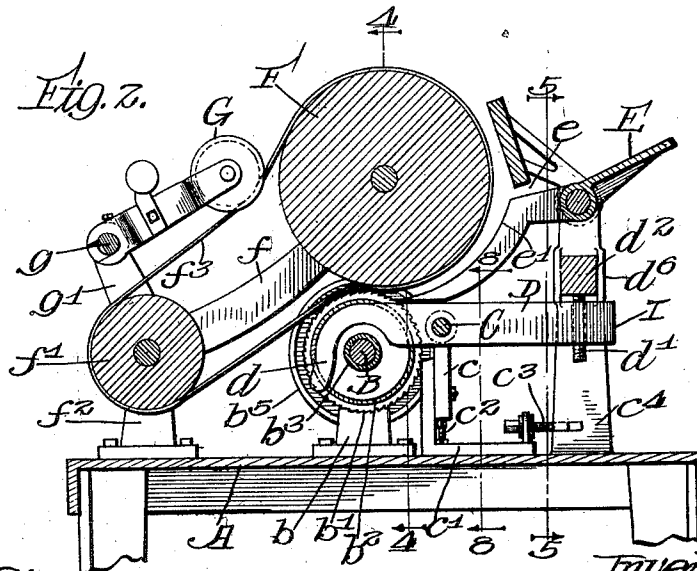
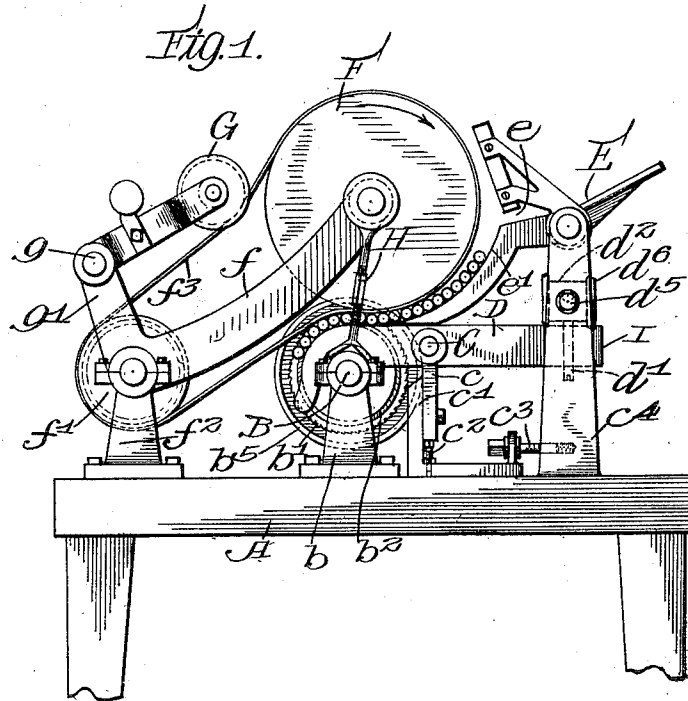


C. E. KUNTZ.
DOWEL CUTTING AND CHAMFERING MACHINE.
APPLICATION FILED FEB. 25, 1910.

1,005,982.

Patented Oct. 17, 1911.

4 SHEETS—SHEET 1.



Witnesses:
B. A. Perry
G. W. Dumas Jr.

