

No. 683,201.

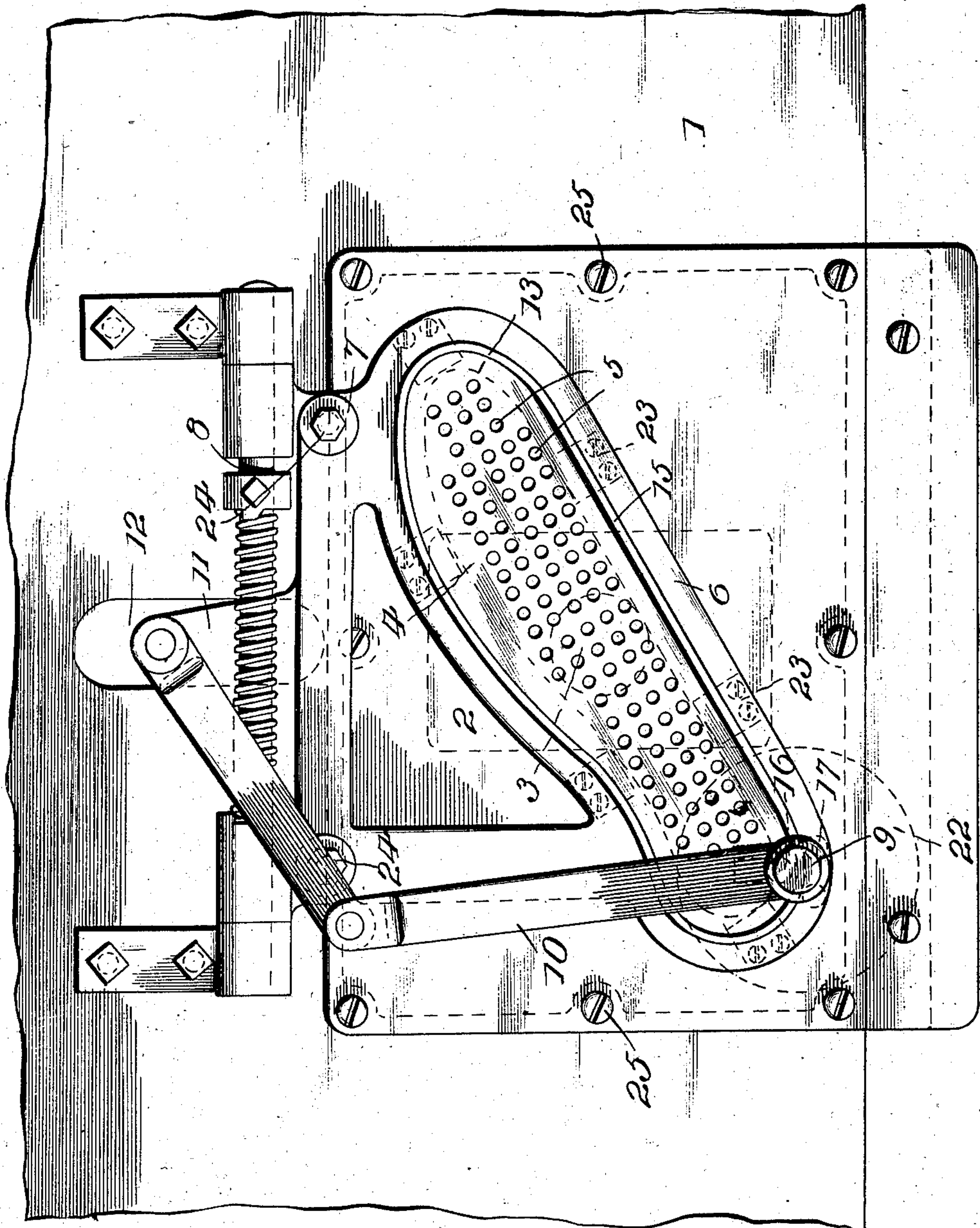
Patented Sept. 24, 1901.

N. DU BRUL.
CIGAR WRAPPER CUTTER.

(Application filed May 4, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witness
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Fig. 1.

