A. C. GALLAHUE.

Machine for Making Shoe-Peg Blanks.

No. 203,131 **Patented April 30, 1878.**

Fig1.

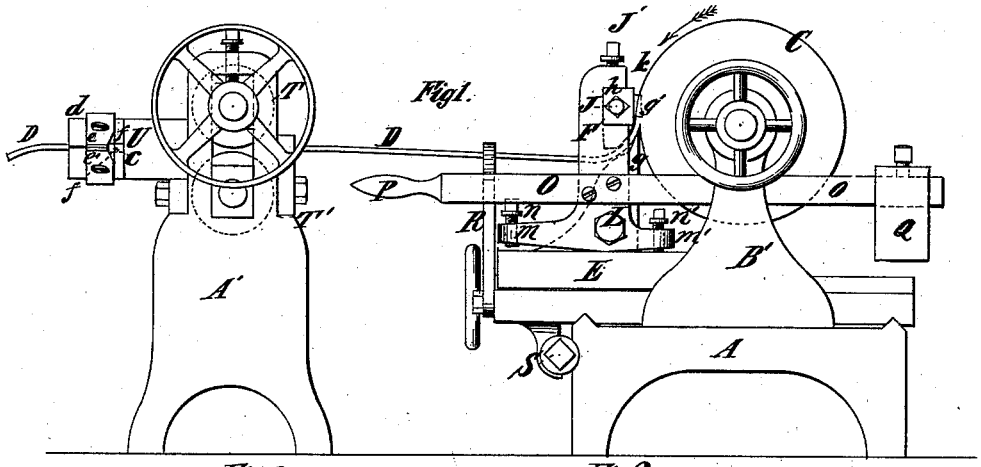


Fig6.

Fig3.

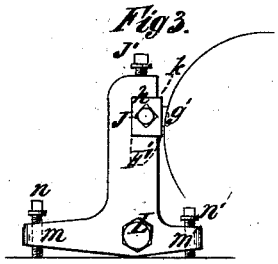


Fig4.

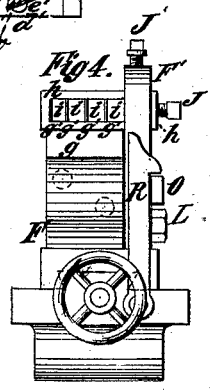


Fig5.

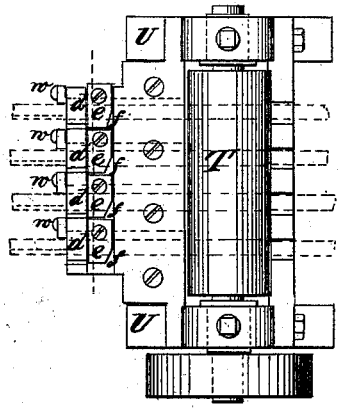
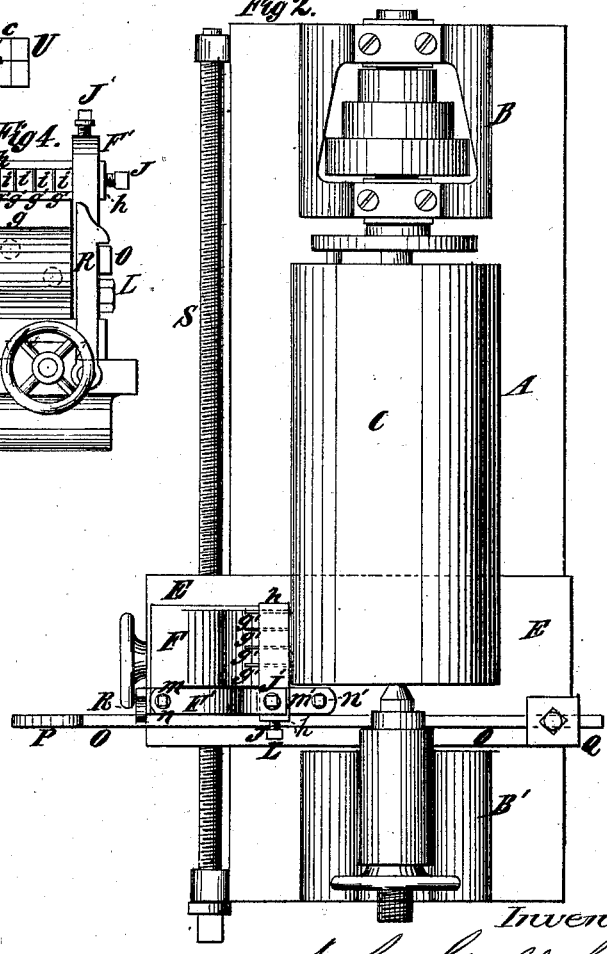


Fig2.



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UNITED STATES PATENT OFFICE.

