

UNITED STATES PATENT OFFICE.

ISAAC HOSMER AND WM. P. L. BADGER, OF CONCORD, MASSACHUSETTS.

MACHINE FOR CUTTING STAVES.

Specification of Letters Patent No. 1,754, dated September 2, 1840.

To all whom it may concern:

Be it known that we, ISAAC HOSMER and WILLIAM P. L. BADGER, both of Concord, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Machinery for Cutting Barrel-Staves.

The said improvements, the principles thereof, and manner in which we have contemplated their application, by which they may be distinguished from others for a like purpose, together with such parts thereof, or combinations, we claim as our invention and desire Letters Patent therefor, we have herein described and set forth, which description, taken in connection with the accompanying drawings herein referred to forms our specification.

Figures 1, 2, 3, 4 represent different views of our machinery, Fig. 1 being a plan, Fig. 2 an end elevation, Fig. 3 a transverse section and, Fig. 4, a side elevation.

A A is a frame of wood or iron or other suitable material, or a strong plank to be properly affixed to a bench or other suitable support, the whole being constructed in such manner as to support the operative parts thereto attached.

B, Figs. 1, 2, 3, 4, is a knife whose transverse section is an arc of a circle, whose center is at the point D or axis of two radial arms E, F, to which the knife is secured by screws *a b*, Figs. 1 and 2, or in any other suitable manner. The arms E F have elongated slots *c c*, Figs. 3 and 4, in each, through which screws *d d* pass, having heads *e e* on one extremity and nuts *f f* which have female screws, and which when screwed hard up confine the screws *d d* in any part of the slot, at pleasure. The other ends of the screws *d d* have the threads removed or are cylindrical, and being inserted in the corresponding boxes or bearings *g g* and secured by small pins *h*, Fig. 3, they form journals as it were to support the radial arms E F. The standards *i*, are affixed to the frame A by screws *k, k*, (with heads *l l*) passing through elongated slots *m m*, Fig. 4, so that the position of the standards may be changed at pleasure, that is to say, so that the standard can be moved sideways, either way, a suitable distance, according as we wish to change the distance from the center of the screw *d* to the cut-

ting edge of the knife B; which corresponds 55 to the radius of the barrel for which we are to cut the staves. When all this is arranged, the screws are turned up so as to confine the parts in such position. The extremities of the arms E, F to which the ends of the 60 knife B are secured, are curved or bent down as represented at *n'*, Fig. 4. An elongated plate of metal G, Figs. 1, 2, 3, 4, is secured to the same by adjusting screws *o, p, q*, the first of which screws, viz, *o*, 65 serving to press outward the end of the gage or plate G, or away from the curved parts *n'* of the arms E F, while the latter, *p, q*, operate in a counter direction or when screwed up carry the plate nearer the 70 parts *n'*.

The peculiar object of the plate *n* is to gage the thickness of the stave to be cut from any block of wood placed on the top of the bed-piece A, and exposed to the ac- 75 tion of the knife B. When the knife is lifted upward, the gage *n'* is carried up also, so that on pushing the block of wood, forward until it strikes against the inner side of the plate, we have it projecting a 80 sufficient distance so that when the knife B descends, a stave of the required thickness will be separated from the block. The knife B so arranged, is connected to a lever H I, by an intervening bent bar *r, s*, Figs. 2, 4, 85 properly joined to each as seen in the drawings. When the lever is raised the knife will be carried upward, and if a block of wood is placed under the cutting edge, of the said knife and against the stop or gage 90 G, when the lever is depressed by force applied to its end I, the knife will pass through the block and separate a portion therefrom. The portion so separated will be curved transversely to the circumference of the 95 barrel, the radius of which is equal to the distance between the cutting edge of the knife B and the axis of the screws or bearings *d d*.

The knife can be curved longitudinally 100 if desirable, so as to give the stave a curve suitable to the requisite shape of the barrel. When the stave is cut off it drops downward and on elevating the knife, the block of wood is to be pushed once more against the 105 gage G, when on depressing the lever H I a second stave may be separated as before.

Having thus described the nature of our

machinery, we now proceed to specifically point out such parts thereof we claim as our invention.

We claim—

- 5 The method of shifting the axis of vibration, without changing the position of the knife, by means of the movable standards, in combination with the shaft or arbor and
10 the slots in the radial arms as herein described.

In testimony that the above is a true description of our said invention, we have hereto set our hands this third day of June in the year of our Lord, eighteen hundred and forty.

ISAAC HOSMER.

WM. P. L. BADGER.

Witnesses:

R. H. EDDY,

G. D. DANA.