

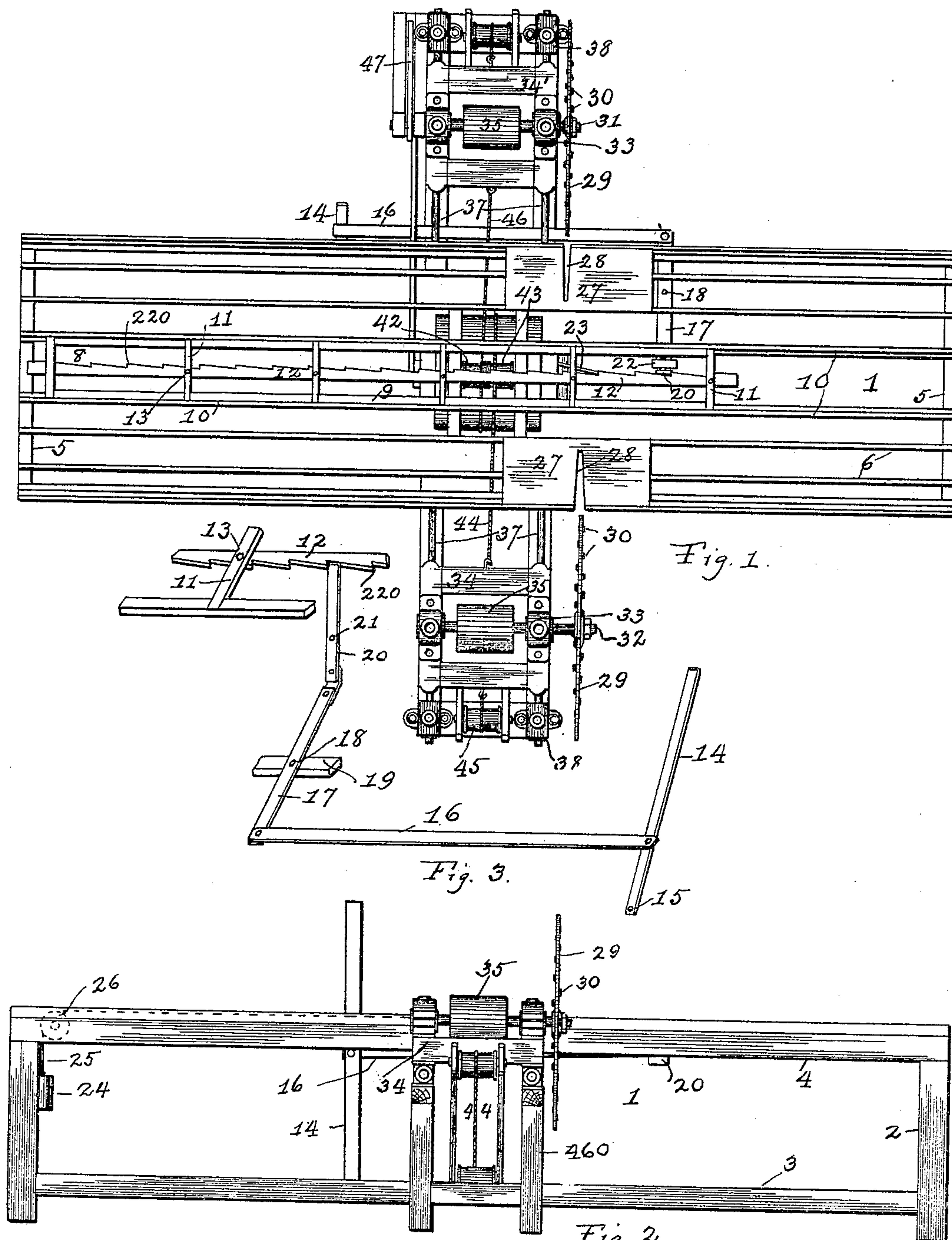
No. 801,353.

PATENTED OCT. 10, 1905.