ALPHEUS C. GALLAHUE, OF MORRISANIA, NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR MAKING SHOE-PEG BLANKS.

Specification forming part of Letters Patent No. **203,131**, dated April 30, 1878; application filed March 5, 1878.

To all whom it may concern:

Be it known that I, ALPHEUS C. GALLAHUE, of Morrisania, in the city, county, and State of New York, have invented an Improvement in Machines for the Manufacture of Ribbon Shoe-Peg Blanks of Wood; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification.

My invention relates to machines in which shoe-peg blanks are cut in the form of ribbons, as in veneer-machines, from the outer surface of a revolving cylinder of wood by a cutter rigidly set in a cutter-stock, and fed toward the center of said cylinder, a pressure-bar being employed to prevent the blank from splitting under the action of the knife, and by cutters cutting in planes at right angles with the axis of said cylinder.

The invention has for its object to give both a positive and a yielding adjustment to the cutter-stock that holds the knives for making the cuts which separate the ribbon-blanks, and to provide means for beveling the said blanks on one border and on both sides of the blank simultaneously with the cutting of said blank from the wood cylinder aforesaid, instead of beveling them subsequently and by a separate operation.

Figure 1 in the accompanying drawing is an end view of a machine constructed in accordance with my improvement. Fig. 2 is a top view of the same, with the part which bevels the border of the blank detached. Fig. 3 is a detail view, illustrating the construction of the cutter-stock that holds the knives or cutters for separating the ribbon-blanks, which knives cut in planes at right angles with the axis of the cylinder from which the peg-blanks are cut. Fig. 4 is a detail front view of both the cutter-stocks and the cutters employed for cutting the ribbon-blanks from the wood cylinder. Fig. 5 is a detached top view of that part of the machine by which the beveling of the ribbon peg-blanks is performed. Fig. 6 is a detail of the same, illustrating the arrangement of the cutters which perform the beveling of the blanks.

A is a bed or frame, upon which are arranged a suitable head-stock, B, and tail-stock B′, with lathe-centers to sustain and rotate (after the manner of a lathe) the wood cylinder C, from which the ribbon-blanks D, Fig. 1, are to be cut.

E is a slide-rest, carrying cutter-stocks F F′. The stock F is for the support of a cutter, *g*, which cuts off a ribbon of wood from the periphery of the wood cylinder when said cylinder is rotated by the arbor in the head-stock B in the direction indicated by the arrow in Fig. 1; and the said cutter-stock is fed toward the axis of the wood cylinder a distance equal to the thickness of the said ribbon for each revolution of the said wood cylinder. It follows that the thickness of said ribbon or incomplete peg-blank will be gaged by the rate at which the cutter-stock F is fed toward the axis of the wood cylinder, and the length of the ribbon, when cut, will be greater or less, according to the thickness of the blank and the radius of the said wood cylinder.

The said cutter-stock is fed toward the axis of the wood-cylinder by an adjustable cross-feed, after the manner of the cross-feed in an engine-lathe, which is so well known as to need no further description.

A single ribbon having a width equal to the length of a shoe-peg may be cut by making the cutter *g* of the same width as said ribbon; but it is preferable to cut a number—say, four or more—such ribbons simultaneously. This is done by making the cutter *g* of a width equal to the sum of the widths of the ribbons to be cut, and by the use of cutters or knives *g′* held in the stock F′. Said knives *g′* are clamped in a rectangular box, *h*, in which they are arranged, with distance-blocks *i*, Fig. 4, placed between them, and both the blocks *i* and knives or cutters *g′* are held in the box *h* by a clamping-screw, J, which passes through one end of said box. The said box *h* and the knives and distance-blocks arranged therein are all firmly held in the cutter-stock F by placing one end of said box in a rectangular recess, *k*, formed in said stock, and binding or clamping said box firmly by a clamping-screw, J′, passing through the upper part of said stock.

The stock F′ is pivoted to the side of the lower part of the stock F by a stout pivot or bolt, L. Said stock has at its lower part a

forward-projecting arm, *m*, and a rearward-projecting arm, *m'*. In the extremity of the arm *m* is fitted the screw *n*, and in the extremity of the arm *m'* is fitted the screw *n'*. Both these screws may be turned down till they abut against the top of the slide-rest E. When the screw *n'* abuts against the top of the slide-rest E it limits the distance to which the cutter-stock F' may rock forward on the pivot L, and consequently limits or gages the depth to which the cutters *g'* can enter the wood, and the said cutters may be positively held to their work by the screw *n*, when the latter is turned down, so as to abut against the top of the slide-rest E; but it is also desirable, in many cases, to have the said cutters held to their work by a yielding pressure, which I accomplish as follows: To the side of the cutter-stock F', I attach a lever, O, provided at one end with a suitable handle, P, and at the other end with an adjustable weight, Q. The said weight presses the cutters *g'* forward, through the action of the lever O, as far as the gage-screw *n'* will permit. At the same time, when any undue resistance is presented to said knives, the said weight permits them to move backward, and thus saves them from breaking, as might be the case in meeting a knot or other undue obstruction were the cutters held unyieldingly to their work. This arrangement is of great advantage in working some grades of peg-timber.

