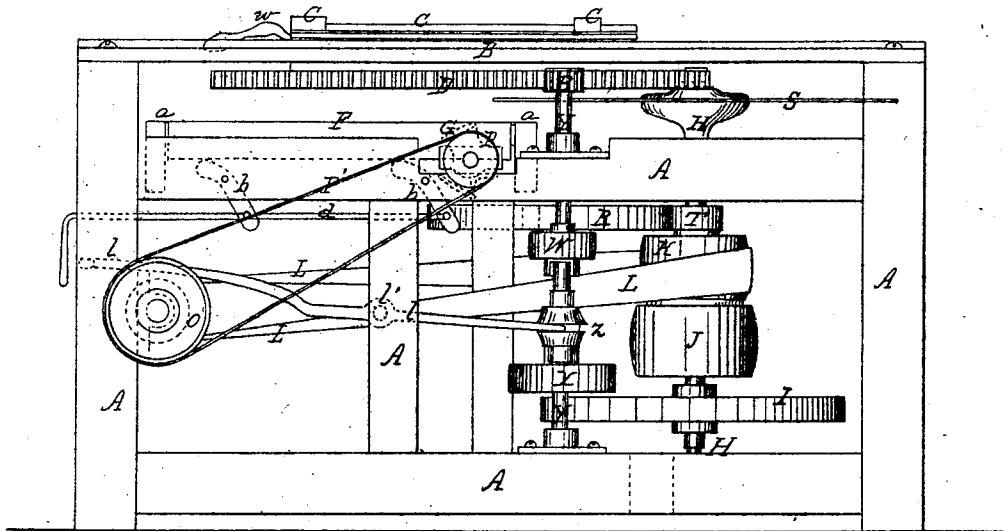
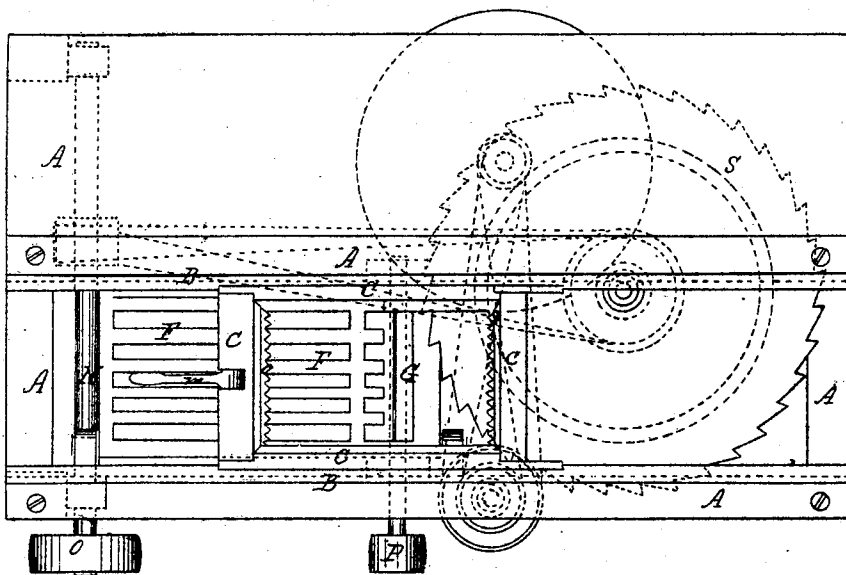


*C. J. Holman.*  
*Sawing Barrel-Heading.*  
*N<sup>o</sup> 72639*      *Patented Dec. 24, 1867*



*Fig. 1.*



*Fig. 2.*

*Witnesses.*  
*W. E. Mans*  
*J. H. Herchel.*

*Inventor.*  
*Calvin J. Holman.*

C. J. Holman.

Sawing Barrel-Heading.

