

(No Model.)

J. R. WILLIAMS.

MACHINE FOR CUTTING CIGAR WRAPPERS.

No. 291,559.

Patented Jan. 8, 1884.

Fig. 1.

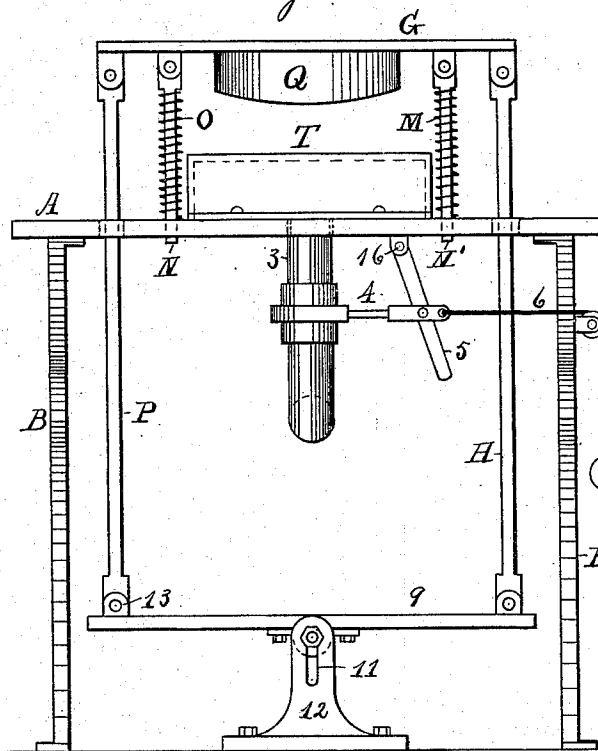


Fig. 2.

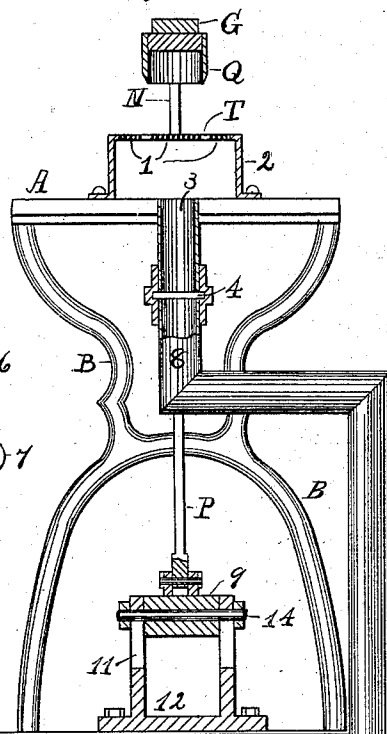
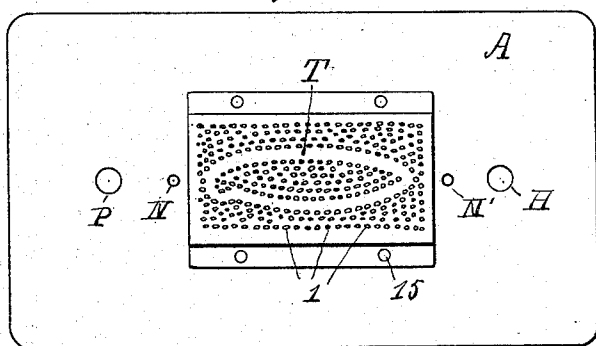
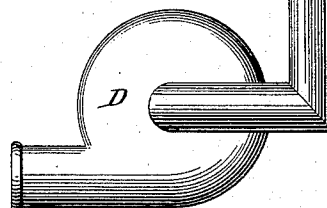


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

JOHN R. WILLIAMS, OF NEWARK, NEW JERSEY.

MACHINE FOR CUTTING CIGAR-WRAPPERS.

SPECIFICATION forming part of Letters Patent No. 291,559, dated January 8, 1884.

Application filed June 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. WILLIAMS, a citizen of the United States, residing in the city of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Cigar-Wrapper Cutters, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to an improvement on the invention claimed and described in Letters Patent No. 247,118, issued September 13, 1881, for a cigar-wrapper-cutting machine; and it consists in the combination, with the elements first claimed therein, of certain perforations in the bed-plate upon which the material is cut, and means for exhausting the air therefrom. The object of the said patented invention is to cut cigar-wrappers from a leaf laid upon a bed-plate stationed beneath it; and the purpose of my improvement is to furnish the means of holding the leaf securely and smoothly upon the bed-plate by atmospheric pressure while the cutting operation is performed. The means I have devised will be understood by reference to the annexed drawings, in which the parts heretofore patented are designated by the letters used in the said patent.

Figure 1 is a side view of the machine. Fig. 2 is a vertical cross-sectional view, and Fig. 3 is a plan view of the table or bed-plate.

The frame of the machine comprises a table or stand, A B, having a hollow box or chamber, 2, secured to its top, and the convex cutter Q is secured to a cutter frame or holder, G, which is guided in its movements to and from the material laid upon the hollow box 2 by guide-stems N N', inserted in holes in the top of the stand A. The top of the box 2 forms a cutting-bed, T, which is shown perforated with holes 1, constructed to leave a plain surface corresponding to the outline of the cutter Q. The cutter may be operated in any convenient manner, but is shown herein connected with a duplex treadle, 9.

