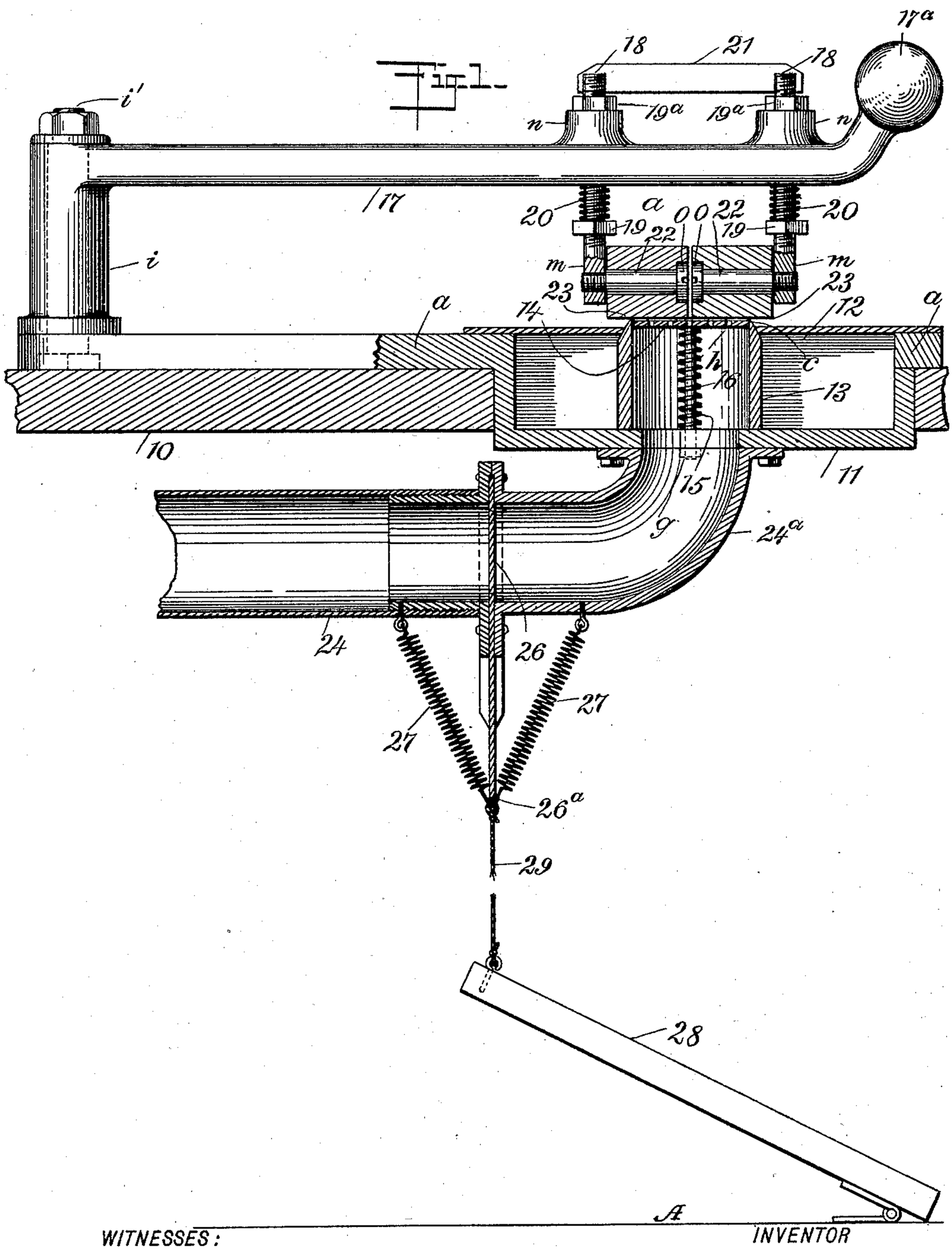
No. 683,272. Patented Sept. 24, 1901.

W. S. GLEIM.

CIGAR WRAPPER CUTTING MACHINE.

(Application filed July 19, 1901.)

(No Model.) 2 Sheets—Sheet 1.



WITNESSES:

A. Russell Bond.

Wm. P. Patton

INVENTOR

William S. Gleim.

BY Munn & Co.

