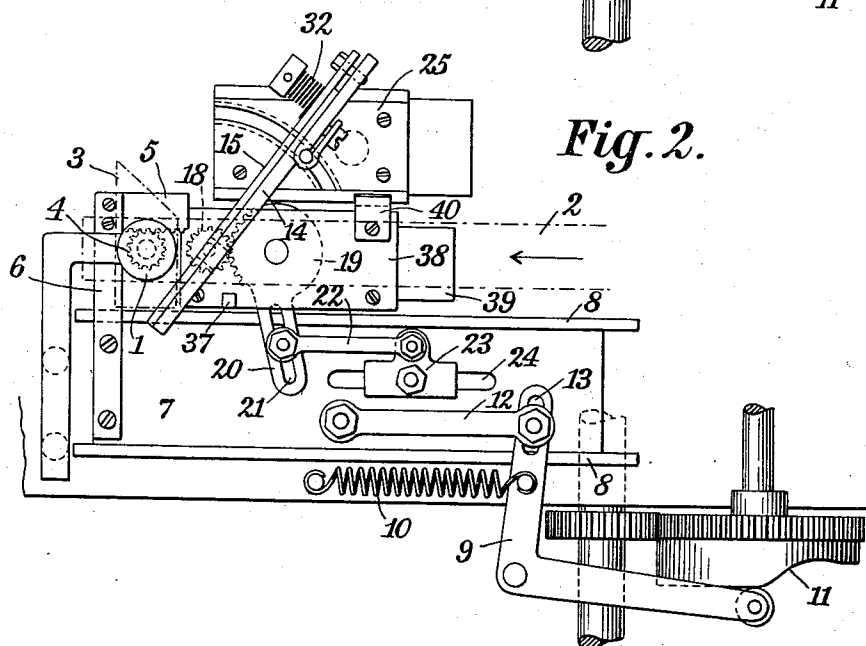
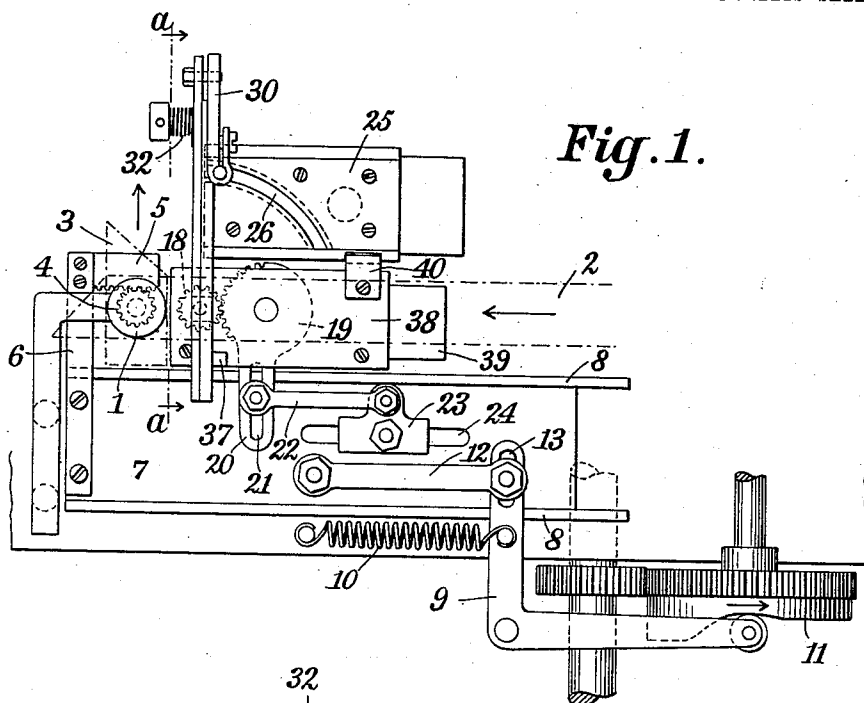


1,017,279.

