E. Day,

Cutting Shingles.

No. 2,674. Patented June 18, 1842.

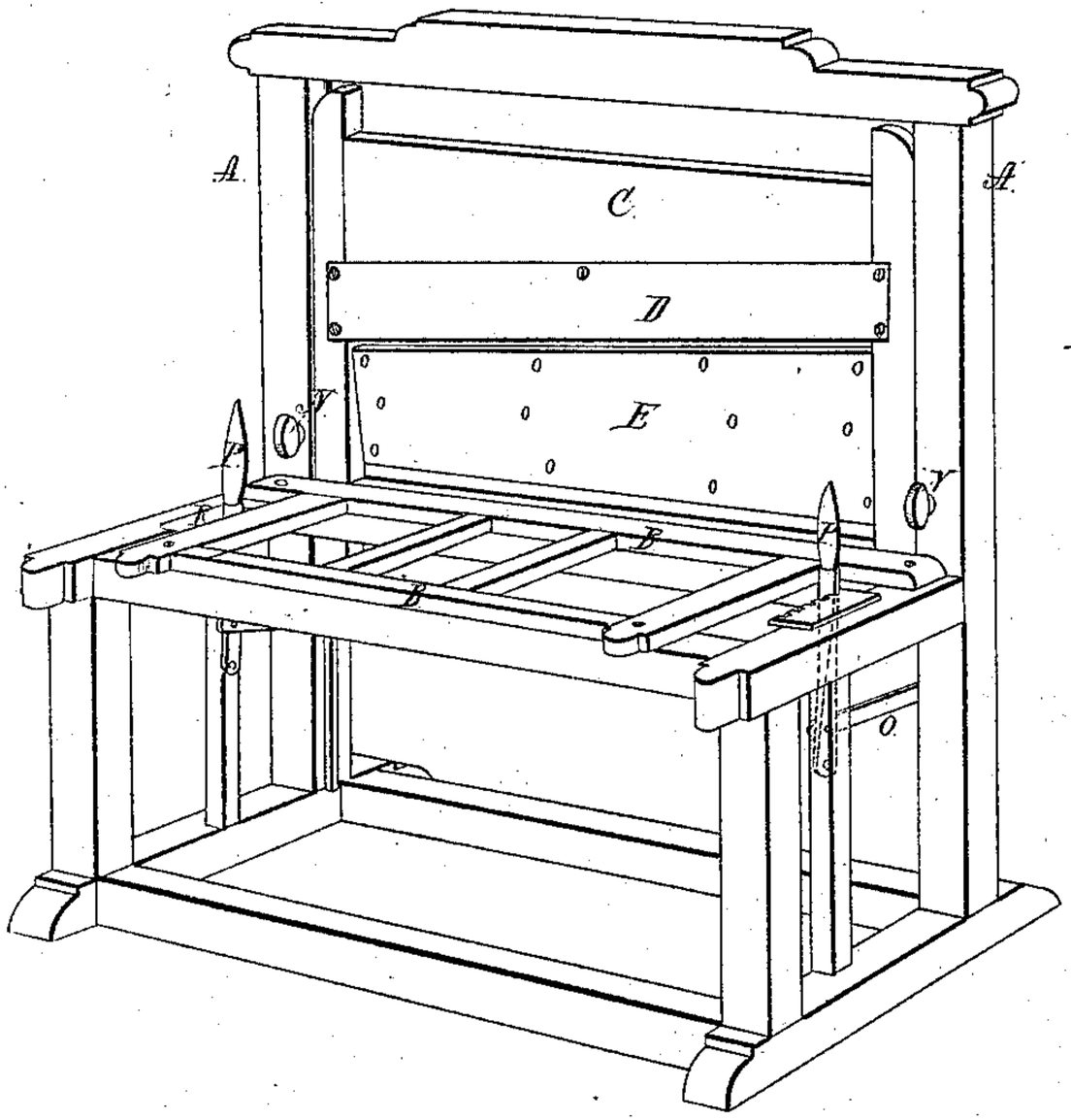

Fig: 1.

