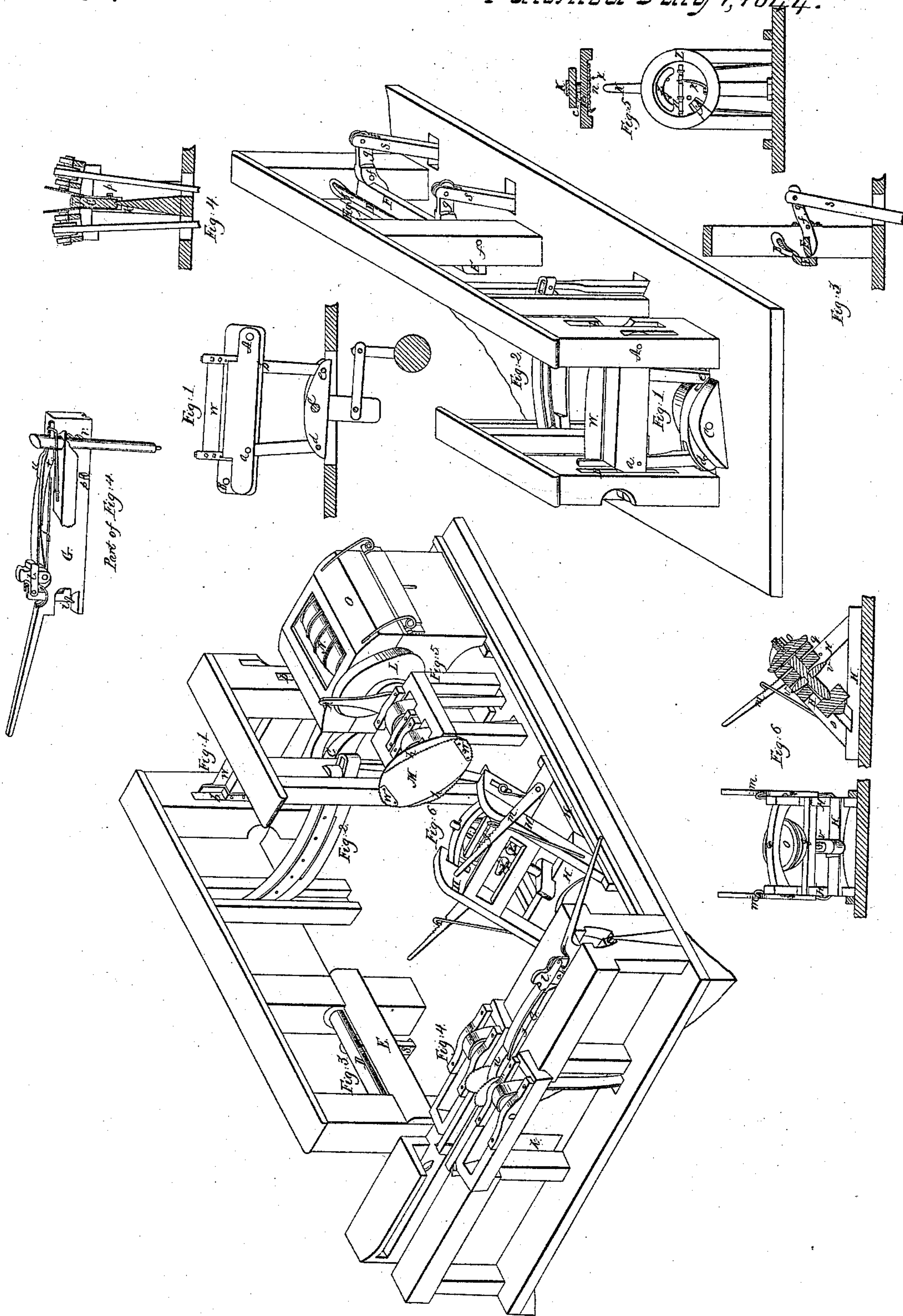


*I. Crossett,
Dressing Stares.*

N^o 3,648.

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UNITED STATES PATENT OFFICE.

ISAAC CROSSETT, OF EAST BENNINGTON, VERMONT.

MACHINERY FOR MAKING BARRELS AND OTHER CASKS.

Specification forming part of Letters Patent No. 3,648, dated July 1, 1844; Reissued March 2, 1858, No. 533.

To all whom it may concern:

Be it known that I, ISAAC CROSSETT, of East Bennington, in the county of Bennington and State of Vermont, have invented a new and useful Series of Machinery for the Manufacture of Barrels and other Casks, whereof the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification—that is to say,

1st, an improved machine, Figure 1, for cutting heading from steamed blocks of suitable wood, which improvement consists in a knife or cutter W, affixed to a lever B, b, movable about the point B as a center, the cutter attached to said lever by screws which enable the operator to set the edge of the knife to suit the grain of the wood and to cut the heading of any required thickness, and which said lever itself serves as a gage to regulate the thickness of the stuff, and a cutting block or bed piece A, a, movable about the point A as a center. These two parts are put in motion by two connecting rods a, d, and b, e, attached to a vibratory lever d, e, movable about its point C as a center. It will readily be perceived that this construction will give a slightly drawing stroke to the cutter and the bed piece as they move in opposite directions, and that the draw of the stroke may be augmented at pleasure by placing the centers of rotation farther from the line of the cutting edge.

