

July 21, 1925.

1,547,096

L. E. CROUSE

GROOVING MACHINE

Filed April 25, 1923

2 Sheets-Sheet 1

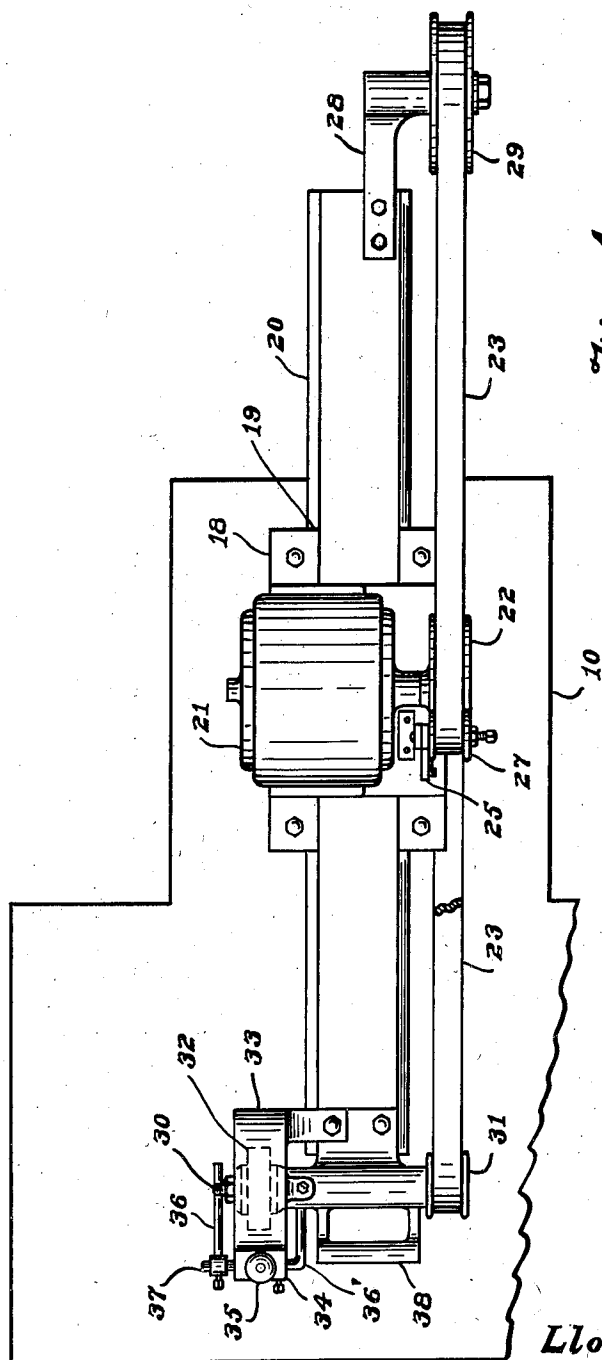


Fig. 1.

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INVENTOR

BY Victor J. Evans  
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WITNESS:  
J. B. B. J.

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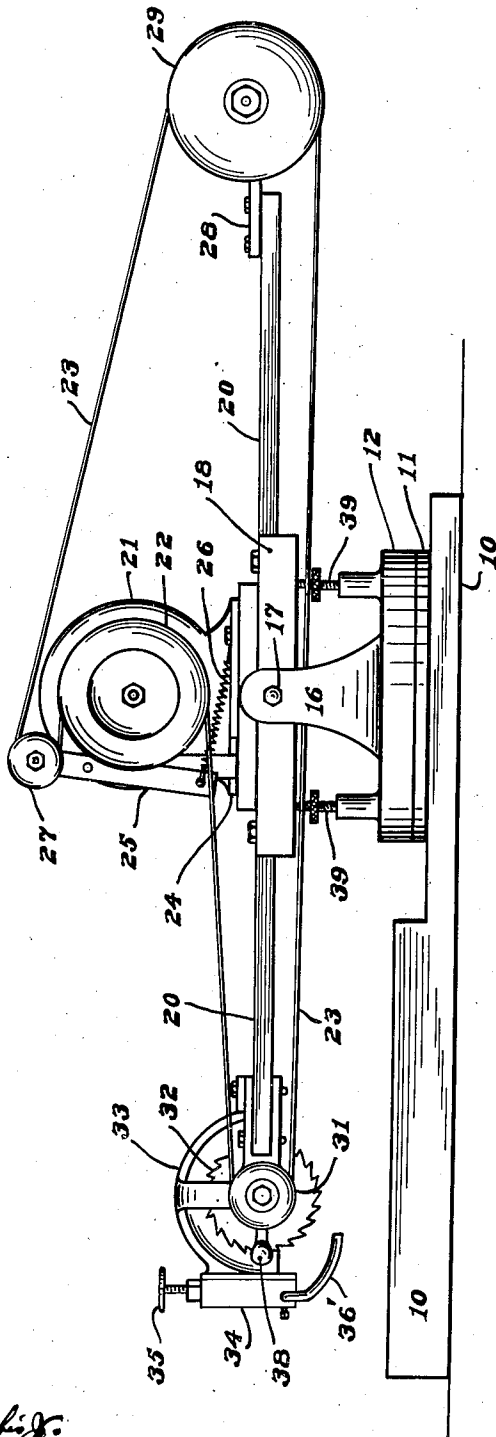


Fig. 2.

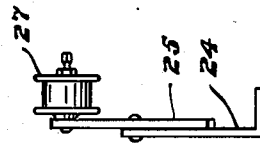


Fig. 5.

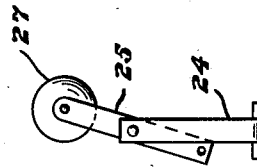


Fig. 4.

