

L. J. Chichester.
Slave Mach.

No 7,611.

Patented Sep 3. 1850.

Fig. 5. C. c. fig. 1.

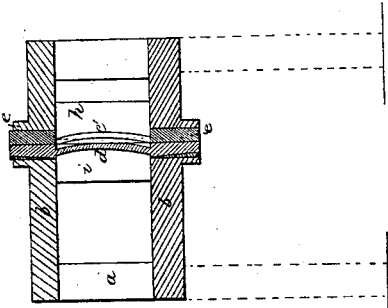


Fig. 2.

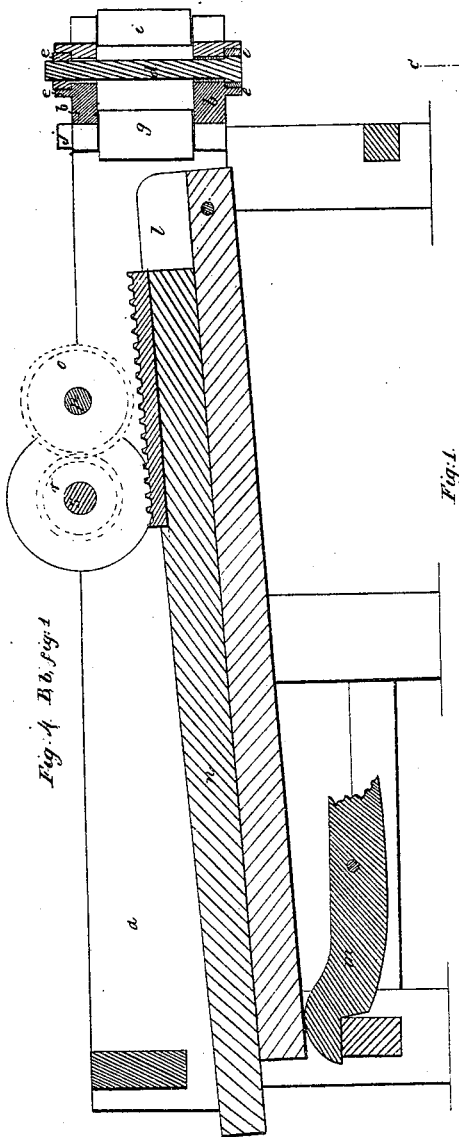
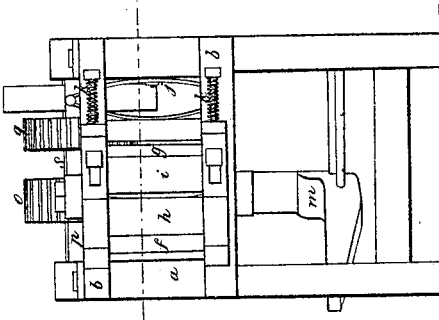


Fig. 1.

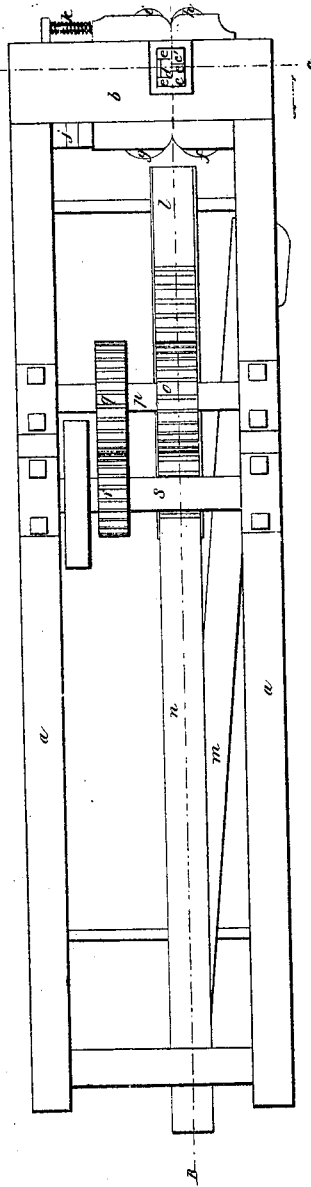
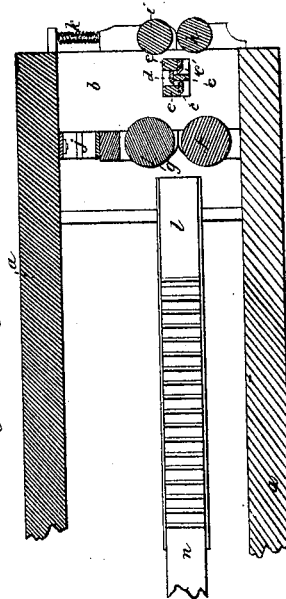


Fig. 3. A. a. fig. 2.



UNITED STATES PATENT OFFICE.

LEWIS S. CHICHESTER, OF TROY, NEW YORK.

MACHINE FOR DRESSING STAVES.

Specification of Letters Patent No. 7,611, dated September 3, 1850.

