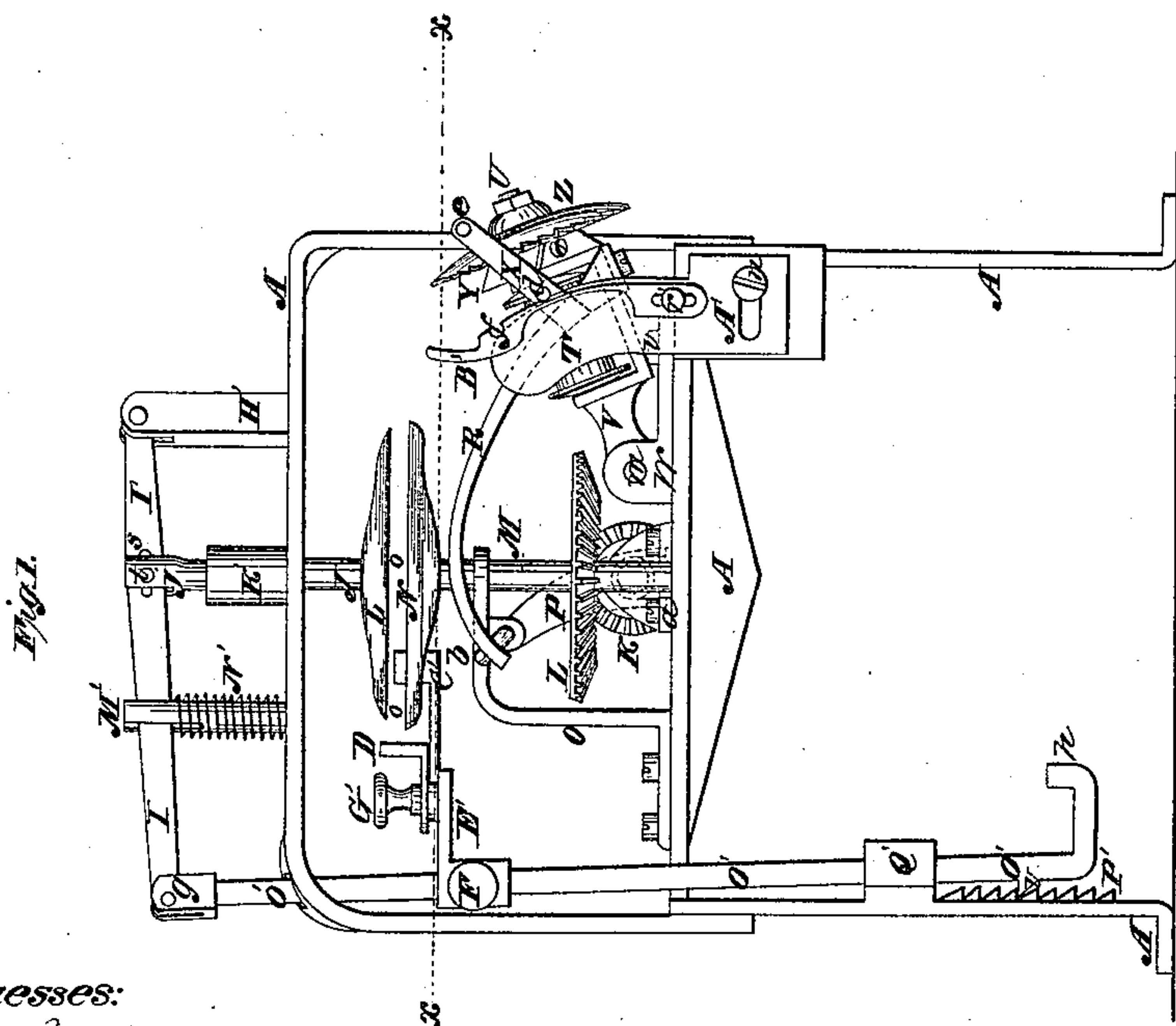
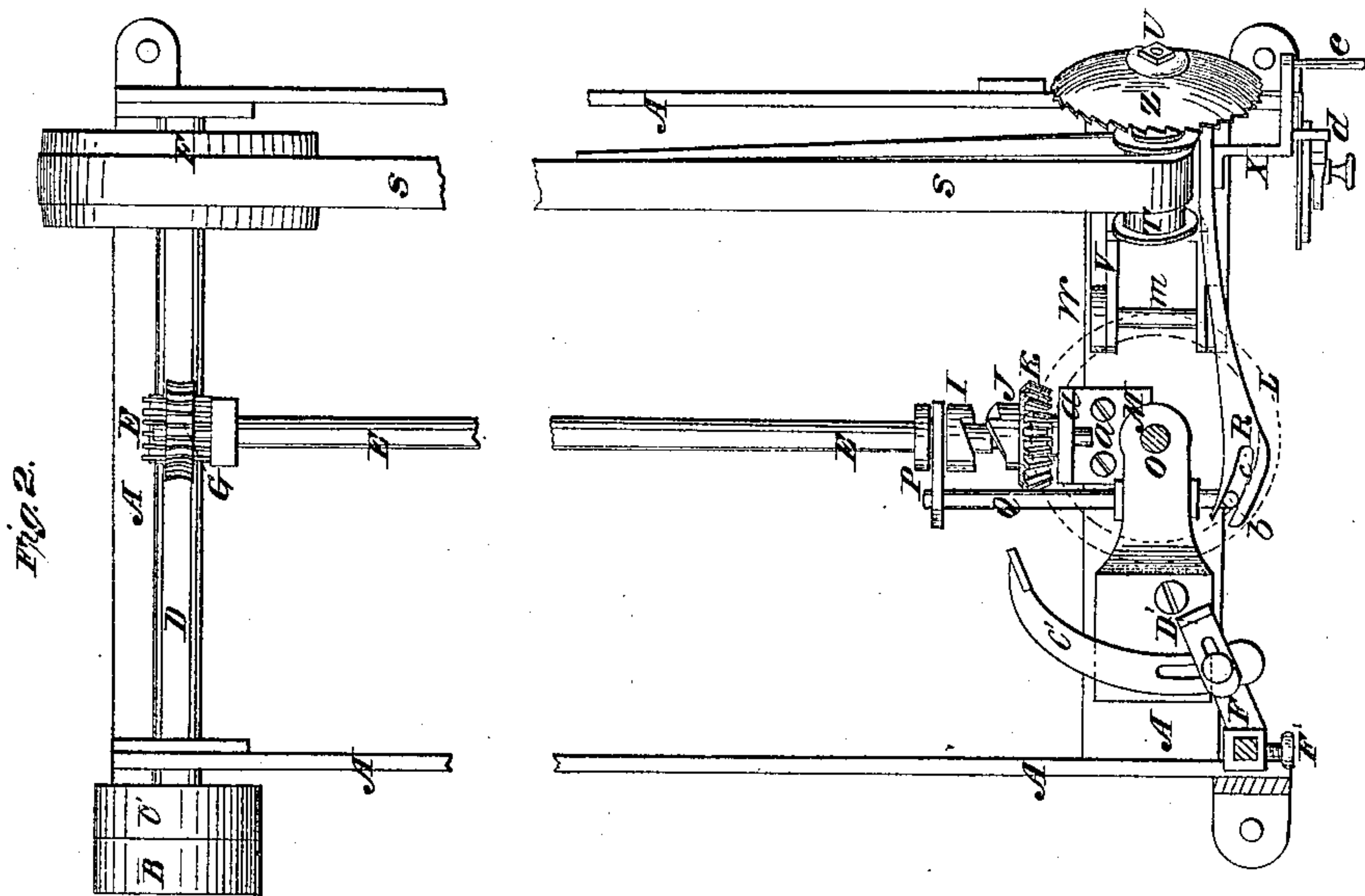


