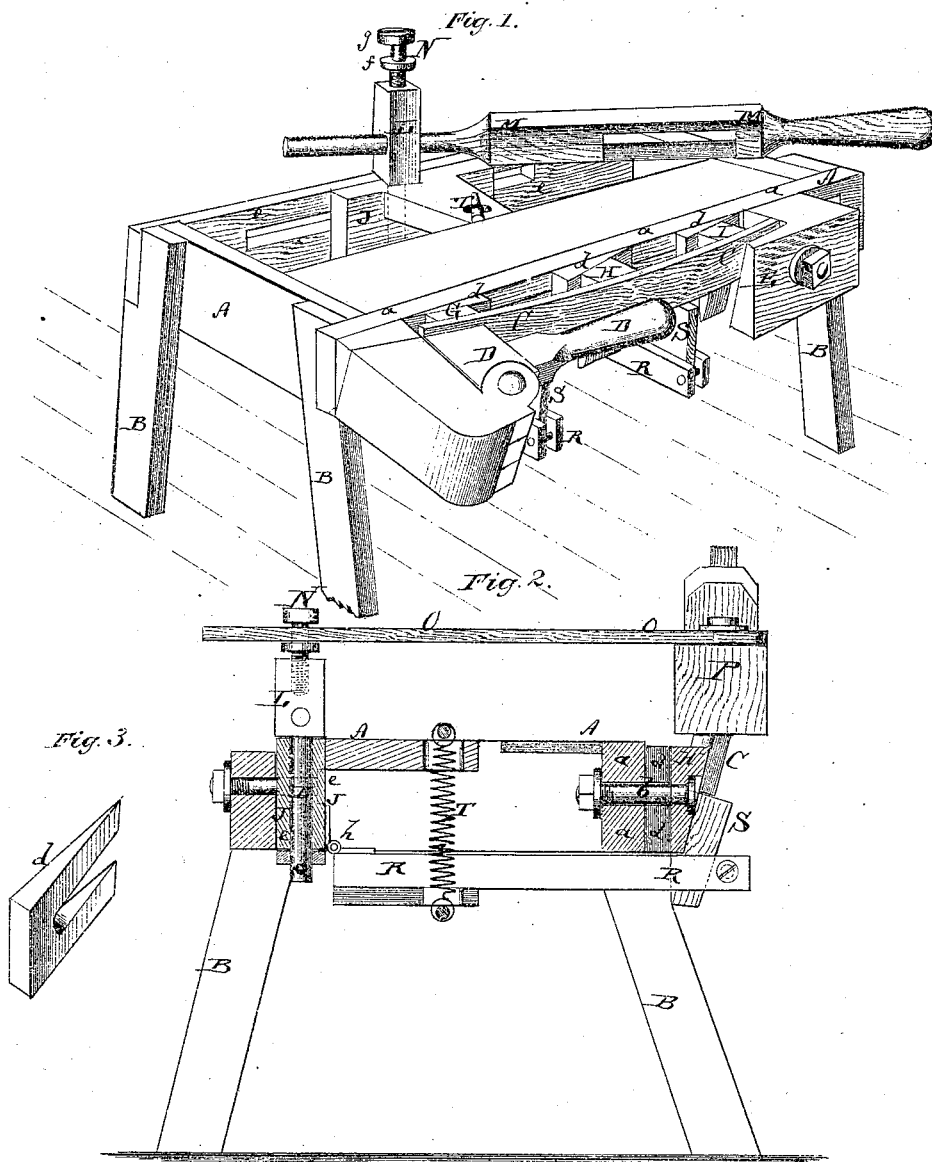


*J. F. Sayer,*  
*Stave Joiner.*  
*No. 106,874. Patented Aug 30, 1890.*



Witnesses:  
*Gustave L. Litch*  
*S. J. Maher*

Inventor:  
*J. F. Sayer*  
 PER *Mmm*  
 Attorneys.

# United States Patent Office.

JAMES F. SAYER, OF MACOMB, NEW YORK.

Letters Patent No. 106,874, dated August 30, 1870.

## IMPROVEMENT IN STAVE-JOINTER.

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

### To all whom it may concern:

Be it known that I, JAMES F. SAYER, of Macomb, in the county of St. Lawrence and State of New York, have invented a new and improved Stave-Jointer; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a perspective view of my improved stave-jointer.