2 SHEETS—SHEET 1.



WITNESSES:

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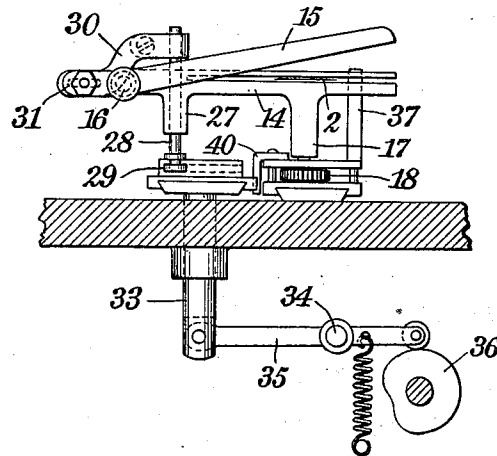
W. BENJAMINOWITSCH.  
MACHINE FOR MAKING CIGARETTE MOUTHPIECES.  
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2 SHEETS—SHEET 2.

*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

WOLF BENJAMINOWITSCH, OF BERLIN, GERMANY, ASSIGNOR OF ONE-HALF TO  
GOTTFRIED LEBRECHT TILLMANNS, OF MOSCOW, RUSSIA.

MACHINE FOR MAKING CIGARETTE-MOUTHPIECES.

1,017,279.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed February 21, 1911. Serial No. 609,895.

*To all whom it may concern:*

Be it known that I, WOLF BENJAMINOWITSCH, a subject of the Czar of Russia, and residing at Prinz Albrechtstrasse 2, Berlin, Germany, have invented certain new and useful Improvements in and Relating to Machines for Making Cigarette-Mouthpieces, of which the following is the specification.

This invention relates to machines for the manufacture of paper holders for cigarettes. The paper feed in such machines for the production of paper spirals generally takes place in the manner that the pieces of paper which are cut off obliquely on one side from a paper band running parallel to the mandrel on which the mouthpieces are formed, are rotated through an angle of 90° alternately to the right and to the left in the horizontal plane, so that they point to the mandrel with their oblique edge and are fed on to the same in the proper manner for the production of the paper spirals. For the effecting of this rotation the pieces of paper are brought singly on to a table, on which they are turned to the right or the left through 90°, according to their position.

The object of the present invention is to provide a cutting device for the production of the obliquely cut pieces of stiff paper in cigarette mouthpiece machines of the hereinbefore described type.

In contradistinction to the machines hitherto known which have two shears which effect the straight and the oblique cut, the present invention consists in a cutting off device in machines of the type referred to, having a single shear which in order to effect the various cuts is given a corresponding rotation in such a manner that it is alternately at right angles or at an acute angle to the path of the paper.

The invention also comprises means for regulating the angle of rotation of the shear as desired and for conveniently setting the said shear in action.

The invention is illustrated by way of example in the accompanying drawings in which—

Figure 1 is a plan of the device for effecting a cut at right angles to the path of the paper. Fig. 2 is a similar view of the device with the shear swung around for effecting an oblique cut, and Fig. 3 is a side elevation of the shield being a section through the line *a—*a** of Fig. 1.

In the drawing 1 denotes the table on which the single pieces of paper 3, cut off from the paper band 2 moving parallel to the mandrel, are brought, and on which by means of rotation alternately to the right and to the left through 90°, are swung around in such a manner that their point is directed toward the mandrel and can be correctly fed on to the same. The rotation of the table 1 on whose vertical axis is attached a toothed wheel 4, is effected by means of a short rack 5 which is connected through a bar 6 with a slide 7. This slide 7 which works in guides 8 is reciprocated by a bell-crank lever 9 which is acted on by a spring 10 and driven by a cam disk 11, so that the rack 5 also participates in this motion and sets the table 1 into a corresponding rotation. The bell-crank lever 9 is not directly connected to the slide 7 but these parts are conveniently linked together by a rod 12 one of whose ends can be adjusted in a slot 13 in the lever 9 whereby the stroke of the slide 7 and consequently the angle of rotation of the table 1 are capable of a certain amount of regulation.