E. E. BARTHOLOMEW.
MACHINE FOR SLOTTING THE ENDS OF BLANKS FOR BARRELS.

APPLICATION FILED JUNE 28, 1904.

2 SHEETS—SHEET 1.



Witnesses
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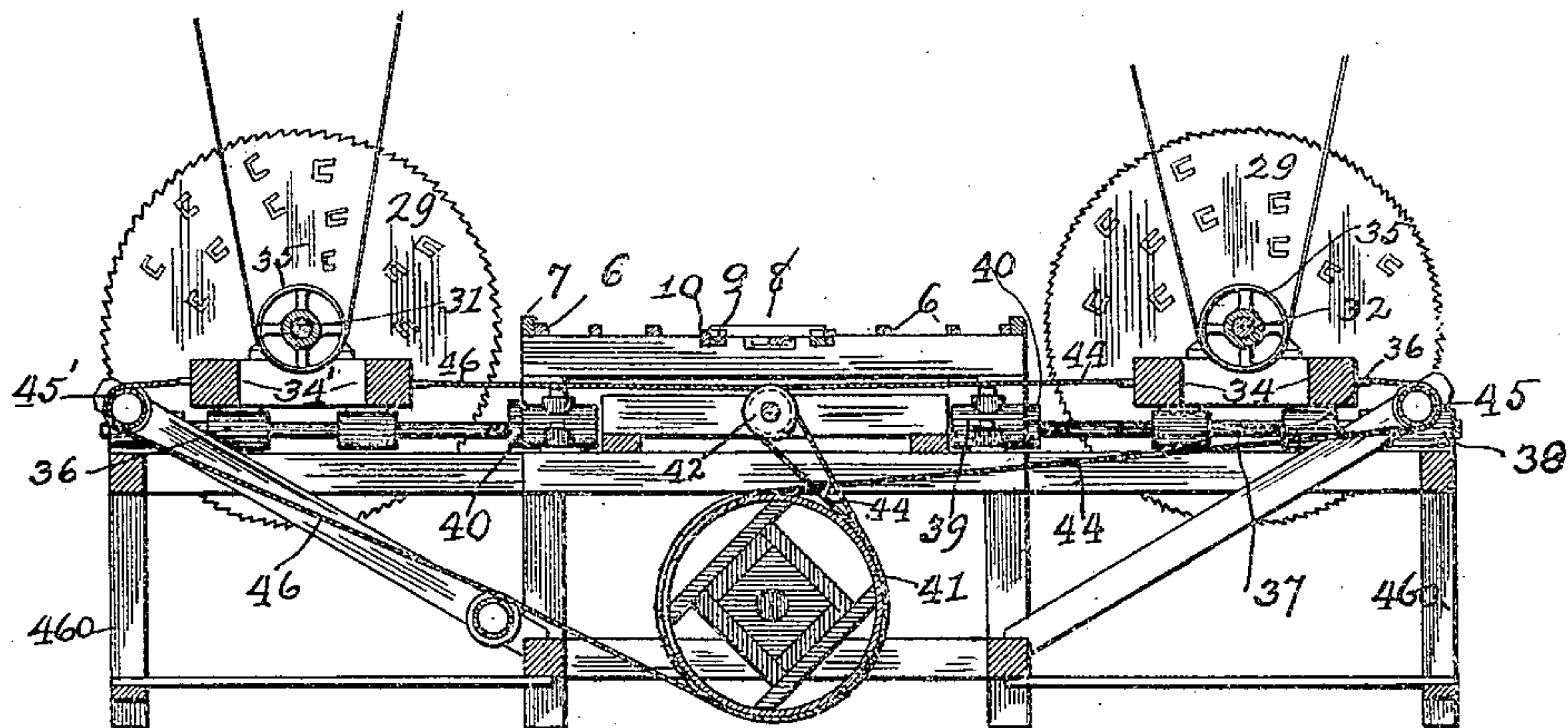


Fig. 4.