ATTORNEYS

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Fig. 2.

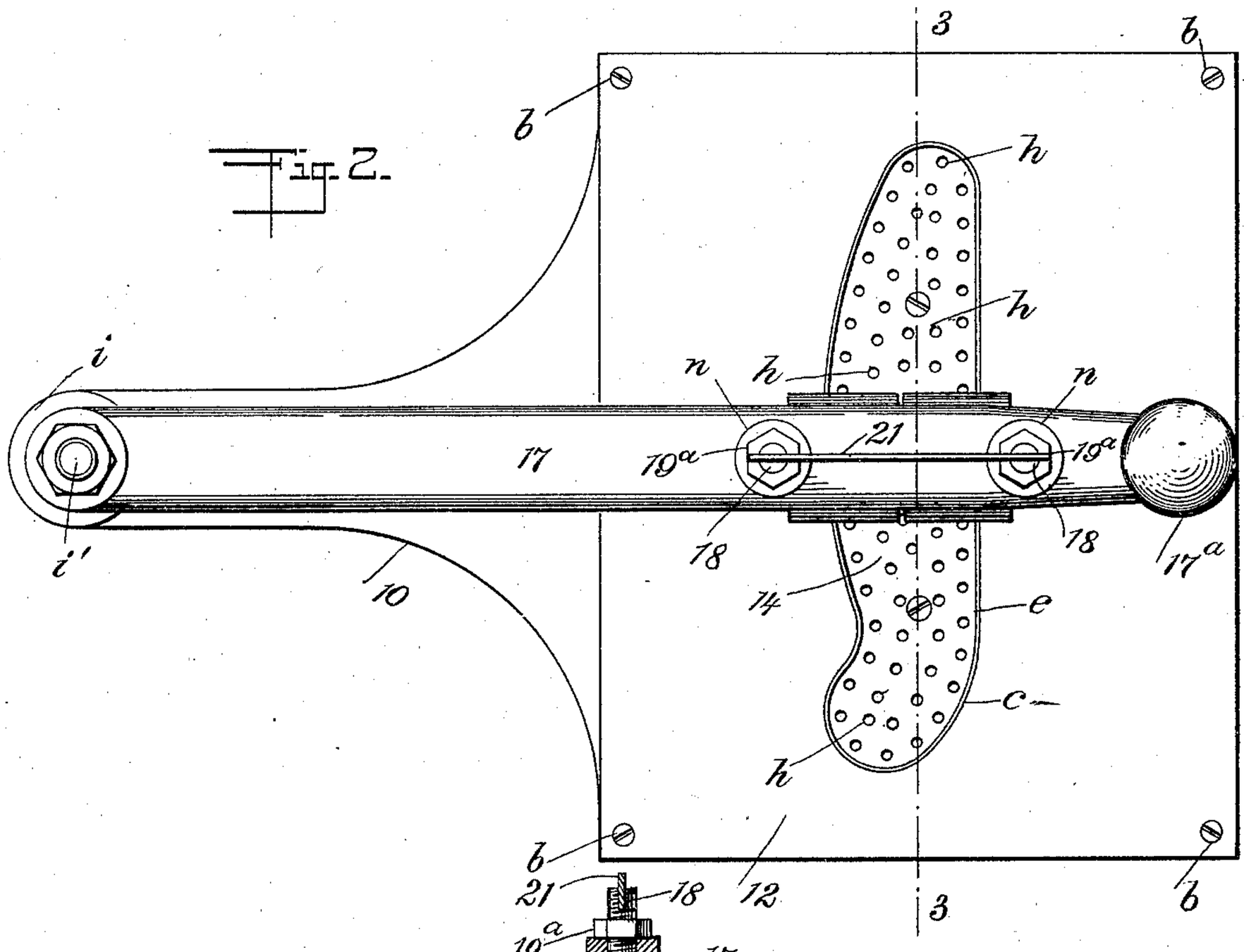

Fig. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM STONER GLEIM, OF LANCASTER, PENNSYLVANIA.

CIGAR-WRAPPER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 683,272, dated September 24, 1901.

Application filed July 19, 1901. Serial No. 68,912. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM STONER GLEIM, a citizen of the United States, and a resident of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented new and useful Improvements in Cigar-Wrapper-Cutting Machines, of which the following is a full, clear, and exact description.

