

(No Model.)

2 Sheets—Sheet 1.

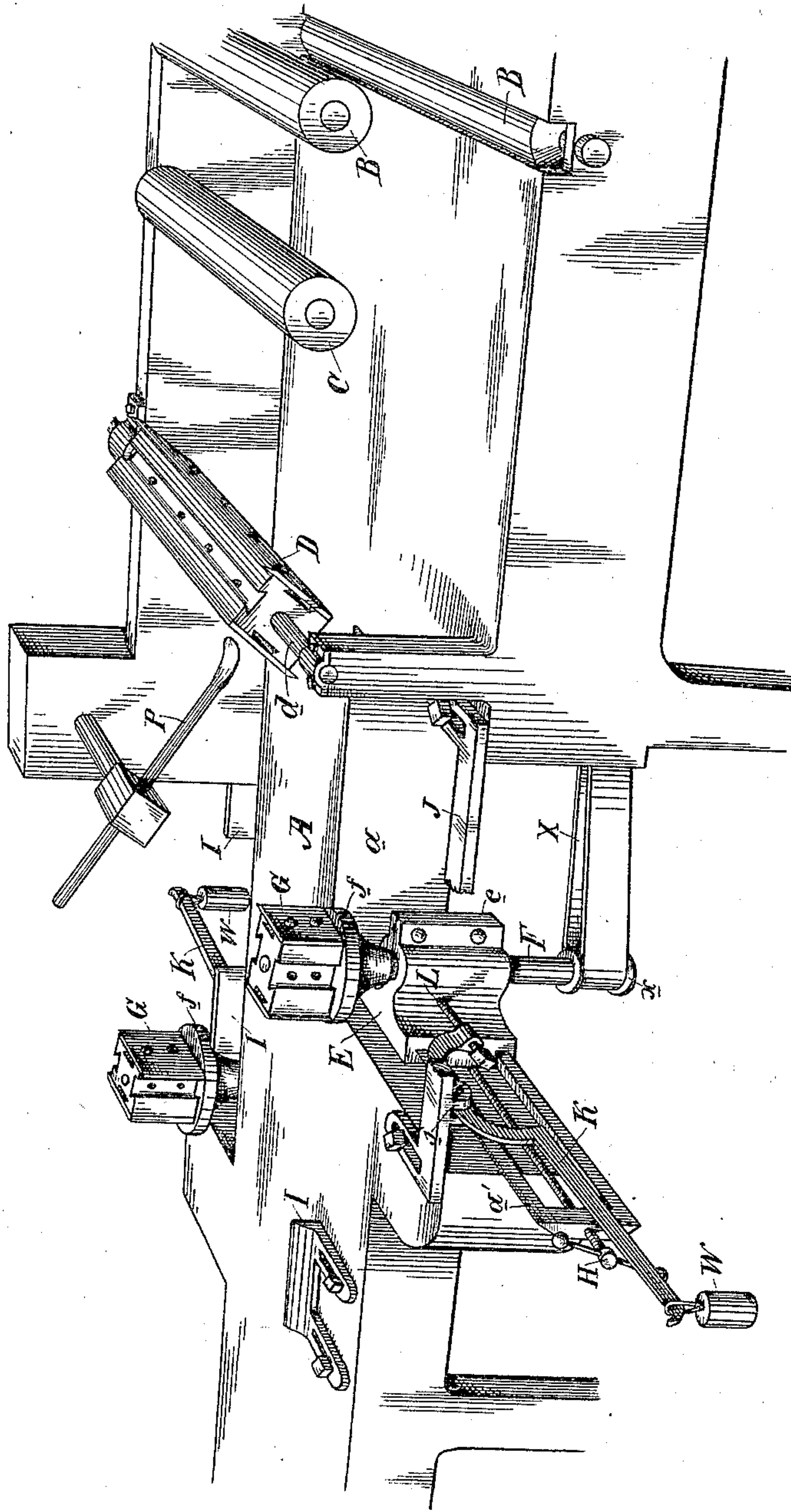
A. M. JEWELL.

STAVE JOINTING ATTACHMENT FOR MOLDING MACHINES.

No. 335,756.

Patented Feb. 9, 1886.

Fig. 1.