The cutting device which is most clearly shown in Fig. 3 consists of a single pair of shears having a movable blade 15 and a fixed blade 14. The movable arm is formed of a double-armed lever fulcrumed at 16 to the fixed blade 14. These shears are arranged on a vertical shaft 17 on which is mounted at its lower end a toothed wheel 18. A toothed segment 19 engages with this latter toothed wheel this segment being provided with an extension 20 having a slot 21 in which is fitted one end of a rod 22; the other end of this rod is connected to a block 23 which is adjustably attached in a slot 24 in the frame 7. In consequence of the reciprocating motion of the slide 7, which also causes the rotation of the table 1, the toothed segment 19 and through this the toothed wheel 18 with the shaft 17 and the shear blades 14 and 15, is rotated in a manner depending on the adjustment for correctly timing the action of the shears. In order to provide an exact guiding of the shear blades during this rotation a plate 25 is provided in which is made an arc-shaped groove 26 whose center coincides with the center of the shaft 17. The shear blade 14 is provided with a projection 27 forming a guide for a pin 28 which can slide up and down

which pin is provided with a head 29 at its end of the form shown in Fig. 3 which fits in the arc-shaped groove 26. The upper end of the pin 28 is connected by a bent arm 30 with the short end 31 of the movable blade 15 of the shears. A spring 32 tends to hold the blades always together. The plate 25 rests on a pin 33 which is reciprocated by means of a cam disk 36 working through a lever 35 pivoted at 34. By means of the cam disk when the shear blades are in suitable position the lever 35 along with the pin 33 is lifted up, which has the result that the plate 25 and consequently the pin 28 is pushed upward, whereupon the pin 28 slides in the extension 27 of the fixed shear blade 14. By means of the pin 28 and the curved arm 30 the short rear end 31 of the blade 15 is lifted up and the long knife-like blade 20 pushed down against the blade 14, whereby the interposed strip of paper 2 is cut.

The device operates in the following manner. When the parts occupy the position shown in Fig. 1, in which the blade 15 has just cut the paper strip 2 at right angles to its path of feeding, the slide 7 through the agency of the cam disk 11 and the bell-crank lever 9 is moved to the right, whereupon not only the table 1 but also, owing to the action of the toothed segment 19 and the toothed wheel 18, the shears are caused to rotate and in consequence thereof placed in position obliquely to the path of feeding of the band of paper as shown in Fig. 2. When the desired end or angular position of the strip of paper with respect to the path of feeding has been reached, then the cam disk 36 actuates the shears and makes an oblique cut in the strip of paper. Hereupon through the agency of the cam disk 11, the slide 7 makes its return motion to the left, the result of which is that the table 1 and the shears are again simultaneously rotated, whereby the shears are moved out of the inclined position shown in Fig. 2 into that shown in Fig. 1 in which the said shears are at right angles to the path of feeding of the paper. In this position the shears abut against a stop 37 by means of which the exact right angle position is insured. Displacement of the rod 22 in the slot 21 has the result that the arm from the center of the toothed segment 19 to the extension 20 becomes shorter or longer so that the angle of rotation of the toothed segment

19 or the toothed wheel 18 on the axis of the shears becomes correspondingly altered. To permit the necessary setting of the shears at the correct time, the toothed segment 19 and the shears are mounted on a plate 38 which can slide in a longitudinal direction on a bar 39 and is fixed to the same by brackets 40. These brackets 40 also act as a guide to the plate 25 during its vertical reciprocation through the agency of the cam disk 36, the displacement of the plate 39 also causing displacement of the plate 25 to a corresponding extent.

What I claim and desire to secure by Letters Patent of the United States is:—

1. In a machine of the character described for making cigarette mouth-pieces, the combination of a vertically revoluble shaft carrying a pair of shears for cutting a strip of paper fed to the latter, a gear on said shaft, a toothed segment meshing with the former gear and having a slotted extension gear, a reciprocating slide, a rod pivotally connected with the slide and with said slotted extension, whereby when the slide is reciprocated the shears are placed at various angles to the direction of motion of the paper, and means for operating said shears in the angular end-positions thereof.

2. In a machine of the character described for making cigarette mouth-pieces, the combination of a vertical revoluble shaft carrying a pair of shears for cutting a strip of paper fed to the latter, a gear fast on said shaft, a toothed segment meshing with the former gear and having a slotted extension, a reciprocating slide, a rod pivotally connected with the slide and with said slotted extension, whereby when the slide is reciprocated the shears are placed at various angles to the direction of motion of the paper, a vertically movable plate having an arc-shaped slot, a vertically movable pin connected with one arm of the movable blade of the shears and movable in said arc-shaped slot, and means for vertically reciprocating said plate when the pair of shears is in its angular end-positions.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

WOLF BENJAMINOWITSCH.

Witnesses:

WOLDEMAR HAUPT,  
HENRY HASPER.