2 Sheets—Sheet 1.

A. C. BLOUNT.

MACHINES FOR MAKING BARREL-HEADS.

No. 184,750. Patented Nov. 28, 1876.

Fig 1.

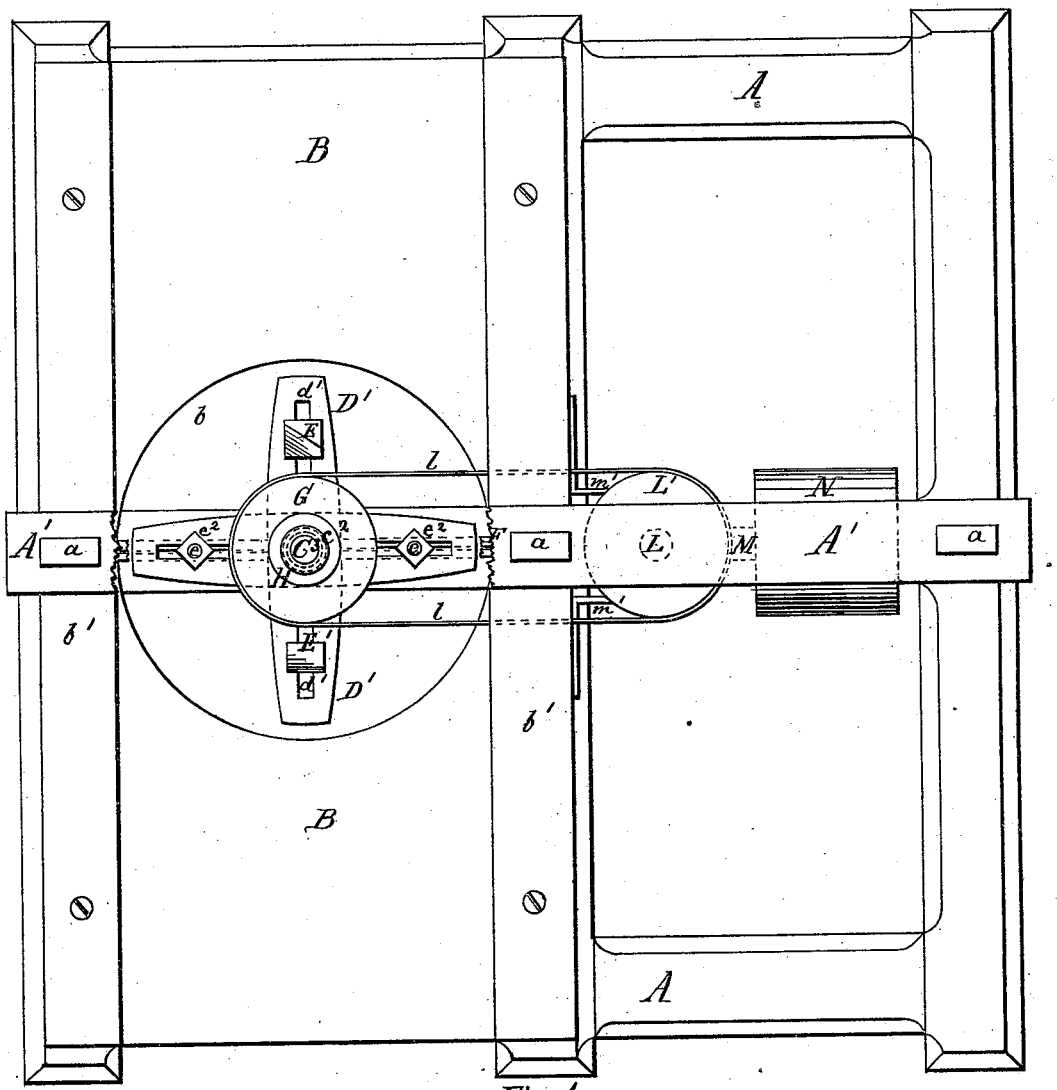
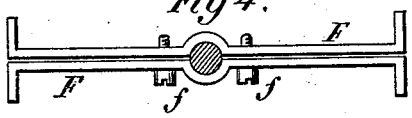


Fig 4.