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FIG. 2.

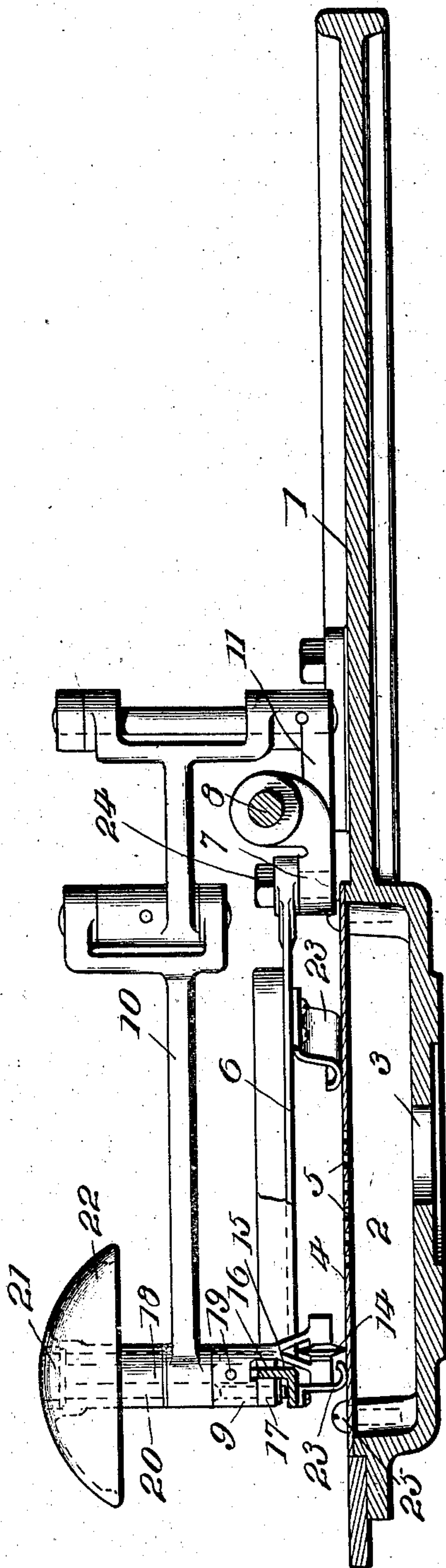


FIG. 4.

