

No. 683,713.

Patented Oct. 1, 1901.

J. R. TYSON.
CIGAR WRAPPER CUTTER.

(Application filed Apr. 13, 1901.)

(No Model.)

Fig. 1.

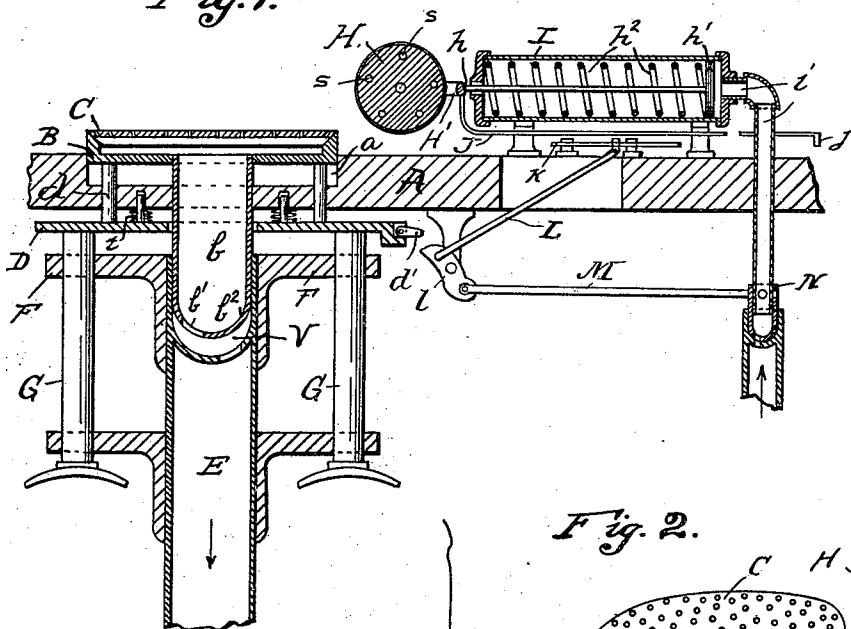


Fig. 2.

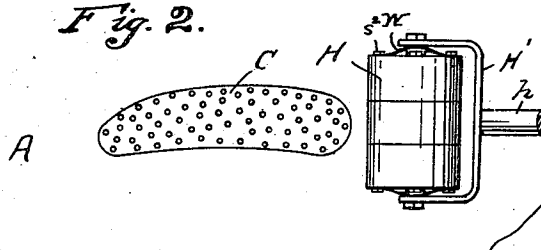


Fig. 3.

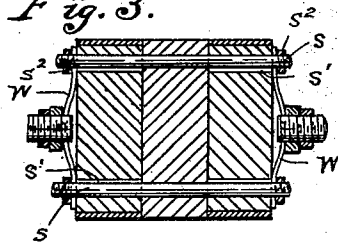
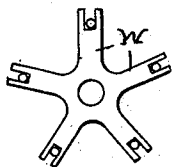


Fig. 4.

Witnesses
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By Attorney *E. A. Kelly*

UNITED STATES PATENT OFFICE.

JAMES R. TYSON, OF READING, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH
TO EDGAR W. ALEXANDER, OF SAME PLACE.

CIGAR-WRAPPER CUTTER.

SPECIFICATION forming part of Letters Patent No. 683,713, dated October 1, 1901.

Application filed April 13, 1901. Serial No. 55,622. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. TYSON, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Cutting Cigar-Wrappers; 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 appertains to make and use the same.

This invention relates to improvements in cigar-wrapper cutters of that class in which air is used to cause the wrapper to adhere to the operating-table.

The object of the invention is to produce a cutting-table that can be operated exclusively by the raising and lowering of the knees of the operator, thus overcoming the necessity of the operator using his hands for any other purpose than directly handling the wrapper.

The invention is fully set forth in the following specification, and clearly shown in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of my improved table. Fig. 2 is a plan view of the same. Fig. 3 is a detail of the cutter-wheel. Fig. 4 is a detail of the webbed washer.

The table A is a flat surface and has a recess or depression *a* therein, in which rests the operating table or plate B, carrying a cutting-die C. To this plate B is formed a depending hollow bulb-shaped tube *b*, having perforations *b'* in its lower end *b*². A backing-plate D is rigidly secured under the plate B by means of supporting-posts *d*. A vertical suction-tube E extends upwardly toward the under side of the table and incloses the lower perforated end *b*² of the tube *b*. This tube E has a cup-shaped formation, also perforated, which, together with the end *b*², forms a cup-valve V, the perforations being so arranged that they do not register when closed. On either side of this tube E are arranged guides or hangers F, through which vertical lifting-rods G pass. These rods are secured to the plate D at their upper ends and are formed at their lower ends with suitable bases for engagement by the knees of the operator. On the face of the table is

