T. E. FEARON.

CIGAR MAKER'S SUCTION TABLE.

APPLICATION FILED JULY 7, 1916.

1,283,487.

Patented Nov. 5, 1918.

3 SHEETS—SHEET 1.

Fig. 1.

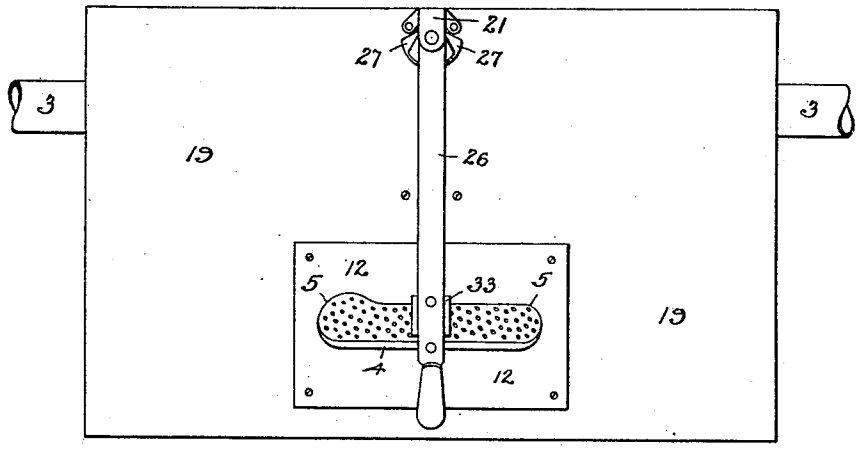


Fig. 2.

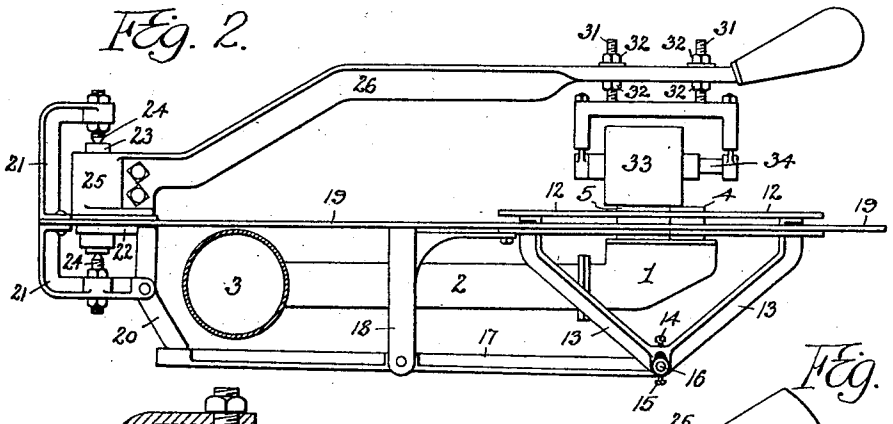


Fig. 7.

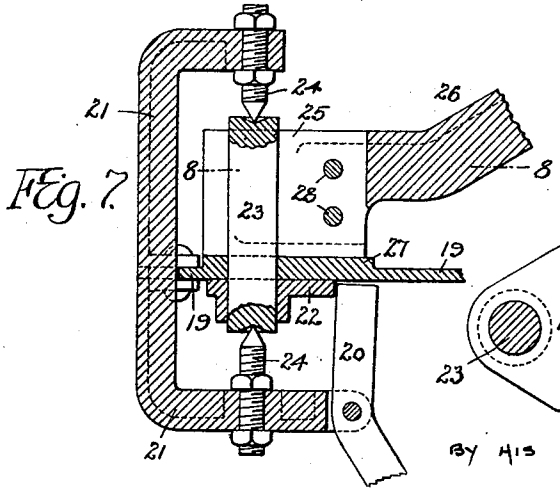


Fig. 8.