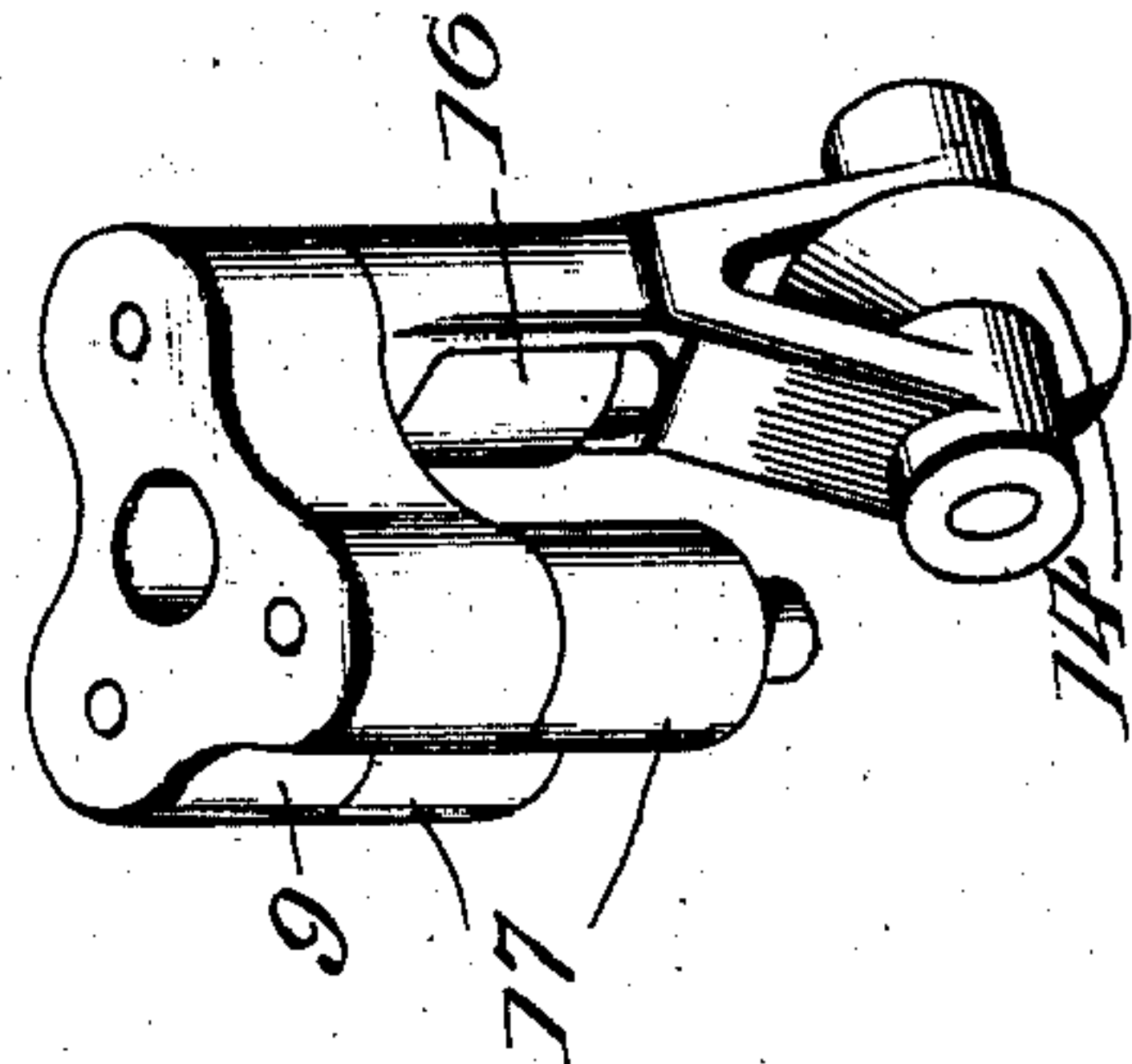
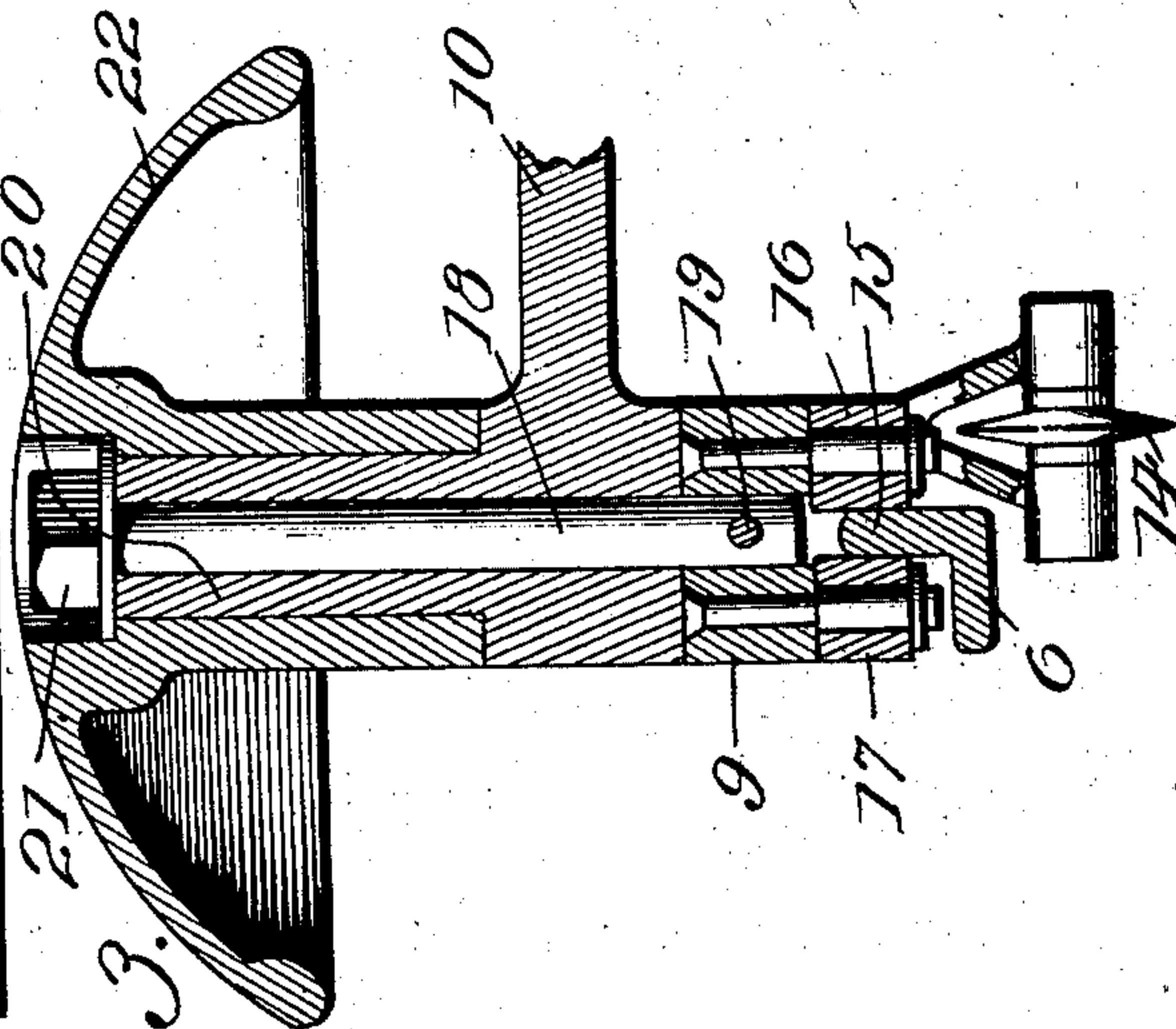