9 is the treadle, secured to the floor by means of a stand, 12, provided with a cross-bolt, 14, working in slots 11 in opposite sides of the stand. Ears 13 are formed at each end of the treadle, and the treadle is pivoted to the bolt

14 at its middle, and is constructed so that its ends are vertically beneath the ends of the transverse cutter-frame G.

P and H are rods connecting the ends of the cutter-frame to the ears 13, and the ends of the frame G may be depressed either simultaneously or successively by applying the feet to the ends of the treadle 9 in the proper manner.

It is obvious that when a tobacco-leaf is laid upon the plate T the convex cutter may readily be drawn down and pressed thereon with the required rocking motion. To effect this one end of the cutter is depressed first by applying the foot to one end of the treadle, after which the opposite end of the cutter and treadle is gradually depressed, while the first gradually rises as the foot which depressed it yields to the opposite pressure.

The means I have devised for pressing or drawing the tobacco-leaf upon the cutting-bed are as follows: The bed T is formed upon the top of a hollow box or chamber, to which a pipe, 3, is attached, and connected to a blower, D, or other exhausting apparatus, and a valve or gate, 4, is inserted in the pipe 8, leading to the blower for the operator to check the action of exhaust at his pleasure. The valve is shown connected to a lever, 5, pivoted beneath the frame A at 16, and arranged in a position where the operator can press the lever with his knee and close the valve at pleasure. The valve is kept open at other times by a cord, 6, and weight 7, or by any other suitable means.

When applying a leaf to the bed-plate to be cut, the operator closes the valves by using the lever 5 until he has spread the leaf upon the plate, and then opening the valve the leaf is smoothed, or ironed out, as it were, by the atmospheric pressure induced by the exhausting device connected with the suction-pipe 8. The leaf being thus securely held by the air-pressure, he can withdraw his fingers from the same and operate the treadle and cutter with the utmost freedom and quickness. When the leaf is cut, the operator shuts valve 4 to remove the exhaust, and may then readjust the leaf or apply a new one, as may be desired. When thus adjusted the leaf is quickly drawn down upon the bed-plate by again opening

the gate or valve, and the cutting operation repeated with the same freedom from care as to the holding of the leaf by his fingers.

It is obvious that many advantages result from the combination of the air-holding device with the rocking cutter used heretofore, as the air-pressure entirely takes the place of the operator's fingers during the cutting operation, and leaves him at liberty to prepare another leaf. The leaf may also be adjusted to cut the wrappers much closer together than if a margin were left for holding the leaf by the fingers during the cutting, and the cutter can be depressed more rapidly and confidently than if the operator's fingers were close to the point where the cut was expected. A much greater production per diem from each operator can thus be obtained by my improvement. But another advantage of great moment is the greatly-increased number of wrappers obtainable from each leaf by the use of my improved apparatus. This results partly from the wrappers being cut closer together than when a margin is held by the operator, but chiefly from the spreading or flattening of the leaf under the atmospheric pressure. The number of wrappers from a given number of leaves is thus increased in amount fully twenty-five per cent. above those cut with the apparatus unprovided with my improvement.

It is of course immaterial how the valve 4 is constructed and operated, as well as how the cutter Q is rocked upon the leaf in the required manner.

I am fully aware of the patent issued August 1, 1882, as No. 261,849, to O. Hammerstein, and do not therefore claim the holding of a cigar-wrapper by atmospheric pressure after the same is cut. I disclaim the subject-matter claimed in the said patent, as well as that of the United States Patent No. 247,118, issued September 13, 1881, to J. E. Schmalz, restricting my present invention to merely the combination, in an organized machine, of the mechanisms claimed herein.

I am also aware that the combination of the perforated plate and exhausting apparatus has been claimed for use in holding materials while cutting in patent application No. 84,667, filed by me February 10, 1883, and that the present application and the improvement it sets forth

are tributary to the claim in said application; but not being allowed to claim several specific forms of such invention in one application, I have claimed the combination shown herein separately. In Fig. 3 I have shown the surface upon the bed-plate T corresponding to the outline of the wrapper or the cutter Q. Such outline would of course be made to correspond with the size and shape of the cutter employed, whether the same be made of one style or another, or adapted to cut binders instead of wrappers, and the perforations 1, which are shown in Figs. 2 and 3, formed both inside and outside of the plain unperforated surface, may be formed at only one of such places, and the leaf held exclusively by suction applied to its surface, either inside or outside the margin of the cutter. When the perforations are confined within the outline of the cutter, the chamber or box 2 may be also restricted in its internal shape and capacity to the area of the perforations used.

The suction-pipe may also be applied at the side of the chamber 2, if preferred; but the arrangements shown enables the box and bed-plate T to be readily removed and another substituted, as it is secured to the stand or frame A by screws 15, Fig. 3.

Having thus set forth the nature of my invention, I claim the same as follows:

1. The combination, with the convex cutter Q and means for operating it, substantially as set forth, of the perforated bed-plate T, mounted upon the chamber 2, the bed-plate being provided with an unperforated surface corresponding to the outline of the cutter, the chamber 2, and means for exhausting air therefrom, substantially as herein set forth.

2. The combination, with the convex cutter Q and means for operating it, substantially as set forth, of the bed-plate T, perforated as described, the chamber 2, air-outlet 3, and valve 4, arranged and operated substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JNO. R. WILLIAMS.

Witnesses:

JOHN A. RODRIGO,
THOS. S. CRANE.