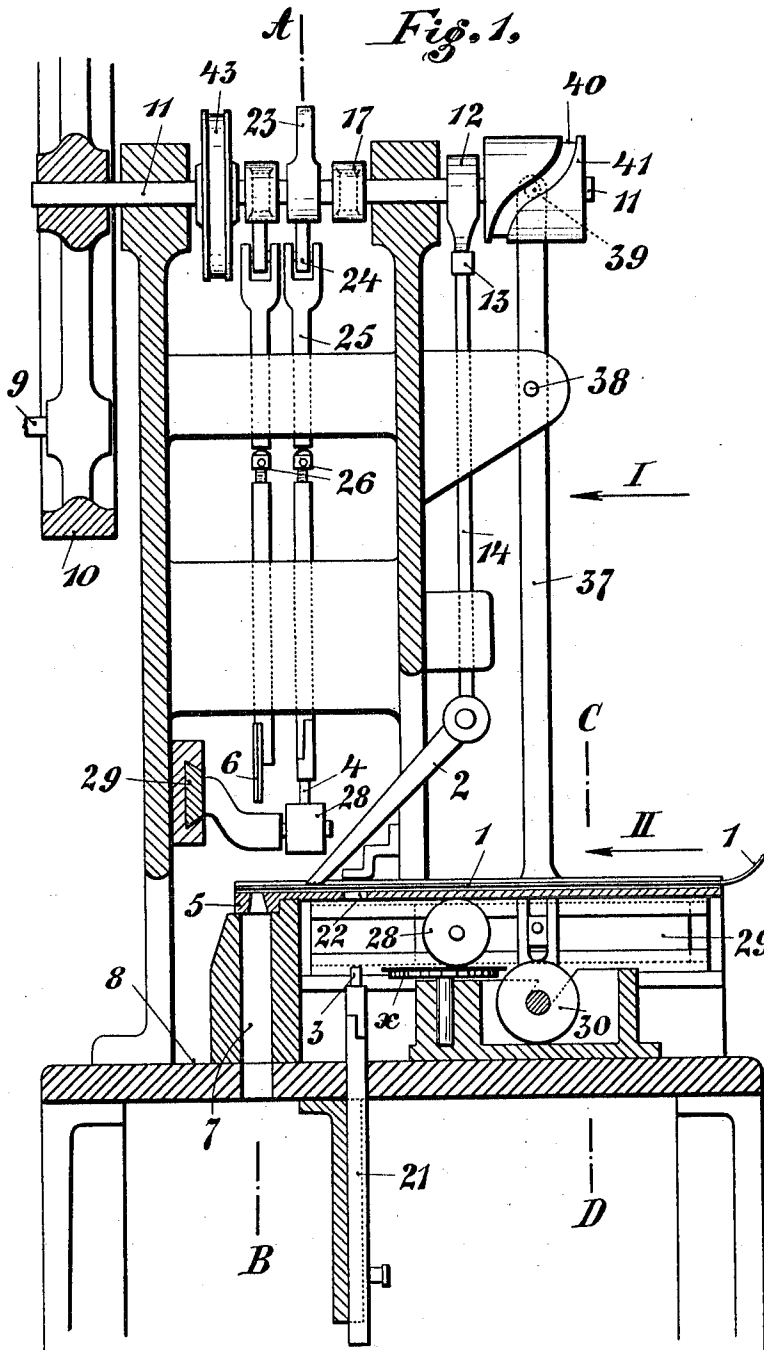


E. HAUPT.
TOOTHPICK MAKING MACHINE.
APPLICATION FILED DEC. 4, 1911.

1,041,075.

Patented Oct. 15, 1912.

4 SHEETS—SHEET 1.



Witnesses:
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Inventor:
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4 SHEETS—SHEET 2.