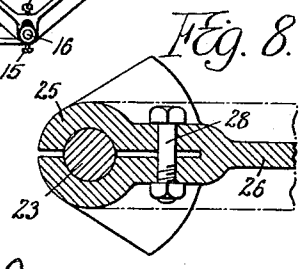
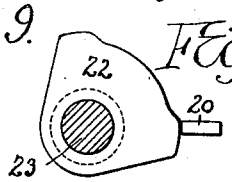


Fig. 9.

Fig. 10.



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3 SHEETS—SHEET 2.

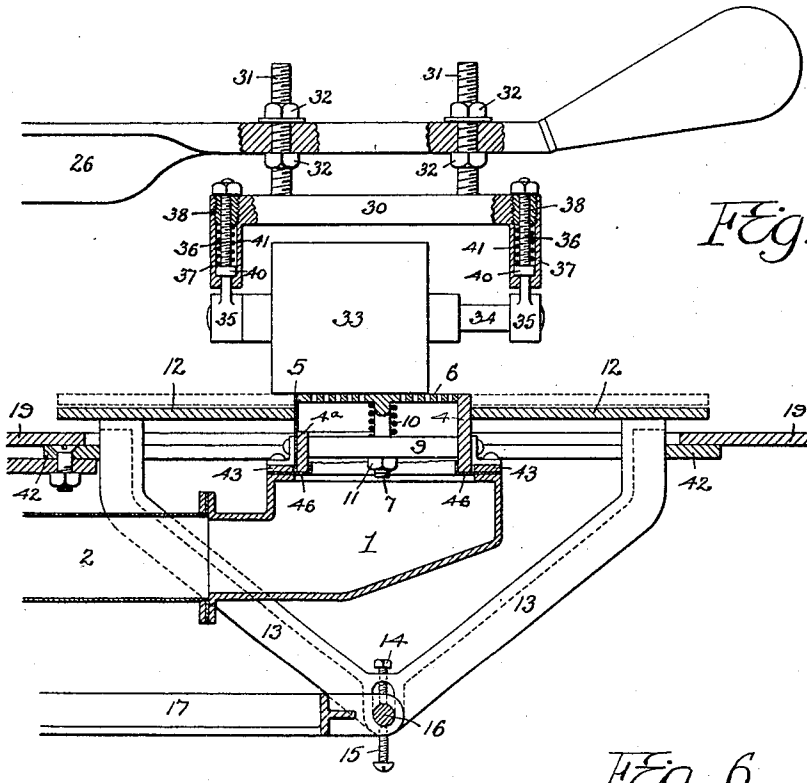


Fig. 3.

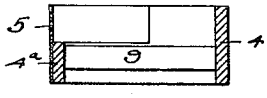


Fig. 6.

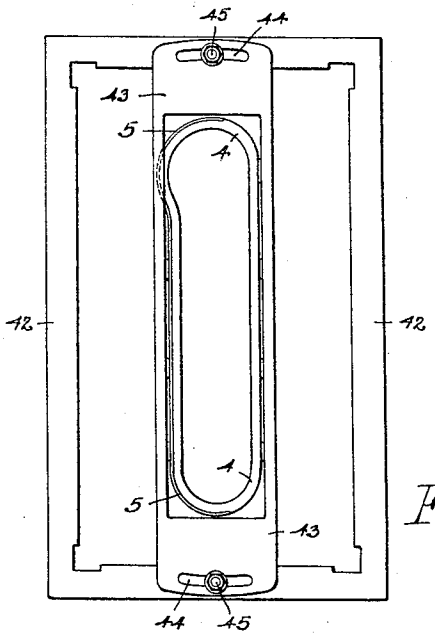


Fig. 5.

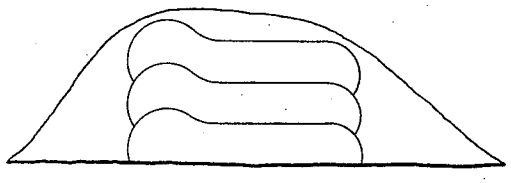


Fig. 11.

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T. E. FEARON.

CIGAR MAKER'S SUCTION TABLE.