ate horizontally across the same. This wheel is hung on a piston-rod *h*, to the rear end of which is a piston *h'*, and surrounded by a coiled spring *h*², the whole inclosed in an air-cylinder I, the air-inlet thereto being at its rear end through a tube *i*. To the frame H', carrying the wheel, is hung a right-angled bar J, which extends underneath the cylinder and has a hooked rear end *j*, adapted in its forward movement to carry with it a sliding bar K, mounted beneath the cylinder I. This movement will, through the rods L and M, referred to later, close the air-inlet in the valve N and open the exhaust therein to allow the compressed air in the cylinder to escape and permitting the piston to return to the rear end of the cylinder. To the sliding bar K is pivoted a rod L, the forward end of which is joined to a trigger device *l*, mounted beneath the table A. To the opposite end of this trigger *l* is pivoted another rod M, having its rear end connected to a valve N in the tube *i*. This valve N is so constructed as to allow an inlet of air to the cylinder when in the position shown in the drawings—that is, when the opening in the base of the valve-cup registers with the opening in the seat—and it is so arranged that a quarter-turn of the valve, as given to it by the movement of the rod M, will close those openings and open the exhaust or outlet from the cylinder by bringing the opening in the side of the cup to register with that in the side of the valve. It is, in other words, a double valve. A trip or tongue *d'*, secured to the end of the plate D, is arranged to operate said trigger in its vertical movement across the path thereof.

The cutter-wheel H is formed, as shown, in sections and mounted on a plurality of spindles *s*. In the end sections the diameter of the spindles is less than that of the bearings *s'*; but the spindles always bear at a point farthest from the center line of said wheel. These spindles project beyond the outer faces of the wheel and are secured by nuts *s*² after passing through one of the fingers of a webbed washer W. It is preferable to form the wheel in three sections, the end sections adapted to extend the greater portion of their width beyond the edge of the cutting-die C, so that they may drop to an angle with the axial line,

allowing them to bear more directly against the edge of the cutting-die, and these two end sections are preferably covered by a removable copper sleeve for the purpose of preserving the edge of the cutting-die.

The plate B is formed with a tapered recess in its top, allowing the die to fit therein and the edge of said cutting-die to form the outer or cutting edge. The perforations in the cutting-die are arranged at an angle near the edge, so as to permit covering the entire surface with them, as the suction of air is needed more near the cutting edge than at any other point.

Between the backing-plate D and the table A are arranged coiled springs *t*, capable of being depressed when the cutting-plate is raised and serving to insure a prompt return to the lower position when the operation is over.

The operation is as follows: The wrapper to be cut is placed on the table over the perforated cutting-die. The operator raises the rods G by a slight raising of his knees, which action will open the valve V, allowing the air-draft to draw the wrapper securely against the die, while the same action raises the cutting-die above the surface of the table, and also by this upward movement the trip *d'* will operate the trigger *l*, and this will, through its connection with the valve N, open the inlet to the cylinder I and cause the cutter-wheel H to be forced outward therefrom and across the cutting-die. When the cutter-wheel has traveled its full distance, the trigger will be returned to its normal low position by the operator releasing the upward pressure on the lifting-rods G, thus permitting the springs *t* to return the plate D to its normal position. The trip *d* will pass the trigger *l* and be in position for engagement therewith at the next upward movement of the plate D. By reason of the fact that the hooked end of the bar J has engaged and forced forward the bar K, which through its connection with the rods L and M has caused the air-inlet to be closed in the valve N and the exhaust from the cylinder opened, the piston together with the cutting-wheel will return to their normal positions through the action of the spring *h*². It will be seen that the action of the different parts is simultaneous, and this is the result I have striven for, for by my present construction I have overcome the objectionable feature of the hand-operated cutter-wheel and the rocking

or "sewing-machine" movement of the lower limbs of the operator.

My machine is operated entirely by a slight raising of the knees of the operator, allowing him the freedom of both hands at all times to devote to the wrapper. With this construction the capacity will be increased materially, as there will be a considerable saving of time.

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

1. In a cigar-wrapper cutter, a vertically-movable die-plate carrying a removable cutting-die and means for operating said plate, in combination with a traveling cutter-wheel mounted on a piston-rod surrounded by a coil-spring *g*, an air-tube *i* leading to the cylinder inclosing said piston-rod, having an inlet and exhaust valve, a trip *d'* and a trigger device adapted to open and close the air inlet and exhaust, operated by the vertical movement of said die-plate through said trip, substantially as and for the purpose set forth.

2. In a cigar-wrapper cutter, a traveling cutter-wheel having a trigger device attached thereto and operated through a cylinder having an air-tube with inlet and exhaust valve in combination with a vertically-operated die-plate having removable perforated cutting-die set in the top thereof, said plate carrying a backing-plate D, and a tube having one or more perforations in its lower end to form an air-valve in connection with a similar tube E and a lifting-rod G on each side thereof within reach of the knee of the operator, said rods secured to said backing-plates and a trip *d'* on said plate adapted to operate a trigger device *l* for the purpose of opening and closing the air inlet and exhaust valve, substantially as described and for the purpose set forth.

3. A cutter-wheel for cigar-wrapper cutters, comprising three sections, loosely mounted on a plurality of spindles having spring-washers at either end with split fingers loosely engaging the ends of said spindles so as to permit the end sections to move out of axial line with the center section, said end sections having a copper periphery, for the purpose specified.

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

JAMES R. TYSON.

Witnesses:

ED. A. KELLY,
WM. H. HOUCK.