FIG. 3.



Witnesses

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CIGAR-WRAPPER CUTTER.

SPECIFICATION forming part of Letters Patent No. 683,201, dated September 24, 1901.

Application filed May 4, 1901. Serial No. 58,765. (No model.)

To all whom it may concern:

Be it known that I, NAPOLEON DU BRUL, a citizen of the United States, and a resident of Cincinnati, county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Cigar-Wrapper-Cutting Machines, of which the following is a specification.

My invention relates to that type of cigar-wrapper - cutting machines which employ what is termed a "floating" cutting-tool—that is to say, a cutting-tool so mounted as to have vertical support, but freedom of horizontal movement in any direction, above a cutting-platen—and a "guide" swinging vertically into and out of position above the platen, conforming in outline to the wrapper to be cut, engaged by or engaging the tool, so as to prevent the tool from leaving the guide and compelling its operating end to traverse a path conforming to the wrapper to be cut.

My improved wrapper-cutting machine employs air-suction means for holding the leaf to the cutting-platen. The cutting-tool carries a rotary blade that cuts the leaf. The air-suction perforations are so grouped as to leave an unobstructed cutting-path coinciding with the edge of the cut wrapper. The edge of the guide-plate conforms in form and position to this cutting-path.

One feature of the invention consists in having the cutting-path on the table occupy a peculiar angular position with relation to the position of the operator or front of the machine and in having the guiding edge of the guide occupy the same relative angular position as the cutting-path, so that the wrapper is cut in a more convenient position for rolling, and the guide occupies such a position when raised that the tool gravitates to the lower end and is therefore always in the same position to be grasped when returned to duty.

Another object of my present invention is to improve the structure whereby the cutting-tool engages and is confined on the guiding edge of the guide; and one feature of my invention therefore consists in forming the guide with a thin flange or rib conforming to the outline to be given to the wrapper and projecting vertically from the horizontal po-

sition of the guide and in providing the cutting-tool with a bifurcated portion engaging both sides of said flange or rib, whereby it is held to the guide in both directions, with a rotary cutting-disk mounted on a horizontal axis in the lower end of one fork of the tool and having points of bearing upon the guide, including a plurality on one side, (preferably the outer side,) whereby the cutting-tool is prevented from turning relatively to the guide and the axis of its rotary cutting-blade is held at all times normal to the path in which it moves. The bearing-points are preferably in the form of rollers.

