A. WASON.

Machine for Making Barrel-Heads.

No. 209,311. Patented Oct. 22, 1878.

Fig. 1.

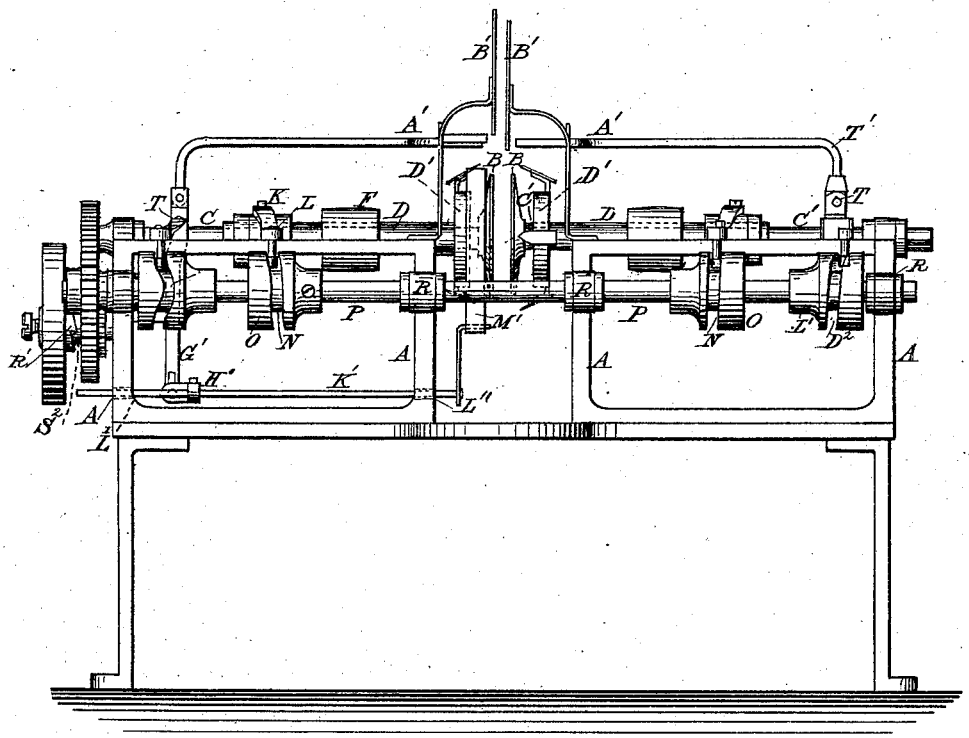
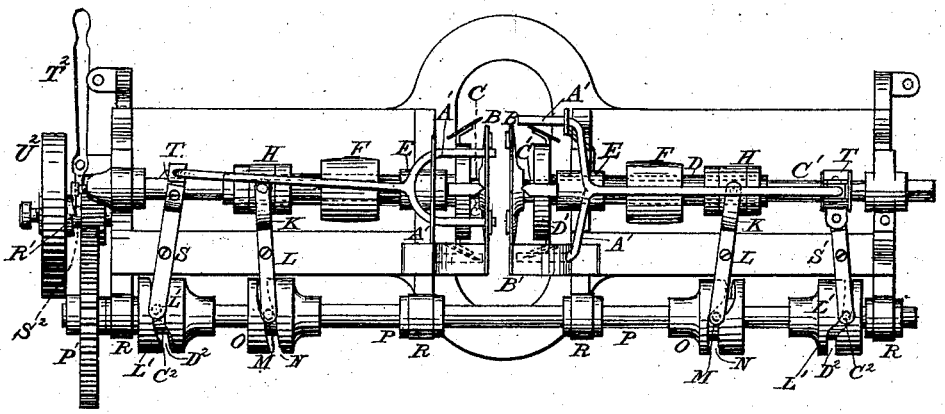


Fig. 3.



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2 Sheets—Sheet 2.