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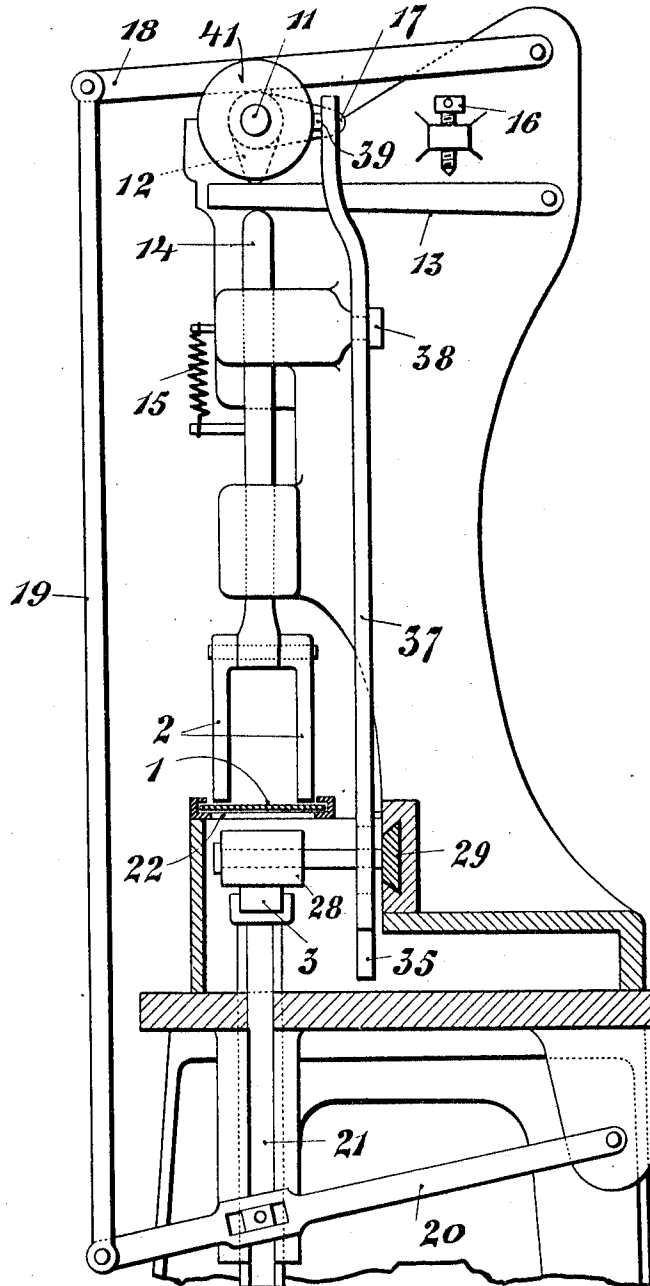
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4 SHEETS—SHEET 3.

Fig. 3.



Witnesses:
John Duggan
Carl Duggan

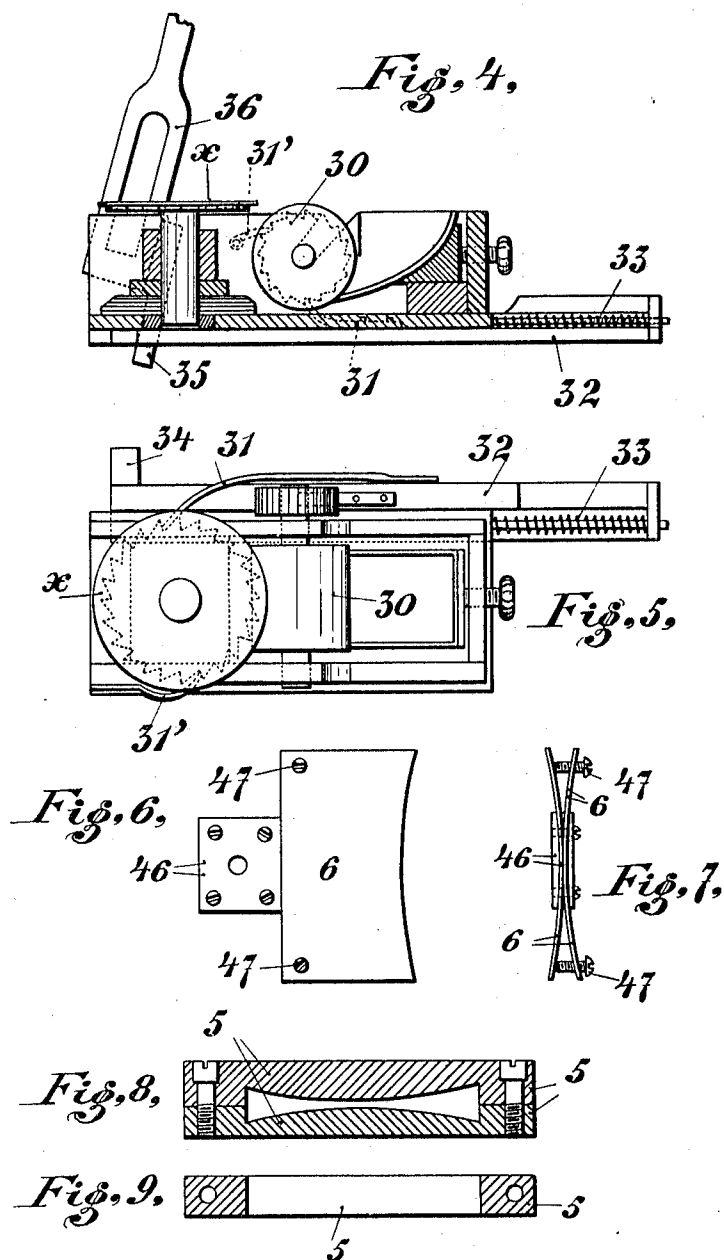
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UNITED STATES PATENT OFFICE.