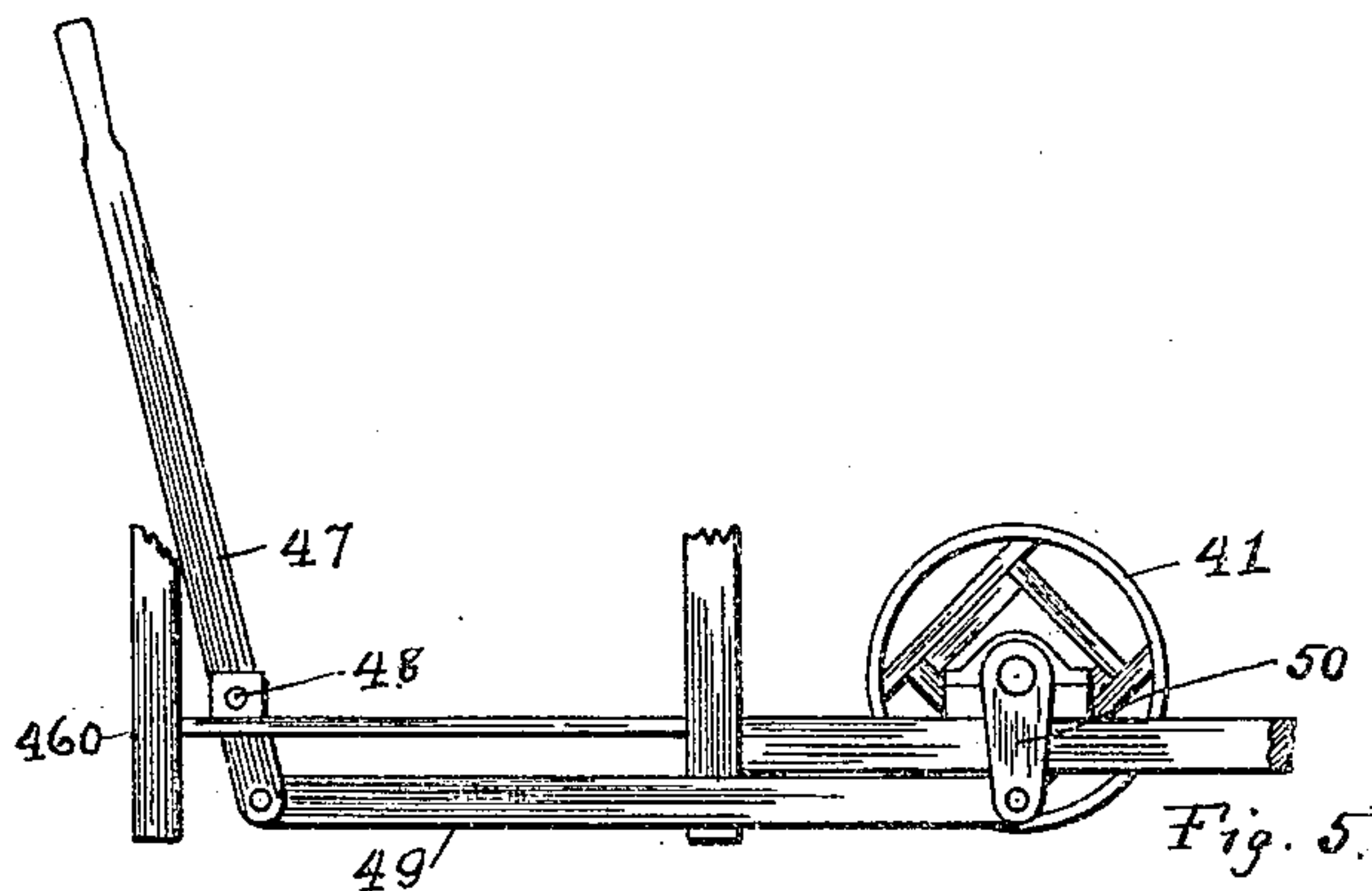


Fig. 5.