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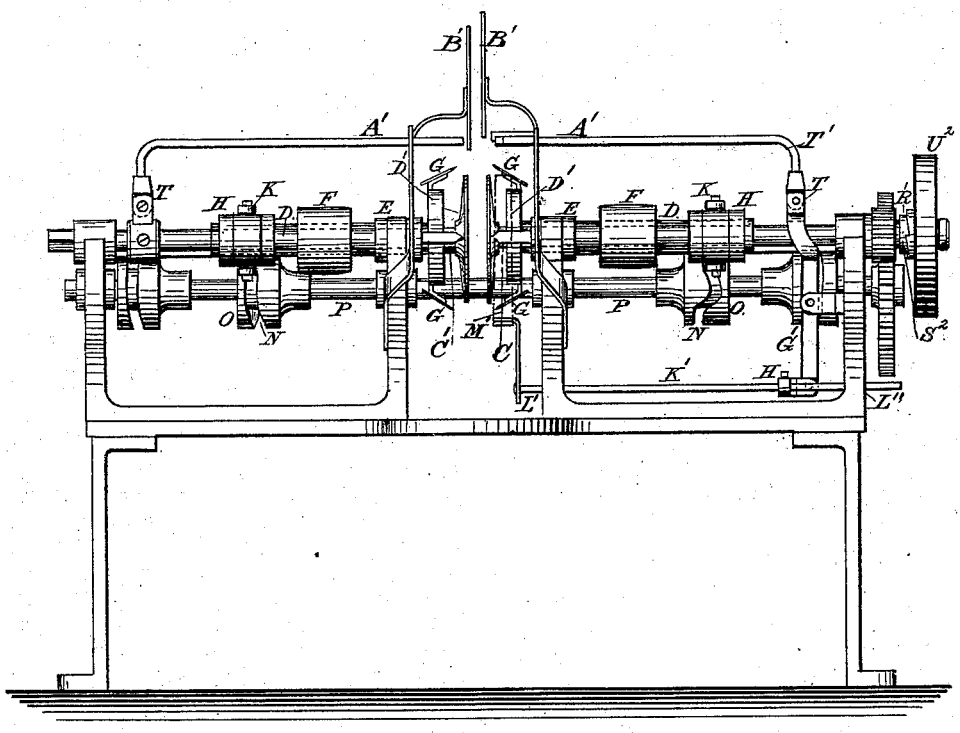
Fig. 2.



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UNITED STATES PATENT OFFICE.

ABRAHAM WASON, OF NEW BOSTON, NEW HAMPSHIRE.

IMPROVEMENT IN MACHINES FOR MAKING BARREL-HEADS.

Specification forming part of Letters Patent No. **209,311**, dated October 22, 1878; application filed September 25, 1878.

To all whom it may concern:

Be it known that I, ABRAHAM WASON, of New Boston, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Machines for Cutting and Shaping Barrel-Heads, of which the following is a specification:

This invention relates to an improved machine for cutting and shaping barrel-heads, and it has for its object to provide an apparatus in which the heads may be automatically cut from a blank and chamfered at their edges, as more fully hereinafter specified.

To this end my invention consists in the combination, with two revolving cutter-heads, mounted on hollow shafts in suitable journals, and having a reciprocating as well as a rotary motion, of two clamping-disks, mounted upon cylindrical bars extending through the hollow journals of the cutter-heads, one of which is provided with automatically-operating mechanism by means of which it may be caused to approach to or recede from the other, which is fixed, in order to automatically seize the blank and hold it during the operation of the cutters, and release the head when completed, as more fully hereinafter specified.

My invention also consists in the combination, with the clamps and rotary cutter-heads, of a guide for directing the insertion of the blank, and automatically-working stopping devices for holding the blank until the preceding head has been cut and discharged from between the clamps, as more fully hereinafter specified.

My invention further consists in the combination, with the clamps, of an automatically-operating releasing device, for releasing the finished head from the clamps, as more fully hereinafter set forth.

In the drawings, Figure 1 represents a front elevation of my improved apparatus. Fig. 2 represents a rear elevation, and Fig. 3 represents a top view, of the apparatus.

The letter A represents the frame of the machine, which carries the working parts thereof. The letter B represents two clamping-disks, facing each other, at the center of the machine, and mounted upon cylindrical bars C C^1, extending through the hollow shafts D of the cutter-heads D^1, which are journaled in bearings E in the frame A. The hollow shafts are each provided with a pulley or drum, F, by which a rotary motion may be imparted to the same; and the cutter-heads each carry an angular cutter, G, by means of which the barrel-head is cut from the blank and chamfered at its edges.

At the rear of the pulleys, on the hollow shaft of each cutter-head, are secured collars H, which are embraced by the branches K at the ends of the bifurcated levers L, fulcrumed to the frame A, the opposite ends of said levers being provided with friction-rollers M, which sit in cam-grooves N in the drums O on a rotating shaft, P, journaled in bearings R in the frame A, by means of which a reciprocating movement is given to the hollow shaft, so as to advance the cutter-heads to the work and carry said heads away from the same at proper times.