ERNST HAUPT, OF NAUMBURG-ON-THE-SAALE, GERMANY.

TOOTHPICK-MAKING MACHINE.

1,041,075.

Specification of Letters Patent.

Patented Oct. 15, 1912.

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To all whom it may concern:

Be it known that I, ERNST HAUPT, a subject of the Emperor of Germany, and a resident of Naumburg-on-the-Saale, Germany, have invented a certain Improved Toothpick-Making Machine, of which the following is a specification.

Machines for cutting tooth-picks out of an intermittently fed wooden strip are already known. It is also known to combine such machines with means for printing the tooth-picks on one side with advertisements.

The present invention relates to a machine of this kind and consists in the various improvements as hereinafter set forth and claimed.

In the first place a cutter is provided which, instead of having the form of a tooth-pick, as in the old machines, has the form of the portion which is cut out from the strip between two adjacent tooth-picks. The tooth-picks are therefore formed by the cutting away of these intermediate portions which are discharged through the aperture in the matrix. This arrangement allows a cutter of a very simple, adjustable construction to be employed, and the points of the tooth-picks can moreover be cut to any desired nicety without the constructional details of the cutter having to be taken into consideration.

In the second place means are provided for printing the tooth-picks on both sides, printing as well as feeding and cutting elements being all operated from the same shaft.

The feeding of the strip is effected by means of an obliquely disposed fork which rests with its lower, milled ends against the strip and which is pivoted to a slidable rod, the movement of said rod being limited to adjust the feed.

In the accompanying drawings the invention is illustrated by way of example, Figure 1 representing a vertical longitudinal section of the machine, Fig. 2, a cross-section of the same on the line A—B of Fig. 1, and Fig. 3, a cross-section on the line C—D looking in the direction of the arrow I. Fig. 4 is a side view of the inking device for the printing block, Fig. 5, a plan of the same, Fig. 6, a side view of the cutter, Fig. 7, an inverted plan of the same, Fig. 8, a horizontal section of the matrix for the cut-

ter, and Fig. 9, a vertical section of said matrix.

The wooden strip 1 is fed intermittently in the direction of the arrow II through a guide-way in the machine between the printing blocks 3 and 4 and over a matrix 5. In the upper part of the machine frame a shaft 11 is rotatably mounted from which all the movable elements of the machine are operated. The shaft is fitted with a flywheel 10 and may be driven either by mechanical or hand power for which latter purpose the wheel 10 is provided with a handle 9. The feeding of the strip is effected by means of a fork 2 which is pivoted to a vertical, axially slidable rod 14 and which is supported in an oblique position against the strip, the lower engaging ends of the fork being milled to insure the necessary frictional engagement with the strip. A spring 15 tends to raise the rod 14 which is depressed in opposition to said spring by a tappet 12 mounted on the shaft 11. Between the tappet 12 and the upper end of the rod 14 the free end of the lever 13 is interposed. This lever is pivoted to the machine frame and it abuts against the end of a screw 16 which limits the upward movement of the lever and of the rod 14. A depression of the rod by the tappet 12 causes the strip 1 to be fed forward by the fork 2 which slides on the strip during the rearward movement. By adjusting the screw 16 the movement of the elements, and thereby the feed of the strip, can be regulated.