Another advantage in holding the cutters *g'* to their work by a yielding pressure is the rapidity and ease with which said cutters can be withdrawn from engagement with the wood by the operator or attendant of the machine. This is done by pressing down the handle P of the lever O; and to hold the cutters *g'* from engagement with the wood, a hook, R, pivoted to the front of the slide-rest E, is arranged to engage the lever O.

It will be seen that this arrangement enables the cutters *g'* to be withdrawn from or applied to the wood cylinder with the greatest facility and convenience, which is important, as to turn the cylinder true before commencing to cut the ribbon-blanks only the cutter *g* in the stock F is brought into action.

The side of the box *h* which faces the wood cylinder is formed in such manner that the said box performs a double function. Besides acting as a holder for the cutters *g'*, said box may and does act as a presser, pressing upon the wood just in advance of the cutter *g*, and also upon the ribbon after the same has passed the edge of said cutter, such a pressure having been found needful in veneer-machines to insure continuity and smoothness of cut. The box *h* is beveled off on the lower part of that side which faces the wood cylinder, the better to fit it for the performance of the function of a presser. The lever O and weight Q, therefore, also perform the function of applying a yielding pressure to the wood through the presser *h*, which is an advantage in working some kinds of peg-timber, wherein the cutter *g* might catch on a knot or other obstruction and cut a portion of the ribbon slightly too thick to pass between the presser and the cutter *g* were the said presser rigidly held to its work, which obstruction would stop the machine and throw off the belt from the head-stock pulley.

The longitudinal adjustment of the slide-rest E is accomplished by a longitudinal feed-screw, S, pivoted to the bed A in the usual manner.

It remains to describe the means for beveling the ribbons simultaneously with cutting them from the cylinder, to give the pegs suitable points when split from said blanks for driving into the leather.

At a convenient distance from the cutter *g* are placed two feed-rolls, T T', which may have their bearings in or on a lateral extension of the bed A, or in or on a separate support or frame, A'. The ends of the ribbons D are passed between the said feed-rolls. It is the function of said feed-rolls to pass the said ribbons through channels *c*, Figs. 1 and 6, said channels being formed in front of said rolls. On the front side of the support U are cutter-stocks *d*. Said cutter-stocks are V-shaped in their vertical cross-section, their upper and lower sides making the same angle with each other as the angle of the double or V-shaped bevel it is desired to form on the ribbon-peg blank. To the said upper and lower sides of said cutter-stocks *d* are bolted or otherwise attached the cutters *e e'*, having inclined cutting-edges *f* presented toward the feed-rolls T T'. The said edges *f* are set so as to lie obliquely across the channels *c*, through which the ribbons pass from the said feed-rolls. This position of the cutters is shown in Fig. 6.

The feed-rolls may be variously actuated to feed the ribbons D through the channels *c* to the cutters *e e'*; but in practice I use a pulley having a variable-speed relation with the speed of the arbor in the head-stock—that is to say, a speed constantly adjusted to the speed with which the ribbon D is delivered from the wood cylinder C.

To adjust the channels *c* for beveling ribbons of different widths, I employ slides *v*, fitted in their vertical measurement to said channels, and of such horizontal width as to leave open a width of channel suited to the width of ribbon to be beveled, On the outer ends of said slides *v* I form a head or boss, *w*, through which a screw or pin is inserted into the cutter-stock to hold said slides in position.

In the construction and arrangement of parts as herein described I secure a much better working and more conveniently manipulated machine than has hitherto been used for making ribbon shoe-peg blanks for use in pegging-machines, one in which the cutters are less liable to break, and one in which the said blank may be formed in one continuous operation.

I claim—

1. The combination, with the stock F, attached to the slide-rest E, for carrying the cutter *g*, of the stock F', pivoted to the stock

F, for carrying the presser *h* and dividing-cutters *g'*, substantially as and for the purpose specified.

2. The combination, with the stock F', pivoted to the stock F, and provided with an adjusting-screw, *n'*, of the weighted lever O, attached to said stock F', substantially as and for the purpose set forth.

3. The combination of the knives *g* and *g'*, for cutting the ribbons from the wood cylinder, beveling-cutters *e e'* on fixed cutter-stocks *d*, guiding-channels *c*, for guiding the ribbons to the said beveling-cutters, and feed-rolls T T', for receiving the ribbons from the knives *g g'* and feeding said ribbons to the said beveling-cutters, substantially as and for the purpose described.

4. The combination, with the cutter-stocks *d*, of slides *v*, fitted in the channels *c*, to regulate the width of channel for the passage of the ribbons D, substantially as and for the purpose set forth.

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