Another object is to make a machine readily changeable for cutting out different forms of wrapper.

Another feature of my invention consists in detachably securing the guide to the machine, whereby it may be readily replaced by a different guide.

A further object of my present invention is to provide upon the under portion of the guide means through which that portion of the leaf outside of the wrapper is held while the cutting action is taking place, and a further feature of my invention therefore consists in suitably mounting presser-feet on the under side of the guide.

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

Figure 1 is a plan of a wrapper-cutter embodying my present improvements. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a vertical axial section of the cooperating tool and a transverse section of the flange or rib of the guide with which the tool engages. Fig. 4 is a detail perspective view of the portion of the tool below the jointed arm by which it is "floated" or vertically supported with freedom of horizontal movement.

1 represents a suitable table having a suction-chamber 2 with an opening 3, through which air is exhausted from the chamber 2, and a platen 4, upon which a leaf is held through air-suction perforations 5 during the cutting operation. These parts embody well-known principles in the art to which my invention belongs, and need not be further described here.

6 represents a guide supported above the

platen 4 by brackets 7, projecting from shaft 8, and 9 is a cutting-tool floated above the platen 4 by means of a jointed bracket 10, supported through an arm 11 from the shaft 8, said tool 9 having its lower end bifurcated to engage the guide 6, so that the movement of the tool will be confined to a certain definite path conforming to the outline of the wrapper to be cut in substantially the manner and for the purposes fully described in United States Letters Patent No. 676,813, granted Albert Du Brut on June 18, 1901. Both the guide-supports and the tool-supporting bracket are adapted upon the turning of the shaft 8 to swing from their position above the platen upward to a position which leaves said platen unobstructed when rolling the wrapper upon the cigar-bunch, as described in the previous application referred to, a recess 12 being left in the table 1 to receive the arm 11, as shown in Fig. 1.

As will be seen upon reference to Fig. 1, the air-suction perforations 5 in the cutting and rolling platen are grouped within an area defined by the edge of the wrapper to be cut, so that they will hold the wrapper portion of the leaf and leave around them an uninterrupted cutting-surface for the path of the cutting-tool, which path is indicated by the dotted line 13 in Fig. 1. One fork of the cutting-tool 9 carries upon a horizontal axis in its lower end a rotary blade 14, by which the cutting is effected. The path 13 indicates the line in which the edge of the blade 14 travels, and the axis of the blade is kept at all times normal to said path. Upon referring to Fig. 1 of the drawings it will be observed that the path 13 of the cooperating tool as well as the area of perforations 5 and the guiding edge 15 of the guide are all arranged in the same relative position and with their greater dimension lying at an angle to the front of the machine. One advantage of this angular position is that the end of the guide nearest the supporting-shaft becomes the lowest end when raised up, and the tool gravitates to that end, so that it is always to be found in the same place by the operator and can be pulled down into use more quickly and without removing the eyes from the leaf that is being spread upon the platen. Another advantage is that as the wrapper after cutting is held in this position it will be seen that it is much more convenient for rolling the wrapper upon the bunch, and this operation can therefore be done much more rapidly and accurately than if the position of these parts is arranged parallel to the front of the machine in an awkward position for rolling the wrapper upon the bunch. The position of these parts illustrated in the drawings is adapted for what is termed a "left-hand" wrapper. Other guide-plates will be made for right-hand wrappers. Other guide-plates will also be arranged for different-shaped wrappers.