N<sup>o</sup> 72639

Patented Dec. 24, 1867

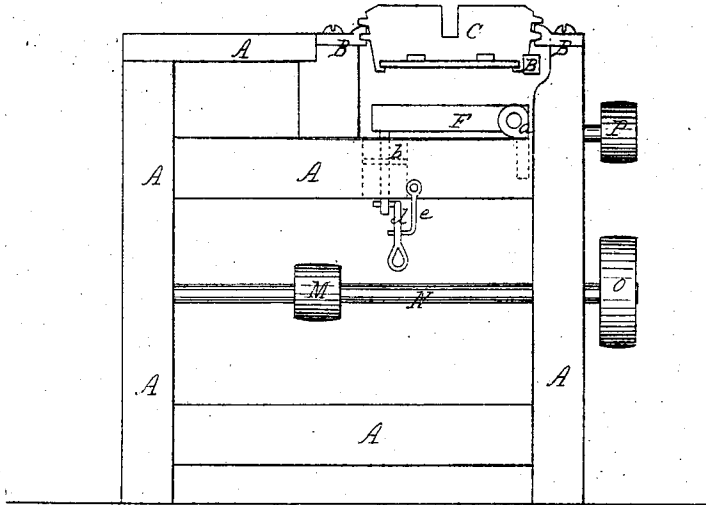


Fig. 3.

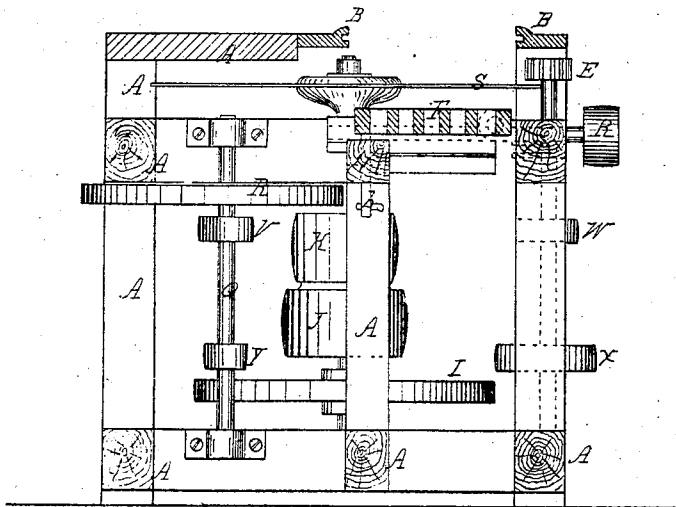


Fig. 4.

Witnesses

W. E. Mang  
J. H. Keitel.

Inventor

Calvin J. Holman

# United States Patent Office.

CALVIN J. HOLMAN, OF CHICAGO, ILLINOIS.

Letters Patent No. 72,639, dated December 24, 1867.

## IMPROVEMENT IN MACHINES FOR SAWING BARREL-HEADING.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, CALVIN J. HOLMAN, of Chicago, in the county of Cook, and State of Illinois, have invented a new and useful Improvement in Machines for Manufacturing Heading for Coopers' Ware; and I do hereby declare and make known that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters and figures marked thereon, which form part of this specification.

My said invention consists in arranging a saw and a planing-cylinder in combination with a reciprocating bed or carriage, in such a manner that the material for forming heading to barrels and similar ware may be sawed from the bolt or block and planed at the same time; said carriage, also, being susceptible of such an adjustment as to form one edge of the heading thinner than the other edge, as desired.

To enable those skilled in the art to understand how to construct and use my invention, I will proceed to describe the same with particularity, making reference, in so doing, to the aforesaid drawings, in which—

Figure 1 represents a side elevation of my invention.

Figure 2 is a plan or top view of the same.

Figure 3 is an end view or elevation thereof, and

Figure 4 is a transverse sectional view at the line *x* in fig. 2.

Similar letters of reference in the several figures denote the same part of my invention.

