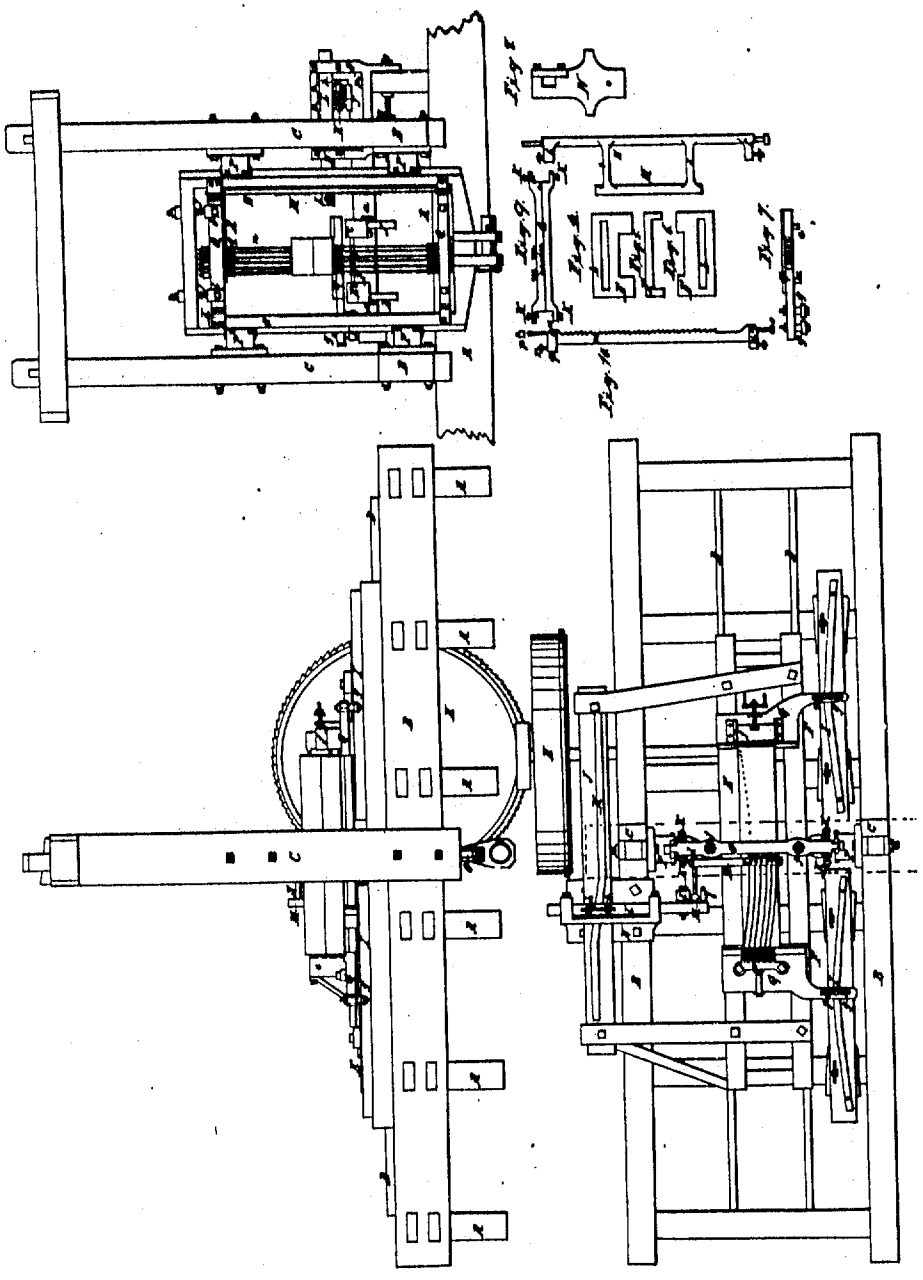
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C. M. Keller,

Making Stares.

Patented June 29. 1836.



A.M. PHOTO-LITHO. CO. N.Y. (NEGATIVE PROCESS)

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1.

Charles Mc Keller.

Letters Patent. Patented June 29. 1836.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Charles Mc Keller himself of his improvement in the Machine for Sawing Bilged Staves.

To all to whom these Presents shall come: Be it known that I, Charles M. Keller of Washington in the County of Washington and District of Columbia have invented a new and useful improvement in the Machine for Sawing Bilged Staves and that the following is a full and exact description of the construction and operation of the same reference being had to the accompanying drawings forming part of this Specification.

The improvements consist in giving to the blocks secured at the ends of the sawed into Staves a double motion One at right angles to the other, the combination will produce the shape desired for a Bilged Stave, and also in imparting to the gang of saws a vibratory motion which will accommodate their direction to the Figure formed by the compound motion of the Blocks.

On the accompanying drawings, Figure 1 is a plan of the Machine Figure 2 a side elevation Figure 3 a cross section just in front of the fender posts. Other Figures will be referred to under their appropriate heads.

(The same letters are indicative of the same parts in all the Figures

Scale of drawings 1½ in to the foot.