Figure 2 is a vertical transverse section of the same.

Figure 3 is a detail perspective view of a slotted wedge, which is used for holding the stave.

Similar letters of reference indicate corresponding parts.

This invention relates to certain improvements of the stave-jointer for which Letters Patent of the United States, numbered 57,387, 61,688, and 85,859, were respectively granted to me on the 21st day of August, 1866, 29th day of January, 1867, and 12th day of January, 1869.

The chief object of my present invention is to make the machine adjustable for holding and jointing all sizes and kinds of staves, such as are used for barrels, as well as such without a bilge, which are used for straight-sided, cylindrical or conical tubs.

Another object of this invention is to make the swinging knife and plane-stock adjustable in every direction, to correspond with every kind of stave to be jointed.

The table A of my improved jointer is supported on legs B B, so as to be independent of other supports.

The stave is clamped by means of a pivoted clamp-head, D, at one end, and held at the other end by a notched or L-shaped block, E, in the manner substantially as described in my aforesaid Letters Patent number 85,859.

The face plank *a* of the table A has a longitudinal slot to receive the adjustable bed-pieces, so as to do away with the segmental bed-pieces shown in my former Letters Patent, and which had to be renewed for every new style of stave.

At present my bed-pieces are made in form of curved blocks G, H, and I, which are, by means of bolts *b b*, secured to the face-plate *a*, the said bolt passing through the slot of the plate *a*, so as to be longitudinally adjustable therein.

Between each of the blocks G H I and the face-plate *a* is interposed a wedge, *d*, slotted or forked to

straddle the bolt *b*, and thereby also longitudinally adjustable on the said bolt.

By means of the wedges *d* the blocks can be set in or out at will, for the purpose of thereby setting the bed-pieces in or out at will. Thus, by setting the middle block H further out, the bilge will be increased; and by setting the blocks G I nearer to H, the curve will be enlarged.

For straight staves the block H is removed altogether, and the others are adjusted for cylindrical or conical tubs.

By means of the wedges *d*, the bed-pieces can also be uniformly adjusted for staves of suitable thickness.

The rear timber *e* of the table A is slotted, to receive a longitudinally-adjustable block, J, which carries a swiveled vertical post, L.

The shank or stock M of the knife is fitted with its rounded end through an aperture of the post L, and can turn on and with the same, so that it will thereby be enabled to swing as heretofore, and to be moved in and out.

This gives the knife the requisite back and forward motion, to enable it to be adjusted to different bilges or thicknesses.

From the swivel-pin projects a vertical screw, N, which has a shoulder, *f*, and head, *g*.

The neck of the screw between *f* and *g* serves to hold the slotted shank or stock O of the plane P.

By means of the screw the plane-stock can be raised or lowered at the back end, for adjusting the plane to cut any suitable bevel, besides allowing the use of larger or smaller planes.

To the front of the block J is, by means of butts H, hinged a frame, R, which carries at its front end two or more vertically-adjustable blocks or bearing-pieces, S S. The same serve to lightly support the stave, and should be adjustable for all shapes and sizes of staves.

For straight-edged staves; the blocks S must stand at different heights, as conical tubs have wedge-shaped staves.

It will be seen that, by having the frame R, as well as the post L, arranged on the frame J, the knife and plane will always be opposite the middle of the stave, and swung on a true curve.

A spring, T, serves to swing the frame R up, and to hold the pieces S against the lower edge of the stave with a suitable degree of pressure.

The block E is also longitudinally adjustable in the slot of the plate *a*, for the purpose of being fitted to longer or shorter staves.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. The combination, with pivoted clamp-head D and block E, of the longitudinally-slotted plank a, curved blocks G H I, and slotted wedges d, all constructed, arranged, and applied in the manner described.

2. The slotted timber e, movable block J, and

swiveled stock L, combined with a knife, M, to adjust it in the manner described.

3. The combination of spring T and frame R with vertically-adjustable blocks S, as and for the purpose specified.

Witnesses:

JAMES F. SAYER.

FORTUNATUS SAYER,  
ROBERT SPARKS.