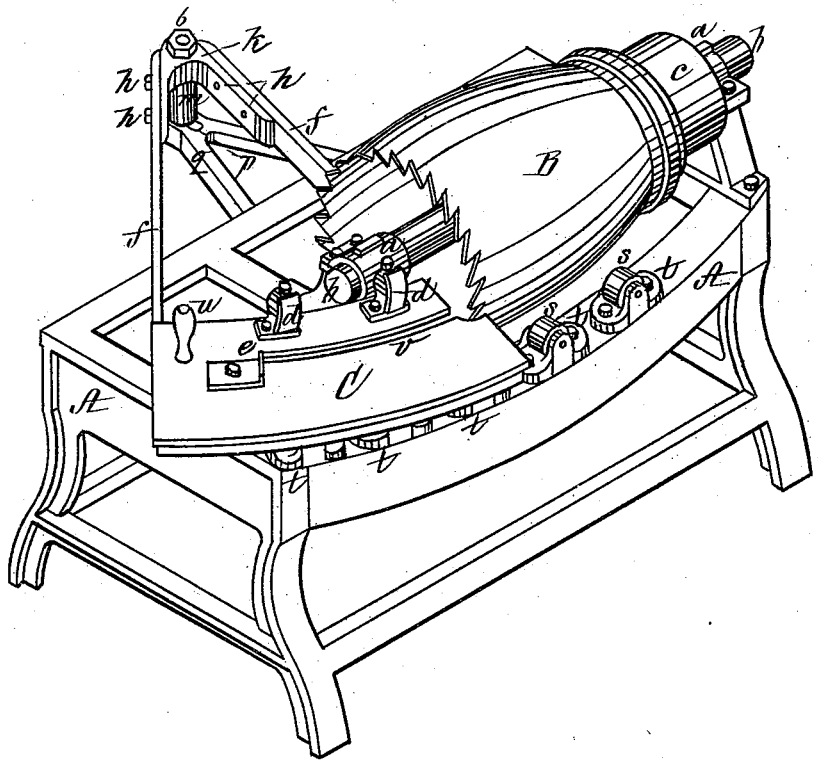
2 Sheets—Sheet 1.

G. C. STEVENS.

MACHINES FOR SAWING STAVES.

No. 190,452. Patented May 8, 1877.

Fig. 1.



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2 Sheets—Sheet 2.

G. C. STEVENS.

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No. 190,452. Patented May 8, 1877.

Fig. 2.

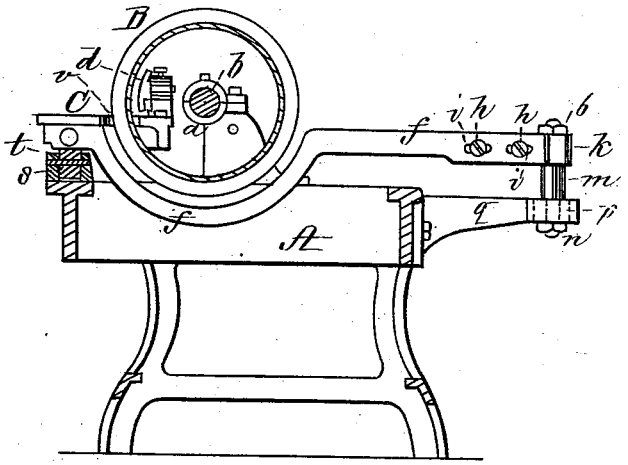
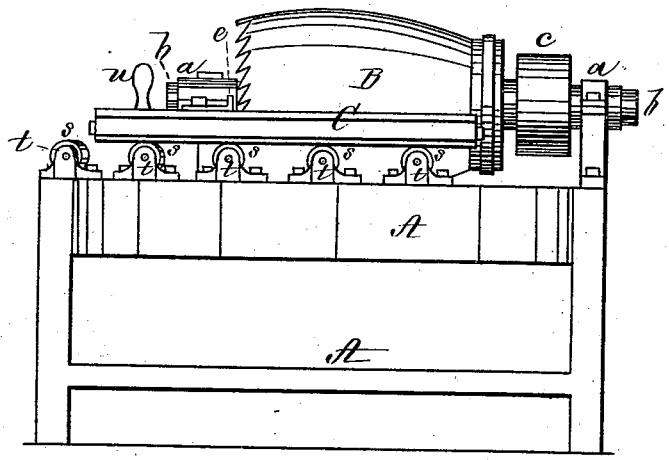


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE C. STEVENS, OF WEST TOWNSEND, ASSIGNOR TO HIMSELF AND MARY E. STEVENS, OF AYER JUNCTION, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR SAWING STAVES.

