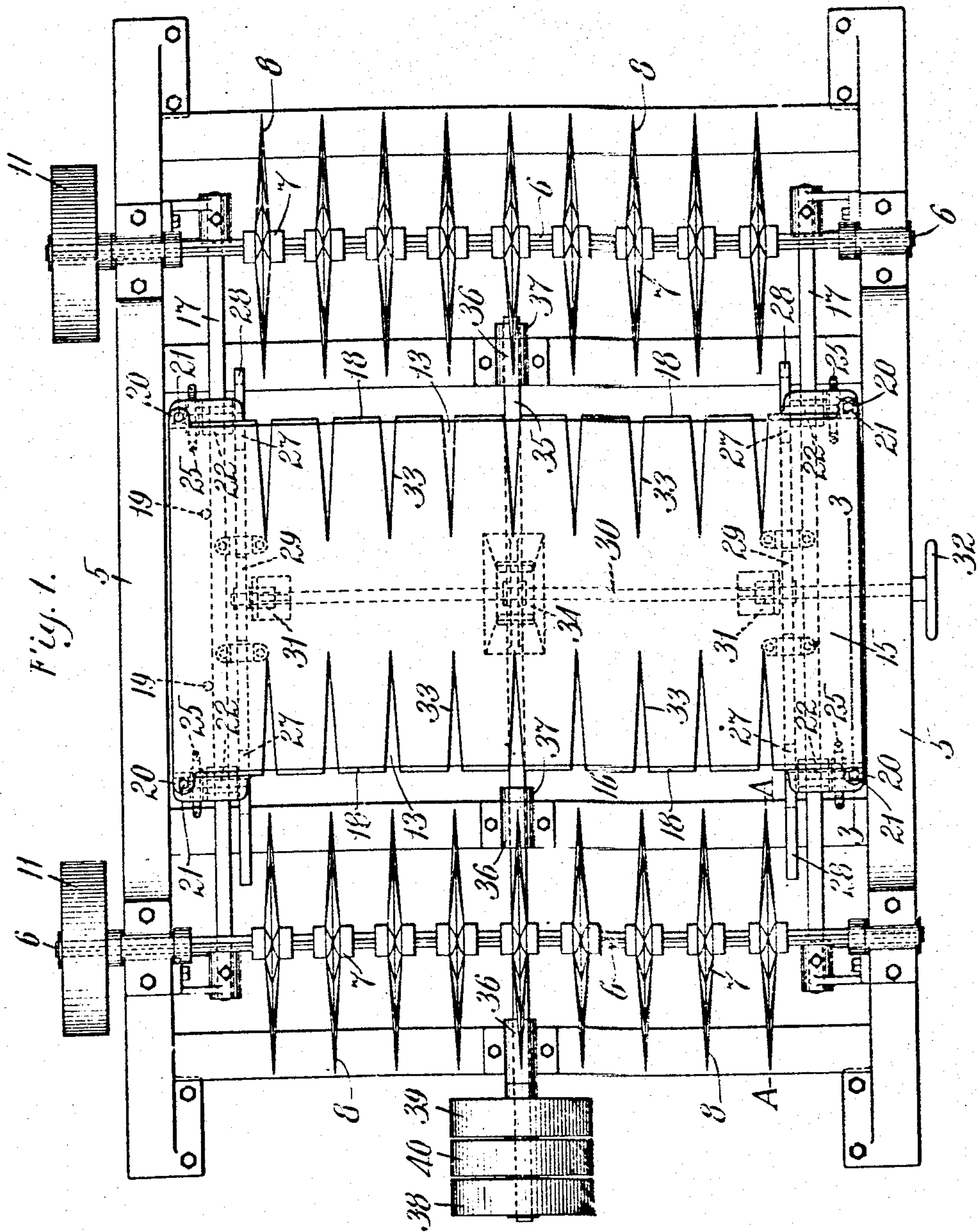


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MACHINE FOR MAKING BARREL BLANKS.  
APPLICATION FILED MAY 25, 1908.

917,352.

Patented Apr. 6, 1909.  
2 SHEETS—SHEET 1.

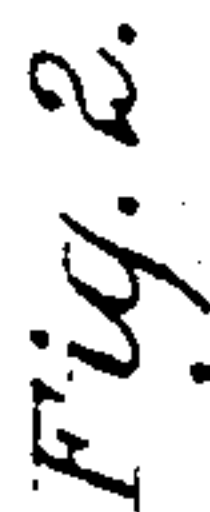


Witnesses.  
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William B. Glass

Inventor:  
John C. Palmer  
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28 SHEETS—SHEET 2



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# UNITED STATES PATENT OFFICE.

JOHN C. PALMER, OF BOSTON, MASSACHUSETTS

MACHINE FOR MAKING BARREL-BLANKS.

No. 917,352.

Specification of Letters Patent

Patented April 6, 1909.

Application filed May 25, 1908. Serial No. 434,780.

*To all whom it may concern:*

Be it known that I, JOHN C. PALMER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Machines for Making Barrel-Blanks, of which the following is a specification.

This invention relates to a machine for forming barrel blanks which are to be subsequently made up into barrels. Each blank is made from a rectangular piece of thin wood called veneer which is placed in the machine which is the subject matter of this invention, which machine is adapted to cut two series of long V-shaped notches in opposite edges, respectively, of the board longitudinally of the grain thereof after which the blank is rolled up into cylindrical form and is provided with hoops.

The object of my invention is to provide a machine which shall be capable of rapidly cutting the aforesaid notches and in such a manner that they shall be smooth and perfect.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the appended claim.