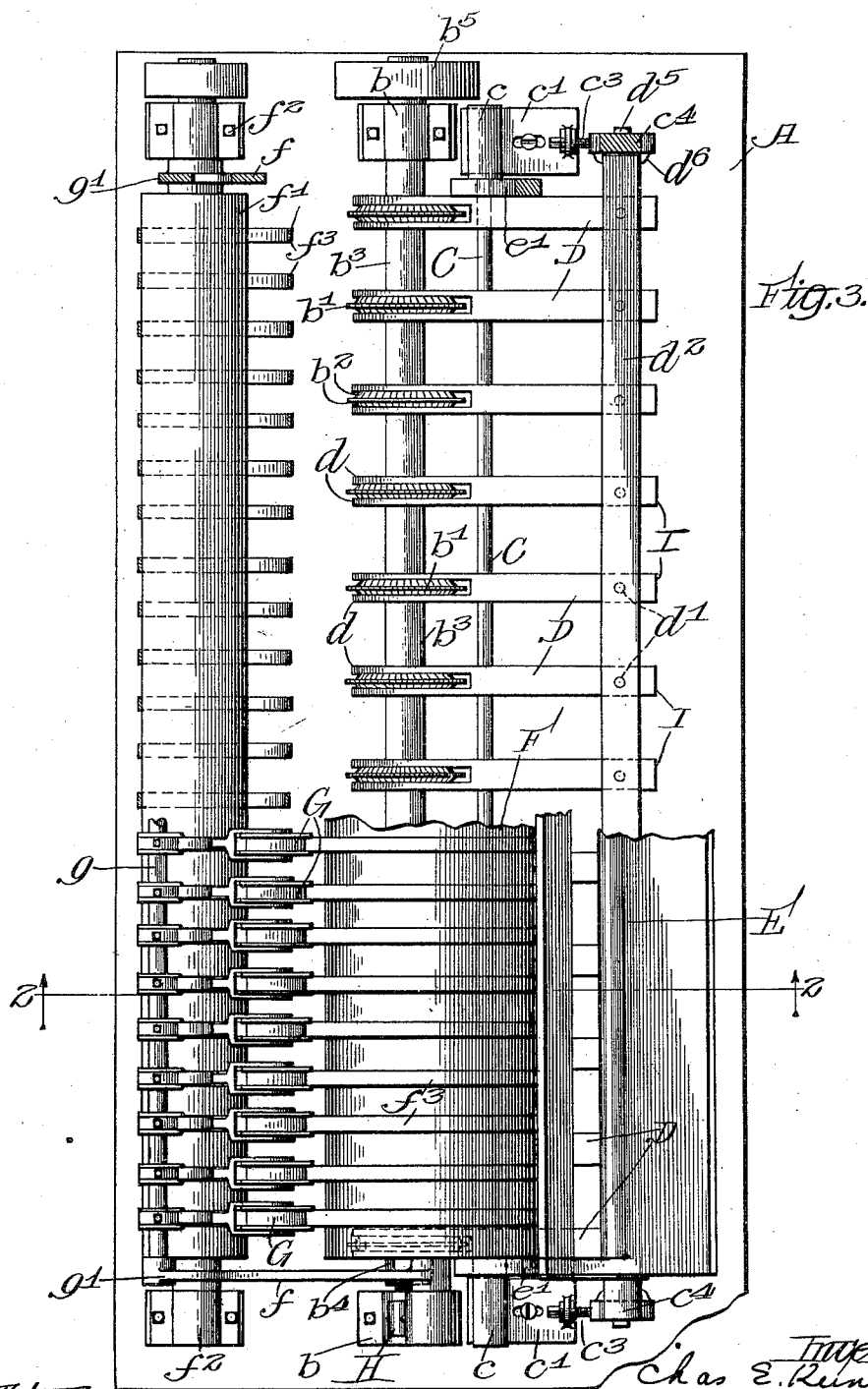
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4 SHEETS-SHEET 2.



