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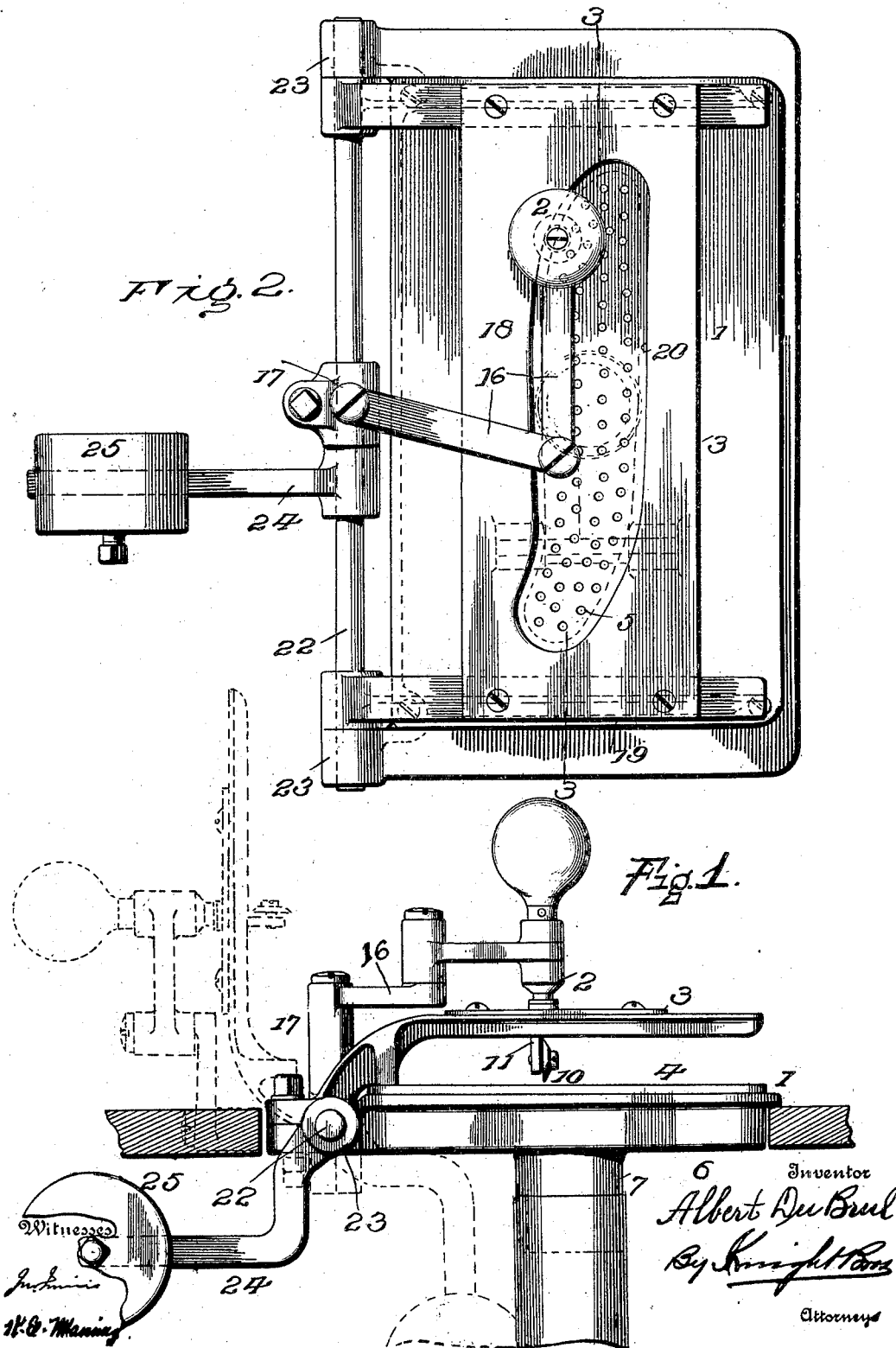
Patented June 18, 1901.

A. DU BRUL.
CIGAR WRAPPER CUTTER.

(Application filed Feb. 2, 1901.)

(No Model.)