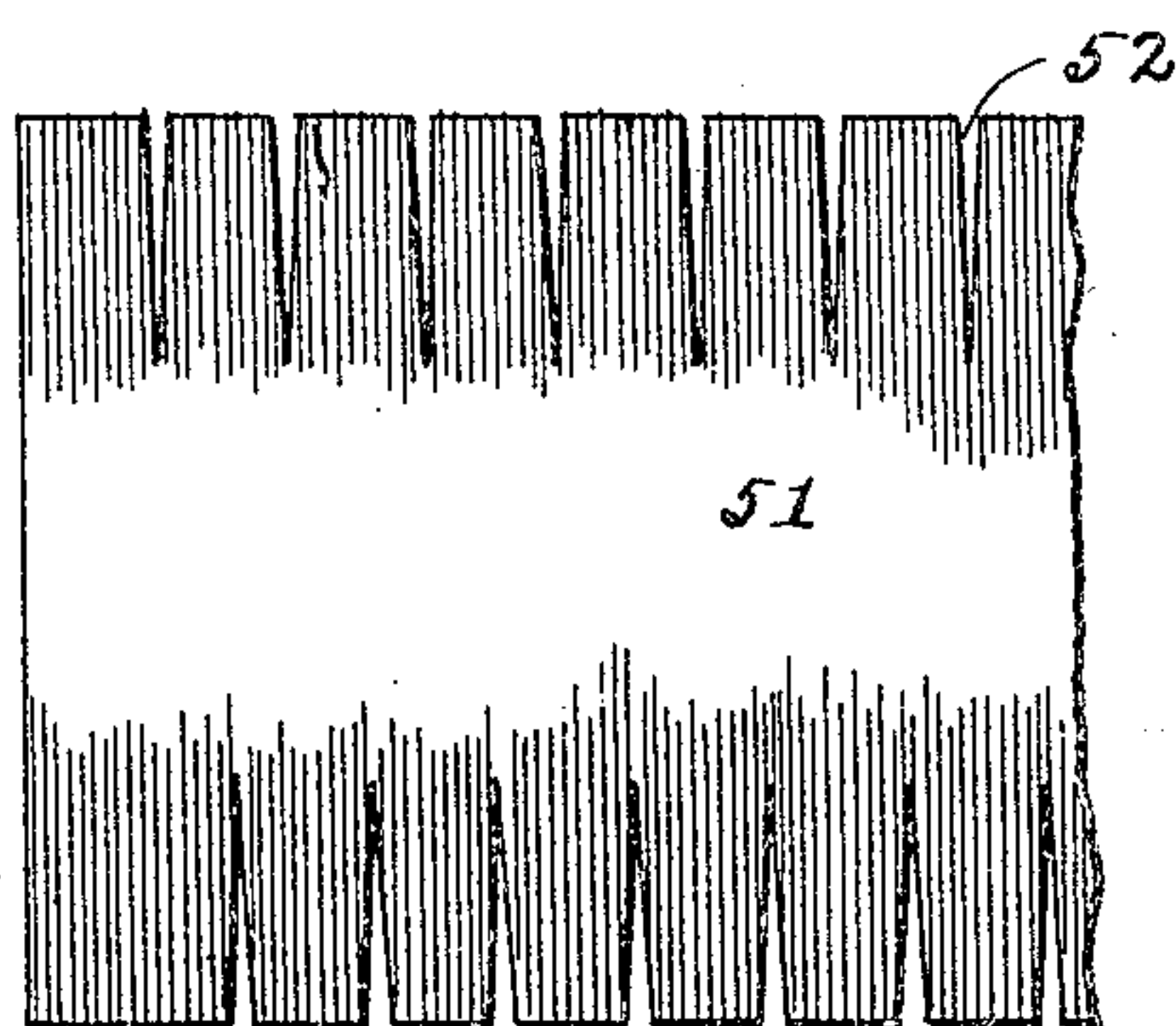


Fig. 6.