The printing block 3 is carried by a vertical ram 21 which is slidably held in a dovetail groove in the machine frame and which is controlled by a pivoted lever 20. The latter is linked by means of a connecting-rod 19 to another pivoted lever 18 which is rocked by a tappet 17 mounted on the shaft 11. An aperture 22 is provided in the guide-way to admit the printing-block 3 to the strip which is supported by a platen arranged above the slot. The block 4 is carried by a slidable rod 25 which at its upper end is provided with a roller 24, the latter serving as abutment for a tappet 23 by means of which the rod is depressed in opposition to a spring 27. This rod and another rod, carrying the cutter 6 and operated in exactly the same manner, are divided into two parts between which a screw 26 is interposed, such screw allowing the position

of the lower end of the rod relative to the strip to be adjusted. Each part of the rod has its separated guide-way, and the spring 27 acts on the lower part so as to clamp the upper part between the latter and the tap-
pet 23.

For inking the printing-blocks the following arrangement is provided: An ink-roller 28 is carried by a dove-tailed slide 29 which is reciprocated so as to pass the roller across the block as soon as it is withdrawn from the strip 1. The slide for the upper block is reciprocated by a double-armed lever 36 which is pivoted at 42 to the machine frame and connected by means of a rod 45 to a ring 44, the latter being arranged on an eccentric 43 mounted on the shaft 11. The slide of the lower block is moved at right angles to the former one by a double-armed lever 37 pivoted at 38 and engaging, by means of a pin 39, a cam groove 40 in a cam 41, the latter being mounted on the shaft 11. Each roller 28 receives its ink from a roller 30 and passes from the latter roller over a distributing disk *x*, these elements being fitted with ratchet-wheels and being rotated by pawls 31 engaging such wheels. The pawls 31 are connected to a slide 32 which is normally held by a spring 33 in the position shown in Figs. 4 and 5 and which is moved in opposition to said spring by an arm 35 projecting from the lower end of the lever 36 or 37 respectively, the slide having a lateral projection 34 which engages said arm. Detents 31', connected to the ink-receptacle, coöperate with the pawls for keeping the elements in rotation.

After the tooth-picks have been printed, they are severed from the strip by the cutter 6. The latter consists of two resilient knife-blades which are clamped between two jaws 46. From these jaws, which have a central position on the blades, the latter diverge toward both ends, the divergence being adjusted by means of screws 47 held with their screw-threads in one blade and abutting with their ends against the other. The slot of the matrix 5 is shaped in conformity with the cutter, it being narrow in the middle and widened at a constantly increasing gradient toward both ends. When the cutter is applied to the strip, a piece, having the form

of the matrix aperture, is severed from the same and discharged through the matrix and through a channel 7. At the same time the cutter shapes the adjacent sides of two tooth-picks of which the outer one, being completed, is delivered onto a table 8. It is evident that by the provision of a suitable matrix and by the adjustment of the cutter to correspond, the tooth-picks can be cut in any shape with the same cutter, and the points may be made as sharp as desired without incurring any difficulty in the construction of the cutter.

Should it be desired to print the tooth-picks on one side only, one of the printing-blocks may be put out of action.

I claim:—

1. In a tooth pick making machine of the character described, a guide-way, means for feeding a wooden strip intermittently and positively through said guide-way, a printing-block arranged underneath the guide-way so as to print the strip through a slot in said guide-way, a platen arranged over the slot so as to support the strip, another printing-block arranged above the strip at such a distance from the former block, determined by the positive feed, as to print the strip opposite the first imprint, a cutter arranged in advance of said printing-blocks so as to form the tooth picks by cutting away the portion between the imprints, a driving shaft, and connections between said shaft and the feeding device, the printing-blocks and the cutter causing the latter elements to coöperate, substantially as set forth.

2. In a tooth pick making machine, a cutter composed of two resilient knife blades clamped together in the middle and diverging toward both ends, screws fitted in the ends of one blade and abutting against the ends of the other blade for adjusting the gradient of divergency, and a matrix arranged underneath the cutter so as to coöperate with the same and receive the waste severed by the cutter from the strip from which the tooth picks are made, substantially as set forth.

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Witnesses:

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