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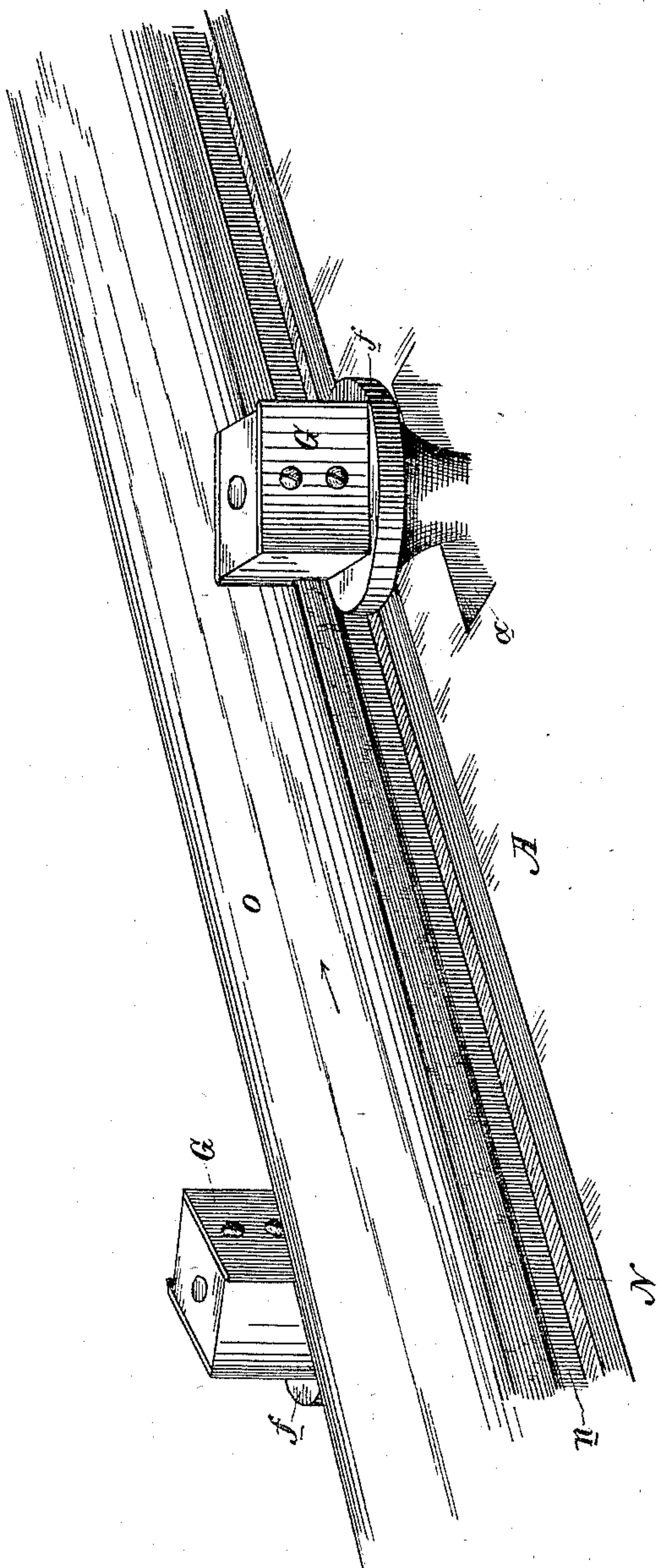
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

AMMI MITCHEL JEWELL, OF SAN FRANCISCO, CALIFORNIA.

STAVE-JOINTING ATTACHMENT FOR MOLDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 335,756, dated February 9, 1886.

Application filed August 24, 1885. Serial No. 175,246. (No model.)

To all whom it may concern:

Be it known that I, AMMI M. JEWELL, of the city and county of San Francisco, State of California, have invented an Improvement in Stave-Jointing Attachments for Molding-Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of wood-working machines, and particularly to a new and useful attachment to a molding-machine, whereby said machine can be used for the purpose of jointing staves.

My invention consists in a pressure mechanism acting constantly against the rectilinearly-moving cutter-head arbor and adapted to hold the guiding-disk of the cutter-head to a positive engagement or contact with the pattern, whereby said head is caused to form or joint the stave, as I shall hereinafter fully describe.

The object of my invention is to adapt by simple and effective means a molding-machine for the purpose of making or jointing staves.

Referring to the accompanying drawings, Figure 1 is a perspective view of a molding-machine, showing my attachment. Fig. 2 is perspective view showing the form, the pattern thereon, and the piece or stave to be made or jointed on the pattern.

The machine which is herein illustrated is what is known as a "four-sided molding-machine," which is to say that it has four cutter-heads—one on each side, one on top, and one below, though I have omitted the one below in the drawings.

A is the bench, on which, near one end, are the feed-rolls B.

C is a guide-roll, the lower edge of which is in the same horizontal plane with the lower edge of the upper feed-roll B.