3 Sheets—Sheet 1.



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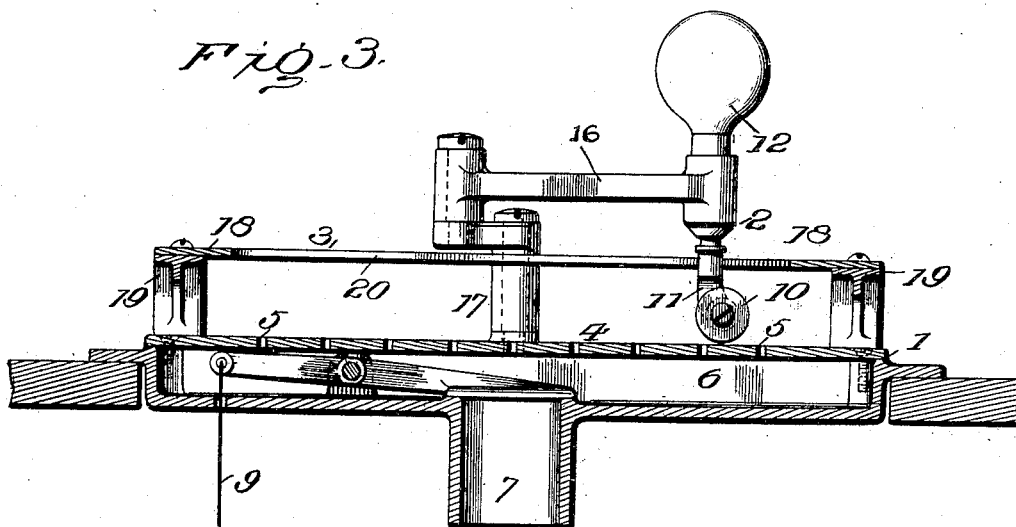
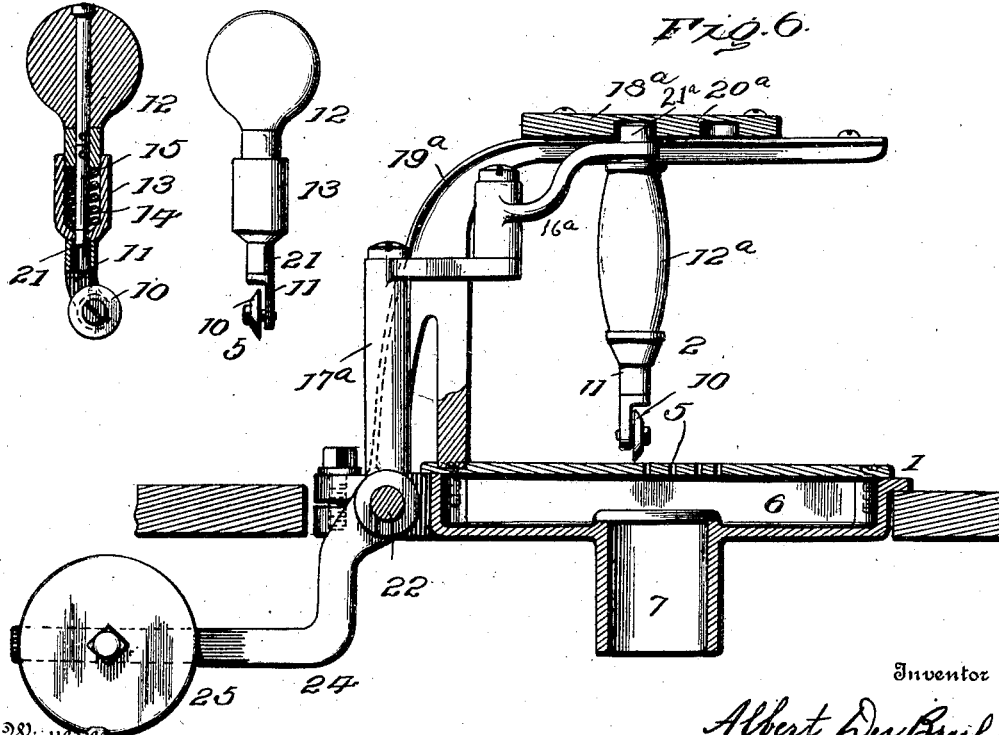
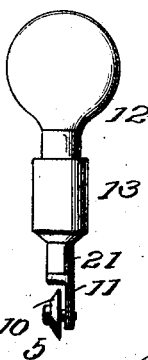
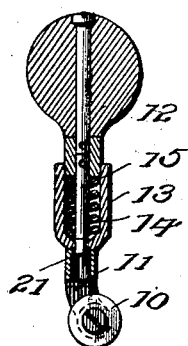


Fig. 4.