Witnesses
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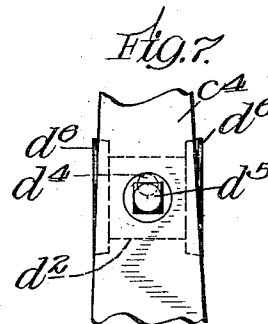
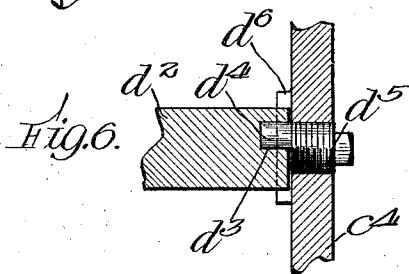
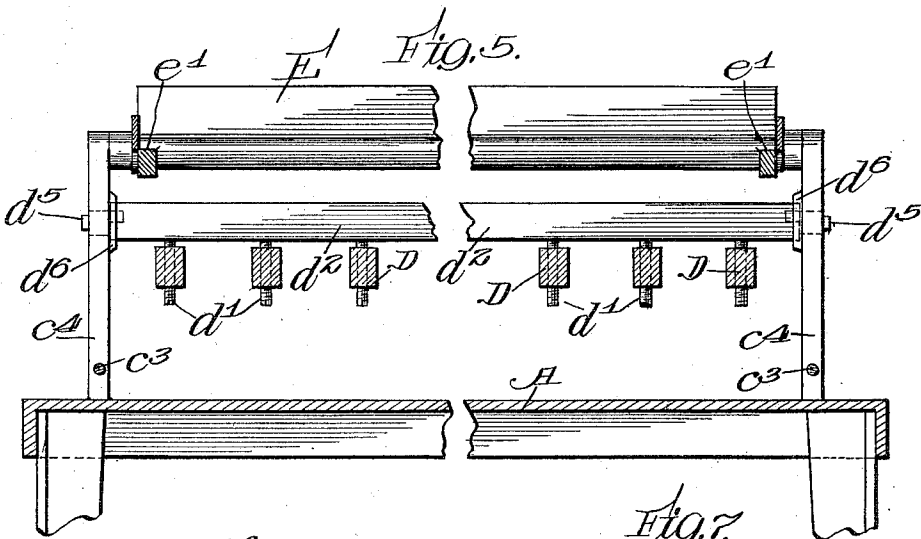
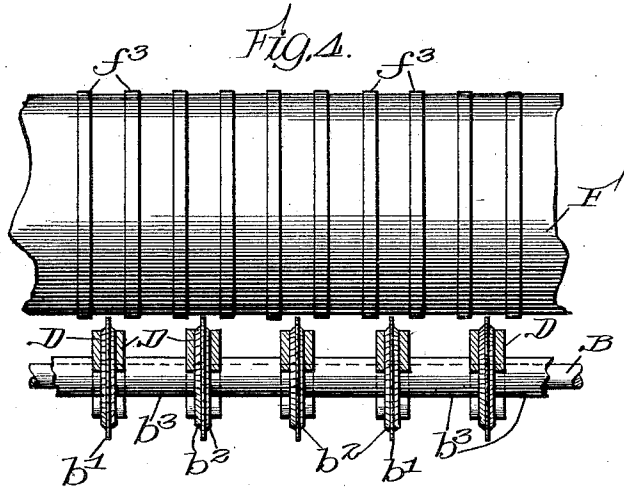
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C. E. KUNTZ.
DOWEL CUTTING AND CHAMFERING MACHINE.
APPLICATION FILED FEB. 26, 1910.

1,005,982.

Patented Oct. 17, 1911.

