(No Model.) 3 Sheets—Sheet 1.

A. J. CARTER.

STAVE SAWING MACHINE.

No. 457,396 Patented Aug. 11, 1891.

Fig. 1.

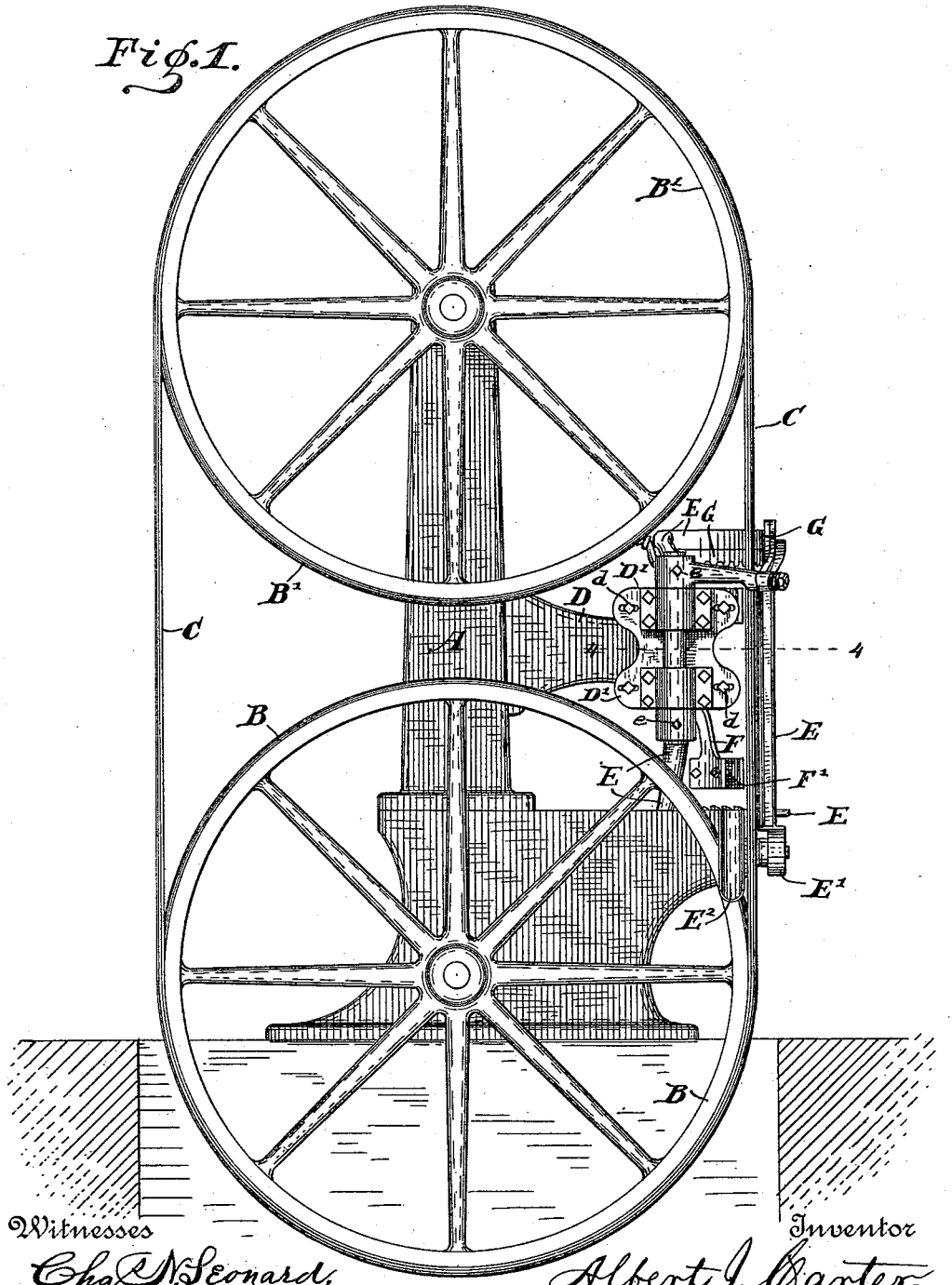

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Fig. 2.