Fig. 5.



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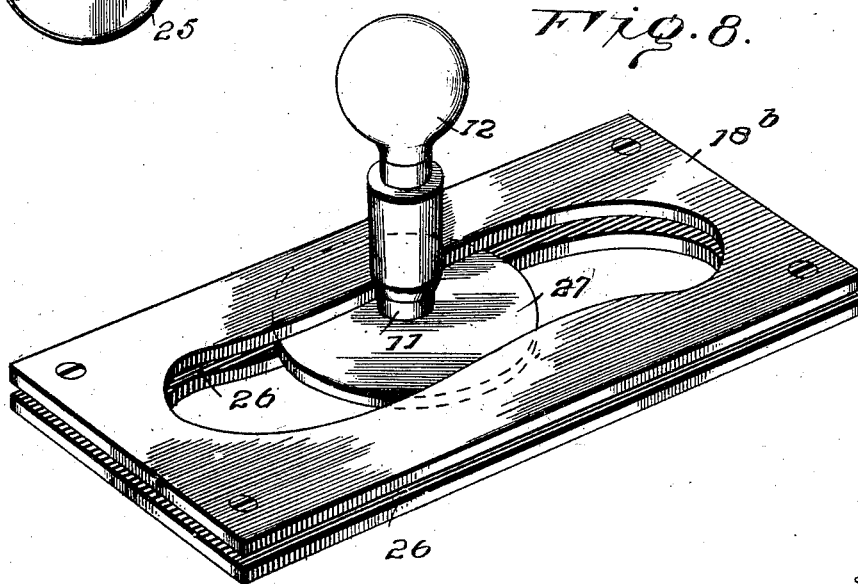
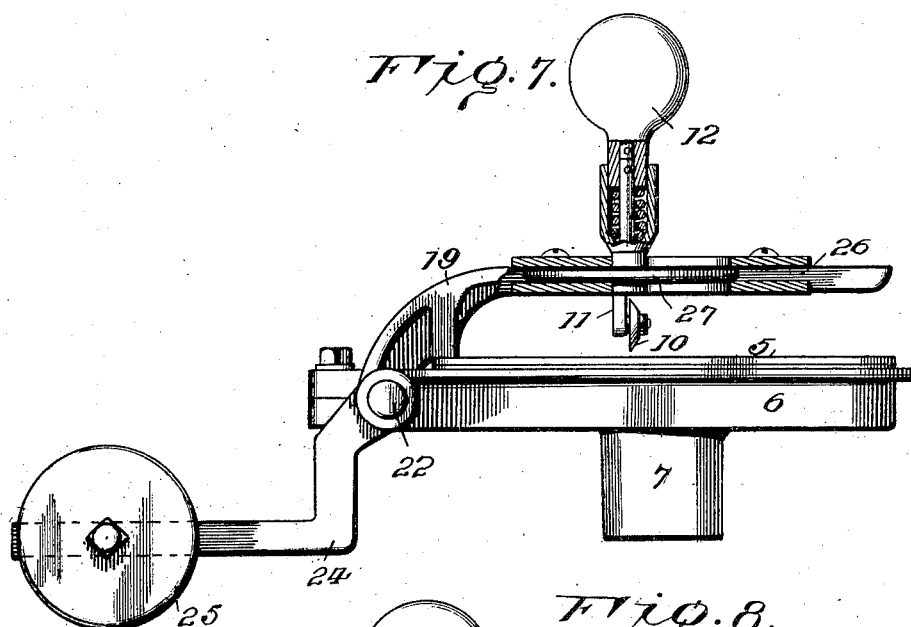
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

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CIGAR-WRAPPER CUTTER.

SPECIFICATION forming part of Letters Patent No. 676,813, dated June 18, 1901.

Application filed February 2, 1901. Serial No. 45,739. (No model.)

To all whom it may concern:

Be it known that I, ALBERT DU BRUL, a citizen of the United States, and a resident of the borough of Queens, in the city and State of New York, have invented certain new and useful Improvements in Cigar-Wrapper Cutters, of which the following is a specification.

My present invention relates to a machine that may be manipulated for cutting from leaf-tobacco blanks of suitable shape to be used as cigar-wrappers; and my invention consists in certain novel features of construction whereby the shaping of the wrapper is facilitated and the cutting accomplished in a better manner.