Witnesses:
James Martin Jr.
J. P. Theodore Lang.

Inventor:
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by
Munn, Fenwick & Laurence
his attys

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Fig 2.

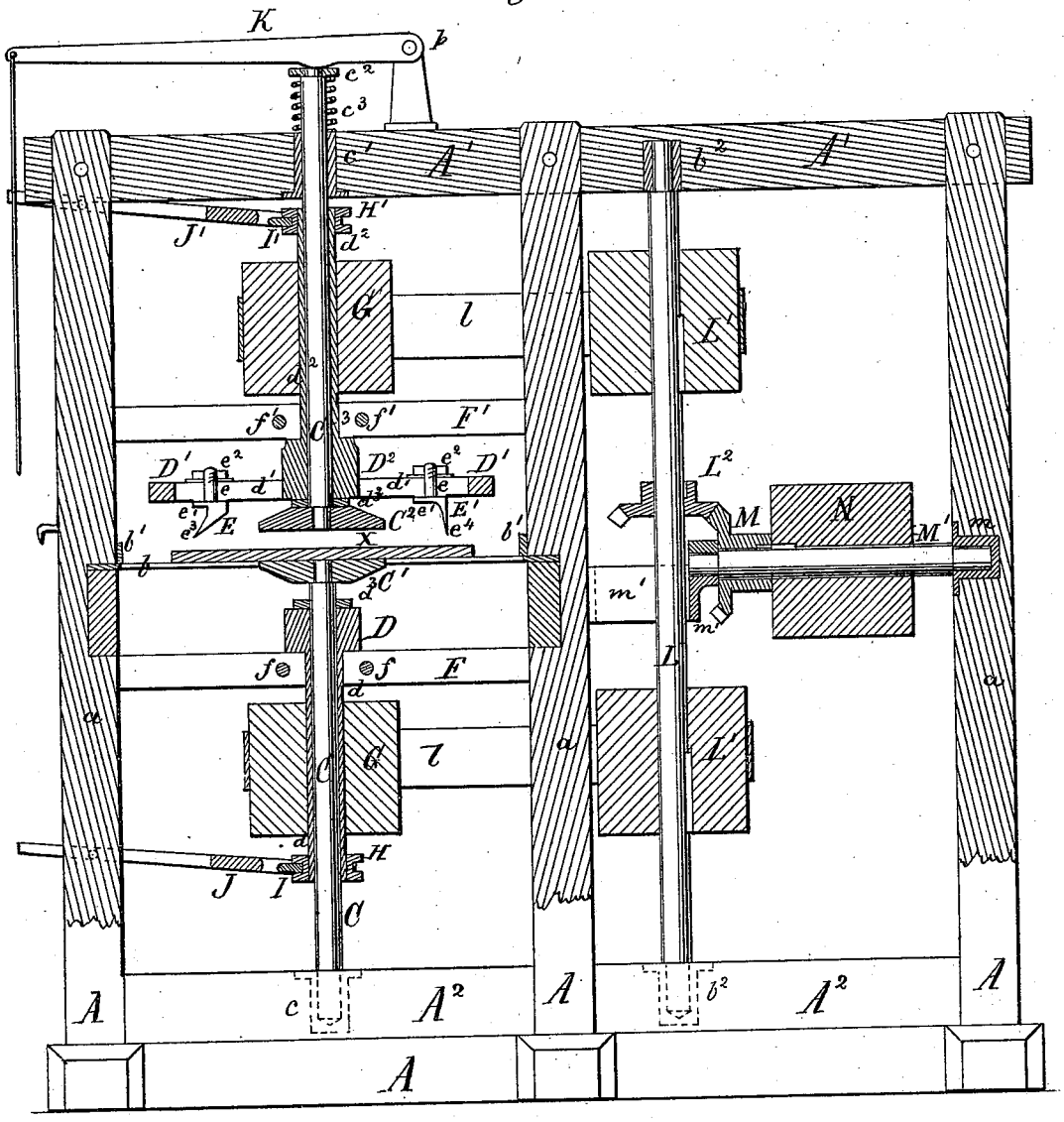
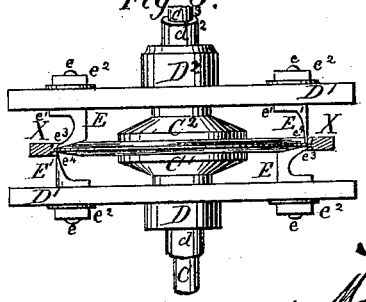


Fig 3.



