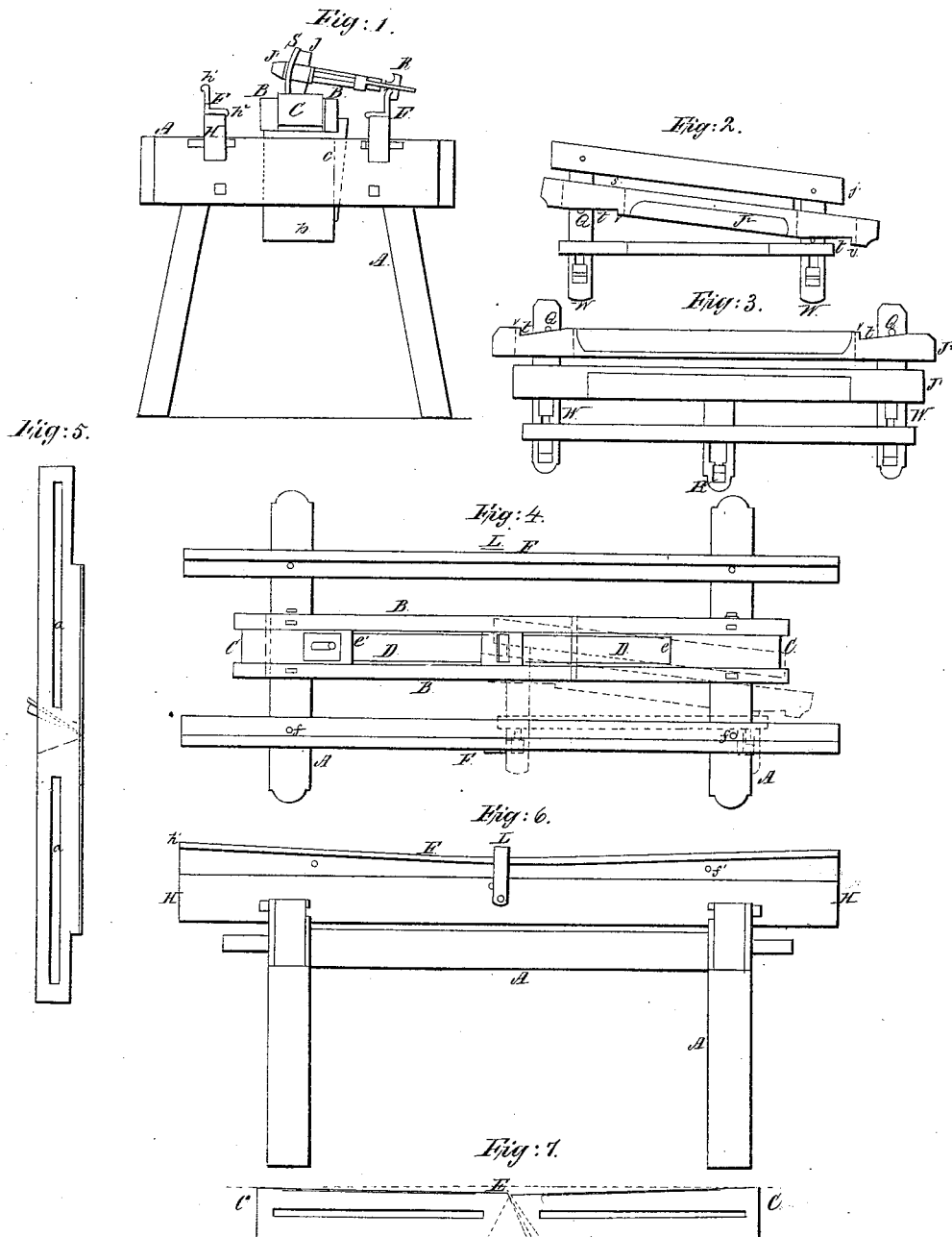


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MACHINE FOR JOINTING STAVES.

No. 6,948.

Patented Dec. 11, 1847.



UNITED STATES PATENT OFFICE.

DAVID VAUGHAN, OF REMSEN, NEW YORK.

MACHINERY FOR JOINTING STAVES.

Specification of Letters Patent No. 6,948, dated December 11, 1849.

To all whom it may concern:

Be it known that I, DAVID VAUGHAN, of Remsen, in the county of Oneida and State of New York, have invented certain new and
5 useful Improvements on Machinery for Jointing Staves for Hogsheads, Casks, Tubs, &c.; and I hereby do 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
10 specification, in which—

Figure 1, is an end view; Fig. 2, a top view of clamp for bevels, Fig. 3, top view of clamp for straight edge staves, Fig. 4, a
15 top view of the guide rails and jointer, Fig. 5, a side view of the jointer for straight edged staves, placed vertically, Fig. 6, a longitudinal view of the frame and guide rail. The same letters indicate like parts on all
20 the figures. Fig. 7 is a plane stock for winding staves.

The nature of my invention consists in providing a shaving cutter on a slide, which has a depression at the middle where the
25 shaving tool is secured, to shave the one half of the taper on the edge of the stave from the bilge to the end, by the shaving tool cutting in one direction, and to shave the other taper from the bilge to the end of the stave
30 in the opposite direction.

My invention furthermore consists in providing side guide rails with a depression in the middle of them to correspond with the
35 depression in the middle of the jointer slide, and this depression and the side rails to be employed in combination with the slide and clamps, or a clamp to guide the stave to the action of the shaving knife, to shave the
40 edge of the staves at an angle, to produce any edge taper on the stave for casks, or barrels of different diameter.