4 SHEETS—SHEET 3.



Witnesses:
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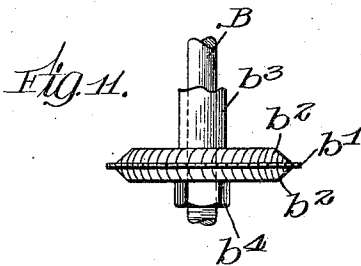
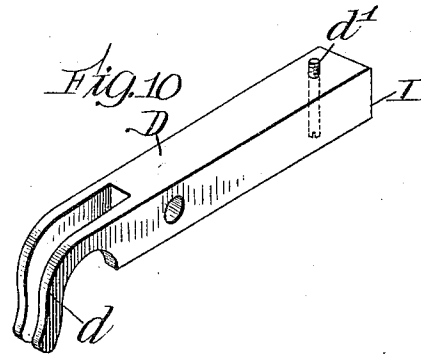
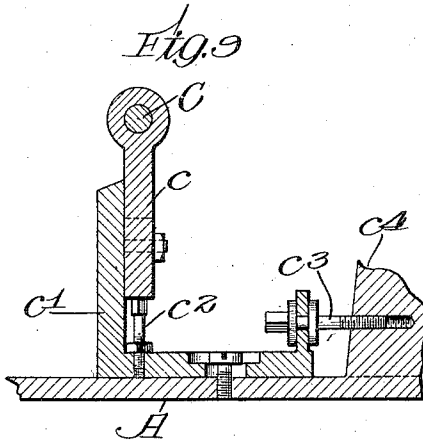
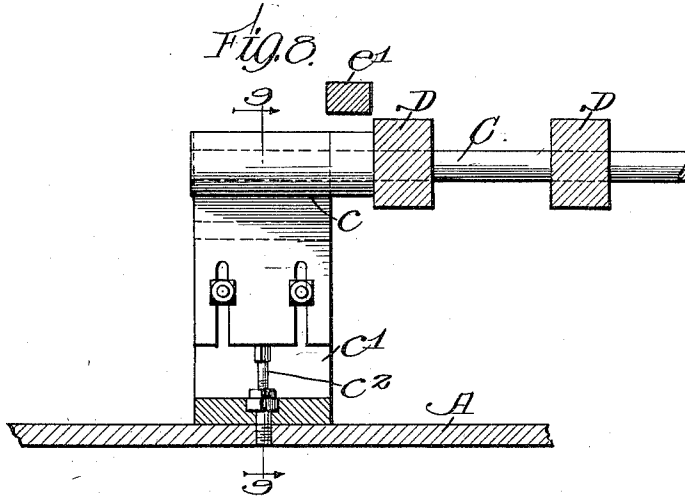
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Patented Oct. 17, 1911.

4 SHEETS—SHEET 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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DOWEL CUTTING AND CHAMFERING MACHINE.

1,005,982.

Specification of Letters Patent.

Patented Oct. 17, 1911.

Application filed February 25, 1910. Serial No. 545,871.

To all whom it may concern:

Be it known that I, CHARLES E. KUNTZ, a citizen of the United States of America, and resident of South Bend, St. Joseph county, Indiana, have invented a certain new and useful Improvement in Dowel Cutting and Chamfering Machines, of which the following is a specification.

My invention relates to machines for making dowel pins. In a machine of this kind the long rods of wood are fed to the saws and thereby reduced to short lengths suitable for dowel pins. Each saw is provided with means for beveling or chamfering the ends of the short lengths. Thus the long rods are, one after the other, sawed into short sections which are suitable for use as dowel pins.

The object of my invention is to provide a machine of this character in which efficient means are employed for accurately presenting the rods to the saws and chamfering devices, and in which a greater facility and range of adjustment are afforded for insuring accuracy of cutting, with rods of different diameters, and whereby the operation of converting the long rods of wood into dowel pins may be carried on with rapidity and certainty, as will hereinafter more fully appear.

In the accompanying drawings—Figure 1 is a side elevation of a dowel cutting and chamfering machine embodying the principles of my invention, the rods of wood being viewed from their ends, and being shown in position for sawing and chamfering, it being understood that they move by gravity and are then successively presented to the circular saws and chamfering devices. Fig. 2 is a cross section on line 2—2 in Fig. 3. Fig. 3 is a plan of the machine shown in Fig. 1. Fig. 4 is a detail sectional view on the line 4—4 in Fig. 2 showing the drum and saws, etc., in elevation. Fig. 5 is a detail sectional view, broken away at the center, on line 5—5 in Fig. 2. Fig. 6 is a detail sectional view, on an enlarged scale, of one of the devices for holding the stop bar in place. Fig. 7 is a side elevation of the device shown in Fig. 6. Fig. 8 is a section, on an enlarged scale, on line 8—8 in Fig. 2, showing only one end of the machine. Fig. 9 is a section on line 9—9 in Fig. 8. Fig. 10 is a perspective of one of the bars that form the table upon which the rods rest while being fed forward and while being sawed and

chamfered. Fig. 11 is an enlarged view of one of the end saws and chamfering devices. Fig. 12 shows a section of the rod before it is chamfered. Fig. 13 shows the said section chamfered to form a dowel pin.

