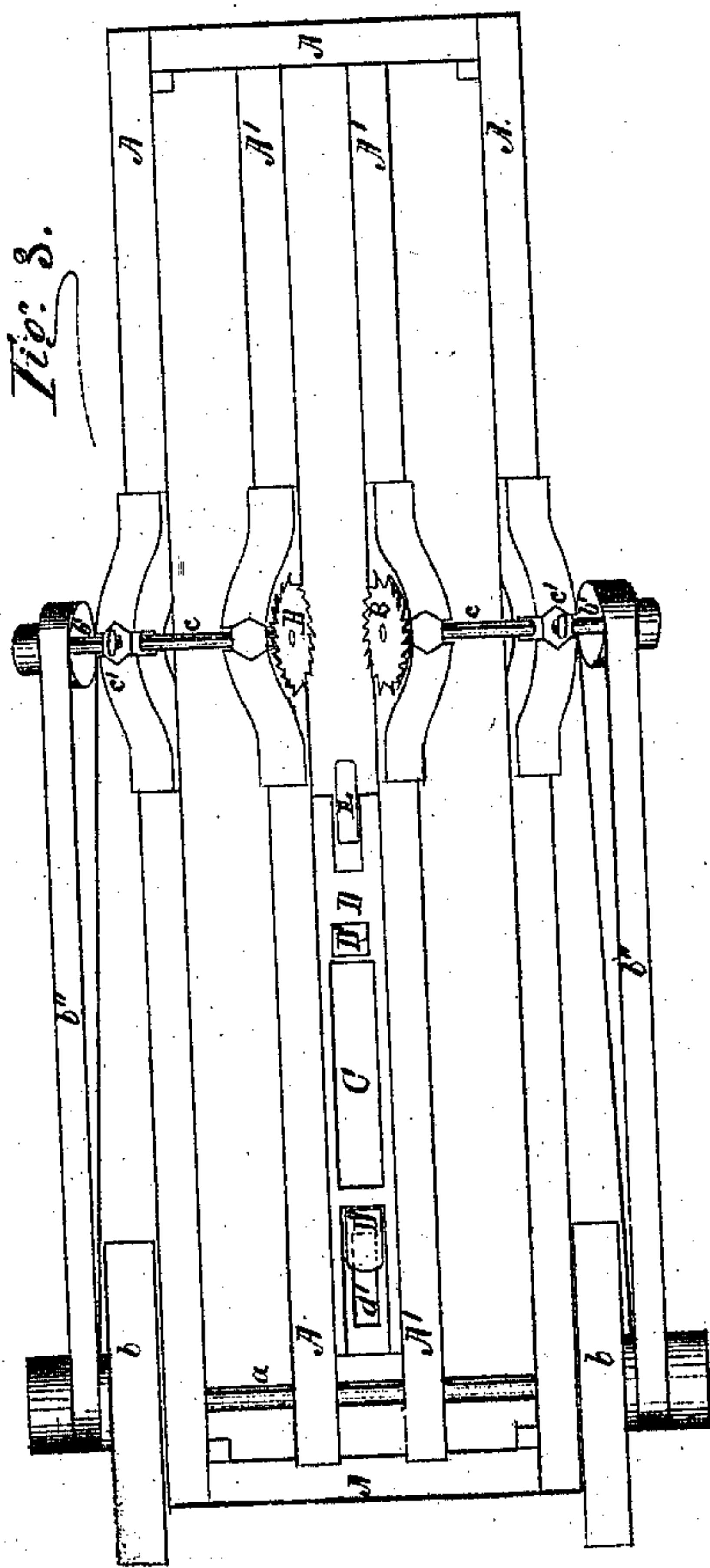
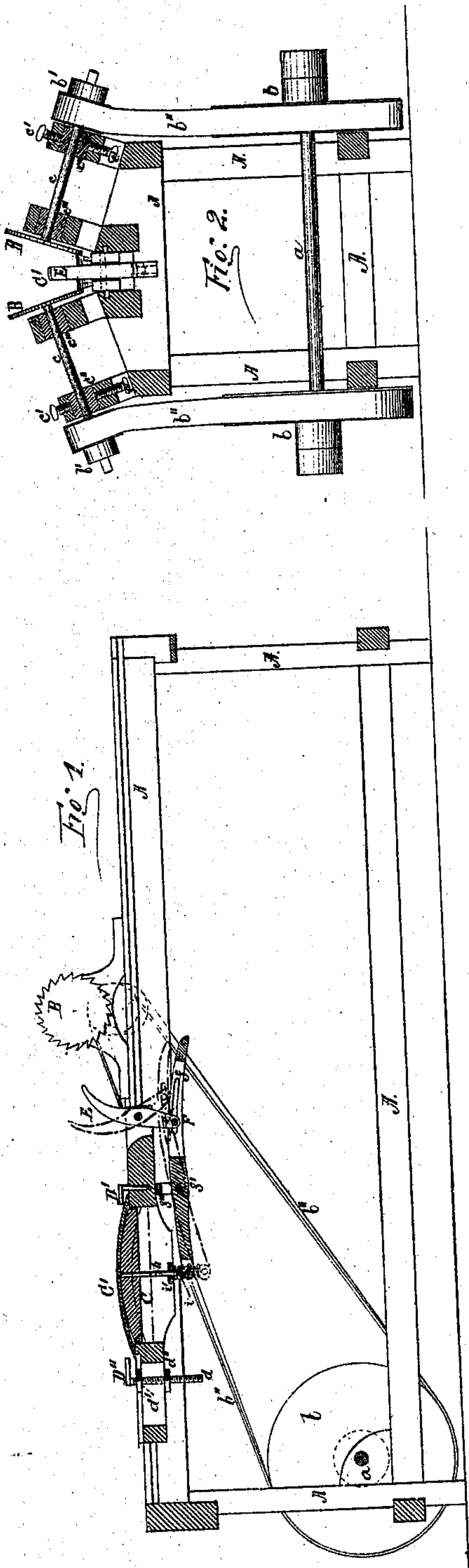