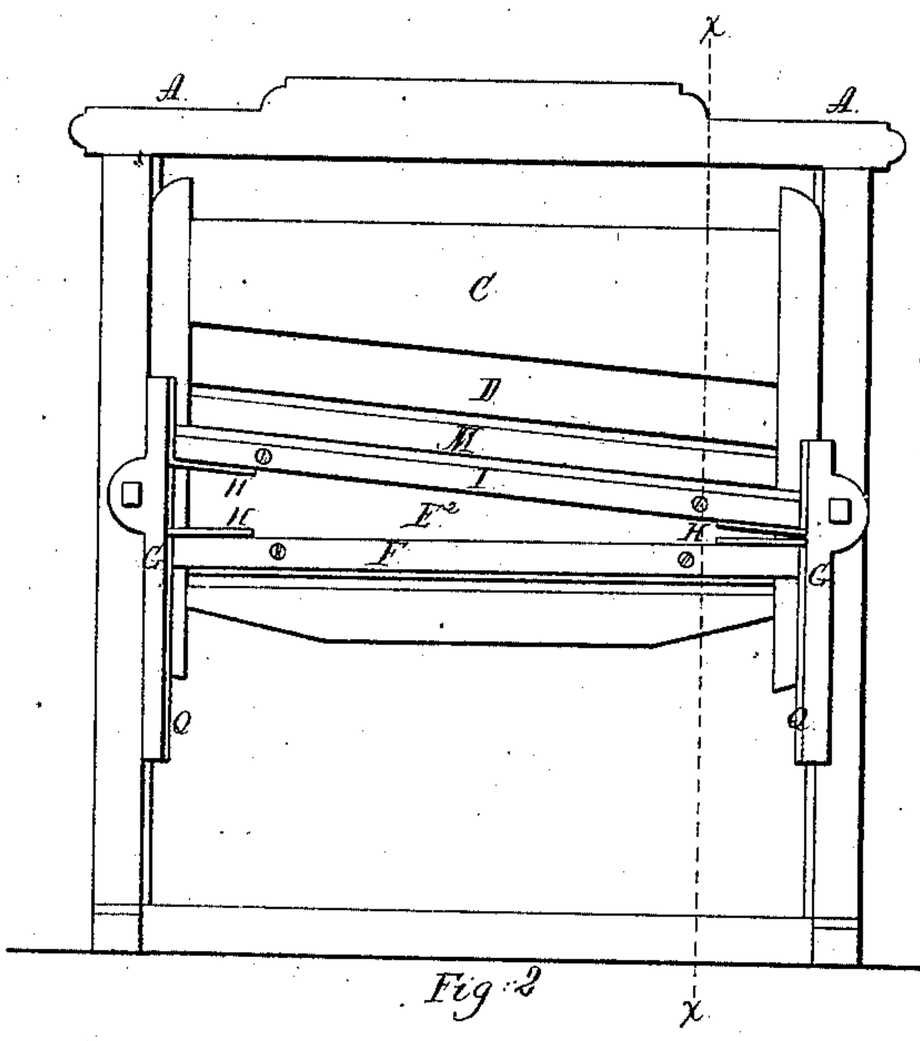

Fig: 2

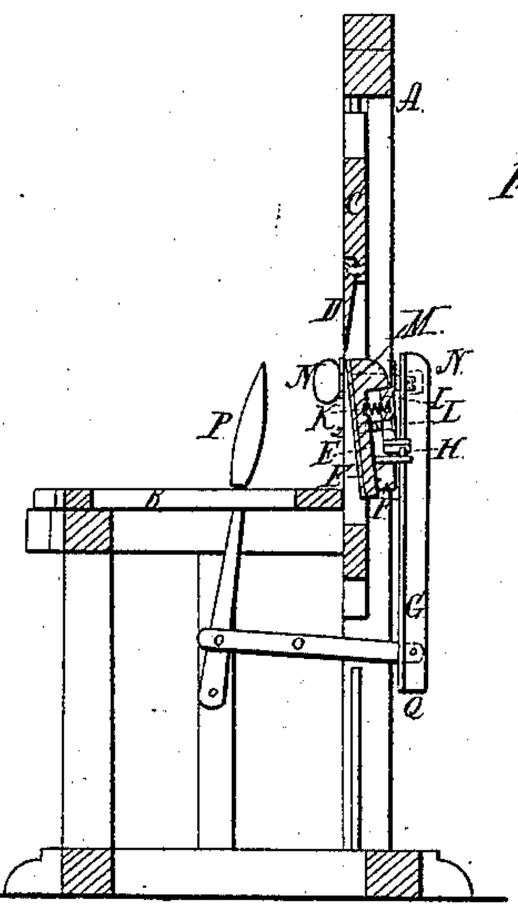

Fig: 3

UNITED STATES PATENT OFFICE.

EBENEZER DAY, OF GRAND DETOUR, ILLINOIS.

MACHINE FOR CUTTING CLAPBOARDS, LATHS, STAVES, AND OTHER ARTICLES.

Specification of Letters Patent No. 2,674, dated June 18, 1842.

To all whom it may concern:

Be it known that I, EBENEZER DAY, of Grand Detour, Ogle county, State of Illinois, have invented a new and useful Machine for Cutting Laths, Staves, Clapboards, and other Articles, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification, of which—

Figure 1 is a perspective view; Fig. 2, an elevation of the rear or back part of the machine; Fig. 3, a vertical section at the dotted line *x x* of Fig. 2.

Similar letters refer to corresponding parts.

The frame A of this machine is constructed like that of other machines in use for a similar purpose—namely—having two posts framed into two parallel transverse sills connected by two longitudinal sills and united at their upper ends by a cap; and tongued or ribbed on their inner sides between which and on the tongues the gate, containing the cutter, moves up and down in the manner of a saw gate of a saw mill—said gate being grooved on the sides corresponding with the tongues before mentioned, over which the gate moves—said posts having framed into them and forming part of the frame a bench of the usual form and construction upon which is placed the block of wood, termed the "bolt" from which the thin pieces to form the clapboards, laths &c. are to be cut, said bench being supported by two posts about half the length of the fender posts mortised and tenoned into the two before mentioned parallel sills having corresponding caps mortised and tenoned into the fender posts and connected by suitable cross timbers.