To all whom it may concern:

Be it known that I, LEWIS S. CHICHESTER, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in the Machine for Shaving Rived Staves, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known and of the method of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of the machine, Fig. 2 an end elevation, Fig. 3 a horizontal section taken at the line A, *a*, of Fig. 2, and Figs. 4 and 5 vertical longitudinal and cross sections taken at the lines B, *b*, and C, *c*, of Fig. 1.

The same letters indicate like parts in all the figures.

My invention is of improvements in a long and well known method of shaving staves by forcing the rived bolts between knives or shavers for shaving the concave and convex, that is, the inner and outer faces of the staves. This old method has however presented serious practical difficulties, which are obviated by my improvements. The difficulties referred to are in the arrangement of the knives or shavers and the mode of presenting the bolts to them. Heretofore in such machines either only two knives have been used, one on each side, or else a series of pairs, the two knives constituting each pair being opposite to each other. When only one pair (that is, one knife on each side) is used, the surface produced, though sufficient for the inside of the stave, is not sufficiently smooth for the outer surface, and, in consequence of this, for the making of good merchantable barrels, this surface of the staves must be reshaved by hand, which adds greatly to the expense; and when two or more pairs of knives are used, that is, two or more on each side and opposite to one another, warped, bent or twisted bolts cannot be shaved for the reason that the series of knives act as guides to prevent it from moving laterally to follow the curves.

In the accompanying drawings (*a*) represents a frame adapted to the purpose, but which may be varied at pleasure and (*b*) a head stock consisting of a top and bottom plate, framed together, of such distance apart as to permit a stave bolt to pass be-

tween edgewise. These two plates are mortised in the middle to receive the ends of three knives or shavers (*c*, *c'*, and *d*) which are properly secured therein and adjusted to their proper relative positions by means of wedges (*e*). The two knives, (*c*, *c'*) are of the same form with the cutting face concave to shave the outer surface of the stave, the one (*c*) to take the rough surface of the bolt, and the other (*c'*) set a little farther in to take off a finishing shaving. The third knife (*d*) is of a form the reverse of the other two, to shave the inner surface of the stave which does not require to be finished smoothly. This knife (*d*) is placed opposite the space between the other two, by reason of which position any sudden curve in the bolt which is not taken out by the guide rollers will pass between the knives, the shavings taken off following the curve of the bolt. In front of the head stock are mounted two rollers, (*f*, *g*), and at the back two similar rollers, (*h*, *i*) the one (*f*) of the front set, and the one (*h*) of the back set having their journals fitted to stationary boxes and so placed relatively to the two knives (*c*, *c'*) as to constitute guides for that face of the bolt which is to form the outer or convex surface of the stave, and therefore the one (*f*) will be so far from the plane of the knife (*c*) as to determine the thickness of the shaving to be taken from that surface of the bolt, and the other (*h*) must be in the plane of the finishing knife (*c'*). The other rollers (*g*, *i*) have their journals fitted to sliding boxes governed by springs (*j*) and (*k*, *l*) to constitute them pressure rollers to force the bolt against the guide rollers, and thus control the bolt and take the twist, wind, or warp out of it as it passes between the knives.

The springs which govern the pressure rollers will permit them to yield to any inequality in the thickness of the bolt, and as they are free to play at each end they will continue to make pressure on the bolt however its edges may vary in thickness.

The bolts to be shaved are put edgewise, one by one, in a trough (*l*) which is at one end jointed to the frame, near the head stock, the other end being free to play up and down, and resting on an arm of a lever (*m*) the other arm of which is constituted a treadle for the foot of the operative when he wishes to elevate the trough. To this trough is fitted a follower (*n*) the upper

surface of which has rack teeth or cogs which, when the trough is elevated, engage the cogs of a wheel (*o*) on a shaft (*p*) geared by cog-wheels (*g, r,*) with a driving shaft (*s*) which receives motion from some first mover. When a bolt has been deposited in the trough, the operator forces down the treadle which elevates the trough and brings the rack in gear with the cog wheel, by which the follower is forced toward the head stock carrying with it the bolt which is thus carried between the rollers and knives or shavers. The treadle is then liberated, which leaves the follower at liberty to be pushed back by the operator preparatory to putting in another bolt.

Instead of the above apparatus for feeding in the staves by an intermittent reciprocating motion, an endless chain with spurs at proper distances apart may be substituted and any other known mode of feeding or forcing in the bolts may be substituted, but

I have described the mode which I have essayed with success and deem the most simple and best adapted to the purpose, as this makes no part of my invention. 25

What I claim as my invention and desire to secure by Letters Patent, in the before described machine for shaving staves from rived bolts, is— 30

The employment of two concave knives for shaving the outer or convex surface of the staves, substantially as herein described, in combination with a single knife for shaving the inner or concave surface of the staves, when the said single knife is placed in a line midway between the other two, that is, opposite the space between the other two, substantially in the manner and for the purpose specified. 35

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Witnesses:

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ALEX. PORTER BROWNE.