My invention further consists in providing a clamp with a movable jaw J, to secure the stave between it and the stationary jaw
45 J¹, the said jaw being opened and closed by pushing it backward and forward against the side pressure of stationary pins, to exert a great power to retain crooked staves and an easy plan to take out and put in the
50 stave.

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

I make a stout frame of the most desirable form with upright and cross pieces A, A,
55 B, B, are the cheeks of the jointer or shaving

tool slide. These cheeks are longitudinal pieces of timber secured on movable rests, *b, b¹*. These movable rests are capable of being raised up and down by being
60 secured or allowed to move through slots (*c c*) cut in the transverse timbers at the ends of the frame A, as indicated by the dotted lines Fig. 1. This view shows how the cheeks of the plane stock repose on the
65 rests, and how the rest is secured by a wedge in the slot (*c*). This rest might be formed with a cross piece or bolster for the cheeks to rest on, and attached below to strong set screws moving in holes for that purpose in
70 the cross timber A, to raise and lower the cheeks B B, as may be desired, and there may be a graduated scale to indicate the height to which the said cheeks may be elevated, or vice versa. C, C, is the plane
75 stock. It is placed between the cheeks B, B, and it may be made to slide between them, by forming it like Fig. 5, (*a a*) being slots to slide on guide bars, or rollers extended through the slots, or it may be made to run
80 and be guided in a groove on the inner sides of the cheeks. D, D, are metal plates extending nearly from the middle of the plane stock, with a gradual elevation to the
85 outer ends (*e e*). E is the shaving knife. It is secured in the stock like the common plane iron, and projects above the face of the stock. It is placed to shave as represented in Fig. 4.

By this arrangement of the plane and construction of the stock, the knife E, will shave
90 a stave that may be drawn against it from the bilge, and by turning the said stave around and drawing it against the knife in the other direction (opposite) the taper will
95 be cut on the edge of the stave from the middle or bilge to the ends. The stave is placed in a clamp constructed to run upon side guide rails on the frame, to guide the
100 stave to the action of the knife, for the purpose of cutting the bevel or feather on the edge of the stave, which is more fully described as follows: F, F, are side guide rails. They are secured by screws to the longitudinal
105 sleepers H H; (*f f*) are the screws. These guide rails are made of metal with two beads or heads *h¹ h²* on them. The one *h¹* has a depression in the middle as seen in Fig. 6. The other *h²* is straight. The former is the guide rail for bilge staves, the latter
110 (*h²*) for straight staves. The said rails can be changed in position, to allow the straight

bead h^2 to be placed in the position of h^1 and vice versa, by the screws by which they are secured to the sleepers.

In conjunction with the tool or plane stock and the guide rails, I employ a clamp to hold the stave firmly to the shaving action of the knife, and to be guided on the guide rails, correctly to the action of the knife, to shave the desired feather on the edge of the stave. Figs. 2 and 3 are top views of the clamp. They are both constructed on the same principle, only Fig. 2, represents the clamp as made to retain the crooked staves and Fig. 3, to hold straight staves. J^1 J^2 are jaws of the clamp. J^1 is a stationary jaw; J^2 is a movable jaw. The jaw J^2 has slots in it indicated by the dotted lines. $W W$ are transverse bars which pass through these slots, and allow the said jaw J^2 to move backward and forward; $t t$, are two inclinations on the jaw J^2 which terminate in notches $V V$. $Q Q$, are two fixed pins passing through the bars $W W$ and against these pins the inclines $t t$, press, in a greater degree, if the jaw J^2 be pushed to the right, the inclines acting thus as wedges against the pins Q , squeezing the stave S (as represented in Fig. 2) between the jaws. To release the stave the jaw J^2 Fig. 2, has just to be pushed to the left. $R R$, are two concave metal runners (secured in any of the known ways in the clamp), of the form represented in Fig. 1, which also represents the manner of application of the clamp. The runners are formed with both sides alike, to embrace and slide on the rail on both sides to allow the clamp to be used alike on both sides. By the runners of the clamp embracing the rail, the stave in the clamp is guided to be drawn correctly against the knife E , to shave the correct bevel or feather on the edge of the stave, while the taper is forming during the same time from the bilge to the ends of the stave, when the bead h^1 with the depression in its middle is employed. Any degree of bevel or feather may be made on the edge of the stave, according as the plane stock is

placed above the rail, as the clamp will guide the stave against the knife, on the angle described by a line drawn from the face of the plane stock to the face of the bead of the rail.

If the tool stock were made to slide, the clamp with the stave would have to be held firmly against the bar L . The depressed bead of the rail is only for winding-edged staves, as has been stated. The straight bead is for straight staves. The clamp is set against the movable brace M and drawn from it against the knife E until the exact taper and bevel is made. For light staves this is a most convenient and excellent mode of jointing.

This invention is very simple and makes excellent work. One knife for jointing staves is far better for that purpose than two. The facility with which the staves can be jointed for any diameter of casks and the correct method of shaving the taper from the bilge, and the facility with which the staves can be put in and taken out of the clamp renders this invention very valuable to the art, as a great and important improvement.

Having thus explained my invention I claim—

The plane stock of the jointer formed with a depression in the middle for the purpose of guiding the shaving plane E to shave the exact taper on the stave from the bilge on the middle to the end of the stave in the manner herein described in combination with the mode of producing a traverse taper or feather of any angle on the edge of the stave according to the diameter of the cask or barrels by the stave being held to the action of the shaving knife E by the combination of the plane stock C and the clamp with the guide rail $F F$ in the manner herein represented and described.

DAVID VAUGHAN.

Witnesses:

O. I. OWEN,

G. A. YEAMANN.