A rectangular frame B upon which the bolt is placed is screwed to the top of the bench. It is nearly the size of the top of the bench and is composed of two parallel horizontal longitudinal pieces of plank united by a suitable number of transverse horizontal pieces of stuff of the same thickness.

The knife gate C is made and operated in the usual manner.

The knife D for taking off the thin pieces from the bolt to form the articles desired, is made and arranged in the usual manner at an angle of ten, fifteen or twenty degrees with a horizontal line as may be desired.

The vibrating gage E for changing the position of the bolt so as alternately to have the thick and thin edge of the clapboard or whatever article is cut uppermost in cutting consists of a trapezoidal shaped board E^2 fastened at the lower edge by bolts or screws to a horizontal bar F attached to two hanging arms G plates H in the manner hereafter described. Another bar I is arranged above the horizontal bar attached by its ends loosely to the hanging arms in the same manner by plates. Between this board and the upper or inclined bar I are placed spiral springs K to keep said board E^2 extended from said bar I until the board is pressed back against the bar in which case the springs will be contracted being placed in apertures in the said board and bar to retain them in place. Screws L pass loosely through the upper bar into the gage board E^2; the heads of which preventing the gage board from springing too far out toward the cutter and the shanks allowing it to recede against the bar by moving loosely in apertures therein.

A beveled inclined rib *n* is secured against the back of the gage board at the upper edge and following the inclination of the said upper edge which is at the same angle as that of the knife forming a ledge under which the last mentioned bar I is arranged which is also inclined at the same angle. This gage board is faced with a metallic plate E of corresponding size and shape on the face next the knife.