As thus illustrated, my invention comprises a frame A upon which the various operative parts are mounted in suitably elevated positions. The saw shaft B is disposed horizontally above the table and mounted in bearings b. This shaft has mounted thereon the circular saws b', which have the chamfering cutters b² at each side thereof, and which are spaced apart by the sleeves b³. The end portions of this shaft B are threaded and provided with nuts b⁴ by which the saws and chamfering devices and sleeves are all clamped tightly together to rotate with the shaft. This shaft B is driven by a pulley b⁵, or in any suitable manner. A shaft C is arranged parallel with said shaft B, and is mounted in bearings c, which latter are carried by the sliding blocks c'. By means of the screws c² the bearings c are raised and lowered, and by means of the screws c³ the said bearings and blocks are moved horizontally toward and away from the shaft B. The screws c³, it will be observed, connect the blocks c' with the uprights c⁴. Thus the shaft C can be raised and lowered or moved laterally, to obtain the desired adjustment. The bars D have forked ends that embrace the saws, and that curve downward, as shown. These bars are mounted on the shaft C and have their rear ends provided with set screws d' that engage the lower surface of the stop bar d². The said bar d² is provided at its ends with sockets d³ adapted to receive the eccentric pins d⁴ on the ends of the plug screws d⁵, which latter are screwed into threaded openings in the uprights c⁴. The said bar d² is prevented from turning by the flanges d⁵ on the said uprights, which embrace the ends of the bar. By adjusting the screw d' the bars D can be given a tilting adjustment on the shaft C, each bar being thus adjustable independently of the others. By rotating the screws d⁵ the eccentric pins d⁴ will be caused to raise and lower the bar d², thus adjusting all of the bars D simultaneously. Obviously, therefore, the bars D are easily and accurately adjustable relative to the saws and chamfering devices, with reference to different thicknesses of rods, or for other reasons.

The rods of wood are held in a sort of hopper or trough E which has an opening or slot *e* through which the rods may pass one at a time and roll down the incline *e'*.
 5 From this incline the rods pass to the bars D and then roll over the saws.

A large drum F is mounted above the saws and supported upon the swinging arms *f*. Another drum *f'* is mounted in bearings
 10 *f*² lower down and back of the saws. The belts *f*³ travel around these drums, and are arranged close to and at each side of the saws, as shown, with enough slack therein to conform to the curvature of the portion
 15 *d*. These belts *f*³ rest upon the rods, and are driven in the direction indicated by a pulley on the shaft of the drum *f'*. This operates to feed the rods to the saws, as the rods roll under the drum F and then across the saws.
 20 The belts *f*³ are kept in proper condition by the belt tighteners G which rest thereon. These tighteners are arranged to swing upon a shaft *g* that is mounted on arms *g'* which are rigid with the arms *f*. These
 25 idlers G serve also to keep the belts in place, and prevent them from running over onto the saws. The arms *f* are adjustably supported by screws H that rest upon the tops of the bearings *b*. These adjustable sup-
 30 ports H are readily removable from the said bearings *b*, so that the drum F and the belts can be lifted up and thrown over away from the saws.

Thus it will be seen that by my invention
 35 I provide a dowel cutting and chamfering machine in which the rods of wood are sawed and chamfered at the same time, and in which the rod supporting mechanisms consist of bars which are adjustable in
 40 unison, in two ways, and which are each individually adjustable, whereby accurate operation is obtained, and different thicknesses or diameters of rods can be handled by the machine.

The weight of the ends I of the arms D is sufficient to keep their ends *d* raised to keep the rods pressed tightly against the belts, should the pressure of the belts relax; but ordinarily the weight of the belts and
 50 rods keeps the screws *d'* pressed tightly against the bar *d*² as shown.