Referring to the drawings: Figure 1 is a plan of a machine embodying my invention. Fig. 2 is an elevation of the same. Fig. 3 is an enlarged detail section taken on line 3—3 of Fig. 1. Fig. 4 is an enlarged detail section of one of the cutter teeth taken on line 4—4 of Fig. 2.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 5 is the frame of the machine on which are journaled two shafts 6, 6 in suitable bearings in said frame, each of said shafts having mounted thereon a plurality of cutters 7. These cutters which are one of the principal features of my invention are provided with a plurality of teeth 8 somewhat like elongated saw teeth, each of said teeth being preferably curvilinear in outline, as shown, and each being made up, as it were, of two blades 9, 9 which may be integral as shown in Fig. 4 and which are substantially V-shaped in cross section. The blades 9, 9 are provided, respectively, with sharp cutting edges 10, 10 which, as seen in Fig. 1, are inclined toward a plane A—A at right angles

to the axis of the cutter and between said edges. The form of these teeth is such that when the cutter is rotated rapidly the same is adapted to cut a V-shaped notch into the wood and in removing the material the cut is a shearing one which leaves the finished article smooth and true.

Fast to the shafts 6, 6, respectively, are pulleys 11, 11 which are adapted to be rotated in opposite directions, respectively, by belts 12, 12. In this connection it will be noted that the form of the cutters 7 corresponds properly with the direction of rotation of the same. The piece of board or veneer 13 which is to be made into a barrel blank is shown in Fig. 2 clamped between two members 14 and 15 of a holder 16, which holder is supported on and adapted to slide longitudinally of two guides 17, 17 supported on the frame 5 of the machine. The lower plate 14 is provided with two stops or two series of stops 18 arranged along the right and left hand edges thereof, and is provided also with stops 19 adjacent to the rear edge thereof, as shown in Fig. 1. When the upper clamp plate 15 is raised by a suitable means hereinafter described the board may be laid on the plate 14 with its right and left hand edges against the stops 18 and its rear edge against the stops 19.

To move the upper clamp plate 15, vertically, I may employ any suitable mechanism to actuate the same, whereby the board 13 may be clamped between the two clamp plates 14 and 15 to be operated upon by the cutters 7 and when completed may be released. For this purpose I preferably provide the following mechanism. The upper clamp plate 15 is provided at its four corners with ears 20 in which are secured vertical rods 21, respectively. The lower clamp plate 14 is provided on its under side with four bearings 22 in which are journaled four shafts 23, respectively, each of said shafts having fast thereto an eccentric 24, said eccentrics being surrounded, respectively, by eccentric straps 25 pivotally connected to the rods 21, respectively, by studs 26. Also fast to each of the four shafts 23 is a spur gear 27, two of which mesh into a rack 28 arranged at the front of the machine, and two of which mesh into a rack 28 arranged at the back of the machine, as clearly shown in Fig. 1, said racks being arranged to slide longitudinally.



Meshing into the racks 28, 28, respectively, are spur gears 29, 29 fast to a shaft 30 journaled in bearing brackets 31, 31 mounted on the under side of the lower clamp plate 14. Also fast to the shaft 30 is a hand wheel 32 by means of which said shaft may be rotated, whereby the racks 28 are moved in one direction or the other, said racks acting through the gears 27, shafts 23, eccentrics 24, eccentric straps 25 and rods 21 to raise or lower the upper clamp plate 15 according to the direction in which the hand wheel 32 is rotated. It will be understood that when the eccentrics 24 are "on center", as shown in Figs. 2 and 3, the board 13 is rigidly clamped between the lower clamp plate 14 and the upper clamp plate 15 and may be released in an obvious manner. The upper and lower clamp plates 15 and 14 are each provided in opposite edges, respectively, with a series of V-shaped notches 33 which are substantially alike and are arranged so that upper and lower notches of one pair substantially register with each other.

The holder 16 is moved alternately in opposite directions into operative relation with the cutters 7 by the following mechanism. Secured to the under side of the lower clamp plate 14 is a nut 34 having screw-threaded engagement with a shaft 35 extending transversely of the shafts 6, 6 and being journaled in suitable bearings 36 on the frame 5 of the machine, said shaft being held against longitudinal movement by suitable collars 37 fast thereto. The shaft 35 may be rotated alternately in opposite directions by any suitable means, as for example, a set of two pulleys, namely, two tight pulleys 38 and 39 between which is a loose pulley 40. The pulley 38 is adapted to be driven by an open belt 41, while the pulley 39 is adapted to be driven by a cross belt 42 which may be controlled after the well known fashion of the belts of a planer, whereby the open and cross belts are moved from their respective tight pulleys

alternately onto the loose pulley. When the holder 16 is moved toward the left, the left hand series of cutters 7 enter the notches of that side and cut into that edge of the board forming therein notches of substantially the same shape and size as the notches in the upper and lower clamp plates. When the notches have been cut to their proper depth the direction of rotation of the shaft 35 is reversed, whereby the holder 16 is moved into the opposite direction, thereby bringing the opposite edge of the board into operative relation with the right hand series of cutters after which the holder is returned to mid-position, as shown in Figs. 1 and 2. The upper clamp plate 15 is then raised and the finished blank is removed.

It will be understood that during the cutting operation the blank is rigidly supported at its upper and lower sides on both sides of the notches very close to the notches made by the cutters, so that there is no possibility of any chattering of the board which would result in imperfect notches.

Having thus described my invention, what I claim and desire by Letters Patent to secure is:

A rotatable cutter provided with a plurality of teeth substantially V-shaped in cross section, each of said teeth being provided with two cutting edges converging toward each other toward the periphery of said cutter said cutting edges being inclined at acute angles to radial lines from the extremities of said teeth, said teeth being separated from each other throughout their length and thickness by spaces.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN C. PALMER.

Witnesses:

LOUIS A. JONES,  
SADIE V. MCCARTHY.