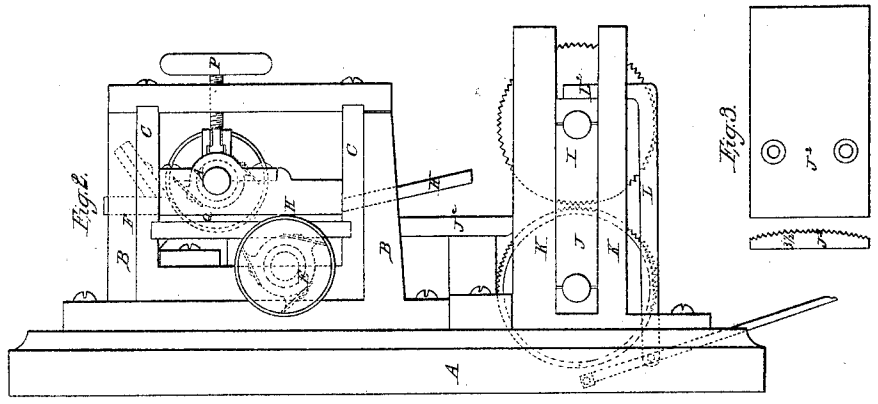
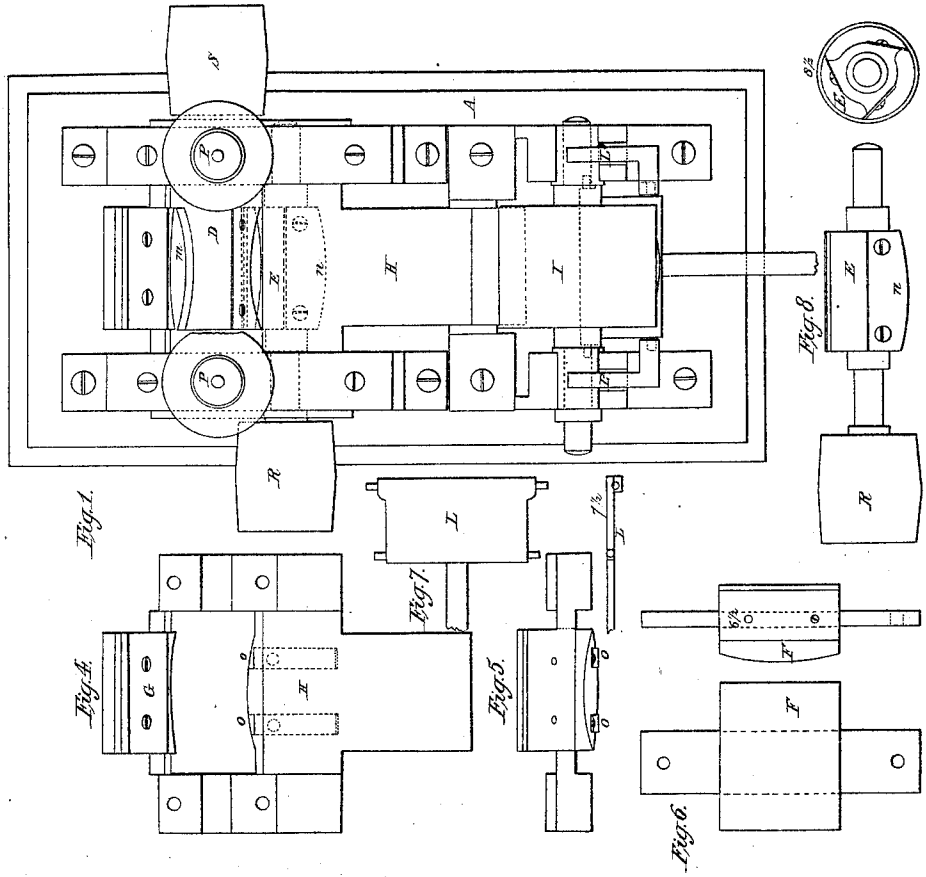
E. & B. Holmes.

Dressing Staves.

No. 26,766. Patented Jan. 10, 1860.





Witnesses.
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AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

EDWARD HOLMES AND BRITAIN HOLMES, OF BUFFALO, NEW YORK.

MACHINE FOR DRESSING STAVES.

Specification of Letters Patent No. 26,766, dated January 10, 1860.

To all whom it may concern:

Be it known that we, EDWARD HOLMES and BRITAIN HOLMES, of the city of Buffalo, county of Erie, and State of New York, have invented certain new and useful Improvements in Machines for Dressing Staves; and we do hereby declare that 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 a part of this specification, in which—

Figure 1, is a plan. Fig. 2, is a side elevation. Fig. 3, is a plan of convex bed. Fig. 3½, an elevation of same. Fig. 4, plan of the upper cutter head frame. Fig. 5, is an end view of upper cutter head. Fig. 6, is a plan of lower convex bed attached to cutter frame. Fig. 6½, is an end view of the same. Fig. 7, is a plan of yoke for governing the vertical movement of upper feed roller, and 7½ edge view of same. Fig. 8, plan of lower cutter head. Fig. 8½, end view of same.