The hanging arms G are suspended from the points of horizontal screws N passed through the fender posts from front to rear provided with suitable washers and heads—the arms hanging near the rear side of said posts to which near their lower ends are attached horizontal connecting rods O leading to levers P for moving the said ends to or from the posts in the manner hereafter described. On the sides of the said arms next the posts are fastened plates Q projecting beyond the edges of the arms next the ends of the bars forming ribs or tongues, to which the before described bars are attached by said ribs or tongues entering grooves in the ends of plates H fastened to the bars I F, or the grooves may be made in the ends of the said bars said bars moving up and down over said ribs as the gate rises and falls with the gate the lower bar F being fastened to the gate.

The levers P before mentioned for moving the lower ends of the aforesaid hanging

arms G to which the gage plate E is fastened toward or from the fender posts for the purpose of changing the angle or reversing the position of said gage plate are made to move on pins or fulcra passing through them near their lower ends into the side posts of the bench their upper ends which are formed into handles extending above the bench a suitable distance to be laid hold of by the operator. The connection of the levers with the hanging arms is effected by means of parallel horizontal rods O attached to the lower portions of said arms G and levers P. The levers are held in the required position by means of notched plates R fixed on the top of the bench at the sides thereof—the levers being placed in the notches of said plates. When the upper ends of said levers are pushed toward the gage plate its slower edge recedes from the levers, and when the motion of the levers is reversed that of the plate is likewise reversed.

In cutting slapboards the bolt (previously prepared in the usual manner) is brought against the gage plate by hand power and there held firmly—the knife descends and takes off a board with the thick edge uppermost. In this operation one side of the bolt must be raised and a block put under it which will bring the opposite side parallel and against the face of the gage plate which is inclined back with its upper edge further from the face of the table than the lower edge. The block or bar is then removed from under the back edge of the bolt which again brings it flat upon the bench or table. The position of the levers is reversed which also reverses the position or inclination of the gage plate. The bolt is moved up against the plate and pressed or held firmly against it the inclined surface, the side of the bolt being parallel to and against the said plate, the knife descends and takes off another board, the thin edge being in this case uppermost and so alternately—the plate being receded against the bar I behind the same and the spring K contracted in holding the bolt firmly against the plate which springs, after the knife has passed through the bolt, in extending themselves throwing the gage plate forward and the clapboard back from the knife over the beveled ledge of the gage board at the rear and thus preventing the board falling down between the knife and bench. The cut at this operation leaving the face of the bolt vertical which will require it to be again canted to cut a board with the thick edge uppermost.

In cutting laths, staves and other plain stuff it will not be necessary to vibrate the gage in the manner above described as the edges will all be of the same thickness.

The screws N to which the arms of the gage are appended turn in the fender posts and in the plates Q fastened to the arms G for the purpose of increasing or diminishing the distance between the gage plate E and cutter or bench for cutting thinner or thicker stuff at pleasure by removing the arms from or advancing them toward the posts at pleasure.

The gage board may be formed in sections or panels and fastened by their lower ends to the lower bar F which is fixed to the knife gate and the upper ends being loose they will have a degree of elasticity sufficient to keep the gage board extended until pressed back by the bolt. The spiral springs K also assist in keeping the gage board pressed toward the knife until forced back by pressing the bolt against it. The permanent frame B before described placed on the top of the bench may be removed and a loose frame substituted therefor which can be raised or lowered by cams fixed on a transverse revolving shaft arranged under said frame on the side opposite to that next the knife for cutting the boards with the thick or thin edges uppermost at every alternate stroke of the knife, said cam shaft being turned by a toothed wheel or plate fixed on said shaft turned by a reaching arm attached to an elbow vibrated by the movement of the knife gate—said frame having grooves or ways in which a carriage may slide to which the bolt is dogged brought forward to the knife at each successive cut by means of another reaching arm attached to the above mentioned elbow and dropping into a toothed rack on which the last mentioned reaching arm acts.

The spring panels might be provided at top with points of cutters called surface cutters for roughening the surface of the laths.

What I claim as my invention and which I desire to secure by Letters Patent is—

The arrangement of the spring panel in combination with the upper bar for gaging and sustaining the bolt and for throwing the panel toward the cutter after the knife has passed through the bolt to prevent the board falling down between the table and cutter or knife as before described.

EBNR. DAY.

Witnesses:
L. ANDRUS,
JAS. D. AYMUR.