

CYRUS J. HALL.

Improvement in Machines for Jointing Staves.

No. 123,693.

Patented Feb. 13, 1872.

Fig 1.

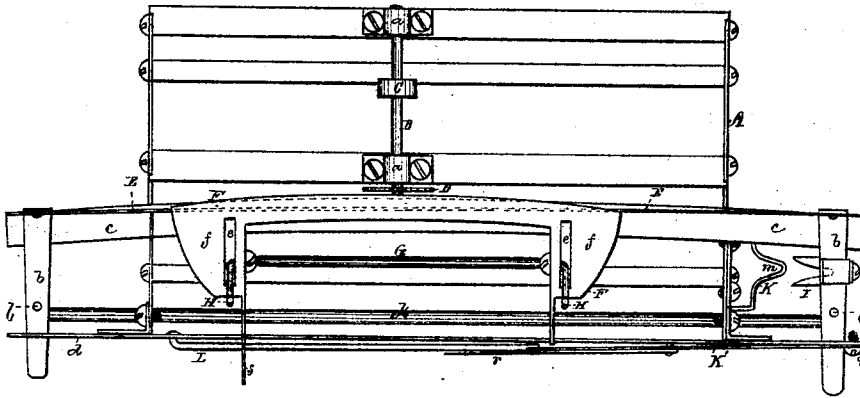


Fig. 2.

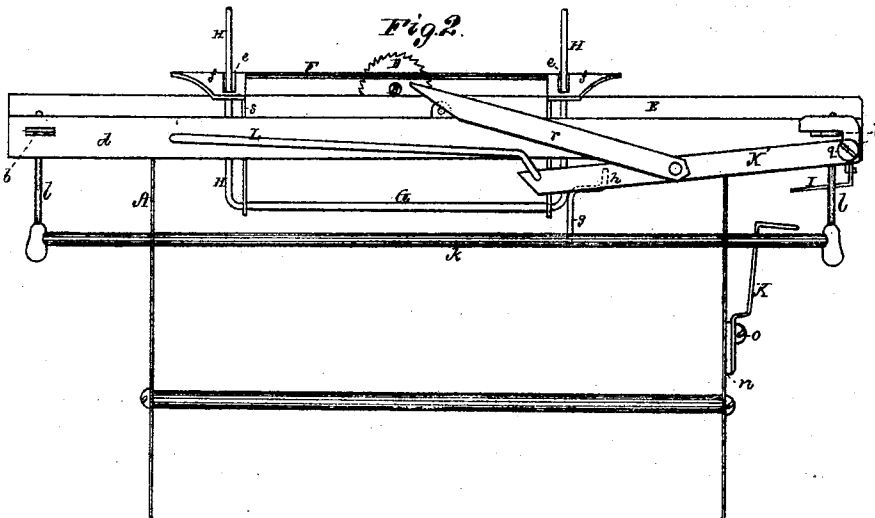
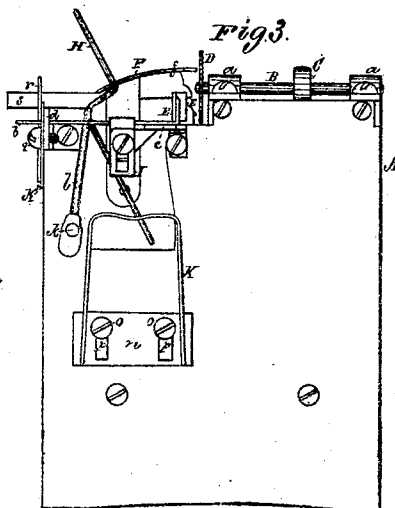


Fig. 3.



Witnesses.

S. K. Piper

L. W. Möller.

Cyrus J. Hall.

by his attorney.

RH Enady

UNITED STATES PATENT OFFICE.

CYRUS J. HALL, OF MOUNT DESERT, MAINE.

IMPROVEMENT IN MACHINES FOR JOINTING STAVES.

Specification forming part of Letters Patent No. 123,693, dated February 13, 1872.

To all persons to whom these presents may come:

Be it known that I, CYRUS J. HALL, of Mount Desert, of the county of Hancock and State of Maine, have invented a new and useful or Improved Machine for Jointing Staves for Barrels; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view, Fig. 2 a rear-side elevation, and Fig. 3 an end view of the said machine.

The object of my invention is to change the curve of the carriage-guide of the machine as may be necessary, in order that the saw while jointing a stave may cut the correct bilge on it, whatever may be its width; the nature of the invention consisting principally in an elastic guide, immovable only at its middle, and a peculiar mechanism adapted to the carriage, the frame, and such guide, whereby the stave, while being laid and properly adjusted on the carriage, will be caused to so actuate such mechanism as to effect by it such a curving or bending of the guide as may be required, in order that the carriage, while being moved forward with the stave upon it, shall move in the curved path necessary to produce with the saw the desirable bilge of the stave.