In carrying out my invention I employ a suitable table, upon which the leaf is laid and upon which it is held by air-suction in a well-known manner, and a tool moving over said table in performing the cutting operation, which tool works in a suitable guide, which causes it to traverse a path corresponding to the outline to be given to the wrapper, the perforations being so grouped as to form a continuous unbroken path for the tool, and means being provided in the structure to keep the tool normal to its path of travel. Preferably the table serves as a platen upon which to cut the wrapper, and the tool comprises a suitably-supported grip or handle carrying a cutting disk, blade, or wheel, while the guide comprises a plate in which the tool travels. The tool is suitably supported either by independent means or by the guide-plate and is automatically raised with the guide-plate from the table when not in use to permit spreading the leaf and leave the table unobstructed in rolling the wrapper on the cigar.

My invention will be fully understood upon reference to the accompanying drawings, in which—

Figure 1 is a side elevation of one embodiment of my invention. Fig. 2 is a plan view of the same. Fig. 3 is a vertical section on the line 3 3, Fig. 2. Fig. 4 is a vertical sectional view of the tool that is manipulated over the table to cut the wrapper. Fig. 5 is an elevation of said tool viewed in a direction at right angles to Fig. 4. Fig. 6 is a sectional elevation of another embodiment of

my invention. Figs. 7 and 8 are respectively a sectional elevation and a detail perspective illustrating still another embodiment of the principles of my invention.

1 represents the wrapper-cutter table, 2 the tool which is made to traverse the table in cutting the wrapper, and 3 the guide which causes the tool to travel in a path conforming to the outline of the wrapper to be cut.

The table 1 preferably comprises a platen 4, having perforations 5, through which to create suction beneath the wrapper for holding it, and an air-chamber 6, in which the vacuum producing said suction is developed through exhaust-pipe 7, controlled by a valve 8, operated through connection 9.

The tool 2 comprises a cutter 10, in the form of a disk or wheel, secured by a caster-mounting 11 to the handle 12. The caster-mounting 11 performs the important function of causing the cutter to trail after the tool, and as it is free to rotate upon its spindle it is enabled to keep its cutting edge at all times in the line of travel notwithstanding the constant change in the direction of the outline of the wrapper. Such caster-mounting thus provides means for keeping the operating end of the tool at all times normal to its path of travel. Handle 12 is supported in a socket 13, containing a spring 14, that surrounds the spindle 15 of the caster-mounting and holds the cutter 10 normally above the table. The spring 14 is overcome by the weight of the hand of the operator in manipulating the tool, and cutting pressure is thus brought to bear upon the leaf. The tool is suitably supported in vertical position, but is free to move horizontally.

According to the embodiment shown in Figs. 1, 2, and 3 the support for tool 2 comprises the jointed bracket 16, swinging in a horizontal plane from a pivot 17. The guide 3 comprises a plate 18, supported above the table by arms 19 and having an aperture 20, through which the shank of the tool projects and against the edge of which said shank bears through the medium of a friction-roller 21. Since the aperture conforms in outline to the cigar-wrapper to be cut, the cutter is made to traverse the proper path by simply

holding the shank outwardly against the guide-plate as the tool is moved.

In order to withdraw the guide-plate and tool from above the table while the latter is being used in rolling the wrapper about the cigar, the cutter-bracket, pivot 17, and the supporting-arms 19 are clamped to a shaft 22, turning in bearings 23 on the frame of the machine and having a counterbalance-lever 24, with counterbalance-weight 25 projecting rearwardly therefrom, which by its gravitation raises the gage-plate and tool from the table when the tool is released.

According to Fig. 6 the guide comprises an elevated guide-plate 18^a, supported on arms 19^a, which are mounted on the turning shaft 22, said gage-plate having a guiding-groove on its under face which receives the anti-friction-roller 21^a at the upper end of the tool 2, while said tool is supported at said upper end by the jointed bracket 16^a, swiveled on a tall pivot 17^a, and carries an intermediate grip 12^a, by which it is manipulated.

Figs. 7 and 8 show an embodiment wherein a guide-plate 18^b, mounted in all respects like that shown in Figs. 1, 2, and 3, is constructed of double thickness, with a space 26 between, in which a supporting-disk 27 fits in a vertical direction, but enjoys freedom of horizontal movement, whereby it may be manipulated in the manner hereinbefore described, and embodies the principle of my invention in the employment of the suction-table, the tool, and the guide-plate.

