J. W. Treadway,

Jointing Staves.

No. 12,221. Patented Jan. 9, 1855.

Fig. 1.

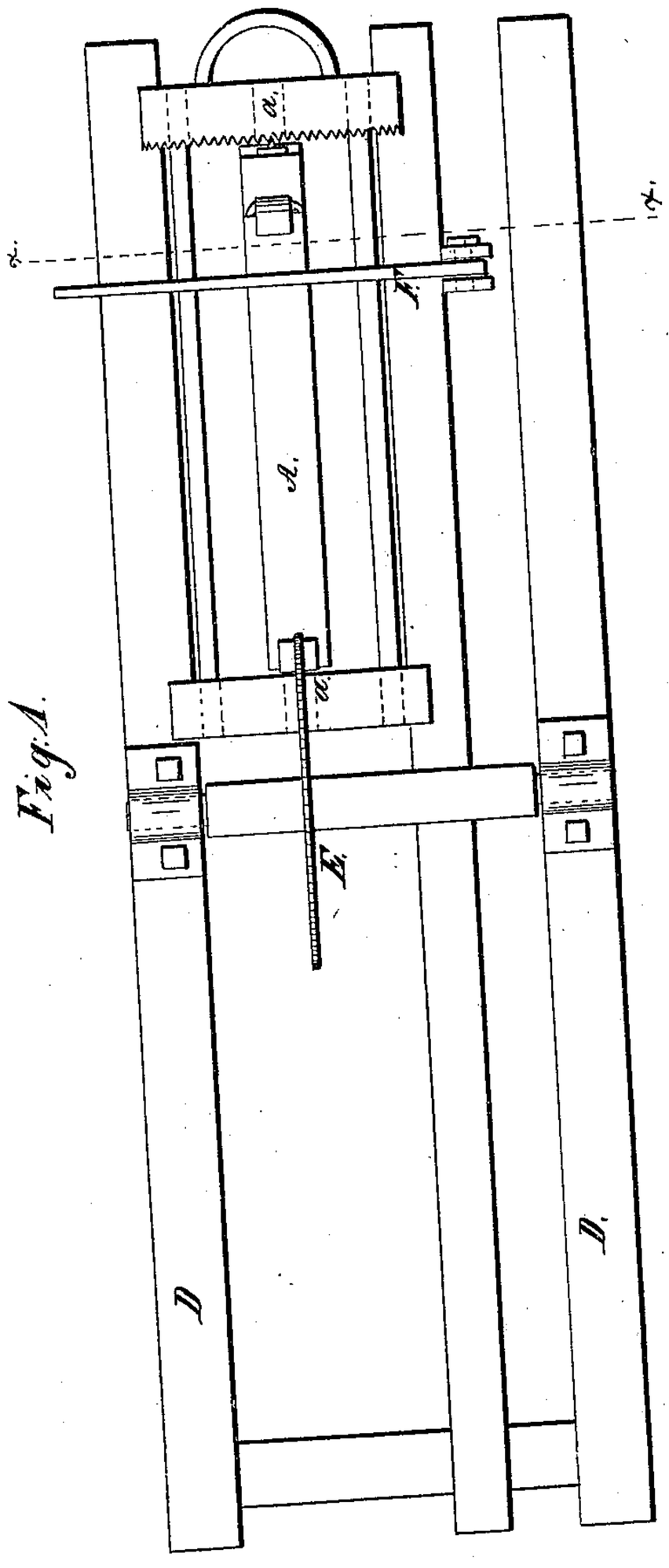


Fig. 3.

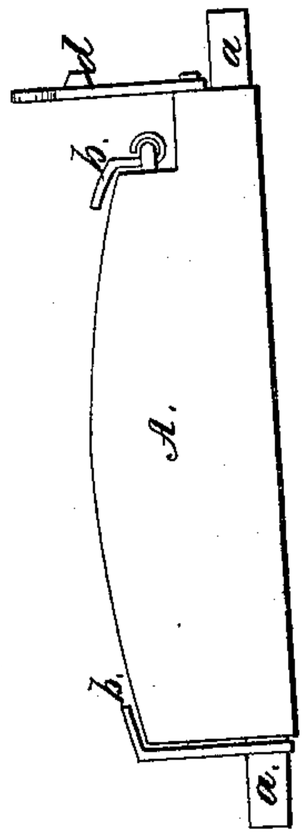
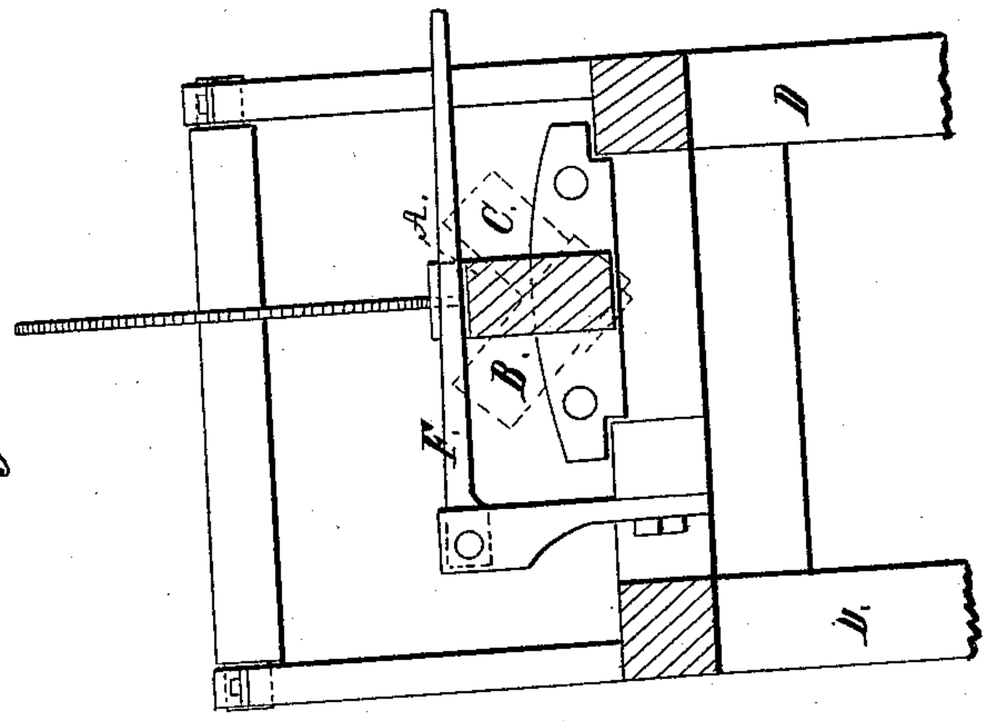