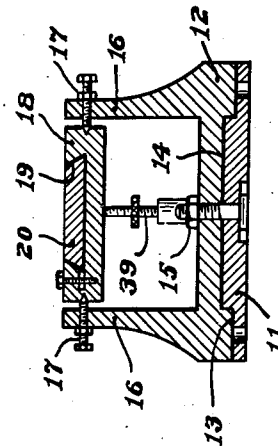


Fig. 3.

J. B. King  
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## UNITED STATES PATENT OFFICE.

LLOYD E. CROUSE, OF LITTLESTOWN, PENNSYLVANIA.

## GROOVING MACHINE.

Application filed April 25, 1923. Serial No. 634,593.

*To all whom it may concern:*

Be it known that I, LLOYD E. CROUSE, a citizen of the United States, residing at Littlestown, in the county of Adams and State of Pennsylvania, have invented new and useful Improvements in Grooving Machines, of which the following is a specification.

This invention relates to grooving machines, and one of the principal objects of the invention is to produce a device of this nature by means of which grooves may be sawed of even depth from beginning to end even though the material may be warped, twisted or otherwise imperfect.

Another object is to produce a device of this nature whereby the grooves may be formed in the upper or exposed surface of the work as it lays on the table, whereby the following of indicated marks on the surface is facilitated.

Another object is to produce a machine of this nature which shall be simple of construction and assembly, comparatively inexpensive to manufacture, and highly efficient for the purpose for which it is designed.

With these and other objects in view as will be more apparent, the invention consists in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claim, and are illustrated in the accompanying drawings, in which:—

Figure 1 is a top plan view of my improved grooving machine.

Figure 2 is a side elevation of the same.

Figure 3 is a cross section of the swivel and supporting elements per se.

Figures 4 and 5 are detail views of the belt tightener.

Like characters of reference refer to like parts in all views.

Referring to the drawing in detail, 10 represents a table or support which may be of any suitable material and construction but which is shown in the drawing as comprised of a wooden structure. To this table there is secured by screws, bolts, or other suitable means, a stationary base member 11. Rotatably supported by the member 11 is a secondary base member 12 provided with an annular flange 13 which is seated down over an upstanding central boss 14 on

member 11. A bolt 15 forms suitable means for securing the member 12 to the member 11 and for holding it in any desired position thereon. Rising from the member 12 there are a pair of brackets 16 which carry at their upper portions center bearings 17 upon which is pivotally mounted a frame or plate 18. Plate 18 is provided with a longitudinal dove-tail groove 19 into which is fitted an elongated slide 20.

Mounted in any suitable manner on the plate 18 is a motor 21 provided with a pulley 22 over which passes the drive belt 23. Similarly mounted on the plate 18 is a bracket 24 which carries a frame 25 pivotally mounted therein. The lower end of the frame 25 is drawn to the right in Figure 2 by a spring 26 so as to throw the upper end carrying a belt-tightening roller 27 to the left to effect a take-up of the slack which may occur in the plate 23.

Mounted at the extreme rear end of the slide member 20 is a bracket 28 which rotatably supports an idler 29.

Mounted in suitable bearings at the front of the slide member 20 is a mandrel 30 which carries at one end a pulley 31. The belt 23, as shown in Figure 2, passes about the pulley 22 then over the tightening roll 27 around the idler 29, then over the pulley 31 back to the motor pulley 22. At its opposite end the mandrel 30 carries a saw or a plurality of saws 32 whereby the slotting or grooving is to be effected, these saws being selected so as to provide a suitable width of slot. The saws may be secured on the mandrel in any suitable or well-known manner. A guard 33 is provided which covers the upper portion of the saws 32 so as to prevent accident. A bracket 34 is formed on the guard 33 and carries an adjustment screw 35. This adjustment screw is adapted to raise and lower a pair of guide feet 36 and 36', the foot 36 being adjustable on the lateral shank 37. These feet 36 and 36' are adapted to be raised and lowered by operation of the screw 35 so as to determine the depth of the groove.

A handle or manipulating device 38 is secured at the saw end of the slide 20.

In operation, the work to be acted upon is placed on the table 10, and the feet 35 and 36 are adjusted to the required positions. The saws are then lowered into cutting re-

lationship with the work and the slide 20 is then drawn forwardly by means of handle 38, so that the saws make the required groove. It will be readily seen that these grooves will be made in the upper portion of the work where the operation may be readily followed, and that twisted or warped lumber will be evenly slotted owing to the following of the control of the lumber by the feet 35 and 36.

A pair of adjustable screws 39 are provided whereby the up and down movement or pivotal movement of the member 18 may be controlled. By suitably adjusting these screws to prevent any movement of the member 18 on its pivots, the device can be utilized as a cross cutting saw.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the parts may be varied without in any way departing from the spirit of my invention, and I therefore do not limit myself to the exact details of construction herein shown nor to anything less than the whole of my invention limited only by the appended claim.

What I claim is:—

In a grooving machine, a rotatable supporting platform, a frame pivotally carried by said rotatable platform, adjustable means for holding said pivoted frame in adjusted positions, a prime mover carried by said pivoted frame, a slide slidably supported by said pivoted frame, rotary cutting means at one end of said slide, a pulley at the opposite end of said slide, a pulley on said prime mover, a pulley connected to said cutting means, and a belt passing from the pulley supported at the end of the slide to said cutting means operating pulley to and about the prime mover carried pulley, curving about the prime mover carried pulley in a reverse manner, and a movable idler pulley engaged on the belt between the prime mover pulley and the first mentioned pulley whereby operating driving connection will be maintained with the cutting means irrespective of the relative positions of the cutting means and prime mover.

In testimony whereof I affix my signature.

LLOYD E. CROUSE.