A. Cutter,
Stave Joiner.
No. 103151. *Patented May 17. 1870.*



Witnesses:
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United States Patent Office.

AMOS CUTTER, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 103,151, dated May 17, 1870.

IMPROVEMENT IN STAVE-JOINTING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, AMOS CUTTER, of Boston, in the county of Suffolk, in the State of Massachusetts, have invented a new and useful Improvement in Machines for Jointing the Edges of Staves for Casks; and I do hereby declare the following to be a full and exact description thereof.

In the drawings—

Figure 1 is a longitudinal sectional view of the machine;

Figure 2 is an upright transverse sectional view; and

Figure 3 is a top plan view of the same.

The object of this invention is to provide a machine in which a stave can be clamped, bent to such a curve as it is to have when in the cask, and joint its edges while in such clamp; and

It consists in the construction of the clamp that forces the stave into the curved shape and holds it in such position while being jointed on its edges by jointing-saws.

A A represent the frame of the machine.

A' A' are two longitudinal plates, between which the clamping carriage D slides.

a is a horizontal shaft, placed transversely across the machine, and from which motion is communicated to the jointing-saws B B from belts, b', that pass over pulleys, b, and around pulleys b', on the inclined saw-shafts c c.

These inclined saw-shafts revolve in boxes c'' and c'''.

The boxes c''' are constructed in such manner as to allow the outer ends of shafts c to be adjusted to different heights, and so that the saws B B will assume different angles from a perpendicular line, by means of the temper-screws c', placed above and below the outer sliding boxes of shafts c c.

The jointing-saws B B are made fast to and revolve with the inclined shafts c c, in bearings upon frame A and longitudinal plates A' A', which are placed upon each side of the center of the width of the frame, and so constructed as that the clamping-carriage D will freely slide between them longitudinally, and underneath the jointing-saws B B.

O represents the presser former.

D' and D'', the holding-dogs, that hold the ends of stave C' at either end.

D'' is made to slide and be adjusted in the carriage D, so that different lengths of staves can be held in

the same carriage, by means of the screw-shank d slid in a slot or mortise, d', and, when adjusted to the proper place, the nut d'' is turned up against the under side of carriage D, which holds it fast in position.

E is a hand-lever, pivoted centrally to carriage D, (the upper end raises above the carriage, and the lower extending below,) which is slotted at its end, and has a pin, e, passing transversely through it, the slotted part embracing the two sides of a pivoted curved lever, F, which has a long slot, f, in the curved part and near its outer end, to admit pin e to freely slide therein.

Lever F is pivoted, at f', to a stud, f'', on the under side of carriage D, and its forward end to rod h, which is firmly attached to the presser former O.

This presser former acts upon the under side of the stave C', when held by the dogs D' D'', to force the middle of the stave upward to the curvature it is to have when in the cask or barrel, by means of the pulling of the upper end of the pivoted hand-lever toward the operator, which will cause the lower end to act, through curved lever F and rod h, by the pin e sliding in the curved slot f, and causing lever F to raise the presser former against the stave. The upper side of the presser former being convex in form, forces the stave into the curved shape seen in fig. 1, and, while in this condition, the carriage D, with the stave, is pushed forward between the jointing-saws, which joint the stave to the proper width at all parts of its length, and to the true bevel on its edges, when the carriage is immediately reciprocated back again, the hand-lever E pushed forward, and the presser-former O is retracted by means of the spiral spring i around rod h and between the lever F and plate i', on the under side of carriage D, and the jointed stave can be taken from under the holding-dogs, and another one be placed therein and clamped, to go through the same operation.

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

The combination of the pivoted hand-lever E, slotted curved fulcrum-lever F, rod h, having spiral spring i, and presser-former O, with the holding-dogs D' D'' and carriage D, all constructed to operate in the manner described.

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Witnesses:

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