

J. K. DURYEE.

MACHINE FOR MAKING TOOTH-PICKS.

No. 187,223.

Patented Feb. 13, 1877.

Fig. 1.

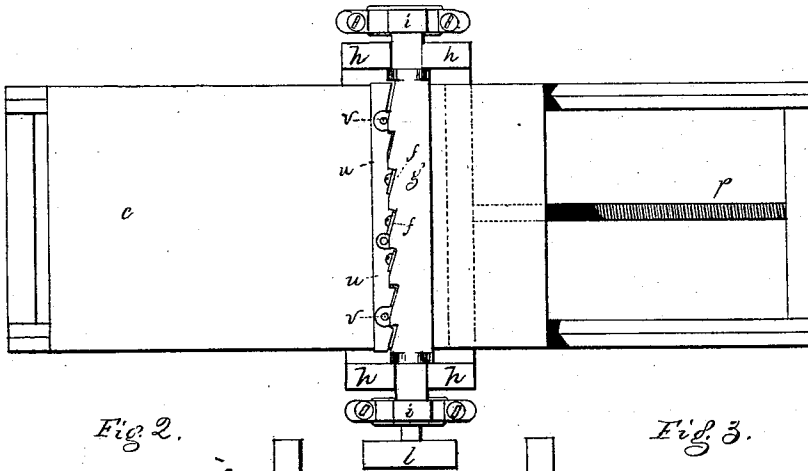


Fig. 2.

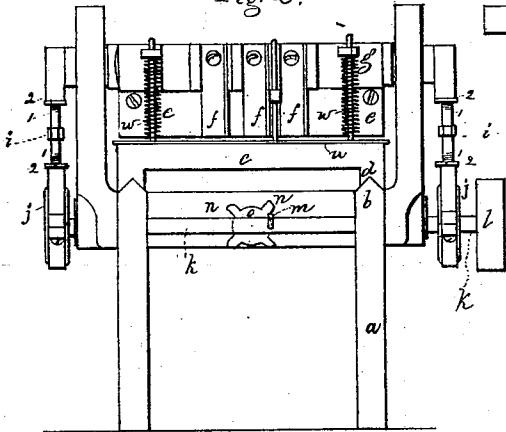


Fig. 3.

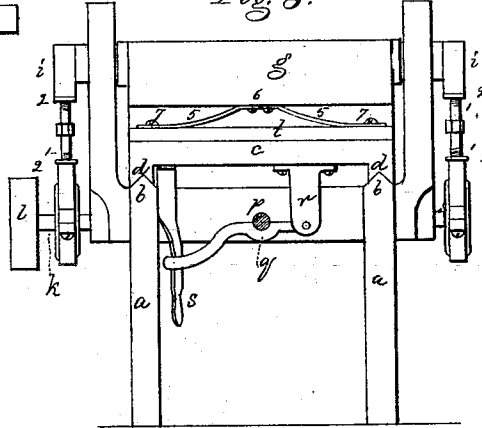
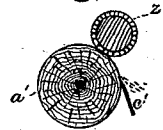


Fig. 4.



Fig. 5.



Witnesses.

L. H. Batimer.

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN MACHINES FOR MAKING TOOTH-PICKS.

Specification forming part of Letters Patent No. 187,223, dated February 13, 1877; application filed May 5, 1876.

To all whom it may concern:

Be it known that I, JOHN K. DURYEE, of New York, in the county of New York and State of New York, have invented an Improvement in Machines for Making Tooth-Picks, of which the following is a specification:

This invention relates to a machine for manufacturing wooden tooth-picks from sheets of veneer, and consists in the combination, with a table or support, of a straight knife and a series of inclined knives, under which the veneer is brought and by which it is cut into tooth-picks, substantially as hereinafter set forth.

Figure 1 represents my improved machine, top view; Fig. 2, a front view; Fig. 3, a back view; Fig. 4, a view of a piece of veneer, showing the direction of the incisions made by the knives and the shape of the tooth-picks made on this machine; and Fig. 5, a modification.