Perforated pneumatic suction-tables for holding a tobacco-leaf while cutting a cigar-wrapper therefrom are well known and in common use and are disclosed in patents now expired. Hence novelty is not claimed, broadly, in a suction-table for holding the leaf. It has been proposed to use such suction-tables in cutting wrappers by hand preparatory to applying each to the cigar-bunch; but they have generally been used in conjunction with cutting-dies corresponding in form to the contour of the wrapper and on which the wrapper is cut by means of rollers passed horizontally over the edge of the die from end to end. Both these plans of operation are defective and objectionable. The plan employing the use of the die is objectionable, for the reason that the impact of the rollers at the ends of the die and laterally to the edge thereof bruises the leaf, resulting in discoloration in places at the edges of the wrapper, and for the further reason that the lateral impact of the roller at the ends of the die results in bruising and marring the edge of the die itself, so that its cutting capacity at the ends is quickly impaired, resulting in imperfect cutting and consequent tearing of the wrapper. Furthermore, the use of wrapper-cutting machines employing cutting-dies has always been objectionable for the highest class of work employing dark gummy tobacco-leaf, for the reason that constant passing of the pressure-rollers over the edge of the die dulls the

latter after a comparatively short period of use, after which instead of making a clean sharp cut the die bruises the edge of the wrapper to such an extent as to drive away the gum from the edge, often changing the color, leaving it lighter, so that in the finished cigar there would be a distinct spiral line or mark noticeable. For this reason wrapper-cutting machines have not generally been used in the higher classes of work.

The plan of employing a cutting-platen perforated throughout its surface and provided with air-suction means for holding a leaf thereon while the wrapper is cut out by hand with the use of an ordinary wrapper-cutting knife is impracticable, owing to the fact that the leaf obscures all the perforations, and the knife cannot be made to follow an uninterrupted solid path among the perforations, and therefore the edge of the wrapper will not be neatly cut, but will remain attached to the leaf where the knife passes over the perforations. It has also been proposed to trim shoe-soles and hat-rims by cutters rotating about an axis and having means for varying their distance from the axis; but these are not the equivalent of my invention. It has never been proposed to utilize a perforated cutting-platen with air-suction means for holding the tobacco-leaf thereon, a tool having freedom of horizontal motion, and a guide which directs the tool in a path which avoids the perforations and causes the cutting-blade to travel upon a continuous solid cutting-surface. Moreover, in my invention the cutting-tool is provided with means for keeping it normal to its path of travel, whereby it is better adapted to traverse narrow paths without swerving or causing the leaf to tear, and the air-suction perforations are grouped to leave a well-defined uninterrupted solid cutting path conforming to the guide, so that the tool may not intersect the perforations. By this novel combination of air-suction means in a smooth unobstructed cutting-platen having perforations grouped to leave an uninterrupted cutting-path, a floating cutting-tool above the same, means for directing the cutting-tool, and means for keeping the cutting-blade normal to the path of travel I provide a machine operating with the same results as obtained from hand-cutting with a knife, while permitting the successful use of the knife on the perforated platen, that has heretofore been unattained, and still retain all the advantages of increased capacity and accuracy of work obtainable from a machine. Moreover, all the objections to a wrapper-cutting machine for the highest class of work are removed, and a number of advantages for all classes of work are secured, principal among which are the entire avoidance of all complication, obstruction, and hindrances resulting from projections or unevennesses and movable or depressible parts which hinder not only the learning but the accomplished operator and greatly reduce the amount of work

the operator may accomplish; also, the absence of the die or other cutting edges in the table which have heretofore retarded the operator by fear of injury to the fingers, so that

5 by my improved machine there is great freedom for the operator in doing the work, which results in the production of a much larger output in a given time.

I claim as my invention—

10 1. In a wrapper-cutting machine, the combination of a perforated cutting-platen, having its perforations grouped so as to leave an uninterrupted cutting-path conforming to the outline of the wrapper to be cut, means for

15 holding a leaf on said platen by suction, a cutting-tool, means for vertically supporting said tool above the table with freedom of horizontal movement, and a guide directing the path of said tool, having a directing edge conforming to the wrapper to be formed.

20 2. In a cigar-wrapper cutter, the combination of a table, means for holding a leaf thereon by suction, a cutting-tool cooperating with said table to cut the wrapper, means for vertically supporting said tool while permitting it to freely move horizontally, and a guide-

25 plate directing the course of said tool as it traverses the table.