The object of our invention is to plane split staves in such a manner that the grain of the wood, may not be cut crosswise of the stave; or (in other words) so that the stave may be dressed to its desired thickness and form, and at the same time retain the natural crooks and winds of the timber.

Letters of like name and kind refer to like parts in each of the figures.

(A), represents the main bed frame of the machine.

(B), is an upright frame resting upon the bed frame which supports and guides the cutter frame.

(C), represents a movable frame which is placed within the upright frame (B). The upper cutter head D and lower cutter head (E) convex bed plate (F) and upper guide plates (G) and (H) are all connected with and supported in this frame and retain the same relative position to each other in all the movements of the frame.

The feed rollers (I) and (J) are supported in the vertical frame (K). The lower feed roller (J) presents a convex grooved surface. The upper roller has a straight grooved surface and a vertical movement which vertical movement is regulated by the weighted yoke (L). The arms (L^2) (L^3) of this yoke rest upon the journal boxes of the roller so as to cause the roller to raise in its parallel position. The convex bed (J^2) is of like convexity with the feed roller (J)—is contiguous thereto and supports the stave after it passes through the roller. The cutting edge of the upper cutters (*m*) is concave, while the cutting edge of the lower cutters (*n*) is convex.

o, springs connected with the under side of the upper guide plate (H) for the purpose of preventing the cutter heads from oscillating too much when staves which have a convex or flat upper surface in their rough state are passed in and in connection with the convex bed (F) to regulate the cutting of the cutters from the lowest plane or cavity of the stave while being planed.

The center of the upper cutter (*m*) will always cut the same depth while the other or end portions of the knives cut more or less deep according to the peculiar shape of each stick to be planed. Thus it will be seen that by regulating the cut, from the lowest part of the upper side of the stave, that the convex or upper side, which is the outside of the stave when used in a barrel, must be perfect.

P, screws passing through the upper beam of the cutter frame, and connected to the journal boxes of the cutters, so as to raise and lower the cutters as may be desired.

(Q), is a strip of timber, placed in between the cutter heads, which determines the thickness to which the stave is to be dressed. (R,) driving pulley on shaft of lower cutter. S, driving pulley on shaft of upper cutter.

In order to explain more fully the operation of our machine, we will suppose that a stave in its rough state, which is one inch thick on one edge, and one and a half inches thick on its opposite edge (with wind or crooks added) is to be planed to the thickness of one inch. As the stave is passed in between the feed rollers, the upper or straight roller (I) is pressed upward by the stave and kept in its parallel position by the yoke (L). The upper side of the stave is forced to a parallel line while the convexity of the lower roller (J) and bed plate (J^2), allows it to assume an angular line. The thick and under edge as it passes over the convex roller and bed, will fall lower than the center of the stave, and lower than the center of the convex roller and bed. It is carried forward in this position, until it comes in contact with the lower cutters.

Now as the stave is planed or dressed on its under side, it may be supposed that by its windings it will not be parallel with that position of the stave, which is now under the parallel roller, but the cutters in the movable frame (*c*), have been tilted by the peculiar shape of the stave. As the stave passes forward, its upper side comes in contact with the upper cutters, which cut or dress the convex side of the stave, after which the stave passes between the convex and concave clamps or guide plates (F) and (G). These clamps hold the stave from being drawn into either of the cutters. The stave will have passed beyond the grasp of the feed rollers before it is fully dressed. It is accordingly pushed forward by the succeeding stave (which is within the power of the feed rollers) until it is fully dressed. The springs (O) are therefore made of sufficient strength, to prevent the cutter frame (C) from oscillating easily, when the undressed stave has a flat or convex surface, and yet sufficiently yielding, so as not to interfere with the proper working of other shaped staves, nor at any time to lift the center of the convex plate (H) from the stave.

The object of the combination and arrangement of the convex roller (or bed) with the straight roller is to allow the thick edge of the stave as it passes in to the cutters, to drop down lower than the center or highest part of the convex roller (or bed over which the stave passes.)

We therefore claim—

1. The combination of the straight roller I, with the convex roller J, so as to allow the edge of the stave as it passes in to the cutters to drop below the center or highest part of the convex roller (or bed over which the stave moves) substantially as set forth.

2. We claim the combination and arrangement of the straight roller I, and convex roller J, with the tilting frame C, (including the cutters) for the purposes and substantially as described.

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