A A, represents the joists of the building to which the ends B B of the machine is firmly secured by bolts or otherwise C C are the fender posts and D D the carriage ways these parts constituting the frame work of the machine, should be made of strong timber well cast iron and secured together in such a manner as to prevent as much as possible all jarring or trembling motion E is a carriage running in a straight line on the ways D D, confined in its rectilinear motion by the studs a, a, to which are attached two metallic plates F F seen in section at Figure 3. F, F, each having a slot b. On these plates are placed the head and tail pieces G, G, having projections c, c, see Fig. 4 on their under sides fitting into the slots b b. The upper surface of the plates and the under surface of the head and tail

blocks should be planished and the slots b,b and projections c,c, should be made to fit truly so as to cause the head and tail blocks to slide easily and without wabbling at right angles to the carriage B. The dogs on the head and tail blocks, and by which the block on blocks designed for slaves are made fast, are seen at e, F, and may be altered at pleasure as the mode of fastening is not material.

The carriage B, may be moved back and forth in the same manner as the carriage of a saw mill, viz. by a rag wheel, pinion, and crank. The rag wheel is represented at H. There is a slot in one end of the head and tail blocks, in which are fixed the spindles of two rollers g,g, with collars and nuts for the purpose of setting them. These rollers are each side of the slave guides I,I. These guides are made of iron, and bolted each to a piece of hard wood, which is let into the bed of the machine, and regulated by wedges. To each end of the carriage, is attached an arm of wood or iron extending beyond the fender post to which the saw guide bar J, is bolted. The guide K, is either cast with the bar J, or attached to it so as to counterbalance it. The shape of the saw guide will always be governed by the slave guides, and length of the latter (to be hereafter described) which gives motion to the saws. The slide L, is provided with two sets of rollers h,h, at one end, playing on each side the saw guide, and two others i,i, playing on each side of the bar M. This slide moves in an iron frame N, see fig. 1.

The saw gate O, which is made of cast iron, and works in checks P,P, which are bolted to the fender posts is put in motion by a pitman which connects the machine with the moving power. There are two cross heads Q,Q, affixed to the gate. The metal the bottoms is firmly bolted in its place, and the metal at top is made to slide up or down, and be regulated by the screws j,j, and is provided at each end with set screws k,k. These cross heads are made in two pieces as seen at R, and kept together by the screw bolts l,l. Six holes, very accurately bored through these cross heads, and on which the saw hangers work, are seen at m, m, &c. These hangers the saws s, s, are attached, see fig. 10. The hangers in the cross heads have heads turned on them as at o, and those on the upper ends screws cut on them, furnished with nuts and washers, (see fig. 10) and

small feather which prevents the vibratory motion of the hangers from affecting the screws. The hangers y.y. have round pins working into holes made in the connecting bars R.R.

On one side of the saw gate is a tumbling shaft S with guide pieces at each end working in holes made in the cross heads, on a line with the holes in which the hangers work. There are two arms S.S. pending from the tumbling shaft, to the end of which is attached the connecting bar of iron M which plays between the rollers i.i. before described. Near each extremity of the tumbling shaft is a lever t.t. with a pin working into a hole in the ends of the connecting bars.

The saws N.N. are connected with the hangers by pins as seen at N.N. fig 1st Specification. The blocks of wood being cut to the length required for staves in width sufficient to prevent the saws from cutting out at the sides, and in thickness a little more than the width of a stave, are successively placed over the head and tail blocks and secured in this place by the dogs. The saw gate is now set in motion, and when in readiness, the block is impelled against the saws by the motion of the carriage, which is in a direct line towards them. The head and tail blocks however are moveable in the slots, which are at right angles with this motion of the carriage, and are governed in this their lateral motion or position by the shape of the curve of the stave guides.

As the rollers in the head and tail blocks act on each side of the stave guides it is evident that as the carriage advances these blocks together with the block which is changing its character into staves, has a motion at right angles to the motion of the carriage; the sum of which two motions describes a curve similar to that of the stave guides, and that the saws by cutting this curve leave in the blocks of wood in the form of staves.

The changes of direction or vibration of the saws which accommodate them to the above described curve is obtained by means of the saw guide K which being firmly connected with and moved by the carriage B, gives motion to the bar M, on the tumbling shaft, by means of the slide L, which motion causes the saws to vibrate or change the direction in which they cut according to the shape of the guide K.

As the curve given to the staves is produced by two motions at right

with each other any number of saws may be used in a gang without affecting the curve which will uniformly be the same, or may be altered at pleasure by changing the shape of the slaw guides and saw guides. The thickness of the slats will be regulated by the distance between the saws.

One, two or more blocks may be cut through at the same time by increasing the length of the saws.

The construction of the machine can be altered without affecting its principles.

What I claim as my invention is the Double Motion, one at right angles to the other, given to the block of wood, by which the curve of the slats is produced, and also the giving to a gang of saws a vibratory motion, which accommodates them to the curves produced by the compound motion, in combination.

Witnesses
B. H. Worrell
A. Slocker

Chr. Mc Keller

Lord & Mc K.

(Rec'd & Recorded anew May 26. 1840.) (1550 words

(Drawing)