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J. M. ROUNDS.

MECHANISM FOR CUTTING WOODEN TOOTHPICKS.

APPLICATION FILED JUNE 23, 1906.

Fig. 1.

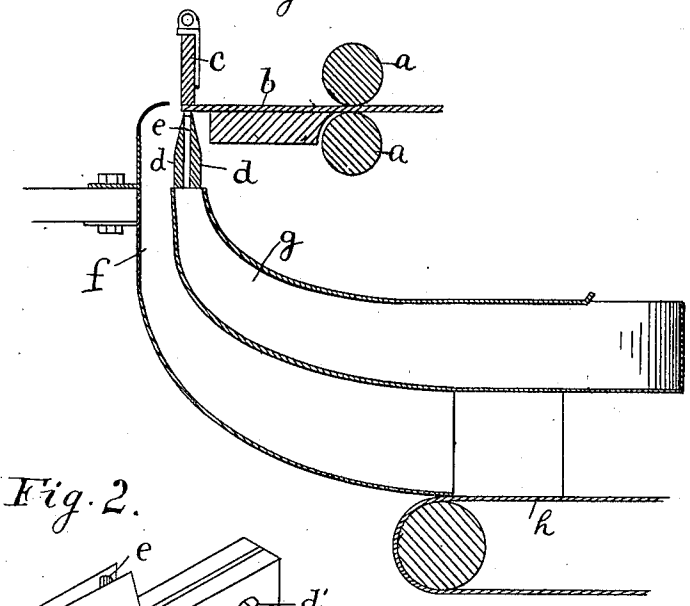


Fig. 2.

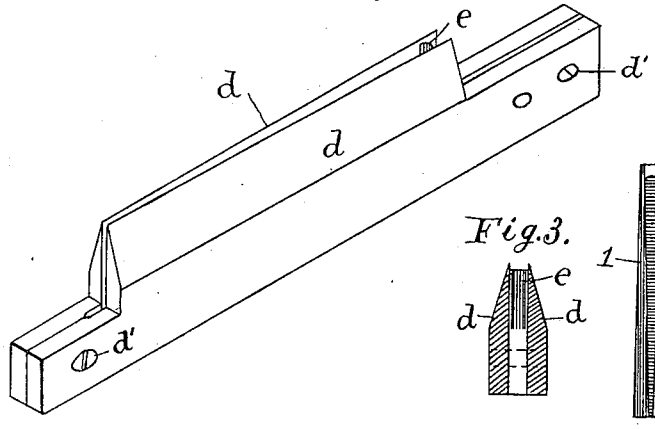


Fig. 3.

Fig. 4.

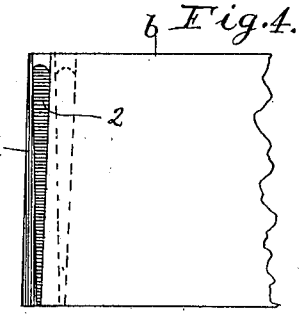
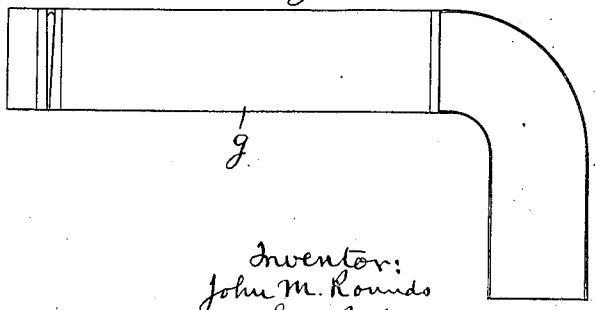


Fig. 5



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UNITED STATES PATENT OFFICE.

JOHN M. ROUNDS, OF STRONG, MAINE.

MECHANISM FOR CUTTING WOODEN TOOTHPICKS.

No. 830,852. Specification of Letters Patent. Patented Sept. 11, 1906.

Application filed June 23, 1906. Serial No. 322,994.

To all whom it may concern:

Be it known that I, JOHN M. ROUNDS, a citizen of the United States of America, and a resident of Strong, Maine, have invented certain new and useful Improvements in Mechanism for Cutting Wooden Toothpicks, of which the following is a specification.

My invention relates to a machine for making wooden toothpicks from veneer strips of that class wherein a pair of fixed knives are secured with their cutting edges uppermost, with means for feeding a veneer strip over said knives and a cutting-block reciprocating vertically on the top of the knives to force down the veneer and to separate the individual toothpicks.

The invention relates particularly to machines of this class which are designed to make two tapering toothpicks at each reciprocation of the cutting-block, one inside or between the knives and the other outside of or beyond the knives.

Machines of this character have been made in which the space between the knives terminated at one end in a curved knife and at the opposite end in a straight cutting-off knife, both on the level with the straight-side-cutting knives, these knives cutting out one of the picks. The other pick was cut on the outside of the outer straight knife, the ends being cut off by short wing-knives, while the side of the pick was split off without proper support, one side being free, while the other was being cut by the straight knife. Both picks were dropped and were collected in the same holder or reservoir. As a result of this operation the rounded broad end of the picks were imperfectly formed, because the splitting of the side and rounding of the end were done by cutting edges which acted simultaneously, and the two joints which they formed had a tendency to sliver the fiber and prevent smooth work. The curved knife always cutting against one spot on the cutting-block, the latter soon got cut away and failed to give a proper backing. Again, the pick cut from the outside was inferior to that formed between the knives on account of the splitting off of the side, which was often left rough and splintery. Thus two grades of picks were made, which, being mixed together, produced an inferior lot of goods.