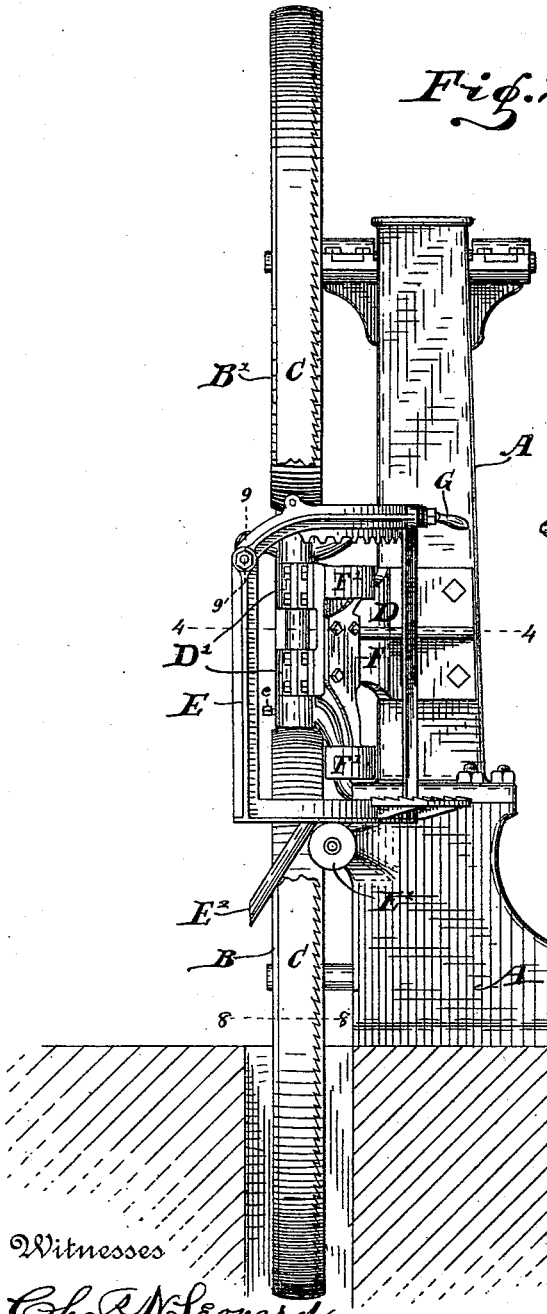


Fig. 8.

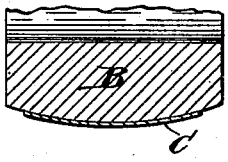


Fig. 6.

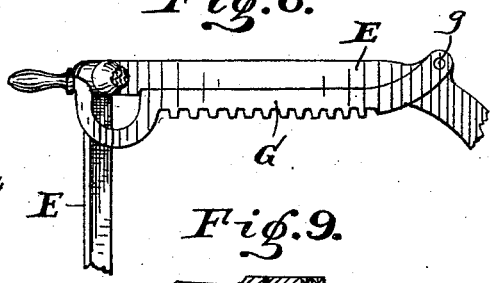
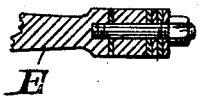


Fig. 9.



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STAVE SAWING MACHINE.

No. 457,396. Patented Aug. 11, 1891.

Fig. 3.

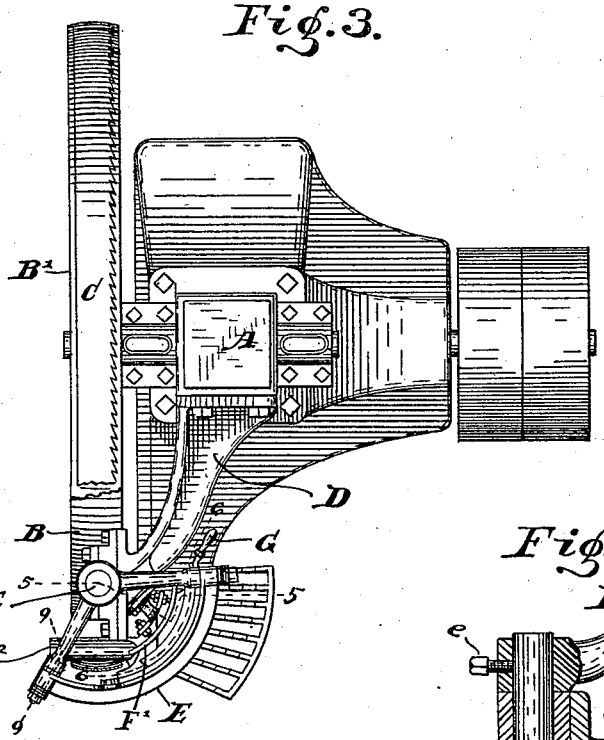


Fig. 4.