Specification forming part of Letters Patent No. 190,452, dated May 8, 1877; application filed March 6, 1877.

To all whom it may concern:

Be it known that I, GEORGE C. STEVENS, of West Townsend, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Machines for Sawing Staves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a stave-sawing machine constructed in accordance with my invention. Fig. 2 is a transverse vertical section through the same. Fig. 3 is a front elevation of the same.

Machines for sawing curved or "bilge" staves, as heretofore constructed, have been provided with a carriage or table sliding on a pair of parallel curved guides, with or without friction-rolls. This construction is, however, objectionable, for the reason that the action of the saw often causes the carriage to tip or cant, so as to rest on one of the guides only, which results in the stave being sawed of unequal thickness. Furthermore, when the guides become worn, the carriage will not run truly in the arc of a circle, and the staves will not be sawed with the proper curvature, while the guides and friction-rolls often become obstructed with sawdust, which interferes with the proper movement of the carriage, and renders the work imperfect.

My invention has for its object to overcome these difficulties; and consists in the combination, with a barrel or cylinder saw, of a swinging curved and slotted table or carriage, having one or more adjustable radial arms and an adjustable pivot, whereby the path of the carriage may be made to correspond exactly to the curvature of the saw.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents the frame-work of the machine, in suitable bearings *a a* on which runs the horizontal shaft *b* of a barrel or cylinder saw, B, which is rotated by a belt passing over a pulley, *c*, on the shaft *b*. C is a curved table or carriage, on which the "bolt" or block of wood from which the staves are to be sawed is placed, the bolt being held against a pair of adjustable gages, *d d*, and an end stop, *e*. To the opposite ends of the table C are secured a pair of radial arms, *f f*, the opposite ends of these converging arms being secured, by means of bolts *h* and slots *i*, to an angular or V-shaped connecting-piece, *k*, which is pivoted on a short vertical shaft, *m*, and held in place thereon by means of a nut, 6, the lower end of the shaft *m* being secured by means of a nut, *n*, within a slot, *p*, in a support, *q*, projecting from the frame-work A. A portion of one of the arms *f* is curved, as seen in Fig. 2, to allow of its passing beneath the saw.

The carriage C rests upon, and is supported by, a series of friction-rolls, *s*, which revolve in supports *t* on the upper front edge of the frame-work A, and thus, when the carriage is vibrated to the right or left by means of the handle *u*, or otherwise, it is guided by the radial arms *f f*, which cause it to swing on the shaft *m* as a center, and the true movement of the carriage in the arc of a circle is thus insured, resulting in the production of perfect work and greater ease of operation, while the tipping or canting of the carriage and the obstruction thereof by sawdust incident to machines as heretofore constructed are entirely avoided.

The carriage is provided, as usual, with a curved slot, *v*, through which the saw works while operating upon the bolt, the thickness of the stave cut from which is regulated by varying the distance of the gages *d* from the edge of the slot *v*. The distance of the shaft *m*, or center about which the carriage swings, from the outer curved surface of the saw B may be varied slightly by adjusting the shaft *m* in the slot *p*, the length of the arms *f f* being at the same time varied by means of the slots *i* and bolts *h*, which allow the arms to be moved slightly on the connecting-piece *k*; and by means of these adjustments the path of the carriage can be made to correspond exactly with the curvature of the saw. Instead of the carriage having two arms, *f f*, converging toward, and pivoted on, a common center, it may be provided with a single pivoted arm only, suitably formed to guide

and hold it in its movements, and the carriage may be operated by hand, or automatically by suitable mechanism, as preferred.

Although I prefer to employ friction-rolls *s*, yet they may be dispensed with, if desired, and the carriage be made to move upon a supporting guide or way, the arm or arms of the carriage in either case causing it to travel invariably in the arc of a circle, and preventing any liability of its being thrown out of its proper position.

The movement of the carriage C in either direction is arrested by means of stops, in a well-known manner.

I am aware that a scroll-sawing machine having a carriage arranged to move in the path of a circle around the saw, and which can be adjusted nearer to or farther from the saw, is old, and such I do not claim, broadly, as my invention; but

What I claim as my invention, and desire to secure by Letters Patent, is—

In a machine for sawing staves, the combination, with a barrel or cylinder saw, B, of a swinging curved and slotted table or carriage, C, having one or more adjustable radial arms, *f*, and an adjustable pivot, *m*, whereby the path of the carriage can be adjusted to the axial curvature of the saw, substantially as herein shown and described.

Witness my hand this 1st day of March, A. D. 1877.

GEORGE C. STEVENS.

In presence of—

LEVI WALLACE,

WARREN H. ATWOOD.