

## Dressing Staves.

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# UNITED STATES PATENT OFFICE.

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## IMPROVED STAVE-DRESSING MACHINE.

Specification forming part of Letters Patent No. 39,711, dated September 1, 1863.

*To all whom it may concern:*

Be it known that we, L. D. BENSON, L. C. BENSON, and A. M. BENSON, of North Jackson, in the county of Susquehanna and State of Pennsylvania, have invented a new and Improved Stave-Dressing Machine; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan or top view of our invention, partly in section, as indicated by the line *x x*, Fig. 2; Fig. 2, a side view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to a new and improved machine for dressing staves; and it consists in a novel and improved arrangement of guide-rollers and cutters, as hereinafter fully shown and described, whereby the rollers and cutters are enabled to adjust themselves to the form of the staves while they are being cut, and the machine thereby made to operate with a moderate expenditure of power, and to perform better work than hitherto.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents the frame of the machine, which may be constructed in any proper manner to support the working parts, and B is a shaft, which is placed vertically in the frame A, and has a toothed wheel, C, upon it, which gears into a toothed wheel, D, on a vertical shaft, E. On the upper end of the shaft E there is placed a wheel, F, which has teeth *a* on a portion only of its periphery, as shown in Fig. 1.

G G are two feed-bars, which are placed between guides *b*, secured longitudinally on the upper part of the frame A, at each side of the machine, as shown in Fig. 1. These feed-bars are allowed to slide or work freely between the guides *b*, and each has a weight, H, attached to its back end by a cord, *c*.

To each end of the machine and in line with the feed-bars G G there are secured metal heads I I. These heads are slotted vertically, and in the upper part of each there is fitted a small lever, J, having two prongs, *d d*, at its outer end. Through these prongs ropes K pass, the lower ends of which are attached to

springs L, at the bottom of the frame A. The upper ends of these ropes K are divaricated or forked, and pass around pulleys *e e* on metal standards or frames M, which are provided with journals *f* at their lower ends, said journals being fitted in the frame A, just in front of the heads I I, and the upper parts of the standards or frames M are fitted in slots in the upper parts of the heads I. This arrangement admits of a vibrating movement of the standards or frames M from the journals *f* as centers. The forked ends of the rope K are attached to arms *g g*, which are attached by pivots *h h* to the upper surfaces of the frames M. To the lower parts of the frames M there are attached two similar arms, *i i*, to which a rope, K', is attached, the lower end of the rope K' being attached to a spring, L', and in the arms *g g i i* rollers N are fitted. The springs L L' have a tendency to keep the rollers N N of each frame M pressed toward each other. Each frame M has two vertical cutters, O O, attached to it. These cutters are parallel with each other, and are placed at a distance apart equal to the desired thickness of the staves to be dressed. In the inner side of each feed-bar G there is a rack, *j*, as shown clearly in Fig. 1.

The operation is as follows: The shaft B is rotated by any convenient power, and the feed-bars G G are alternately moved forward toward the pressure-rollers N, in consequence of the teeth *a* of the wheel F gearing alternately into the racks *j* of the feed-bars, the latter being drawn back as soon as the teeth *a* leave the racks by means of the weights H. The staves to be dressed are placed in front of the feed-bars G, between the guides *b*, and the feed-bars, each time they are moved forward or toward the pressure-rollers N, force the staves between said rollers and the cutters O O, which dress the staves in a perfect manner. The rollers N and cutters O, in consequence of being fitted in the vibrating or adjustable frames M, are allowed to turn or adjust themselves to the stave, so that the latter, if a little winding or crooked, may readily pass between the cutters. By this arrangement the machine is made to operate smoothly and well, and with much less friction than usual. If the rollers N and cutters O were fixed or stationary, it will at once be seen that the power required to force the staves be-

tween the cutters would be comparatively great and the staves not cut or dressed so smooth as by our invention, as in the latter case the cutters would often act against the grain and perform rough work.

We do not claim the feed-bars G, nor the means employed operating them, for they have been used in connection with stationary cutters; but

What we do claim as new, and desire to secure by Letters Patent, is—

The placing of the cutters O and pressure-rollers N in adjustable frames M, when said frames are used in combination with the feed-bars G G, operated substantially in the manner as and for the purpose herein set forth.

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