A represents a suitable frame, supporting the operating parts of the machine, B B being suitable ways or guides, upon which the reciprocating carriage C moves towards and from the saw S and planing-cylinder G. The required reciprocating motion is given to said carriage by means of a pinion, E, operating upon the rack D, as hereinafter described. The said carriage has no bottom, the bolt from which the heading is cut resting upon a table, F, below, along which it slides with the motion of the carriage, which is provided at each end with a row of teeth, *c c*, which are clamped into the ends of the bolt, holding it securely in place, the rear teeth being thrown out or in, as desired, by means of an arm or lever, *m*. The said table or bed F is hinged or pivoted at one side, as shown at *a*, in figs. 1 and 3, so that the opposite edge of the bed may be raised or lowered, as desired, thus enabling the distance between one edge of said bed and the said horizontal saw S to be made less than the distance between the other edge of said bed and said saw, thus cutting the heading with one edge thinner than the other, as desired. The edge of said adjustable table F, opposite the hinged side, is supported upon arms *b b*, which are pivoted to the stationary frame, and are attached by their lower ends to a rod, *d*, so that the adjustment of said bed F is effected by drawing out or pushing in the rod *d*, *e* representing a catch to hold said rod from moving in and lowering the bed when the machine is in operation. In the end of the frame of said adjustable bed F are arranged suitable bearings for the journals of a planing-cylinder, G, so that said cylinder is always in the same plane with said bed. The saw S is suitably mounted upon a vertical shaft, H, upon which are fixed two drums, J K, a balance-wheel, I, and a friction-gear wheel or pinion, T, as clearly shown in fig. 1, said shaft H and its appendages being the means of communicating motion to the various parts of the machine by means of a belt upon the drum J. L is a belt, passing around the drum K and the drum M, upon the shaft N, (seen in fig. 3,) whereby, by the intervention of the drums O and P, and a belt, P', motion is imparted to the planing-cylinder G. In fig. 4 is shown a vertical shaft, Q, provided with a friction or cog-wheel, R, gearing with the aforesaid pinion T upon the shaft H, and also with the two drums U V, which are connected by belts respectively with the drums W and X, which of themselves revolve loosely upon the shaft Y, shown in fig. 1, the band around U and W being crossed, so as to revolve the drum W in the opposite direction from drum X. Z represents a clutch, arranged upon said shaft Y, between the drums W X, as seen in said fig. 1, in such a manner as to have a sliding movement up and down on said shaft Y, but which revolves the shaft when revolved itself, as hereinafter specified. The said clutch is so constructed as to engage with either of said drums W X, according as it may be moved up or down, by means of the lever *l* or otherwise; and thus, when the clutch is in gear with the drum X, the shaft Y is revolved in the proper direction to produce the forward or feed-motion to the carriage C, and when said clutch is engaged with the drum W, the retrograde motion of the carriage is produced, the relative size and proportions of the several drums, U W and V X, being such as to move the carriage C with the required speed in each direction. Thus it will be seen that by revolving the shaft H, motion

is imparted to all the operating parts of the machine—the saw S, planing-cylinder G, and carriage C—or said motion may be imparted by any other suitable system of gearing.

It will be observed that as the carriage is moved towards and underneath the saw, the under side of the bolt or block, resting upon the bed F, passes over the planing-cylinder, and is planed off smooth, while the saw is cutting the heading of the required thickness from the bolt; and when said piece has been separated, the bolt is dropped down upon the bed, the carriage run back, and the operation is repeated, both operations, sawing the bolt and planing the finished piece, being accomplished at the same time, and with one movement of the carriage.

Having described the construction and operation of my invention, I will specify what I claim, and desire to secure by Letters Patent.

1. I claim the combination of the adjustable bed F, planing-cylinder G, and saw S, constructed and arranged to operate substantially as and for the purposes specified.

2. I claim the combination of the bed F, planing-cylinder G, carriage C, and saw S, constructed and arranged to operate in the manner and for the purposes set forth.

CALVIN J. HOLMAN.

Witnesses:

W. E. MARRS,

L. L. COBURN.