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UNITED STATES PATENT OFFICE.

EUGENE E. BARTHOLOMEW, OF CLEVELAND, OHIO, ASSIGNOR TO THE
SINGLE STAVE BARREL COMPANY, OF CLEVELAND, OHIO, A COR-
PORATION OF OHIO.

MACHINE FOR SLOTTING THE ENDS OF BLANKS FOR BARRELS.

No. 801,353.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed June 28, 1904. Serial No. 214,516.

To all whom it may concern:

Be it known that I, EUGENE E. BARTHOLOMEW, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Machines for Slotting the Ends of Blanks for Barrels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention relates to machines for slotting the ends of blanks for barrels in order to give the proper bilge to the completed barrel, and has for its object the construction of a machine of this character which shall be effectual in operation and simple and economical in construction.

Generally speaking, the invention may be defined as consisting of the combinations of elements embodied in the claims hereto annexed.

Referring to the drawings, Figure 1 represents a plan view of a machine embodying my invention. Fig. 2 represents a side elevation of the machine shown in Fig. 1. Fig. 3 is a perspective diagrammatic view representing a form of mechanism for operating the feeding device for the staves or blanks. Fig. 4 is a central transverse sectional view of the machine shown in Fig. 1. Fig. 5 is a detail view showing the drum which operates the saws and the actuating mechanism for said drum. Fig. 6 represents a portion of a blank or stave, showing the same after it has been operated upon by my machine.

All veneer barrels with which I am familiar and which are actually on the market are either formed as a cylinder made of one or more blanks or staves of veneer with no bilge therein or are formed of a plurality of narrow individual veneer staves. In order to give the necessary amount of bilge to a barrel made of one or more wide staves, it is necessary to kerf or slot the ends of such staves or blanks, whereby such ends may be contracted when the staves or blanks are formed up into the barrel. The machine which forms the subject-matter of this application is designed to slot or kerf the ends of such blanks or staves in a most effective and simple manner.

My machine consists generally of three parts—viz., a frame or support for the material to be operated upon, mechanism for cutting gores or kerfs in the ends of such mate-

rial, and means for advancing or feeding the material along the supporting-frame between the cutting or slotting operations.

The frame or support is designated by the numeral 1, and consists generally of upright posts 2, lower sills 3, upper sills 4, and end sills 5. The upper surface of the supporting-frame is provided with slats 6, on which the staves or blanks are supported. Projecting above the slats and secured to the side sills 4 are the longitudinal strips 7, the distance between said strips corresponding to the desired length of the stave or blank from end to end of the barrel.

In order to feed the material along the bed or frame, a carriage 8 is provided, said carriage consisting of a pair of longitudinal rails 9, resting in guides 10 and connected by cross-braces 11. Below said carriage is the rack 12, which is suitably secured to the carriage, as by means of pins 13 connecting the same to the cross-braces. The material may be clamped to the carriage in any suitable manner.

The carriage with the blanks or staves thereon is advanced or fed along the frame by means of suitable mechanism, as by means of the levers shown in Figs. 1, 2, and 3. A lever 14 is pivoted at 15 to any convenient portion of the frame—as, for instance, one of the lower sills 3. Connected to said lever 14 is a link 16. This link is connected at its opposite end to the lever 17, which is pivoted at 18 to any convenient part 19 of the frame. The end of the lever 17 opposite the link 16 is suitably connected to an upright lever 20, which is pivoted at 21 to a suitable support 22. The upper end of the lever 20 engages teeth 220 of the rack 12. As will be readily seen, by operating the lever 14 the rack and carriage and the staves or blanks thereon are fed or advanced along the frame. A detent-pawl 23 engages the rack to prevent the same from being carried backward by means of the weight 24 and rope 25, secured to said rack, the rope passing over the pulley 26. (See Fig. 2.) At the opposite sides of the frame there is provided a bed-plate 27, each of said bed-plates having formed therein a V-shaped slot 28. These slots, as will appear from Fig. 1, are staggered or out of alinement for a purpose to be hereinafter described.