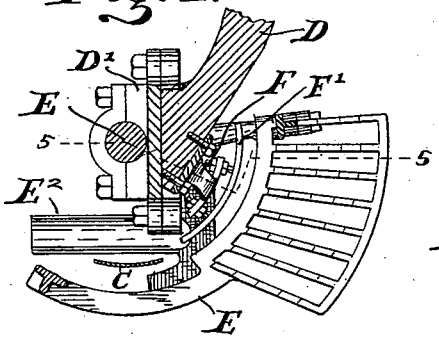


Fig. 5.

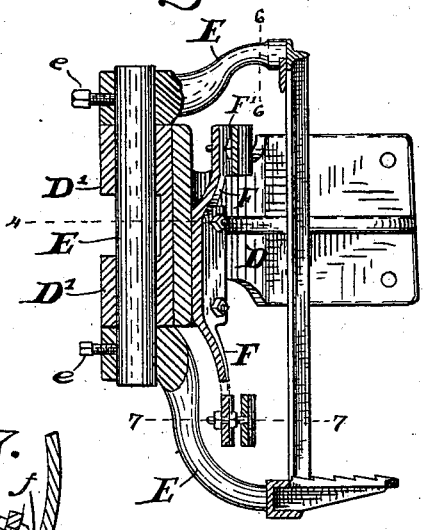
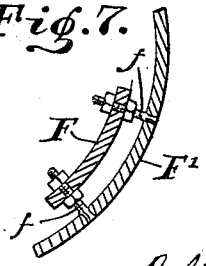


Fig. 7.



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UNITED STATES PATENT OFFICE.

ALBERT J. CARTER, OF FRANKFORT, INDIANA.

STAVE-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 457,396, dated August 11, 1891.

Application filed March 17, 1888. Serial No. 267,485. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. CARTER, a citizen of the United States, residing at Frankfort, in the county of Clinton and State of Indiana, have invented certain new and useful Improvements in Stave-Sawing Machines, of which the following is a specification.

The object of my said invention is to produce a machine by which barrel-staves may be conveniently and rapidly sawed; and it consists in a band sawing-machine constructed for the purpose, as will be hereinafter more particularly described.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a side elevation of a machine embodying my said invention; Fig. 2, a front elevation of the same, a portion of the saw being broken away to show the mechanism more clearly; Fig. 3, a top or plan view having such parts broken away as will show the mechanism constituting my invention; Fig. 4, a detail horizontal sectional view, looking downwardly from the dotted line 4 4 in Figs. 1 and 2; Fig. 5, a detail vertical sectional view, looking upwardly from the dotted line 5 5 in Fig. 4; Fig. 6, a detail view of the clamping-bar and that portion of the frame-work to which it is attached, looking toward the right from the dotted line 6 6 in Fig. 3; Fig. 7, a detail horizontal sectional view on the dotted line 7 7 in Fig. 5; Fig. 8, a detail sectional view through the saw and the rim of one of the wheels on an enlarged scale on the dotted line 8 8 in Fig. 2, and Fig. 9 a detail view on the dotted line 9 9 in Figs. 2 and 3.

In said drawings the portions marked A represent the standard forming the main portion of the frame-work of the machine; B B′, the saw-wheels; C, the saw; D, the arm supporting the mechanism which embodies most of my present invention; E, a swinging frame-work mounted on said arm; F, a gage secured to said arm, against which the block from which the staves are to be sawed rests; and G a clamping-bar for holding said block in position.

The frame A and wheels B and B′ are not dissimilar to those in ordinary band-saw mills or band sawing-machines, except that the rims of the wheels in cross-section are convex upon the outer surface to accommodate the curved form of the saw which it is desirable, if not essential, to use in my invention.

The saw C is similar to ordinary band-saws, except that it is curved in cross-section, the curvature corresponding substantially to that of the staves to be sawed on the machine.

The arm D is bolted fast to the upright or frame-work A. Upon its outer end is secured a large box D′, preferably containing two bearings, in which the shaft-like back portion of the frame is mounted. This box is made adjustable by means of slots or elongated holes, through which the bolts *d*, which secure it to the arm, pass, as shown most plainly in Fig. 1.