As will appear more clearly from Fig. 3,

the guide 6 is formed with a straight vertically-presented flange or edge 15, and the bifurcated portion of the tool 9 is adapted to engage on both sides thereof, so as to prevent its moving transversely to the guide, by means of the inner bearing-roller 16 and outer bearing-rollers 17, which, as shown in Fig. 4 and by dotted lines in Fig. 1, are two in number. By this means the tool is prevented from turning relatively to the guiding-flange, and the cutting-blade 14 is held at all times with its axis normal to the path in which the blade travels, and a clean cut of the leaf is secured. The tool 9 is mounted upon the bracket 10 by means of a spindle 18, keyed to the tool at 19, projecting up into the boss 20 of the bracket and secured by a nut 21 on its upper end. The movements of the tool are controlled by the handle 22, which turns upon the boss 20, and by this handle the guide, with the engaging tool, may be brought down into operative position in opposition to the spring 8^a on the shaft 8, which holds these parts normally elevated.

23 represents presser-feet secured to the under side of the guide 6 in position to hold the portion of the leaf outside of the area of the wrapper while the wrapper is being cut, and thus prevent the severed portion of the leaf from becoming displaced during the cutting operation.

The guide 6 is secured by screws 24 to make it readily detachable from the bracket 7 for replacing it by another guide 6 for right-hand leaves or for cutting wrappers of different shapes, and the guides 6 may be made and sold separately from the machine, being all adapted to receive and direct the same tool 9. In like manner, if the modification in the shape of the guide 6 requires it, the platen 4 is readily detachable and replaceable upon removal of screws 25, and other platens may be substituted having the perforations 5 arranged at different angles or included in an area differently outlined, as the nature of the work may require.

I do not herein claim the detachable guide or gage *per se*, as the same forms the subject-matter of my copending application, Serial No. 63,133, filed June 4, 1901.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a cigar-wrapper-cutting machine, the combination of a cutting-table having air-suction perforations grouped so as to leave a cutting-path, a guide supported above the table constructed with an opening conforming to the wrapper to be cut, and with a vertical flange surrounding said opening, a tool-support extending over the cutting-table from a point outside the cutting area, a tool mounted to turn upon a vertical axis in the tool-support, a guide-roller on the tool impinging one side of the guide-flange and causing the tool to traverse a path conforming to the wrapper to be cut, a rotary cutter on the tool ver-

5 tically beneath the guide-roller and rotating
upon an axis that intersects the vertical axis
of the tool, and a plurality of alining-rollers
impinging the other side of the guide-flange,
and holding the axis of the cutter at all times
normal to the path in which it travels.

2. In a cigar-wrapper cutter, the combina-
tion of a table upon which the leaf is laid for
cutting out the wrapper and rolling it around
the bunch, a tool cooperating with the table
to cut the wrapper from the leaf, a guide
formed with a directing-track which deter-
mines the path of said cooperating tool, means
for holding the wrapper upon the table by
15 air-suction, positioned so as to hold the length
of the wrapper at an angle to the front of the
machine, and an upwardly-swinging mount-
ing holding the guide above the table with
the length of its track at an angle to the front
20 of the table, corresponding to the angle at
which wrapper is held, whereby the wrapper
is cut in position for convenient and rapid
rolling and the tool gravitates to one point
whenever the guide is released.

25 3. In a cigar-wrapper-cutting machine, the
combination of a platen upon which the
wrapper is cut, having air-suction perfora-
tions grouped to leave an uninterrupted cut-
ting-path conforming to the wrapper to be

cut, and disposed so as to have the greater 30
diameter of the group extending diagonally
rearward at an angle to the front of the platen,
a guide comprising an open frame with a per-
pendicular flange conforming to the cutting-
path, means for supporting the guide over 35
the table and swinging it vertically upward
therefrom, a floated tool cooperating with the
table to cut out a wrapper, and means car-
ried by the tool engaging opposite sides of
the guide's flange for confining the tool 40
thereon; the position of the guide correspond-
ing to that of the cutting-path whereby the
tool gravitates to one point when the guide
is raised and the guiding-flange preventing
disengagement of the tool when the guide is 45
in vertical position.

4. In a cigar-wrapper cutter, the combina-
tion of the cutting-table, the cooperating tool,
and the guide having a track or edge defining
the path of the tool, having a support by 50
which it is swung into and out of operative
position over the table and having presser-
feet projecting therefrom for holding the leaf
in position.

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