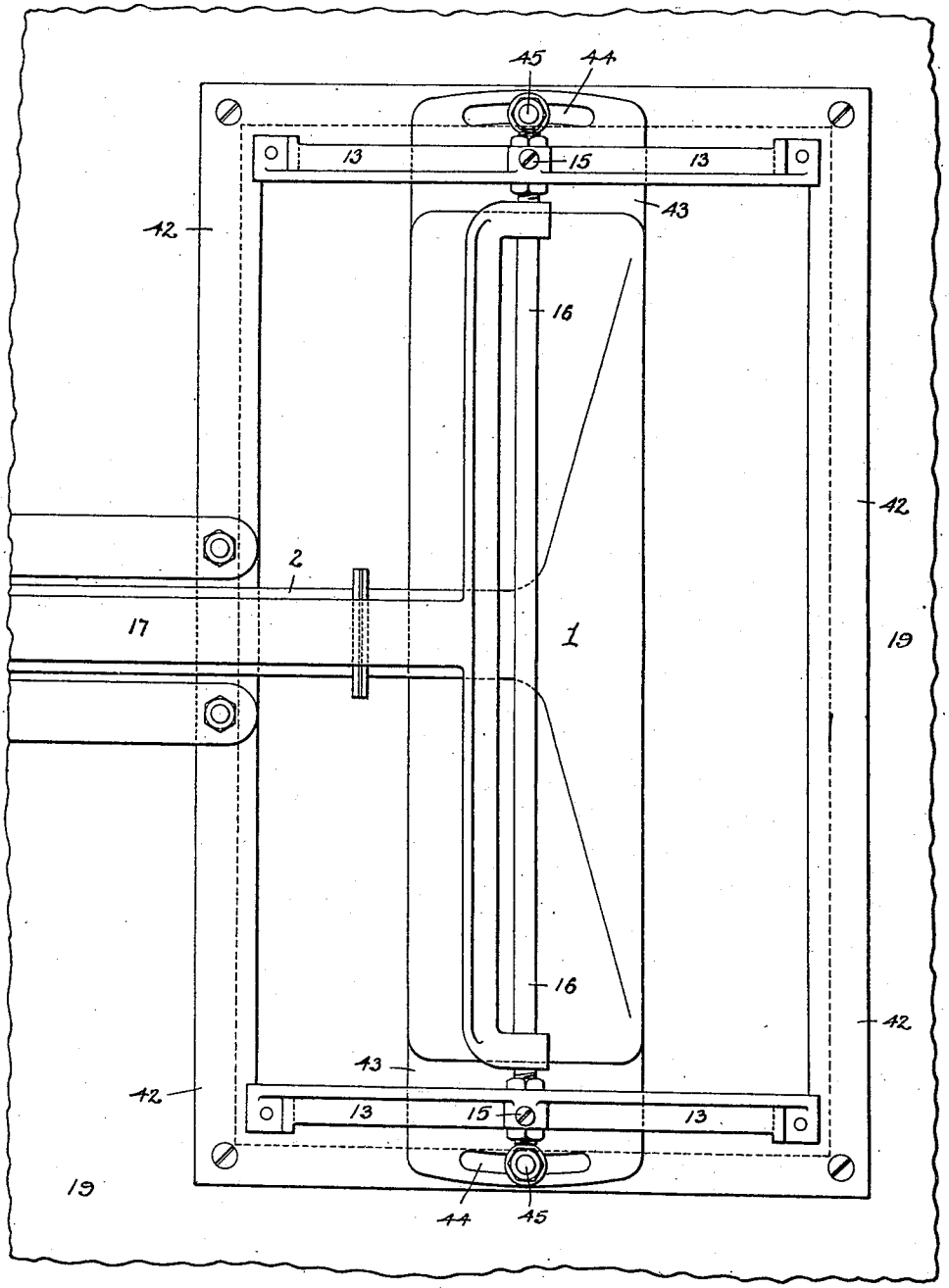
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3 SHEETS—SHEET 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

THOMAS E. FEARON, OF PHILADELPHIA, PENNSYLVANIA.