The mechanism for slotting the staves or blanks consists of two oppositely-mounted

cutting members 29, said members being preferably circular saws provided with lateral tongues or teeth 30 projecting therefrom, said tongues or teeth increasing in length from the circumference to the center of the saw, as shown in my application, Serial No. 213,610, filed June 22, 1904. These saws are supported at the ends of mandrels 31 32, the mandrel 32 being somewhat longer than the mandrel 31, the parts being so arranged as to bring the saws opposite the slots 28. These saws are normally supported outside of the frame 1 and out of contact with the staves or blanks which are supported on said frame. In order to bring these saws into and out of contact with the material to be operated upon, I employ the following construction: The mandrels 32 and 31 are respectively supported in bearings 33 on a carriage 34 34' and are each provided with a drive-pulley 35. The carriages are slidably supported by means of sleeves 36 on rods 37, said rods being supported in bearings 38 and 39, the latter bearings being located adjacent to the sills 4. These rods may be threaded adjacent to the bearings 39 to receive each an adjusting-nut 40, which, engaging the carriage or the adjacent sleeve 36, will limit the movement of the carriage and of the saws and the depth of gore or slot which said saws will form in the staves or blanks.

The inner and outer ends of the carriages are flexibly connected to a drum 41, which is conveniently located below the middle of the frame. A pair of idle pulleys 42 and 43 are supported above the drum. A rope or other flexible connection 44 is secured to the inner end of the carriage 34, whence it passes over the pulley 43, then beneath said pulley and around the drum 41, the other end of said rope or connection passing around an idle pulley 45 and being secured to the outer end of the carriage 34. A similar rope or flexible connection 46 is secured to the inner end of the carriage 34', passes over the idle pulley 42 and directly around the drum 41, passing around said drum in the same direction as the rope or connection 44, thence passes around the idle pulley 45' and is secured to the outer end of the carriage 34'. By the arrangement just described it will be apparent that the rotation of the drum 41 will cause both the carriages and the saws supported thereby to be simultaneously advanced toward or retracted from the slots 28 and will enable said saws to simultaneously slot or gore the material supported above said slots. The bed-plates 27 constitute supporting-surfaces for the ends of the blank. Owing to the thinness of the blank, such blank being ordinarily made of veneer of one-fourth inch thickness, the provision of some such support for the ends of the blank is necessary in order to prevent the blank from being cracked or otherwise mutilated by the cutting movement of the saws.

A convenient manner of operating said drum is shown in Fig. 5, wherein 460 designates one of the vertical posts forming part of the frame which supports the carriage 34', 47 an operating-lever pivoted at 48 to a suitable support carried by said frame, 49 a link connected to said lever 47, and 50 a crank connected to the drum 41. It will be evident that by operating the lever 47 the drum 41 may be rotated to throw the saws into and out of engagement with the blank or stave 51 to cut the slots or gores 52 therein.

While I have shown as the cutting members saws which are adapted to form V-shaped gores or slots in the blanks or staves, it will be apparent that the proper bilge may be given to the barrel by other means, as by forming a plurality of plain kerfs in the ends of the blank, and I do not propose to limit my invention to the V-shaped gores or slots except as such limitations may be included in the claims hereto annexed.

While I have also described my invention as specially applicable to cutting barrel blanks or staves, it may be employed for cutting other material as well, and while I have necessarily shown numerous details in the embodiment of my invention herein disclosed I do not propose to be limited to such details except as they may be included in the claims hereto annexed or rendered necessary by the prior state of the art.

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

1. In a machine for slotting blanks for barrels and the like, a pair of oppositely-mounted cutting members, a support between said members for the blanks, means for moving said members into and out of cutting relation with a blank, means for advancing said blanks after the cutting members have been moved out of cutting relation therewith, said members being out of alinement whereby the slots or kerfs at one end of the blank are out of alinement with those at the other end thereof.

