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Cole et al.

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(54) **BARRELS, & C.**

(76) Inventors: **John Cole; Samuel Miller**

John Cole and Samuel Miller of Washington County Ohio

Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said John Cole and Samuel Miller themselves of their improvement in the machine for the manufacture of Barrel Hoops and other Coopers ware.

To all to whom these Presents shall come. Be it known that we John Cole of the County of Washington State of Ohio and Samuel Miller of the Town and County of Athens in the State aforesaid have made an improvement, being a machine for making Barrel, Hoop, Pail and other Coopers ware which is described as following.

The machine consists of the following parts. 1st The frame. 2d The pawl to shave Staves. 3d The pawl to shave hoops. 4th The pawl to joint Staves. 5th to turn and dowel the heads. 6th the pawl for chopping the Barrel and cutting the croze. 7th pawl for facing the heading. 8th Cog wheels 9th Shaft Crown and Shafts

1st The frame is made by framing together two long timbers, 6 posts and four end pieces, having three cross pieces placed at proper distances apart between the long timbers the whole forming a frame about 14 feet long, three feet more or less wide and about four feet high properly placed on the sides — 2d The pawl to shave Staves. On the top of the frame near one end, and across it are framed two pieces of scantling being about five feet long and of suitable breadth and thickness placed about 3 inches apart. Between these pieces are placed screw bolts with thin gudgeons turning in brass sockets pieces

Near the centre of the frame is placed a roller having small iron pivots on its periphery, called a Curved Roller, its axis projecting beyond the side piece and on its end a small cog wheel meshing into a large one on the main shaft below hereafter to be described. This Curved roller is for pressing forward the Stave to be shaved, over the Curved Roller is placed another roller, thicker in the middle than at its ends, with its gudgeons turning

in Slides (4) into pieces, and spreaded one by Springs secured to top of Side pieces this roller with its Slides and Springs rises and falls to suit the thickness of the Slave as it passes between it and the Curved Roller (b) the Staves should be irregular in thickness, in front of the Curved Roller is placed a small roller (c) to assist in guiding the Staves to the Knives, the Knives are placed over this small roller with their front edges nearly over (b) centre and the edge of the lower knife nearly on a level with the top of the Curved roller: There are two Knives (d) which are placed the thickness of the Stave apart and are secured to the side pieces of the frame by Screw bolts which pass down through them. The other rollers are all plain and are for guiding the Staves to the Knives. The Staves may be forced through the Knives by a Knives and (e) are attached to a crank Shaft (f) by a pitman and will force a Stave through at every revolution of the crank

3d The plan for shaving hoops. This is made similar to the one last described for shaving Staves (except that the side pieces are placed one and a half inch apart instead of five and that the upper Knife instead of being straight is formed semicircularly. Instead of the small cog (a) at the end of the Curved roller, meshing into a large cog wheel, a crank handle turned may be used when necessary.

4th To joint the Staves two posts (a) 6 feet long and 9 inches square (more or less) are erected on two of the cross timbers of the frame and within 6 inches of one of the long timbers, at the distance of five feet from out to out with a piece (b) 12 inches wide by five inches in thickness framed across the tops, a groove (c) is cut out of the centre of each of the upright posts in which a gate (hereafter described) slides up and down; the gate is made of 2½ Rubbing (about 4 by 3 inches) four feet long and four feet wide, the lower piece of which (d) stands back about one inch from the front edge, in the centre of the gate and standing perpendicularly is an upright made of timber 3 by four inches. The knife is made of a piece of steel in the form of an obtuse angle (e) to suit the edge of the Staves and secured on front of the

gate; in the downward motion and when the pinching is performed, it rubs against a piece of wood fastened to the long timber of the main frame. the piece of wood is hollowed out to suit the shape of the back of the staves. and on which the staves is placed for pinching; to the lower end of the gate is attached one end of a pitman the other end of which is attached to a crank shaft. having a cog wheel on its end working into another cog wheel on the main shaft hereafter to be described.

5th Turning and dowel the heads. Two head blocks are erected in the centre of the main frame. on two of the cross pieces thereof, between these head blocks is placed a thick piece of timber 12 inches in length; & in diameter having one of its gudgeons extending through one of the head blocks in which is secured a circular block 18 inches or more in diameter on the face of which are placed pins to secure the head to be turned. the head is secured against the circular block while turning, by a screw passing through a moveable head block of the same height as those first mentioned and placed opposite the circular block. a band passes round the above mentioned thick to the drum below, on the main shaft by which the circular block is turned. The dowling is performed by having two dowel bits with thick on one end placed at proper distance and turned by strap and the drum below. 6th The pail for the lining end of barrel and cutting croze. A shaft 4 feet or more in length with its gudgeons turning in hand blocks, is placed directly over the main shaft of the machine, and parallel with it, on the end of one of the gudgeons is a wheel working into a wheel around which a strap going round the drum on the main shaft below to give motion to the shaft. through this shaft near each end and at the distance of two feet from end to end, are four mortises crossing at right angles each one projecting 12 inches from the shaft and being 4 inches square. in the centre of each of these is a round or square hole about one and a half inch diameter into which is put a slide having an iron lever on its end, through each arm is cut a square mortise parallel with the shaft, and at right angles with the hole in the arms

into which mortises a pail or wedge or key. The head block at one end of the shaft is hung with a hinge &c by which to allow it to be thrown back out of the way in order to admit the barrel on the arms of the shaft.

7th The pail for facing the heading. A wheel about 6 feet in diameter and of double thickness is placed on the end of the main shaft opposite to that where the pinion is applied. On the face of this wheel is placed a strip, two feet or more in length and tending from near the outer edge towards the centre. The head to be faced is cramped in a small frame about 3 feet 6 inches long and two feet wide by means of a screw operating on a moveable head of the frame; it is then slipped on a pivot in the centre of the wheel and supported by a platform below is pressed against the wheel while the facing is performed.

8th Cog Wheels. On the end of the gudgeons of each of the turned rollers is a small cog wheel, directly below these and meshing into them are large cog wheels. These are on the main shaft of the machine. Another cog wheel on the main shaft meshes into the cog wheel on the crank shaft working the gate of jointing machine.

9th The drum and shaft. The main shaft is placed about the middle of the frame and parallel with it having its gudgeons turning in boxes on the top of the cross pieces of the frame. Near the centre of the shaft is a large drum around which passes a strap to the wheel before described. To this main shaft is applied the driving power which may be steam, water, animal or any other power.

Operation. The machine being put in motion, the staves to be shaved is placed on the rollers with its end between the barrel and binding rollers and by the motion of the machine is carried forward to the knives, forced through between them and shaved. The stave is next conveyed to the jointing pail laid on the crossed pieces of timber, or reel and there by means of the gate brought down upon it which at one or more strokes joints it. The heads and heads are formed at the same time. These staves are then put together by hand and the barrel formed. It is then taken to the pail of the machine

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for shaping the end and cutting the croze, which is done by passing
it over the arms of the shaft and drawing up the wedges or
keys, which forces the blades to the desired point which de-
cides the bevel in its place while doing the work.

What we claim as our invention and which we wish
to secure by Letters Patent is the above described machine
for making Barrels, Kegs and other coopers ware.

In testimony whereof we have hereunto subscribed our
names before two witnesses, and made oath to the same this
twelfth day of September 1831.

Witnesses
Almira Curtis
Walter Curtis

John Cole
Samuel Willcox

(1833 words)

(Granted September 29. 1831)