D is a horizontal or upper cutter-head, of the usual form, and mounted on an arbor, *d*.

In the side of the bench is a recess, *a*, on the inner surface of one wall of which is fixed a dovetailed or beveled track or guide, *a'*. On this guide is fitted a correspondingly-beveled carriage, E, which has a box, *e*, in which is journaled the vertical arbor F, to which power is applied through pulley *x* and belt X. On the top of this arbor is a guide-disk, *f*, on which is the cutter-head G. This cutter-head

is adapted to be adjusted in a straight line forward and back by means of the adjusting-screw H, threaded in the guide *a'* and engaging with its inner end the carriage E. On the other side of the bench is another cutter-head mounted on a friction-disk on a vertical arbor, which is mounted and adapted to slide forward and back in a straight line, in the same manner as the cutter-head first described. Upon the surface of the bench are guides I for directing the form, which is fed by the rolls and travels between the vertical cutter-heads. When the machine is used for making moldings, the cutter-heads G are set to their proper positions by means of the screws H. This operation is of course performed by hand, and the various adjustments of the cutter-heads are made as required by the work to be done.

It will readily be perceived that in order to adapt this machine for the purpose of making or jointing staves the cutter-heads must be continuously, positively, and automatically held to their work, in order to form or follow the contour of the stave. This could not be done by the screws H, as their action is simple and not continuous. The following are the means I employ to effect the result: Secured on a side bar, J, of the bench is a lug or bearing, *j*, in which is pivoted on a bent or curved lever, K, the long arm of which carries a weight, W, and the short arm receives a screw, L, the inner end of which bears against the box *e*, which carries the arbor F. When this lever is used, the screw H is released from its engagement with the carriage E, so that said carriage will be free to be actuated by the lever. It will be seen that the weighted lever, pressing constantly against the box *e*, holds the cutter-head positively and continuously to its work.

In Fig. 2, N is the form on which is secured a pattern, *n*, having the contour of a stave. On this pattern is laid the piece or stave O. The form is fed through the feed-rolls B, passing under the roll C and between the guides I. An arm or spring, P, bearing down on the piece or stave O, holds it to its place. The guide-disks *f* of the cutter-heads bear against the pattern *n*, and the cutter-heads form or joint the stave. The constant pressure which the weighted lever exerts holds the guide-disks

in positive engagement with the pattern, causing them to follow its contour, and thus making the cutter-heads form or joint the stave to a proper shape.

5 Although I have described the weighted lever as the means for holding the cutter-heads to a positive engagement, I do not confine myself to these means. My invention is broadly embodied in the adaptation of the rectilinear-
10 ly-adjustable cutter-head arbors of a molding-machine, to a constant and positive adjustment by reason of a continuous pressure upon them, and this may be effected by a spring or othersuch device, though I prefer the weighted
15 lever, as described.

I am aware that it is not new, broadly, to hold swinging or pivoted cutter-heads of a stave-jointing machine to a positive and continuous engagement by making them follow
20 the contour of pattern-guides, and I do not claim such as my invention, confining myself particularly to the convenient attachment by which a molding-machine, the cutter-head arbors of which move in straight lines, is adapted
25 to serve as a stave-jointing machine.

I am aware it is not broadly new to construct a machine for jointing staves with a chain-feed bed having pattern-forms secured thereon, and upon which the stave is placed,
30 and a pair of revolving cutters, one upon each side of the chain-bed, and mounted upon horizontal shafts arranged to revolve in bearings

upon sliding frames, said frames being made to bear against the forms on the chain-feed by a lever and weight, and such construction I
35 therefore do not claim as my invention.

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

1. The arbor F, having guide-disks *f* and
40 cutter-head G, and the rectilinearly-adjustable carriage E, having a box, *e*, in which the arbor is journaled, in combination with the pivoted lever K, having a weight, W, on its
45 long arm, and its short arm adapted to bear against the box *e*, whereby the cutter-head is held to a positive and continuous engagement with its work, substantially as and for the purpose herein described.

2. The arbor F of a molding-machine, having guide-disk *f* and cutter-head G, and the
50 rectilinearly-adjustable carriage E, having box *e*, in which the arbor is mounted, in combination with the pivoted bent or curved lever K, having the weight W on its long arm,
55 and the regulating-screw L through its short arm, bearing against the box *e* of the arbor, substantially as herein described.

In witness whereof I have hereunto set my hand.

AMMI MITCHEL JEWELL.

Witnesses:

S. H. NOURSE,
H. C. LEE.