30 3. In a cigar-wrapper cutter, the combination of a table, means for holding a leaf thereon by suction, a cutting-tool manipulated upon said table to cut out a wrapper, a jointed bracket affording vertical support but having freedom of horizontal movement on said tool,

35 and a guide-plate controlling the horizontal movements of the tool and causing it to traverse the outline of the wrapper.

40 4. In a wrapper-cutter the combination of the table, means for holding a leaf thereto by suction, a cutter adapted to be manipulated over the table to cut out a wrapper, a guide-plate having an aperture through which the cutter works conforming to the wrapper to be cut, and means affording vertical support, but freedom of horizontal movement to

45 said cutter.

50 5. In a wrapper-cutter, the combination with the table, of the tool and guide-plate and a shaft from which said guide is supported over said table and adapted to swing upward from over the table.

60 6. In combination with the table; of the cutter supported by a jointed bracket above said table, the guide-plate-supporting arms by which said guide-plate is mounted above the table, and a counterbalanced shaft upon which said bracket and arms are mounted.

7. In a cigar-wrapper-cutting machine the combination of a cutting-platen having air-suction perforations grouped to leave an uninterrupted cutting-path conforming to the tool of the wrapper to be cut out, a cutting-tool manipulated over said platen to cut out the wrapper, means for affording vertical support for permitting freedom of horizontal movement to said cutting-tool, a guide having a directing edge conforming to the unin-

70 interrupted path on the cutting-platen, and means for holding the cutter in the cutting-tool normal to the path in which it travels.

8. In a cigar-wrapper-cutting machine, the combination of a cutting-platen having air-suction perforations therein grouped to leave an uninterrupted cutting-path conforming to the edge of the wrapper to be cut out, a tool 75 having a rotary cutting-disk secured in its lower end through the medium of a vertical spindle, a guide supported vertically above the cutting-platen and having a directing edge engaged by the tool and causing the cutter in the tool to traverse the uninterrupted path on the cutting-platen, and means whereby the cutting-disk is turned upon its vertical spindle as the cutter travels to hold the disk at all times normal to the path in which it 85 travels.

9. In a cigar-wrapper cutter the combination of a table, a tool having vertical support and lateral movement over said table and normally out of contact therewith and a spring 90 interposed between the tool and its support whereby the tool may be depressed into contact with the table.

10. In a cigar-wrapper-cutting machine, the combination of a table, a cutting-tool manipulated over said table to cut out a wrapper 95 from a leaf laid thereon, a guide supported vertically above the table and constructed to engage the tool and direct its path in its manipulation, and means whereby said guide is swung into and out of operative position above the table, substantially as set forth. 100

11. In combination with a cigar-wrapper-cutting table having means for holding a leaf thereto by suction; a guide-plate and a counterbalanced shaft by which said guide-plate 105 is mounted to swing into and out of position over the table for the purpose set forth.

12. In a wrapper-cutting machine, the combination of a cutting-table, a cutting-tool manipulated over said table to cut out a wrapper 110 from a leaf laid thereon, means affording vertical support and freedom of horizontal movement to said tool above the table, a guide constructed to engage the tool and direct its path in its manipulation over the table, and a pivotal mounting for the guide and tool to permit them to swing into and out of operative position above the table, substantially as herein set forth. 120

13. In a wrapper-cutting machine, the combination of a table, a cutting-tool manipulated over the table to cut out the wrapper from a leaf laid thereon, a guide supported vertically above the table constructed to engage the tool 125 and direct its path in its manipulation over the table, and a supporting-bracket sustaining said tool vertically but pivoted so as to swing laterally from a point outside of the area of the work being performed, and having an intermediate vertical pivotal joint which 130 affords movement to the tool in a direction transverse to the swinging movement.

14. In a wrapper-cutting machine, the com-

5 bination of a table, a cutting-tool manipulated
over the table to cut out the wrapper from a
leaf laid thereon, a guide supported vertically
above the table constructed to engage the tool
and direct its path in its manipulation over
the table, a rotary cutting-disk, a vertical
spindle through the medium of which said
cutting-disk is secured to said tool, and a sup-
10 porting-bracket sustaining said tool vertically
but pivoted so as to swing laterally from a

point outside of the area of the work being
performed, and having an intermediate ver-
tical pivotal joint which affords movement to
the tool in a direction transverse to the swing-
ing movement.

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