

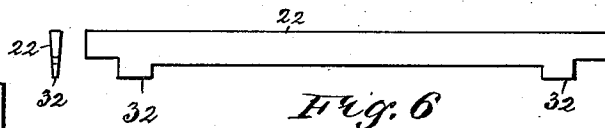
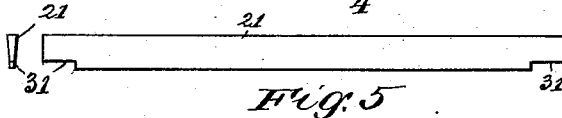
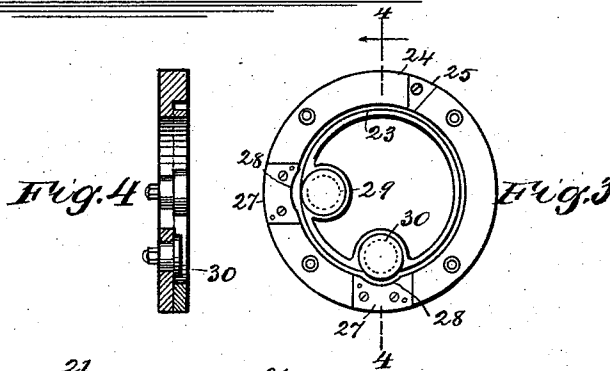
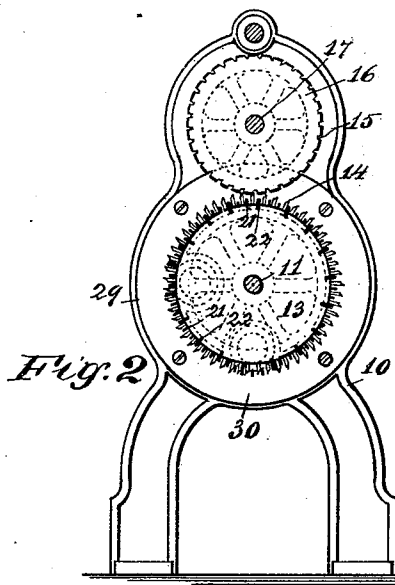
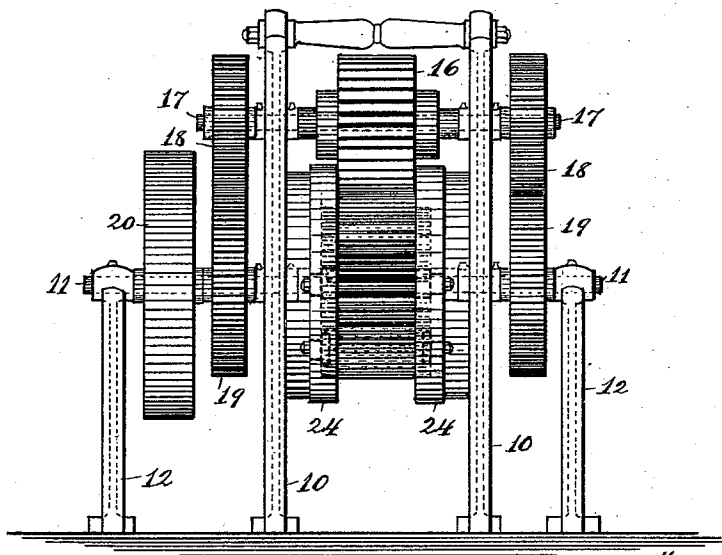
(No Model.)

W. F. HUTCHINSON.
TOOTHPICK MACHINE.

No. 523,575.

Patented July 24, 1894.

Fig. 1



WITNESSES:

Valence A. Downs
Harvey B. Hutchinson

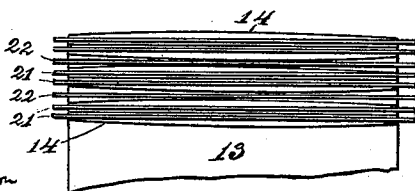


Fig. 7

INVENTOR

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UNITED STATES PATENT OFFICE.

WILLIAM F. HUTCHINSON, OF PASSAIC, NEW JERSEY.

TOOTHPICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 523,575, dated July 24, 1894.

Application filed October 3, 1893. Serial No. 487,126. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. HUTCHINSON, of Passaic, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Toothpick-Machines, of which the following is a full, clear, and exact description.

My invention relates to improvements in toothpick machines such as are used for cutting toothpicks from strips of veneer and more particularly to rotary machines; and the object of my invention is to produce a machine of this class which is especially adapted for cutting what is known as a double end pick, that is, a pick which is pointed at both ends. It has always been a difficult matter to cut such picks on a rotary machine, as in cutting the veneer there is a certain amount of waste and both the picks and waste are wedged firmly between the cutting knives, and in ejecting the picks and waste they become mingled and thus the commercial value of the picks is destroyed, but with my improved mechanism the picks may be very rapidly and nicely cut and the waste material ejected in one place while the marketable picks are carried to another point and deposited.

My ejecting mechanism can be used with any kind of rotary cutter having peripheral knives and a bearing for the edges of the knives, and in the following specification I do not show the construction of the cutting drum and bearing drum with great particularity for the reason above noted, but my ejecting mechanism is applicable to all such machines.

To this end my invention consists of certain features of construction and combinations of parts, as will be hereinafter described and claimed.

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

Figure 1 is a front elevation of the machine embodying my invention. Fig. 2 is a vertical cross section of the same. Fig. 3 is an inside elevation of one of the circular tracks and plates which is used in connection with the ejectors. Fig. 4 is a cross section on the

line 4—4 of Fig. 3. Fig. 5 is a detail view, in inside elevation and endwise, of one of the pick ejectors. Fig. 6 is a similar view of one of the waste ejectors; and Fig. 7 is a broken detail plan, showing the general arrangement of the knives and ejectors.