CIGAR-MAKER'S SUCTION-TABLE.

1,283,487. Specification of Letters Patent. Patented Nov. 5, 1918.

Application filed July 7, 1916. Serial No. 107,969.

To all whom it may concern:

Be it known that I, THOMAS E. FEARON, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Cigar-Makers' Suction-Tables, of which the following is a specification.

My invention consists of certain improvements in cigar makers' suction tables used for the purpose of cutting wrappers from leaves of tobacco, the object of my invention being to simplify and improve the construction of various parts of the device with a view of quickening the cutting operation.

In the accompanying drawing—

Figure 1 is a top view of a suction table constructed in accordance with my invention;

Fig. 2 is a side elevation of the same partly in section, and on a larger scale;

Fig. 3 is a side elevation, partly in section, on a still larger scale than Fig. 2, of part of the mechanism shown in said figure;

Fig. 4 is a bottom view of the suction box and table on the same scale as Fig. 3;

Fig. 5 is a bottom view on a reduced scale of the cutting die and of a carrier frame therefor which also serves as a guide for a platen employed in connection with the die;

Fig. 6 is a transverse sectional view of the die with a certain perforated plunger removed therefrom;

Fig. 7 is an enlarged sectional view of the pivot for the roller carrying arm and parts connected therewith;

Fig. 8 is a horizontal section on the line 8—8, Fig. 7;

Figs. 9 and 10 are top views in different positions of a certain cam and lever for imparting raising and lowering movements to the leaf supporting platen of the machine, and

Fig. 11 is a diagram illustrating the outline of one half of a leaf and of the successive cuts to produce three wrappers therefrom.

In the drawing, 1 represents a box which communicates through a branch pipe 2 with an exhaust pipe 3, the latter in turn communicating with suitable air exhausting apparatus of any convenient type. Mounted upon the box 1 is a box-like die 4 which is reduced in height throughout a portion of its contour, as shown for instance at 4^a in Fig. 6, this portion of said contour being provided with an upwardly projecting knife 5, as shown in Figs. 1, 3 and 6, the upper edge of said knife being sharpened so as to cut through a leaf of tobacco pressed down upon it, but the upper edge of the portion 4 of the die being blunt so as not to cut the leaf.

I have found in practice that in cutting the wrapper from a leaf of tobacco it is not necessary to use a die having a cutting edge which completely surrounds the wrapper, as the successive cuts can be disposed as in Fig. 11 so as to meet one another and thus provide for the complete severance of each wrapper from the leaf by the use of a knife which extends only part way around the die, as shown in Fig. 1. In order to insure the proper cutting of the leaf, also, the platen 12 which surrounds the die is lowered during the cutting operation so that only part of the leaf which is supported is that within the limits of the die.

Within the die 4 and fitting snugly thereto is a perforated plunger 6 having one or more stems 7 each guided in a transverse bar 9 and surrounded by a coiled spring 10 which serves to press the plunger 6 upwardly, a nut 11 on each stem 7 serving by contact with the under side of the respective bar 9 to limit such upward movement.

Surrounding the die 4 is a horizontal platen 12 mounted at each end upon an inverted yoke-shaped frame 13 which carries upper and lower set screws 14 and 15 bearing upon a shaft 16, the latter being mounted in the forked inner end of one arm of a lever 17 pivotally mounted in a depending bracket 18 on the main or fixed table 19 of the machine, the other arm of said lever being acted upon by one arm of a lever 20 which is pivotally mounted in the depending portion of a bracket 21 on the table 19, the other arm of said lever 20 being acted upon by a cam 22 carried by a pivot pin 23, the latter passing through an opening in the table 19 and being mounted between upper and lower centers 24 carried, respectively, by the upper and lower portions of the bracket 21, said bracket being mounted upon the table 19 in any available way. (See Figs. 2 and 7).

Embracing the pivot pin 23 is the split hub 25 of a swinging arm 26, said hub being vertically supported upon a boss 27 on the

table 19 and being caused to firmly grip the pivot pin 23 by the action of clamping screws 28, as shown in Figs. 7 and 8.