Fig. 2.



UNITED STATES PATENT OFFICE.

JAMES W. TREADWAY, OF CROWN POINT, NEW YORK.

STAVE-JOINTER.

Specification of Letters Patent No. 12,221, dated January 9, 1855.

To all whom it may concern:

Be it known that I, JAMES WILLSON TREADWAY, of Crown Point and Essex county and State of New York, have invented certain new and useful Improvements in Machines for Joining Staves; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification.

Figure 1 is a perspective view of the machine with the bed plate ready to receive the stave preparatory to jointing. Fig. 2, is a cross section of the machine passing through a line X—X of Fig. 1, showing the end of the bed plate in the different positions while jointing. Fig. 3, is a detached side view of the bed plate.

A represents the bed plate in each of the figures in a position to receive the stave in order for jointing; *a a*, the pivots on which it revolves; B, the head block; C, the serrated holdfast for holding the bed-plate in its different positions.

D is the frame; E, the saw; F, the lever for binding the stave to the bed plate.

The letters B, C, in Fig. 2 between the red lines show the bed-plate as it changes its position in jointing both sides of the stave, without reviewing and changing the stave in its position on the bed-plate.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction, and operation.

Upon a carriage passing backward and forward, under any common circular saw, I place a piece which I shall denominate the bed, or bed-piece A. It is fastened to the carriage by means of two pins, or pivots, *a*, *a*, one at each end, and upon which it freely revolves. The stave is placed on the bed, and fastened closely to it, by the clamps *b*, *b*, during the operation of jointing.

The size of the bed depends upon the size of the stave to be jointed. It is made circular in form on the upper side, or, that side which is more directly under the saw during the time of sawing, and the distance from the center, or axis of the pivots to the upper side of this bed-piece must at the ends, always be equal to the semidiameter of the head of a cask of the size, and shape of one for which the stave is intended; and in the middle of the bed-piece, or half way from the end, the distance from the line of direction of the axis of the pivots to the upper side, must be equal to half the bung diameter of the cask, and so on for any other given part in the length of the stave. For example: If the length of the head of the cask be twenty inches, the bung diameter twenty-four, and the length of a stave be thirty inches; then the length of the bed-piece must be about thirty inches; and the distance from the axis of the pivot, to the upper side of it at the ends exactly ten inches; and the distance from the line of the axis in the middle to the upper side exactly twelve inches, and so on in the same ratio at any other given part. Hence the shape of the upper side of the bed-piece as to its convexity must be similar to that of a stave in a cask.

In jointing, the centers or axis of the pivots are always kept, directly under the blade of the saw, and as the bed-piece moves on its pivots the edge of the stave of any width can be brought in contact with it, and hence it follows that the saw must cut directly toward the line of direction of the axis of the pivots; and it also follows, from what I have previously described, that this line must be equal to a line which shall be the center of a cask, from end to end, for which the stave is intended. The bed-piece is, when adjusted kept in its place by the spring *c*, and catch *d*.

It will be evident that the joint must fit perfectly when we reflect that the line of the level on the edge of the stave if it were continued to the line toward which the saw was cutting, viz, the line of the axis of the pivots, will be equal to a radius, from the line of the center of the cask to the circumference, at any given part. The staves are wider in the middle, than they are at the ends, because in the middle the saw is cutting toward the center of a circle, the periphery of which is greater than it is at the ends, as seen at B, and C in red lines, Fig. 2.

I have tried the staves, and they answer well, making casks which are perfectly tight; the rough surface caused by the action of the saw, being beneficial rather than injurious.

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

I do not claim the curved bed plate upon which the stave is bent, and held by clamps, except in combination with suitable devices to allow it to rotate partially about a fixed axis, for the purpose of giving any degree of bevel to the joints; and for jointing both sides of the stave without its change of position on the bed plate as fully specified, and all of which I claim.

JAMES WILLSON TREADWAY.

Signed in the presence of—
GEORGE BROWN,
L. L. DOOLITTLE.