A modification of this machine, as seen Fig. 2, where two bent or elbow levers moving in opposite directions and in a suitable curve, one carrying a curved knife, and the other a bed piece, may be used for listing staves.

2nd, a stave cutter Fig. 3. D is a knife or cutter, which is firmly fixed by its extremities to two uprights, by means of screws which also serve to regulate the knife by setting its edge in or out. E is a gage for the thickness of the staves, and is likewise fixed to the two uprights by screws in such manner as will allow of its being moved to regulate the thickness of the staves; F is a cutting block or bed piece, on which the block of steamed wood is placed and held, this bed piece receives a vibratory motion about its fulcra f, f, by means of two levers g, g, at its extremities, moved by the connecting rods s, s, or by any other means which will give the required motion; the ob-

ject being to carry the block to be cut against the stationary knife, in an arc of a circle whose radius is equal to that of the cask to be constructed by means of a vibrating bed which enables the operator to push the block downward, toward the gage when the machine is ready to cut, and to draw it downward from the knife, after the cut, either to turn the block, as is frequently necessary or to withdraw the core after the block is cut. The knife or cutter is formed of the lower portion of a crescent, whose inner circle is concentric with the axis of rotation of the bed piece. The fulcra of this bed piece can be made to regulate so as to cut staves to different radii.

3d, a stave jointer, Fig. 4, consisting of two circular saws revolving in two planes so inclined to each other as that their line of intersection is a little below the center line of the cask to be constructed, by which means the inside of the joint will be a little full. One end of the stave to be jointed is placed under the notch u, and the other is sprung down over the saddle j on the carriage G (as seen in detail on 2nd sheet of drawings, and held down by lock l, being thus held the stave, on the carriage, is pushed through between the saws, which joint it off, giving the proper taper and bevel to form a perfect joint; when the carriage is pushed through so far as to bring the pin i, in contact with the stop k, and thus relieve the lock l, the spring of the stave throws the lock back; at the same moment the pin p, in the carriage strikes the short arm r of the cleaver, causing the long arm t to strike against the stave and knock it clear of the machine, when the carriage is drawn back to receive another stave.

4th, an improvement in the working off machine, which consists in a swiftly revolving disk L, Fig. 5, on the face of which, and at proper distances from the center are placed the leveler y, and chamfering tool z. On the face of the wheel is also placed the croze n which is fixed in a groove, or held by hooks as seen in detail on second sheet, so that it can slide freely in a plane perpendicular to the axis of rotation. The cask N, set up and trussed, is placed in a carriage or clamp O, with its axis exactly corresponding with that of the revolving disk, and to be advanced toward the latter until the chamfer and leveler have done

their work, and the end of the cask is entered into the countersink in the disk, which will prevent it from shaking; then seizing the handle K, and causing the small wheel to advance on its axis toward the large one, the small wheel will press upon the bent lever *c* and drive the croze out to do its work, then letting go the handle, the spring *x* throws the croze *n* back, so that the cask can be withdrawn and turned around to work the other end, or exchanged for another to be worked off in like manner.

5th, a head machine, Fig. 6, which consists of a wheel M revolving swiftly on its horizontal axis, carrying on its periphery one or more segments of a band saw *h, h*, the teeth of which project a little over the face of the wheel. On the disk of the wheel, and at its edge are placed other segments *w, w*, of flat saws (or knives) between and at right angles with the first, and extending also a little beyond the exterior circumference of the wheel. The pieces to form the head are placed between two disks *o, o*, and *q, q*, whose common axis is in the same vertical plane with the axis of the first wheel, and inclined thereto at an angle of about 45 degrees; the axes of these two disks are supported upon a carriage H H H. The upper disk is movable in the direction of its axis, and the lower one is set with a great number of metallic points or spurs; when the pieces to form a head are placed on the lower disk, the upper one is brought down, pressed hard and firmly held by means of the two levers *m, m*. The carriage H, H, is then pushed up so as to bring the lever part of the heading in contact with the lower edge of the revolving disk, when the saws will cut through the heading at an angle of

about 45 degrees on the upper and 45 degrees on the lower face, forming a right angle on its edge; and if the proportion of the two disks be such that the arc of the circle on the lower edge of the vertical disk coincides perfectly with the segment of the ellipsis projected from the inclined one, the incision will be the arc of a circle, then seizing the handles *v, v*, and causing the head to revolve once on its axis it will be fitted to enter into the crozing; the carriage is then drawn back, the levers raised, the head taken out, other pieces put in and the operation repeated.

Now, what I claim as my invention, and wish to secure by Letters Patent is—

1. In the heading cutter, attaching the knife and bed each to a lever, so arranged as to cause the knife and bed to move in opposite directions by means of which arrangement more or less draw can be given to the cutter as herein before described.

2. In the stave cutter, the vibratory motion given to the bed piece, by which means the labor of feeding the machine is greatly facilitated, inasmuch as the bed is inclined downward toward the gage when it is ready to cut (which makes it feed easily), and from the knife after the cut, so that the hot block can be more easily withdrawn to turn it in the machine, or to take off the core.

3. In the head machine, the fixing of saws or cutters on the face and on the periphery of a revolving wheel, to cut complete heads, at one operation, from pieces presented to it under an angle, as herein before set forth and described.

ISAAC CROSSETT.

In presence of—

HENRY ROBINSON,
J. H. WHITNEY.