The machine is provided with a suitable frame in which is journaled the driving shaft 11, this having its outer ends preferably supported in standards 12, and on the shaft is a cutting drum 13 which has projecting peripheral knives 14, these knives being adapted to cut the veneer transversely so as to form it into picks, and the veneer is fed in the customary manner between the cutting drum and the bearing drum 16 which is carried by the shaft 17 parallel with the shaft 11 and which has grooves 15 to register with the knives. The two shafts 17 and 11 are connected together by gears 18 and 19 which are timed in such a way that the knives and grooves will register, and the shaft 11 is provided with a driving pulley 20.

It is not material, so far as my present invention is concerned, whether or not the grooved bearing drum be used, as any other suitable bearing drum may be employed.

The knives 14 are arranged in sets, as shown in Fig. 7, each set comprising a central straight knife and oppositely curved knives on the sides of it, the knives converging near the side edges of the drum 13 so as to shape the points of the picks. The knives do not quite touch however, and thus space is left for the ejectors, as hereinafter described.

It will be observed, by reference to Fig. 7, that a blank space is left between each set of three of the knives, and this space is that in which the waste material is forced and the material, of course, has to be ejected at a different point from that at which the picks are ejected in order that the latter may be kept separate and clean. The knives may be formed integral with the drum or secured thereto in any practical manner. Between the knives are ejectors 21 and between each set of knives are ejectors 22, these ejectors lying flat against the drum and being forced out at certain places toward the edges of the knives, thus ejecting the picks or waste which have been cut and which have been forced

upon the ejectors, the ejectors lying normally low enough to permit the picks to be cut and to lie upon the outer sides of the ejectors, as will appear by reference to Fig. 2. The ends of the ejectors run in circular tracks or grooves 23, which are formed in the collars or plates 24, these being fastened to the main frame on opposite sides so as to face each other, and it will be seen that the ejectors must be somewhat longer than the width of the drum in order that they may enter the circular tracks or grooves.

The plates or collars 24 are each provided with a removable segmental section 25, in order that the ejectors may be readily placed in position in the tracks without removing the collars, and the plates or collars are also provided with removable sections 27 having curved inner edges 28, which curved edges form portions of the tracks 23, and these sections 27 are placed opposite the ejecting rollers 29 and 30, the object of the removable sections 27 being to facilitate the adjusting of the rollers. It will be understood that the principle of the invention is exactly the same, whether the removable sections 27 are or are not employed.

The rollers 29 and 30 are arranged opposite different portions of the drum 13 and are journaled adjacent to the circumference of the drum opposite its ends, so as to project slightly beyond said circumference, and the ejectors 21 and 22 are actuated by the rollers so as to be forced out in a manner to push from between the knives the picks or waste which has been jammed therein. The roller 29 is wider than the roller 30, the object of which will appear presently. The ejector 21 has its ends reduced, as shown at 31, to enable it to run suitably in the circular tracks or grooves 23, and each ejector 22 has a depending lug 32 near each end, which lug is adapted to engage the adjacent roller 29.

By reference to Fig. 3, it will be observed that the roller 29 does not project into the track 23 to so great an extent as the roller 30, and consequently when the cutting drum 13 is revolved the ejectors 21 will pass over the rollers 29 without contacting with the rollers and consequently without disturbing the picks, but the lugs 32 of the ejectors 22 strike the said rollers 29 and the said ejectors are forced outward at this point, thus ejecting the waste material on the drum, and when the ejectors 21 and 22 pass over the roller 30 both are thrown out and the ejectors 21 throw out the picks while the ejectors 22 move outward at this point without doing any work, as the waste material has been previously ejected and consequently the picks will be thrown out clean beneath the cutting drum. The rollers 29 act only on the lugs of the waste ejectors 22, as above specified, and for

this reason they are made wide enough to give a good bearing surface for the lugs.

The machine is operated by feeding the veneer between the revolving drums in the usual way, and from the foregoing description it will be readily seen that the waste ejectors 22 will be thrown out by the rollers 29 so as to eject the waste material while the rollers 30 will move the ejectors 21 in a way to throw out the picks, and the latter are thus kept separated from the waste.

The machine, as above described, is primarily intended for cutting double end toothpicks, but it may be used for cutting similarly shaped articles or for cutting articles from veneer where it is necessary to eject waste material at different points from that at which the merchantable material is ejected.

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

1. A toothpick machine, comprising a revoluble cutting drum with peripheral knives, a bearing drum for the knives of the cutting drum, and a double series of ejectors held between the knives, each series being arranged to move outward toward the knife edges at a different place from the other series, substantially as described.

2. In a toothpick machine, the combination with the cutting drum having projecting peripheral knives arranged in sets, each set comprising a straight knife and oppositely curved knives on each set of the straight knife, of a double series of ejectors, one series lying between the straight and curved knives and the other series lying between the sets of knives, and mechanism for moving each series of ejectors outward toward the knife edges at a point different from that at which the other series is moved, substantially as described.

3. The combination, with the revoluble cutting drum having peripheral knives, of rollers arranged adjacent to the ends of the drum and in different planes, and a double series of ejectors lying between the knives and projecting into the paths of the rollers, one series being acted upon by one set of rollers only, substantially as described.

4. The combination, with the cutting drum having peripheral knives, the circular tracks arranged at the ends of the drum and the rollers adjacent to the tracks, one roller projecting farther into the tracks than the other, of a double series of ejectors lying between the knives with their ends entering the track, one series having lugs thereon to engage the innermost rollers, substantially as described.

WILLIAM F. HUTCHINSON.

Witnesses:

WALLACE A. DOWNS,
WARREN B. HUTCHINSON.