

UNITED STATES PATENT OFFICE.

OLIF ABELL, OF WOLCOTT, VERMONT.

IMPROVEMENT IN MACHINES FOR MAKING SHOE-PEGS.

Specification forming part of Letters Patent No. 181,298, dated August 22, 1876; application filed September 4, 1875.

To all whom it may concern:

Be it known that I, OLIF ABELL, of Wolcott, Lamoille county, State of Vermont, have invented a new and useful Improvement in Machines for Making Shoe-Pegs, which invention is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to adapt the principle of the rotary veneer-cutting machine to the manufacture of shoe-pegs, for the purpose of producing such pegs with greater rapidity and cheapness than heretofore.

In the drawings, Figure 1 represents a vertical cross-section of the machine as arranged by me, which arrangement may, however, be modified in various ways; Fig. 2, a vertical longitudinal section thereof, the knife-carriage, its impressing-cylinder *f*, and the bar *h* being removed; Fig. 3, an end view of the knife-carriage *d*, with the impressing-cylinder attached thereto; Fig. 4, a rear view of the knife-carriage *d*, with the impressing-cylinder *f*; Fig. 5, an end view of the knife *e*; Fig. 6, a front view of the straight side of the knife *e*; Fig. 7, an edge view of the knife *e*, showing the grooves *m m*; Fig. 8, a front view of the bar *h*, with its gouging-chisels *g g* and its scoring-knives *n n*; Fig. 9, a plan view of the said bar *h* and its attachments.

The rotary veneer-cutting machine is a well-known device, and requires no detailed drawings and description; and the accompanying drawings only show the outlines of such a machine, fitted with such additional parts as are necessary to adapt the machine to the cutting of shoe-pegs.

In my rotary machine a log, *a*, is being revolved on its center line in the direction of the arrow in Fig. 1 by spindles *b b*, which have their bearings in the frame *c*, and the rotary motion may be given to it by any convenient mechanism.

A knife-carriage, *d*, sliding in ways, and carrying the veneer-knife *e*, is being continually fed forward toward the center of the log while the log revolves, and this feed-motion is so adjusted as to cut a continuous veneer from the log, of the thickness of a peg, if the impressing-cylinder *f* were removed. This impres-

sion-cylinder *f* runs in bearings on top of the knife-carriage *d*, or may have a separate carriage, which, however, must have the same feed-motion as the knife-carriage. The impressing-cylinder *f* is fitted with a number of radiating thin blades all around its surface, leaving spaces between them of the size of a peg. These blades dig into the surface of the log previous to the knife *e*, cutting away that part of the log which is thus penetrated.

From the drawings it is obvious how the configuration of these radiating blades at certain intervals—the blades which run laterally along the cylinder the length of two pegs—are formed into zigzags, for the purpose of cutting two sides of the beveled points of the pegs. To cut the other two sides of the beveled points I arrange gouges *g* on a bar, *h*, which bar is capable of sliding up and down in vertical grooves, and which, by means of two shoes, *k k*, rest upon the log *a*, as clearly shown in the drawings, and, by its own weight, causes the gouges *g* to cut grooves of a V shape into the surface of the log as the said log revolves, which grooves must be of the depth of half the thickness of the pegs, and their location must coincide with the impressions made by the zigzag portion of the blades of cylinder *f*. This produces the outside bevel of the point; and, finally, the inside bevel of the point is made by the knife *e*, which is provided with grooves *m m* at its front or flat side, which leave notches in the cutting-edge of the knife.

If the impressing-cylinder *f* were removed, the knife, with its notches, would produce a veneer with so many grooves at its inner side.

In consequence of the blade or cutter *e* having grooves *m* upon the side that comes next the log, the cutting-edge is not straight; but the high V-shaped points over the grooves channel the under side of the veneer, and form the taper to the peg-points; and the cut from such V-shaped points, meeting the channel or groove formed in advance by the cutters *g*, causes the separation of the points of the pegs, and the formation of equal, or nearly equal, bevels to such points.

The bar *h* is also furnished with a number of vertical scoring-knives, *n n*, intervening with the gouges *g g*, which serve to cut circu-

lar incisions into the log to the depth of the thickness of the pegs, for the purpose of making the butt-ends of the pegs.

Fig. 2 represents the appearance of the log after having been operated on by the knife *e*, which leaves ridges *o o* on the log; by the gouges *g g*, which cut the grooves *l l*; by the scoring-knives *n n*, which leave the incisions *p p p*; and, finally, by the impression cylinder *f*, which made the impressions *q q* in the surface of the log prior to the operation of the knife *e*.

The use of a knife, *e*, having grooves across its inner or straight side, is not to be limited to cutting of shoe-pegs; but such a knife may be used in the cutting of other articles which

require undercutting—as, for instance, barrel-staves with their crozes and chines finished. The grooves in the said knife must be made to suit the shape of the article.

What I claim as my invention is—

In a machine for cutting shoe-pegs and similar articles, the combination of the cutters *g*, that channel the surface, with the cutter *e*, grooved at *m*, to remove the layer of wood, and cut a V-shaped channel upon the under surface of such layer or veneer, substantially as set forth.

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Witnesses:

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