This invention has for its object to provide novel details of construction for a cigar-wrapper-cutting machine which will simplify, cheapen, and render more convenient such a device.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a partly-sectional side view of the improvement. Fig. 2 is a plan view of the same, and Fig. 3 is a transverse sectional view substantially on the line 3 3 in Fig. 2.

This improved cigar-wrapper-cutting machine is of a class wherein exhaustion of air is produced below a cutter that is shaped on its edge similar to the margin of a properly-cut cigar-wrapper, whereby the wrapper material is held by air-pressure thereon in position over the hollow cutter or die, such machine also being provided with a swinging lever carrying one or more rollers, which may be passed over the cutting-die after a leaf of wrapper material is placed over said die and by enforced contact with said material cut a wrapper therefrom.

My invention provides new details of construction for the die mechanism of a wrapper-cutting machine of the class indicated, also for the roller-supports on the swinging lever, and novel convenient means for controlling air exhaustion by foot-pressure, so as to greatly facilitate the proper operation of the wrapper-cutting machine.

In the drawings, 10 indicates a flat table, which is supported horizontally at a proper height from the floor by a suitable frame. (Not shown.) In a preferably rectangular aperture formed in the table 10 the exhaustion-chamber 11 is hung by engagement of the border-flange *a* thereon with the table at the top edge of its aperture. A platen 12, consisting of a flat plate, is seated upon the table 10 over the open top of the exhaustion-chamber 11 and is removably held thereon by screws *b*.

A hollow die 13, having a continuous vertical wall, is provided, and said wall, which at the upper edge is beveled to remove its outer corner and provide a cutting edge *c* at the inner corner thereof, is given such form on the cutting edge as will adapt it to cut a cigar-wrapper of correct form. The die 13 seats upon the bottom wall of the exhaustion-chamber 11 at a nearly central point and is held in place by the screws *d*, its cutting edge *c* projecting through a slightly-larger conforming orifice *e*, formed transversely in the plate 12. A stripper-plate 14 is loosely fitted in the die 13, having a similar peripheral form to that of the cutting edge *c*, and from the stripper-plate there extend downwardly the similar guide-rods 15, which are affixed thereto by their upper ends and pass vertically down and loosely through perforations in the bottom wall of the exhaustion-chamber 11, the lower projecting ends of the guide-rods having nuts *g* thereon, which limit the upward movement of the rods. Upon each guide-rod 15 a coiled spring 16 is mounted, the opposite ends of which respectively contact with the lower side of the stripper-plate and upper side of the bottom wall of the chamber 11, said springs by their expansion holding the stripper-plate elevated, so that its upper surface is in the same plane with the edge *c* on the die 13. As shown in Figs. 2 and 3, the stripper-plate 14 is foraminated through its area, these spaced perforations *h* being of small size.

A pressure-lever 17 is pivoted by one end upon the table 10 or on an extension from the exhaustion-chamber 11, as indicated in Figs. 1 and 2, the hub *i* of the lever, which is engaged by the pivot-bolt *i'*, being of such height as will dispose the body of the lever a proper distance above the platen 12 when the lever is swung over the platen.

Two similar hanger-arms 18, having mainly cylindrical form, are loosely held spaced apart a suitable distance by the engagement of their upper portions within two vertical perforations in the body of the lever 17 near its free end, on which end a handle-knob 17^a is preferably formed. An adjusting-nut 19 is screwed upon the threaded body of each hanger-arm 18 and positioned near an enlargement *m*, formed on the lower end of the arm. Upon each hanger-arm 18 a coiled spring 20 is loosely mounted and rests upon the nut 19, said springs having contact at their upper ends with the lower surface of the pressure-lever 17. To afford guided support for the hanger-arms 18, thickening bosses *n* may be formed on the upper side of the lever 17, and the perforations in the lever wherein the arms are loosely held continue through said bosses. The hanger-arms 18 extend above the bosses *n* and receive the adjusting-nuts 19^a, that are screwed upon them, said nuts seating upon the tops of the bosses *n*. The end portions of the hanger-arms 18 that project above the adjusting-nuts 19^a are axially slotted, and in said slots a keeper-bar 21 is removably held by the loose engagement of its ends in said slots.