According to my invention I form picks of two grades, one on the inside between the knives with a rounded end and the other on the outside of the knives with a square end and of inferior quality, each kind being collected in a reservoir or collector separately.

The round-ended pick formed inside of the knives is cut by two straight knives which continue to or beyond the edge of the veneer strip, so that the small end is not cut off with the pick, and the broadened rounded end is formed by a semicircular knife disposed between the ends of the straight knife, placed somewhat back from the ends and below the level of the cutting edges of the straight knives. By means of this construction the ends are first cut by the straight knives, making a perfectly clean straight cut, and then the pick is forced downward on the next reciprocation of the cutting-block, and the end is then rounded on the semicircular knife, a new surface being furnished each time for the curved cutter to act on.

The feed carries the veneer strip along the width of the two picks for each reciprocation of the cutting-block, so that at each cut a square-pointed pick is cut on the outside, as described.

I illustrate my invention by means of the accompanying drawings, in which—

Figure 1 is a section showing parts of the machine necessary for the understanding of my invention. Fig. 2 is a perspective view of my cutter. Fig. 3 is a cross-section of the same, and Fig. 4 is a diagram showing the formation of the two grades of picks. Fig. 5 is a plan of the double spout.

In the drawings, *a a* are the feed-rolls; *b*, the veneer strip, which is beveled or chamfered off on each edge to form a thin edge to each point of the tooth-pick, and *c* is the cutting-block, these parts being common to machines of this class.

The cutter is composed of a pair of straight knives *d*, set with their upper or cutting edges on a level and separated at one end more than at the other to form a tapering tooth-pick. The knives are held together by screws *d'*. Inserted between the two straight knives *d* a short distance in from the wide end of the recess formed between the knives is a curved or semicircular knife *e* for rounding the broad end of the toothpick. This curved knife is separate and independent from the straight knives and its ends rest against the inner faces of the straight knives. The cutting edge of the curved knife is somewhat below the level of the cutting edges of the straight knives, for the reason hereinafter set forth. The narrow end of the recess is

open, so that the end of the toothpick will be coincident with the edge of the strip. Each reciprocation of the cutting-block forms two complete toothpicks, the feed-rolls being so speeded as to feed the strip twice the width of a toothpick at each reciprocation of the cutting-block. Referring to Fig. 4, the operation of the knife will be seen. The veneer strip is fed over the knife until there is a section just the size of a toothpick beyond the outer knife *d*. The cutting-block now descends and forces the section 2 down between the knives. The outer section 1 is split off from the end of the strip and forms a tapering toothpick with both ends square, and the section 2 is pressed down between the knives, cutting the sides with a clean cut. On the first cut the curved knife does not come into play, the partially-cut pick being held between the straight knives. On the next cut after the veneer has been fed along over the knives the section 2 is forced down onto the previously-cut pick, and the curved knife cuts off the broad end, cutting slightly into the new pick. Thus as each end is cut the curved knife has a fresh surface to cut into after rounding off the end, and the result is a perfectly-clean cut without any splintering or roughness.

The two toothpicks thus cut are of different shapes and qualities and means are provided for separating them and delivering them at different points. With this end in view I provide two curved spouts or receiving reservoirs *f* and *g* beneath the knives. These spouts are vertical at their upper ends where the picks are received. They curve gradually to a horizontal position, and they are disposed one directly over the other. The spouts are of such a shape that the picks slide slowly down as they accumulate in the top, keeping always even and straight, and they are removed by hand or by an endless belt or otherwise, according to the subsequent process through which they pass. As here shown, the upper spout in which the die-cut or round-end picks are received makes a turn and delivers the picks at one side of the spout *f*, where they are taken at random and dried in bulk. The lower spout discharges its picks onto an endless belt *h*, from which they are taken and placed on trays. By means of this knife I am enabled to form one-half of the picks of fine quality, and by means of the two separate spouts or receiving-reservoirs I am able to keep the two kinds and qualities separate, so that they may be put on the market under separate labels or trade-marks.

I claim—

1. The herein-described cutter for cutting toothpicks consisting of a pair of knives having straight cutting edges placed side by side and spaced farther apart at one end than at the other and adapted to cut a tapering toothpick and a curved knife between the ends of the straight knives having its cutting edge below the level of the straight cutting edges, for rounding the broad end of the toothpick.

2. The herein-described cutter for cutting toothpicks consisting of a pair of knives having straight cutting edges placed side by side and spaced farther apart at one end than at the other and adapted to cut a tapering toothpick and a curved knife between the ends of the straight knives having its cutting edge below the level of the straight cutting edges, for rounding the broad end of the toothpick, the straight-cutting edges extending beyond said curved knife.

3. A pair of straight toothpick-knives adapted to simultaneously cut the two sides of a tapering toothpick, a cutting-block reciprocating against the edges of said knives, means for feeding a veneer strip over said knives at a rate of the width of two picks for each reciprocation of the cutting-block whereby two picks are formed simultaneously one inside and the other outside of the knives, a receiving-reservoir beneath said knives connected with the space between the knives and an independent receiving-reservoir for receiving the picks cut outside of said knives.

Signed at Portland, Maine, this 17th day of May, 1906.

JOHN M. ROUNDS.

Witnesses:
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