In the drawing, A denotes the frame for supporting the principle operative parts. At the middle of such frame there is arranged a shaft, B, provided with a driving-pulley, C, and a saw, D, and supported in boxes, *a a*, all being arranged as shown. Furthermore, there is fixed at its middle, to the frame A or in a part elevated thereon, a thin flexible or elastic rail, E, having arms *b b* extended from it at right angles near its opposite ends. These arms rest on a shelf, *c*, and extend through slots made in a stationary rail, *d*, arranged as shown. A carriage, F, for supporting a stave and moving it along with respect to the saw, rests on the stationary rail *d*, and is notched to receive the elastic rail E. In the lower part of the carriage is a shaft, G, having two arms, H H, extended up from it through slots *ee*, arranged as shown in the top *f* of the said carriage. Furthermore, there projects downward from one end of the shaft a shorter arm, *g*, and from the next adjacent arm H another arm, *h*, all being as represented. A rocker-shaft, *k*, piv-

oted in the frame A, has two arms, *ll*, extended up from it through holes in the two arms *b b*, the purpose of such shaft *k* and arms *ll* being to so connect the two arms *b b* that any movement of one transversely of the machine shall create a like and simultaneous movement of the other. There is applied to one of the arms *b* a fork, I, the application being so as to enable the said fork to be varied in position vertically. A wire, K, formed with an angular recess, *m*, is fastened to and projected from a plate, *n*, held to the frame A by set-screws *o o*, going through the vertical slots *p p* of such plate, such application of the wire K to the frame A being to admit of the altitude of the recess *m* being changed, as may be desirable.

On moving backward the carriage the arms *g* and *h* will respectively enter the recess *m* and the fork I, and arrest further back movement of the carriage. Now, if there be laid upon the top of the carriage F a stave, with one edge of it resting against the arms H H, and such stave be pushed laterally against such arms, they may be moved more or less, according as the width of the stave may require to bring the stave in its due relation with the saw to be cut by it during the next advance of the carriage. Such movements of the arms H H will cause them to turn the shaft G, and, as a result, move both the arms *g h*. In consequence of the arm *g* having in the recess *m* the arm *h*, when the shaft G is so turned will be moved so as to press or move with it the fork I, and thereby move the arm *b*. As both of the arms *b b* will be moved alike and together or simultaneously, it follows that the elastic rail E will be bent or more or less curved, the degree of curvature or springing of it depending on the extent of movement of the arms H H or the width of the stave. The wider the stave the greater will be the bilge movement or deflection of the elastic rail.

A hooked lever, K', formed as shown and arranged with one of the arms *b* in manner as represented, turns upon a fulcrum, *q*, projecting from the stationary rail *d*. An arm, *r*, extended from the lever K at an acute angle with it, as shown, serves as a cam to enable the part *s* of the carriage to effect the raising of the longer arm of the clamp-lever K' when the carriage is in the act of being drawn back-

ward. A spring, L, fixed to the rail *d*, bears upon the clamp-lever so as to force the shorter arm of it hard down upon the arm *b* of the elastic rail E. The instant the carriage may be started forward the arm *b* will be clamped so as to hold the elastic guide-rail E, bent to the extent which it may have been during the act of placing a stave properly on the carriage. Whatever may be the width of the stave the guide E will be deflected or bent to the required degree to cause the carriage, while being moved forward with the stave upon it, to move in the curvilinear path necessary to cause the saw to cut the required bilge on the stave.

I make no claim to anything, combination, or arrangement of parts, shown and described, in either of the United States patents 117,920 or 118,387 granted to L. E. Palmer, as my stave-dressing machine differs materially from those shown in such patents.

I have an elastic guide, E, stationary at its middle, movable at its ends, and provided with mechanism for springing or curving it, according as the staves to be dressed may vary in their widths; each stave, while in the act of being placed and adjusted upon the carriage, causing, through the adjusting mechanism, the curvature of the elastic guide neces-

sary to insure the stave, during the advance of the carriage, to be cut with the desirable bilge.

I claim—

1. In combination with the movable carriage F and the elastic guide-rail E, supported at its middle as set forth, and provided with arms *bb*, connected so as to be simultaneously moved like distances, means, substantially as described, for effecting the necessary springing of the said rail by a stave while being placed and adjusted upon the carriage, such means consisting of the fork I, the recessed wire K, the shaft G, and the arms H *g h*, all being applied and arranged substantially in manner and to operate as specified.

2. And, in combination therewith, I claim the clamping mechanism, consisting of the hooked lever K', its arm *r*, and spring L, all being arranged as explained.

3. I also claim the combination of the fork I, the recessed wire K, the shaft G, and the arms H *g h* in their application to the carriage F, the elastic rail E, and the frame A, and for the objects or purpose as described.

CYRUS J. HALL.

Witnesses:

R. H. EDDY,
J. R. SNOW.