In each of the hub-like enlargements *m* on the lower ends of the hanger-arms 18 a threaded end portion of a journal-stud 22 is screwed, and by a proper adjustment of the nuts 19 19^a these studs may be axially alined considered laterally. A roller 23 is loosely mounted upon each journal-stud 22 and is held thereon by a headed enlargement *o*, formed upon the free inner end of said stud. It will be seen in Fig. 1 that the alined journal-studs 22 have clearance at their adjacent ends and that the rollers 23 also avoid contact with each other.

A tubular exhaust-pipe 24 extends from an air-exhauster device of any preferred type (not shown) and is held beneath the table 10 by a secured engagement of its upwardly-bent end 24^a with the table, this end of the exhaust-pipe having open communication with the exhaust-chamber 11 within the space occupied by the hollow die 13. A gate-valve 26 is introduced into the exhaust-pipe 24, and this valve, that is held to slide across the bore of said pipe, projects downwardly from the pipe a suitable distance, as shown at 26^a. To the lower side of the exhaust-pipe 24 the upper ends of two contractile springs 27 are connected, and at their lower ends said springs are attached upon the gate extension 26^a, the tensional force of the springs serving to normally close the gate-valve across the bore of the exhaust-pipe 24.

A treadle-lever 28 is hinged by one end upon the floor A beneath or near the table 10, and upon the opposite end of the treadle-lever the lower end of a suitable connecting-link 29 is affixed, the upper end of said link being attached to the depending portion 26^a of the gate-valve 26, and it will be seen that by foot-pressure the operator of the machine can control the exhaustion of air as may be required for the effective operation of the machine.

In operating the improved cigar-wrapper-cutting device the leaf material from which a wrapper is to be cut is spread smoothly upon the stripper-plate 14, and is thus held manually for an instant or until the simultaneous opening of the gate-valve 26 a proper degree serves to exhaust air from the interior space in the hollow die 13, which will draw the leaf closely upon the stripper-plate. The lever 17 is now swung across the platen 12, which will cause the rollers 23 to bear yieldingly upon the leaf and cut a wrapper therefrom, the stripper-plate 14 being slightly depressed, so that the cutting edge *c* of the hollow die 13 may shear the leaf material with a smooth cut. Upon removal of the lever 17 from over the die 13 the marginal portion of the leaf material may be readily separated from the cut wrapper, which will be released from the cutting edge of the die 13 by the elevation of the spring-pressed stripper-plate 14.

It will be seen that the spring-pressed rollers 23, that are held in lateral alinement by the keeper-bar 21, may receive independent vertical adjustment, and thus be adapted to more perfectly engage with all parts of the cutting edge *c*, and this is found to be particularly advantageous in case this edge of the die becomes slightly untrue on account of grinding the bevel edge of the die to sharpen it.

The stripper-plate 14 is of great service, as it enables the operator to hold the leaf stretched thereon, and thus insure proper form, the exhaustion of air through the stripper-plate conducing to such a result in an obvious manner, the subsequent elevation of the plate releasing the cut wrapper from the die.

The provision of the valve 26 and means for automatically closing it and its operation by foot-pressure greatly aids the operator to execute a large amount of work rapidly and in a perfect manner.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a table, a depending exhaustion-chamber thereon, and a hollow die in said chamber, having a sharp top edge, of a lever pivoted at one end on the table, spaced adjustable and spring-pressed arms depending from the lever above the die, and having axial slots in their upper ends, a laterally-extended journal-stud on the lower end of each arm, a roller held to rotate on each journal-stud, and a keeper-bar loosely held at its ends in the axial slots formed in the upper ends of the arms.

2. The combination, with the roller-supports, comprising a pivoted lever, hanger-

arms loosely held in spaced perforations in the lever near its free end, said arms having each an axial slot in the upper end, and adjusting-nuts mounted on the arms, of a coiled spring on each arm seated on a nut and bearing upon the lever, a laterally-projected journal-stud on the lower end of each arm, a roller loosely mounted and held upon each stud, and a keeper-bar engaged near its ends in the axial slots in the arms, said bar holding the journal-studs laterally alined.

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

WILLIAM STONER GLEIM.

Witnesses:
WM. D. ZELL,
JOHN S. GLEIM.