured, the cutting-edge o of which is shaped to fit the base of the pocket D when said knife is down to its lower limit. Said knife may be adjusted to the frame, as shown, or in any other desired manner.

P denotes a depending arm secured to the bar K' of the cutter-frame, the lower end of which is adapted, as the cutter-frame moves up or down, to pass through the opening I. Upon one side of this arm is pivoted a weighted pawl Q, formed with an upwardly-inclined face, said pawl normally resting against a stop p on the arm P. (See Fig. 4.) The manner in which the said pawl operates is as follows: When the cutter is on its down-stroke and the pawl passes between two of the radial fingers on the table B, its rear face

q will engage the front edge of one of said pins or projections E and be turned to a vertical position, and thereby pass down between the said pins without moving the table. After the pawl passes below the pins its upper inclined portion falls backward by gravity against the stop p . Now when the cutter-frame starts on its up movement the inclined face of the pawl Q will engage the rear face of the pin E and force it forward a distance sufficient to allow the butt-end of the pawl to pass, thus moving the table the distance required to feed out the proper amount of tobacco from under the former-plate.

The operation of the complete machine is as follows: The tobacco, which is cut the required length, is held in a trough S, preferably secured to the table, as shown, from which it is taken by the operator, who lays it lengthwise across the pocket of the table B near the receiving end of the packing-chamber, under which it is packed to the desired degree. He then places one of the detachable follower-blocks back of the tobacco, which prevents it expanding outward from under the receiving end of the forming-plate. He then starts the machine with the foot-treadle, and the table is fed around (in the direction indicated by the arrow) in short intermittent movements, each movement feeding the necessary amount of tobacco from under the discharge end of the plate G. At the end of each feed movement the knife severs the tobacco into the desired bunch, which is removed from the table and is then covered by a suitable binder or wrapper, which can be done by hand or otherwise. We desire to state that in the practical operation of our machine we attach a suitably-constructed automatic wrapping-machine to the bed of the frame A, which can, if desired, be operated by the same treadle-power which imparts motion to the bunching-machine, and as the bunches are cut they are moved into the wrapping-machine. As the said machine forms subject-matter for another application, filed November 10, 1890, Serial No. 370,983, further reference thereto is deemed unnecessary.

It should be stated that the followers F serve to force the packed tobacco to the discharge end of the forming-plate G, and additional tobacco is placed in the pocket of the table B and additional followers are placed in position, and such followers being of the same width as the bunches cut allow the knife as it descends to pass on each side of such followers when they come under cutter-frame.

While we have described and shown our machine as adapted for making cigars, it is manifest that the construction of such machine may be varied to accommodate it for the manufacture of cheroots, cigarettes, and the like.

Our invention is exceedingly simple, can

be easily operated, and serves to act substantially as a continuous packing and bunching machine.

5 Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

10 1. A machine for the purpose described, consisting of a step-by-step movable feed-table formed with a feed-pocket, a transparent plate projected over a section of said pocket, whereby a packing-chamber is formed, a follower on the table adapted to work in said chamber, and a cutting device arranged at the discharge end of said chamber transversely to the chamber, substantially as shown and described.

20 2. A tobacco-bunching machine consisting of a progressively-movable rotating table formed with an annular pocket in its upper face, a fixed plate arranged over a portion of said pocket, whereby a packing-chamber is formed, a follower-block on the table adapted to force the material in the said chamber, and a vertically-movable knife arranged over said pocket at the discharge end of said chamber, substantially as set forth.

30 3. In a tobacco-bunching machine, the combination, with a horizontally-disposed revolving feed-table formed with an annular dish-shaped pocket, of a segmental plate convex in cross-section projected over said pocket, followers arranged to be detachably secured to said table and pass between said plate and table, and the vertically-movable cutter op-

erating at the discharge end of said chamber, substantially as and for the purpose described.

4. The combination, with the main frame, the revolving table formed with an annular pocket and a central apertured hub C, a follower-block secured in said annular pocket, the segmental plate G, projected over the said pocket, whereby a packing-chamber is formed, and an apertured bearing J on the main frame, of a vertically-movable cutter consisting of a frame K, having depending arms *k k'* arranged to pass through the apertured hub C and bearing J, respectively, and means for operating the cutter-frame, substantially as and for the purpose described.

50 5. The combination, with the revolving table B, formed with a series of radial projections, and the vertically-movable cutter-frame, of a step-by-step feeding device secured to said frame and arranged to engage said projections, said device consisting of a gravity-pawl having an inclined face, said pawl adapted to pass the said projections in one direction of movement and to engage said projections with its inclined face on its reverse movement, whereby said table is fed forward progressively, substantially as and for the purpose described.

THOMAS HANCOCK.
LEE B. HANCOCK.

Witnesses:

H. M. SMITH, Jr.,
JAMES C. LAMB.