The letters S S^1 represent two levers fulcrumed to the frame A, one of which is pivoted at its forward end to one of the clamp-shafts. Each of said levers is provided with an extension, T, rising vertically, and then extending horizontally to the center of the frame, where they terminate in bifurcated branches A′. The said extensions move to and from each other when the machine is in operation, and form a stop for regulating the insertion of the blank, as more fully hereinafter specified.

The letter B′ represents the guiding devices, which consist of upright standards rising from the frame of the apparatus above the clamps and the stops, a space being left between the two for the insertion of the blank to be fed into the machine.

The levers S and S^1 are provided at their outer ends with friction-rollers C^2, which sit in cam-grooves D^2 in the drums L′ on the shaft P, by which the levers are given an oscillating movement. The lever S^1 serves to reciprocate the bar C^1 of the clamp, so as to cause the same to approach and recede from the opposite clamp at proper intervals to seize the blank and subject it to the action of the cutters. Said lever also serves to actuate the ex-

tension T^1 of the stop, the other lever, S, serving to actuate the opposite extension, so as to operate in unison therewith, and riding free of the clamping-disk bar C, which is stationary.

To the lever S is secured one end of a lever, G′, fulcrumed to the frame A, the other end of which is pivoted to a cross-bar, H′, to which are attached the reciprocating rods K′, mounted in ways or guides L″ in the frame, and to which are attached the upwardly-extending arms, M′, which sit just behind the stationary clamp, and serve, when thrust forward to force the finished head away from the stationary clamp, to facilitate the discharge of said head from the machine.

The shaft P is provided at one end with a gear-wheel, P′, which engages a pinion on a shaft, R′, journaled at one end of the machine, said pinion being provided on its front face with a ratchet, S^2, and being capable of a longitudinal movement on its shaft, controlled by a lever, T^2, by means of which it can be thrown into and out of gear with a similar ratchet-wheel on the hub of a loose pulley, U^2, mounted on the same shaft, whereby the shaft may be put in motion or stopped at will.

The operation of my improved apparatus is as follows: The hollow shafts of the cutter-heads being put in motion, as well as the shaft P, the reciprocating clamp will be caused to travel back and forth toward the stationary clamp. At the same time the stopping devices will be caused to approach to and recede from each other, and the cutter-heads will also be caused to approach to and recede from the work. The work is fed in between the guides, and is held by the stops, which close together at the proper time, until the reciprocating head has receded from the stationary head and the two clamps are in position to receive the blank. When in this position the stops have receded from each other, permitting the blank to be fed in between the clamps, by which it is seized when the cutters advance and commence their work upon the blank. When the head is cut and severed therefrom the parts again assume their normal positions, ready for work upon the succeeding part of the blank.

What I claim is—

1. In a machine for making barrel-heads, the combination, with the clamping-disks B, their shafts C C^1, the cutter-heads D^1, and their hollow shafts D, of the collars H on the latter, the pivoted levers K, attached to said collars, and the drums O on the shaft P, having cam-grooves, in which the ends of the levers K are arranged, substantially as and for the purpose described.

2. The combination of the following elements, to wit: the clamping-disks B B, their shafts C C^1, the cutter-heads D^1, their hollow shafts D, and mechanism for reciprocating the same, the pivoted lever S, pivoted to one of the clamp-shafts, and the drum L′, having a cam-groove, in which the end of the lever S is arranged, substantially as and for the purpose described.

3. The combination, with the stationary clamping-disk and its shaft, of the vertical releasing bars M′, the rods K′, cross-bar H′, vertical pivoted lever G′, and a horizontal lever, S, attached at one end to the lever G′, and having its other end arranged in a cam-groove in the rotating drum L′, all arranged to automatically move the bar M′ to discharge the finished barrel-head, substantially as shown and described.

4. The combination, with the clamping-disks B and rotary cutters D^1 of a machine for making barrel-heads, of the upright standards, forming guides B′, facing each other and arranged above the disks and cutters, the bifurcated branches A′, and mechanism such as described for automatically reciprocating said branches, as and for the purpose described.

5. In combination with the stationary clamping-disk and the rotary cutter, the releasing-bars, automatically operated by suitable mechanism to discharge the finished head, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

ABRAHAM WASON.

Witnesses:

RICHARD J. P. GOODWIN,

JNO. D. MACDONALD, M. D.