The frame *a*, of suitable size and shape, has ways *b* to sustain a movable bed or carriage, *c*, shown as grooved at *d*, to fit the ways, and adapted to sustain a sheet of veneer from which the tooth-picks are to be cut, and present it to the action of knives *e f* attached to a sliding cross-head, *g*, guided in ways between standards *h*, and connected by adjustable links *i* with eccentrics *j* on the driving-shaft *K*, provided with a pulley, *l*. The eccentrics on this shaft acting through the links, made adjustable by means of the screw-threads 1 and set-nuts 2 to adapt the knives to veneers of different thickness, reciprocate the cross-head and its attached knives to cut the veneers, as shown by the straight and inclined lines, Fig. 4, the knife *e* making the cuts 3, and the knives *f* the cuts 4; and on the shaft is a pin, *m*, that engages at each revolution a tooth, *n*, on a star-wheel, *o*, at the end of a screw-shaft, *p*, supported on but free to turn in bearings in the frame, an adjustable half-nut, *q*, pivoted to a lug, *r*, on the carriage *c*, engaging the screw, the latter in this way moving the carriage and presenting the veneer under the knives. The half-nut *q* is held in engagement with the screw-shaft by a catch, *s*, and when the car-

riage is to be reversed or moved back, the half-nut is thrown out of engagement, and the carriage can then be moved backward or forward, as desired, by hand, without moving the screw.

The wheel *o* may be provided with any number of teeth, *n*, to vary the extent of feed-motion at each revolution of the driving-shaft, and several of these wheels, having a different number of teeth, may be made interchangeable upon the shaft.

At the back of the cross-head *g* is placed a holder, *t*, which is a bar attached by springs 5 with the cross-head at 6, the screws 7 entering elongated screw-holes in the ends of the spring, so as to allow it to yield properly. This holder meets the upper surface of the veneer on the carriage before the knives touch the veneer, and holds it in position for the action of the knives. A presser, *u*, at the front of and carried by the cross-head, has arms *v* that enter guides on the cross-head, and on these rods are springs *w* (see Fig. 2) that hold the presser down. This presser, operated upon by the springs, is kept below the knives and acts as a stripper to prevent the knives from lifting up with them the formed or cut tooth-picks.

The knives *f* cut the veneer to form the beveled portions for the points of the tooth-picks, and I call them point-cutters, and the knife *e* I call a side-cutter, the point-cutters cutting obliquely to the lines cut by the side-cutter.

It is obvious that the carriage might be moved by other well-known devices without departing from this invention, and, if desired, the knives might move over a stationary carriage or bed, and so also the straight and inclined knives might be placed on a cylinder, and knives so arranged on a cylinder may be run directly against a log of wood held on centers, cutting the log in straight and inclined cuts, and a third cutter may then remove from the surface of the log the surface so cut, thereby forming tooth-picks. This plan is shown in Fig. 5, where *a'* represents the log, *b'* the cylinder with knives like *e f*, (the latter not shown,) and *c'* is the knife for remov-

ing the tooth-picks from the surface of the log, the surface being cut as represented in Fig. 4.

I am aware that tooth-picks have been cut from blanks or bands of wood chamfered at its opposite edges to form points for the tooth-picks, as in United States Patent No. 38,768.

I claim—

1. The movable carriage or bed *c*, in combination with the side-cutting knife *e* and series of point-cutters *f*, substantially as described.

2. In a machine for making tooth-picks, the side and point cutters and cross-head, in combination with the carriage and holder, substantially as described.

3. In a machine for making tooth-picks, the

side and point cutters and cross-head, in combination with the presser *u* and carriage, arranged to operate substantially as described.

4. In the process of manufacturing wooden tooth-picks, forming the wooden tooth-picks by cutting the wood in straight parallel lines, and in inclined parallel lines intersecting the straight lines, in order to form sides and points, substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

J. K. DURYEE.

Witnesses:

ANDREW W. KENT,

ALEX. T. KENT.