P. Welch,
Making Barrel Heads.
No. 41,248. *Patented Jan. 12, 1864.*



Witnesses:
E. R. Sanbury.
L. D. Hodges.
R. Hodges.

Inventor:
Peter Welch.
By his Attorney.
Chas. L. Jansbury.

UNITED STATES PATENT OFFICE.

PETER WELCH, OF OSWEGO, NEW YORK.

IMPROVEMENT IN MACHINES FOR DRESSING BARREL-HEADS.

Specification forming part of Letters Patent No. 41,248, dated January 12, 1864.

To all whom it may concern:

Be it known that I, PETER WELCH, of Oswego, in the State of New York, have invented a new and Improved Machine for Sawing Barrel-Heads; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of the machine, and Fig. 2 is a top view of the parts below the line *x x* of Fig. 1.

The same part is marked by the same letter in both the figures.

The nature of my invention consists in an improved mode of clamping the head in the machine by means of a lever controlled by the foot of the operator, and in a new method of throwing the feed into and out of gear, so that the head will only revolve while the saw and chisels are doing their work, all as hereinafter more particularly described.

To enable others to make and use my improved machine, I will proceed to describe its construction and operation, referring to the drawings, whereon—

A marks the frame of the machine, which I usually make of cast-iron.

B is the loose, and C the fast, pulley, to which a band communicates motion from any suitable prime mover.

D is the main shaft running transversely across the rear end of the machine. This shaft carries the worm E and the pulley F. Into worm E gears toothed wheel G on the rear end of shaft H. The front end of this shaft connects by a clutch, I J, with the bevel-wheel K, gearing into bevel-wheel L. This wheel L is on the upright shaft M, the lower end of which is stepped on the cross-framing, and its upper end carries the lower clamp, N, of the pair of clamps that hold the barrel-head. The shaft M is supported near its upper end in a collar in the end of the bent arm O.