2. In a machine for slotting barrels and the like, the combination of a supporting-frame for the blank, means for feeding the blank longitudinally of said frame, a cutting member at the side of said frame having its plane transverse to the plane of the frame, means for moving said member into and out of cutting relation with the blank, and a supporting-surface for the end of the blank adjacent said member adapted to support such end against the cutting movement of said member, substantially as specified.

3. In a machine for slotting blanks for barrels and the like, the combination of a supporting-frame for the blank, means for feeding the blank longitudinally of said frame, a cutting member at each side of said frame having its plane transverse to the plane of the frame, means for moving said members into

and out of cutting relation to said blank, and a supporting-surface for each end of the blank adapted to support such end against the cutting movement of said members, substantially as specified.

4. In a machine for slotting blanks for barrels and the like, the combination of a supporting-frame for the blank, means for feeding the blank longitudinally of said frame, a saw at each side of said frame, means for moving said saw into and out of cutting relation to said blank, and a supporting-surface for each end of the blank adapted to support said end against the cutting movement of the saws, substantially as specified.

5. In a machine for slotting blanks for barrels and the like, the combination of a supporting-frame for the blank, means for feeding the blank longitudinally of said frame, a rotary saw mounted at each side of said frame and having its plane transverse to the plane of the frame, means for moving said saws into and out of cutting relation with said blank, and a supporting-surface for each end of the blank adapted to support such end against the cutting movement of such saw, substantially as specified.

6. In a machine for slotting blanks and the like, the combination of a supporting-frame for the blank, means for feeding the blank longitudinally of said frame, a saw mounted at each side of said frame and having its plane transverse to the plane of said frame, means for moving said saws into and out of cutting relation to said blank, and a supporting-surface for each end of the blank adapted to support said end against the cutting movement of the saw, said supporting-surfaces being slotted in the plane of the saw, substantially as specified.

7. In a machine for slotting blanks for barrels and the like, the combination of a supporting-frame for the blank, means for feeding the blank longitudinally of said frame, a saw mounted at each side of said frame and having its plane transverse to the plane of the frame, said saws being mounted out of alignment, a supporting-surface for each end of the blank adapted to support said end against the cutting movement of the saw, such sup-

porting-surface being slotted in the plane of the saw, substantially as specified.

8. In a machine for slotting blanks for barrels and the like, the combination of a supporting-frame for the blank, means for feeding the blank longitudinally of said frame, a saw mounted at each side of said frame and constructed to cut a V-shaped slot or kerf and having its plane transverse to the plane of the frame, means for moving said saws into and out of cutting relation to said blank, and a supporting-surface for each end of the blank adapted to support such end against the cutting movement of the saw, said surface having therein a V-shaped slot for the reception of the saw when it is moved into cutting relation with the blank, substantially as specified.

9. In a machine for slotting blanks for barrels and the like, the combination of a supporting-frame for the blank, means for feeding the blank longitudinally of said frame, oppositely-arranged carriages, one on each side of the frame, a mandrel supported by each of said carriages in a position parallel with said frame, a rotary saw clamped to each of said mandrels, means for rotating said mandrels, and means for moving said carriages to and from said frame in a plane transverse thereto to bring the saws into and out of contact with the blanks supported on the frame, said saws being out of alignment with each other, substantially as specified.

10. In a machine for slotting the ends of blanks for barrels, the combination of a supporting-frame, said frame comprising a pair of oppositely-located bed-plates, each of said bed-plates having a V-shaped slot therein, a saw mounted at each side of said frame and constructed to cut a V-shaped slot or kerf in a blank, means for moving said saws into and out of said slots in the bed-plates to cut a V-shaped slot or kerf in a blank, and means for advancing such blank after the saws have been moved out of the slots in the bed-plates.

In testimony whereof I affix my signature in the presence of two witnesses.

EUGENE E. BARTHOLOMEW.

Witnesses:

J. B. HULL,

R. M. CALFEE.