Upon the free end of the arm 26 is mounted so as to be vertically adjustable a yoke 30, said yoke having upwardly projecting screw stems 31 which pass through suitable openings in the arm 26 and are provided both above and below said arm with nuts 32 in order to permit of their vertical adjustment.

Mounted in the yoke 30 is a roller 33 carried by a horizontal spindle 34 which can turn freely in opposite end bearings 35, the latter having upwardly projecting stems 36 which are vertically guided in the depending legs 37 of the yoke 30, said legs being chambered for the reception of the stems 36 and being closed at the top by externally threaded screw plugs 38 which also serve to guide said stems 36 in their vertical movement.

Upon each of the stems 36 is a collar 40 and between the same and the inner face of the corresponding plug 38 is interposed a coiled spring 41, these springs tending to cause the roller 33 to move downwardly toward the die 4, and thereby press the tobacco leaf firmly thereupon, the springs 41, however, permitting the roller to yield vertically to accommodate stems or other variations in the thickness of the leaf.

The legs of the yoke 13 which carries the platen 12 are vertically guided in a frame 42 secured to the under side of the table 19 and the cam 22 is so formed, as shown in Figs. 9 and 10, that as the roller 33 swings over the top of the die 4 the lever 20 bears upon a recessed portion of said cam 22, as shown in Fig. 9, and thus permits the platen 12 to drop below the level of the top die, as shown by full lines in Fig. 3, but at each end of the swing of the arm 26, when the roller 33 is beyond the limits of the die, the lever 20 is acted upon by a raised portion of the cam 22 at one or other extremity of the same, as shown in Fig. 10, and the platen 12 is thereby lifted to the level of the top of the die so as to provide support for the leaf during the readjustment of the same preparatory to forming another cut therein.

For the convenience of the operator who subsequently rolls the wrapper around the cigar bunch it is sometimes advisable to change the axial angle of the die in respect to the path of swing of the roller 33 and thus likewise change the angle of the cut in the tobacco leaf and for this purpose I secure the die in a frame 43 which is mounted on the top of the suction box 1 and has at each end a segmental slot 44 for the reception of a clamping bolt 45 depending from the frame 42, as shown in Figs. 4 and 5, such bolt being provided with a suitable nut and washer whereby the die carrying frame 43 can be properly clamped to the under side of the supporting frame 42 in any desired position of lateral adjustment of the ends of said frame 43 permitted by the segmental slots 44, the angle of the opening formed in the platen 12 for the reception of the die being, of course, changed to suit the angle to which the die is adjusted.

Between the flanged top of the suction box 1 and the frame 43 is interposed a packing strip 46 of soft metal whose inner edge is preferably turned up inside of the die 4, as shown in Fig. 3.

The change in the position of the die also effects a like change in the position of the suction box 1 but the connection 2 between said suction box and the suction pipe 3 is flexible enough to permit this.

I claim:

1. In a leaf cutting table for cigar makers, the combination of a suction box, a cutting die in communication therewith, a roller swinging horizontally over the die, a vertically movable platen surrounding the die, and means controlled by the swing of said roller whereby said platen is raised as the roller approaches the limit of its swing in either direction.

2. In a leaf cutting table for cigar makers, the combination of a suction box, a cutting die in communication therewith, a roller swinging horizontally over said die, a platen surrounding said die and so mounted that it normally occupies a level below the top of the die, and means controlled by the swing of said roller for raising said platen at each end of the swing of the roller.

3. In a leaf cutting table for cigar makers, the combination of a suction box, a cutting die in communication therewith, a roller swinging horizontally over said die, an arm carrying said roller, a pivot shaft for said arm, a platen surrounding the die, a platen carrying frame, a lever one of whose arms carries said frame, a cam on the pivot shaft of the roller-carrying arm, and means whereby said cam is caused to act upon the other arm of the platen carrying lever.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

THOMAS E. FEARON.

Witnesses:
HARRY L. SMITH,
KATE A. BEADLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."