Witnesses:
James Martin Jr.
F. P. Theodore Long.

Inventor:
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UNITED STATES PATENT OFFICE.

ALEXANDER C. BLOUNT, OF PASCAGOULA, MISSISSIPPI.

IMPROVEMENT IN MACHINES FOR MAKING BARREL-HEADS.

Specification forming part of Letters Patent No. **184,750**, dated November 28, 1876; application filed September 6, 1876.

To all whom it may concern:

Be it known that I, ALEXANDER C. BLOUNT, of Pascagoula, in the county of Jackson and State of Mississippi, have invented certain new and useful Improvements in Machines for Making Barrel-Heads, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a top view of my improved barrel-head machine. Fig. 2 is a vertical of the same. Fig. 3 is a detailed view, illustrating the operation of the clamp and cutters for the formation of the barrel-head; and Fig. 4 is a detailed view of one of the bearings near the cutter-heads.

The object of my invention is to very rapidly and perfectly form a barrel-head, in one piece, out of a board.

The nature of my invention consists, first, in the combination of two clamping-shafts, two cutter-heads, and a perforated table, as will be hereinafter described.

It consists, second, in an upper chamfering-tool and an upper vertically-cutting tool, in combination with a lower chamfering-tool and a lower vertically-cutting tool, in a machine which has revolving cutter-heads for supporting these tools, and suitable clamps for clamping the wood while a barrel-head is being cut.

It consists, third, in a lower vertical clamping-shaft, which is stationary vertically, a revolving cutter-head, which is adjustable vertically on said shaft, an upper clamping-shaft, and a revolving cutter-head, which are adjustable separately vertically, as will be presently described.

It consists, fourth, in the combination of gage-rings, clamping-shafts, and revolving cutter-heads, as will be hereinafter described.

In the drawings, A represents the frame of my improved barrel-head machine, which supports a feed-table, B, with a circular opening, b, and a longitudinal guide-rim, b^1, at each side. Above the center of the opening b the frame A supports, by posts a, a cross-beam, A^1. A similar cross-beam, A^2, is fastened near the foot of the frame to the said posts a. In the lower beam A^2 a step, c, for a vertical shaft, C, is inserted. The said shaft C has a horizontal clamp-head, C^1, fastened to its top, the surface of which is in the same level with the surface of the table B. Upon the lower shaft C the shank d of a horizontally-revolving cutter-head, D, is fitted loosely, so it may turn and slide up and down at the same time. The said cutter-head D has two horizontal arms, D^1, with central radial slots d^1, through which the shanks e of cutters E and E′ are passed. The cutters E E′ are provided with broad bases e^1, and with nuts e^2 screwed on the shanks e. The cutter E has an inclined cutting-edge, e^3, which forms the chamfered part of the barrel-head, and the cutter E′ has a vertical cutting-edge, e^4, and serves to form the vertical edge of the barrel-head, and also to sever the same from the board of which it is made. Below the cutter-head D the shank d is supported by two half-bearings, F, which are fastened to the posts a and adjusted by clamp-screws f at either side of the said bearing, as shown in Fig. 4. The shank d is provided with a pulley, G, and a grooved collar, H, in the groove of which a yoke, I, is fitted. The yoke may, by means of trunnions or other suitable means, be connected with a forked lever, J, whereby the operator is enabled to move the cutter-head up or down on the shaft C. Above the clamp-head C^1 another similar clamp-head, C^2, is supported by a shaft, C^3, which passes through its top bearing c^1 in the upper beam A^1, and is, at its upper end, provided with a collar, c^2, by means of which it is supported upon a spring, c^3. Above the collar c^2 a lever, K, pivoted at k, serves to bear upon the rod or shaft C^3, and thereby move the clamp-head C^2 down upon the board X to hold it steady. The shaft C^3 has a cutter-head, D^2, fitted to it in the same manner as the fit described between the lower cutter-head D and the lower shaft C. An upper cross-bearing, F′, fastened to the posts a above the table B, is of the same construction, and serves the same purpose as the above-described bearing F below the table. The cutter-head D^2 above the table has cutters exactly like those of the cutter-head D below the table, and the same letters of reference are used to designate them, and a description thereof will not necessarily be repeated. The said cutters E E′ may be fastened in the said slots d^1 more or less apart,