What I claim as my invention is:

1. In a machine of the class disclosed, in combination with cutting devices, support-
 55 ing mechanism comprising pivoted bars, said bars arranged parallel in the same horizontal plane, means for adjusting each bar independently of the others, means for ad-
 60 justing the bars in unison, and means for rolling rods over said bars, said bars being unsupported at their rear ends.

2. In a machine of the class disclosed, in combination with cutting devices, means for
 65 feeding rods, supporting mechanism comprising pivoted bars, said bars arranged

parallel in the same horizontal plane, means for raising and lowering the bars at one end in unison, means for raising and lowering the bars at the other end in unison, and
 70 means for rolling rods over said bars, said bars being adjustable endwise without disturbing the position of said feeding means.

3. In a machine of the class disclosed, means for feeding rods, supporting mechanism comprising parallel pivoted bars, said
 75 bars arranged parallel in the same horizontal plane, a support on which the bars are adapted to tilt, means for raising and lowering the outer ends of said bars, to tilt them about said support, cutting devices
 80 juxtaposed to the inner ends of said bars, to receive the rods therefrom, and means for rolling rods over said bars, said cutting devices being inside of said support, said
 85 bars being unsupported at their rear ends, said bars being adjustable endwise without disturbing the position of said feeding means.

4. In a machine of the class disclosed, supporting mechanism comprising pivoted
 90 bars, said bars arranged parallel in the same horizontal plane, a support therefor, means whereby each bar is movable about said support independently of the others, means for
 95 adjusting the bars in unison, cutting devices juxtaposed to the inner ends of said bars, and means for rolling rods over said bars, said cutting devices being inside of said support, said bars being unsupported at their
 100 rear ends.

5. In a machine of the class disclosed, a plurality of movable bars, saws disposed in position to extend within the ends of said bars, a support for said bars, a stop bar
 105 above the said bars, means for adjusting said stop bar vertically, means on said bars for engaging the bottom of said stop bar, means for moving rods over said bars to said saws, and means for moving the bars
 110 endwise without disturbing said stop bar.

6. In a machine of the class disclosed, rod-supporting mechanism comprising bars pivoted or fulcrumed with their heavier ends
 115 outward, whereby their inner ends tend to rise, saws juxtaposed to said inner ends, the bars being between the saws, belts which press down upon the rods above the said inner ends of the bars, the fulcrum of said bars being disposed outside of the circum-
 120 ference of said saws, and means for limiting the upward movement of the heavier ends of said bars.

7. In a machine of the class disclosed, a plurality of bars, saws and chamfering de-
 125 vices juxtaposed to the inner ends of said bars, means for raising and lowering the said bars, means for depressing or raising the outer ends of the bars in unison, means for adjusting the bars individually, and means
 130 for moving the bars horizontally.

8. In a machine of the class disclosed, adapted for cutting up rods, a stop bar, eccentric devices for raising and lowering said bar, a set of movable bars for supporting the rods, means for movably supporting the bars, a set screw in each of said bars, normally engaging the bottom of said stop bar, said set screws being disposed in a row below the bar, and cutting devices juxtaposed to the inner ends of the bars, adapted to receive the rods therefrom.

9. In a machine of the class disclosed, rod supporting mechanism comprising a plurality of parallel movable bars, means for movably supporting the bars, a stop member disposed across the ends of said bars, and a set screw in the outer end of each bar, said set screws being disposed in a row below said member and thereby normally engaging the bottom of said stop member.

10. In a machine of the class disclosed adapted for cutting up rods, a set of feed belts, a drum for said belts, means for adjustably supporting the same in position for operation, so that the belts are always supported in operative position and remain in such position when no rods are in the machine, adapted to prevent the drum from rising, and means tending to lift the rods upwardly against the under side of said belts, whereby the drums and belts are held against free floating movement, and the said bars and rods thereon are left free to float relative to said drum and belts.

Signed by me at South Bend, Indiana, this 17th day of February, 1910.

CHAS. E. KUNTZ.

Witnesses:

GAYLORD H. CASE,
CHAS. F. HOLLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."