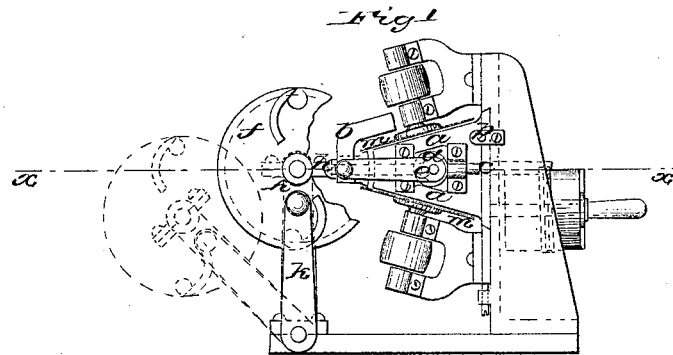
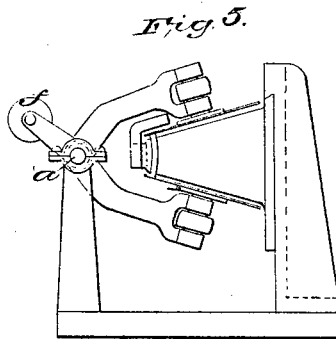
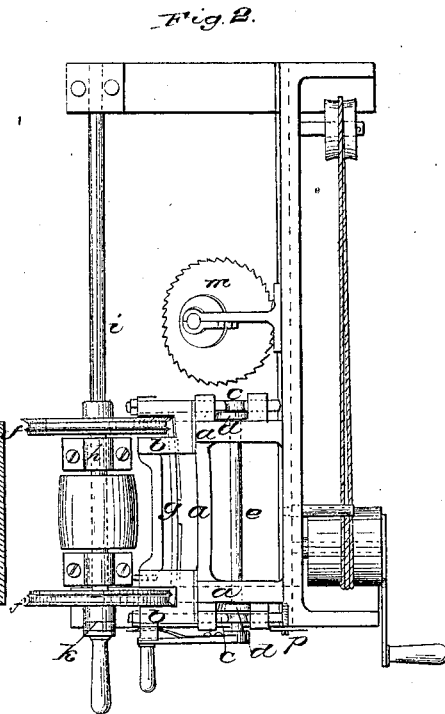
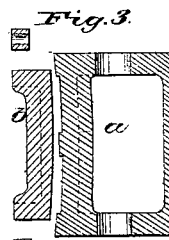
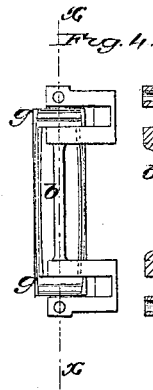
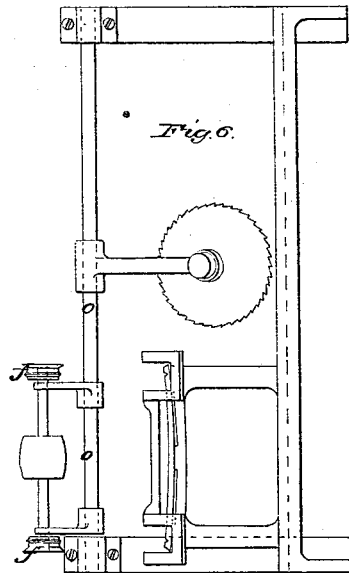


A. H. Hook,
Jointing Staves.

N^o 53,618.

Patented Apr. 3, 1866.



Witnesses:

Robt J. Macoy
Wm. H. H. H. H.

Inventor:

Albert H. Hook

UNITED STATES PATENT OFFICE.

ALBERT H. HOOK, OF NEW YORK, N. Y.

IMPROVEMENT IN STAVE-MACHINES.

Specification forming part of Letters Patent No. 53,618, dated April 3, 1866.

To all whom it may concern:

Be it known that I, ALBERT H. HOOK, of the city, county, and State of New York, have invented a new and useful Machine for Jointing and Crozing Staves; and I do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings, of which—

Figure 1 is a vertical elevation; Fig. 2, a horizontal plan view; Fig. 3, a horizontal section of the clamp detached; Fig. 4, a side view of the outer clamp part with a stave below it; Fig. 5, a front elevation of a modified arrangement of the machine; Fig. 6, a plan view of the same.

My improvement consists in arranging a sliding clamp to receive the stave and hold it in the same curved position that it will be subjected to when in the barrel. In this clamp the stave is first brought under the action of revolving cutters, which cut the crozings and finish the two ends of the staves, and then it is passed through between a pair of inclined circular saws or planers, which finish the edges of the stave and give said edges the proper bevel for jointing.

Referring to the drawings, *a* represents the lower part of a clamp, and *b* the upper one. A pair of sliding rods, *c c*, worked by two eccentrics, *d d*, on shaft *e*, operate the upper part of the clamp, which, as seen plainly in the drawings, is arranged so as to clear the rotating cutter-heads *f* for crozing when said cutter-heads are brought up for action, and also the circular saws *m*, when said clamp, with its stave *g*, is passed between them.

The crozing cutter-heads *f*, which are of the same diameter as the heads of the barrels for which the staves are intended, run in bearings attached to a pair of arms, *h*, which extend from a rock-shaft, *i*, and are operated back and forth by a lever, *k*. They are brought forward to cut the crozings and finish the ends of the stave *g*, and the depth of the cut is determined by a set-screw, *l*, attached to the clamp. When their work is done said cutter-

heads are swung back out of the way, so as to enable the operator to slide the clamp, which runs in ways through between the saws *m* or circular planers, which may be substituted for the saws. This finishes the edges of the stave *g*, and now the clamp, with its stave, is brought back, the clamp opened, the stave dropped, and a new stave inserted in the clamp.

There is a set-screw, *p*, which stops the sliding clamp in returning at the proper place, to enable the cutter-heads to operate on the stave correctly.

The feeding apparatus for said clamp may be of any desirable construction, the drawings showing a rope wound several times around a pulley, to which a handle is attached, running at the other end around a tightening-pulley, and the two ends of the rope being fastened to a pin attached to the sliding clamp.

A modification of this arrangement is illustrated in Figs. 5 and 6, which show the cutter-heads *f* swinging on a shaft, *o*, which is located in the center of the curve of the stave. In this case the cutter-heads require to be much smaller than the diameter of the barrel-head, and may be operated with more convenience. The same Figs. 5 and 6 also show the shafts of the circular saws or planers in bearings which are suspended from the same shaft *o*, the inner sides of said saws or planers *f* pointing toward the center of the shaft *o*. This arrangement enables the machine to joint staves of any width.

Having now fully described my invention, what I claim therein as new, and desire to secure by patent, is—

The clamp so constructed as to enable the jointing-tools and the howeling, crozing, and chamfering tools to perform their offices upon the stave without removing the stave from the clamp, said clamp being constructed for these purposes substantially as herein set forth.

ALBERT H. HOOK.

Witnesses:

ROBT. F. MACOY,
W. L. HENRY.