P marks a fork for operating the loose jaw I of the clutch, to which it is connected by means of a collar, *r*. (See Fig. 2.) A rod, Q, is firmly attached to the fork P and operates it. This rod passes through lugs on the arm O, and is bent up at its forward end, *b*, into the position shown in Fig. 1. The end *b* is received into an inclined slot, *c*, in the end of a fork-arm, R, so that as that arm moves

back and forth transversely across the front of the machine the rod Q will reciprocate in its guiding-lugs and throw the clutch-jaws I J into and out of gear with each other. The arm R is attached to the tool-stock, and is moved by it and with it.

S marks a band from pulley F to spool T, which is on the saw-shaft U and hung in the tool-stock V. The tool-stock is pivoted by rod *m* to lugs on the adjustable plate W, which can be fixed at any desired position by means of set-screws *v'*, working through slots in said plate into the cross-frame. (See Fig. 1.) The object of this adjustment is to adapt the position of the tools to the cutting of heads of any size.

X marks the arm of the tool-stock, by which the tools are brought up to and drawn back from the work. It is operated by means of the handle *e*.

Y marks the cutters or chisels, which are attached to the shaft U near the inner face of the saw, and are so constructed and arranged as to bevel and square the edges of the barrel-head at the same time.

Z is the dished saw on the end of shaft U. It is constructed and operates in the usual way.

A' marks an adjustable rest, on which is supported the arm X by means of pin *d*, which moves on the curved upper edge of the rest. This rest is adjustable by means of set-screw *n*, passing through a slot in the rest in the usual way. An adjustable spring, B', is attached by set-screw *i* to the face of the rest A'. It has a notch, *f*, near its upper end, which receives pin *d* of arm X, and holds the tools in position while they are doing their work. When the spring is depressed, the notch is disengaged from the pin and the arm X released, so that the tool-stock can fall back away from the work. As the tool-stock moves up toward the clamps the fork-arm R moves with it, and by the operation of slit *c* on the end of rod Q draws the clutch-jaws together. When the stock falls back, the clutch-jaws are again thrown out of gear.

C' and D' mark two adjustable gages or guides, which regulate the position of the head in the clamps, insuring the accurate centering of the head. They are both adjusted by one set-screw, G', on arm E'. That arm has a square collar by which it is attached at

any desired position to the square upright rod O', the set-screw F' fixing it to said rod at any point required.

H' is a stanchion on the top of the frame, to which is hinged the lever I', to which the rod J' is pivoted at *t* in the slot *s*. The rod or shaft J' passes down through the sleeve K', which guides and steadies it, and has attached to its lower end the upper clamp, L', of the pair of clamps between which the barrel-head is held. This clamp is provided with pins *o*, to assist in holding the head and keep it from rotating in the clamps.

M' is a forked standard which receives the lever I, which rests on the spiral spring N', which tends to throw the lever up. The lever I' is pivoted at *g* to the vertical rod O', which passes down through a slot in the frame and through a collar, Q', on the frame to a position near the ground, where its bent end *h* can readily be reached by the foot of the operator. This rod has a spur, *v*, near its lower end, which engages the teeth of a rack, P', attached to the frame, and holds the rod in any desired position. The rod has sufficient play in the collar Q' to allow the spur *v* to be disengaged at will.

The operation is as follows: The head to be operated on is inserted between the clamps and correctly centered at once by the gages C' D', previously adjusted. The operator then places his foot on the lower end, *h*, of the rod O' and brings down the upper clamp, L', upon the head, which it securely holds. The spur *v*, being engaged with one of the teeth of rack P', holds the lever I' down. At the same time that the clamp L' descends the gages C' and D', by reason of their attachment to the rod O', descend with it, out of the way of the head. Power being applied to the fast pulley C, the saw and chisels are set in rapid motion, and the tool-stock is moved up to the work by

the operator by means of the handle *e* of arm X. As the stock moves up the fork R throws the clutch-jaws together, which couples the wheel K to the revolving shaft H, and causes said wheel to rotate and impart motion to wheel L, shaft M, and the clamps L' and N. It should be observed that the clamp L' is pivoted onto the lower end of shaft J', so as to turn freely on it. Thus the clamps, and the head held between them, are slowly revolved while the saws and chisels perform their work. When the head is completed, the tool-stock is released from its spring B' and retracted to its original position, when the clutch is uncoupled and the revolution of the clamp ceases. The finished head is then removed and a new blank inserted for a repetition of the operation.

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

1. The combination and arrangement in the manner described of the foot-rod O', lever I', shaft J', and clamp L', for the purpose specified, not intending hereby to claim, broadly, the holding or clamping of the barrel-head by means of a foot-lever.

2. The mode specified of throwing the feed into and out of gear by the combination of the clutch I J, fork P, rod Q, and fork R, constructed, operated, and operating substantially in the manner described.

3. The adjustable gages C' D', attached in the manner set forth to the rod O', and arranged and operated substantially as specified.

The above specification of my said invention signed and witnessed at Chicago this 19th day of November, A. D. 1863.

PETER WELCH.

Witnesses:

J. STANFORD,
G. W. STANFORD.