to suit the size of the barrel-head. As barrel-heads of large diameter are generally made of thicker boards than barrel-heads of smaller diameter, the vertical movements of the cutter-heads are governed accordingly by the interposition of gage-rings d^3 between the said cutter-heads and the clamp-heads C^1 C^2, whereby the further progress of chamfering of the said cutter-heads is checked at the moment of its perfection. Between the beams A^1 A^2, and near the feed-table B, an upright shaft, L, is secured in bearings b^2, which carries two driving-pulleys, L^1, and a bevel-wheel, L^2. The pulleys L^1 are connected with the pulleys G by means of belts *l*. The bevel-wheel L^2 gears into a bevel-wheel, M, on a horizontal shaft, M′, which is supported by a bearing, *m*, in the post *a*, and a bracket-bearing, *m′*, fastened to the sides of the table B. A pulley, N, on the shaft M, is revolved by means of a belt from the line-shafting of the shop.

Operation: The machine is set in motion, and the blank board X is placed upon the table B and the lower clamp-head C^1. The upper clamp-head C^2 is now moved down by means of the lever K, without moving the cutter-head D^2, and made to bear with great force on the board X. The lever is now locked in its position by one of the many known devices for that purpose, or the operator may hold on to it with one hand. With the other hand he now operates the upper lever, so as to move the revolving cutter-head D down until the cutters E E′ thereon have cut away a sufficient amount of wood to give the right chamfer to the upper side of the barrel-head, and cut half of the vertical edge into the board. The upper cutter-head D is then moved up again out of the way of the board X. The operator, still holding the board X clamped between the two clamp-heads, now moves by means of the lower lever the lower cutter-head D up toward the board X, which is now shaped from below in a similar manner as it is above. The lower cutter-head D is now moved down and out of the way of the board X, the upper clamp-head C^1 is permitted to be moved up by the spring c^3, and the board X is moved into such position upon the lower clamp-head C^1 that it is ready for the finishing of another barrel-head. The barrel-head thus cut, being supported by the lower clamp-head, cannot fall into the machine and clog it, but remains on said clamp-head and in the board X until the said board passes over the aperture *b* in the table.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine having revolving cutter-heads, and suitable clamps for clamping the lumber while a barrel-head is being cut out of it, the cutter-head D, having a chamfering-tool, E, and a vertically-cutting tool, E′, in combination with the cutter-head D^2, having two similar tools, substantially as and for the purpose set forth.

2. The combination of the clamping-shafts C C^3, the cutter-heads D D^2, and the perforated table B, substantially as and for the purpose set forth.

3. The lower vertical clamping-shaft, which is stationary, and a revolving cutter-head, which is adjustable vertically on said shaft, in combination with an upper vertical clamping-shaft, and a revolving cutter-head, which are adjustable separately vertically, substantially as and for the purpose described.

4. The combination of the shafts C C^3, the clamp-heads C^1 C^2, the revolving and vertically-moving cutter-heads D D^2, and the gage-rings d^3, substantially as and for the purpose set forth.

Witness my hand in the matter of my application for a patent for an improved machine for cutting barrel-heads.

ALEX. C. BLOUNT.

Witnesses:

J. P. THEODORE LANG,

CHAS. A. HINCKLEY.