The frame E consists of a shaft-like portion mounted in the bearings in the box D′, arms secured thereto, a base and a top part secured to said arms, and vertical connecting portions connecting said base and top part together. The arms are rigidly secured to the shaft-like portion, either by set-screws *e*, as shown in the drawings, or otherwise, while the top, bottom, and vertical portions are preferably a single casting and secured upon the ends of said arms, as indicated in Fig. 3, but more plainly shown in Fig. 9. There are three of the arms, two at the top and one at the bottom, the other, which would otherwise be at the bottom, being omitted so as to permit the stave to drop out after being sawed. The center of the shaft forming part of this frame-work, as will be noticed by an examination of the drawings, particularly Fig. 3, is in line with the center of the saw, and the shaft itself within or inside said saw, thus securing uniformity in the thickness of the staves. For the purpose of making the staves of greater or less curvature the box D′, carrying this frame, is, as before described, made adjustable toward and from the saw by means of the slots therein, through which the bolts *d* pass. When such an adjustment is made, it is also necessary that the outer portion of the frame-work be similarly adjusted. This is effected by making the bearing portion on the ends of the arms which pass through it of considerable length and providing a number of washers to fill up the extra space, and

the adjustment is effected by removing the nut and frame-work, shifting these washers from one side of the frame-work to the other, and replacing the frame-work and nuts, as will be readily understood by an examination of Figs. 3 and 9. To prevent the frame from sagging or being subjected to any undue strain, I have provided a supporting-roller E′, mounted upon a stud-shaft extending out from the frame-work in suitable position so that the frame E will rest thereon, as shown most plainly in Figs. 1 and 2. An inclined chute E^2 is attached to the frame-work to guide the staves away from the machine as they fall from the block in sawing.

The gage F is rigidly bolted to the arm D on the opposite side to that to which the box D′ is secured. In operation the block from which the staves are to be sawed is brought against the faces of this gage after each stave is sawed therefrom, thus securing uniformity in the thickness of the staves. In order that different thicknesses may be provided for, the gage is provided with supplemental faces F′, which are adjustable, as shown most plainly in Fig. 7, said supplemental faces being mounted upon threaded rods *f*, which extend through the ends of the arms constituting the principal part of the gage, and jam-nuts arranged on each side of said ends.

The clamping-bar G is a curved bar pivoted at *g* and having teeth on its under edge, and the curvature of said bar should be substantially the same as that of the top portion of the frame to which it is attached. Its teeth are adapted to enter the top of the block being operated upon and hold it firmly into position.

The operation is as follows: The machine being adjusted to the desired position, a block of suitable dimensions is inserted in the machine, its lower end resting upon the serrated face of the lower portion of the frame E, (see particularly Figs. 2 and 4,) its upper end beneath the upper portion, and one side resting against the face of the gage F. The clamping-bar G is then forced down firmly, its teeth entering the upper end of said block, which holds it securely. The frame is then swung around, which carries the block past the saw and cuts off a slab, which falls down and is carried off by the chute E^2. The frame is then swung back to its first position, the clamping-bar raised, the block pushed forward against the face of the gage, the clamping-bar again brought down, and the operation repeated, which produces a stave, and so on continually until the block is used up.

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

1. The combination, in a machine for sawing staves, of the frame A, the supporting-wheels B B′, the band-saw mounted on said wheels, the arm D, extending out from the main part of said frame, the box D′, adjustably secured to the outer end of said arm, and the frame-work for carrying the stave-block, formed to swing on a shaft, said shaft being pivoted in said box D′, all substantially as set forth.

2. In a stave-sawing machine, the combination of the frame A, the supporting-wheels for the saw, said saw, the arm D, and the block-carrying frame pivoted in a box on the outer end of said arm, said frame being formed of a shaft-like portion, which is mounted in said box, arms secured thereto, a base and a top part secured to said arms, and vertical portions connecting said base and top part, all substantially as shown and described, and for the purposes specified.

3. In a stave-sawing machine, the combination of the frame A, the saw-supporting wheels thereon, the saw on said wheels, the arm D, secured to said frame A, the block-carrying frame E, formed with a shaft and pivoted to the end of said arm and consisting of said shaft, arms extending out from its top and bottom, and a rectangular frame forming a top, a base, and connecting vertical pieces adjustably secured to the ends of said arms, substantially as set forth.

4. In a stave-sawing machine, the combination of the frame, the saw, the arm D, extending out from the frame, the block-carrying frame hinged or pivoted to said arm, and the gage F, secured to said arm D in position to bear against the face of the block while the stave is being sawed and provided with the faces F′, adjustably secured to their bases by means of the threaded rods *f*, connected therewith, and the jam-nuts on said threaded rods, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 12th day of March, A. D. 1888.

ALBERT J. CARTER. [L. S.]

Witnesses:
C. BRADFORD,
F. W. WOOD.