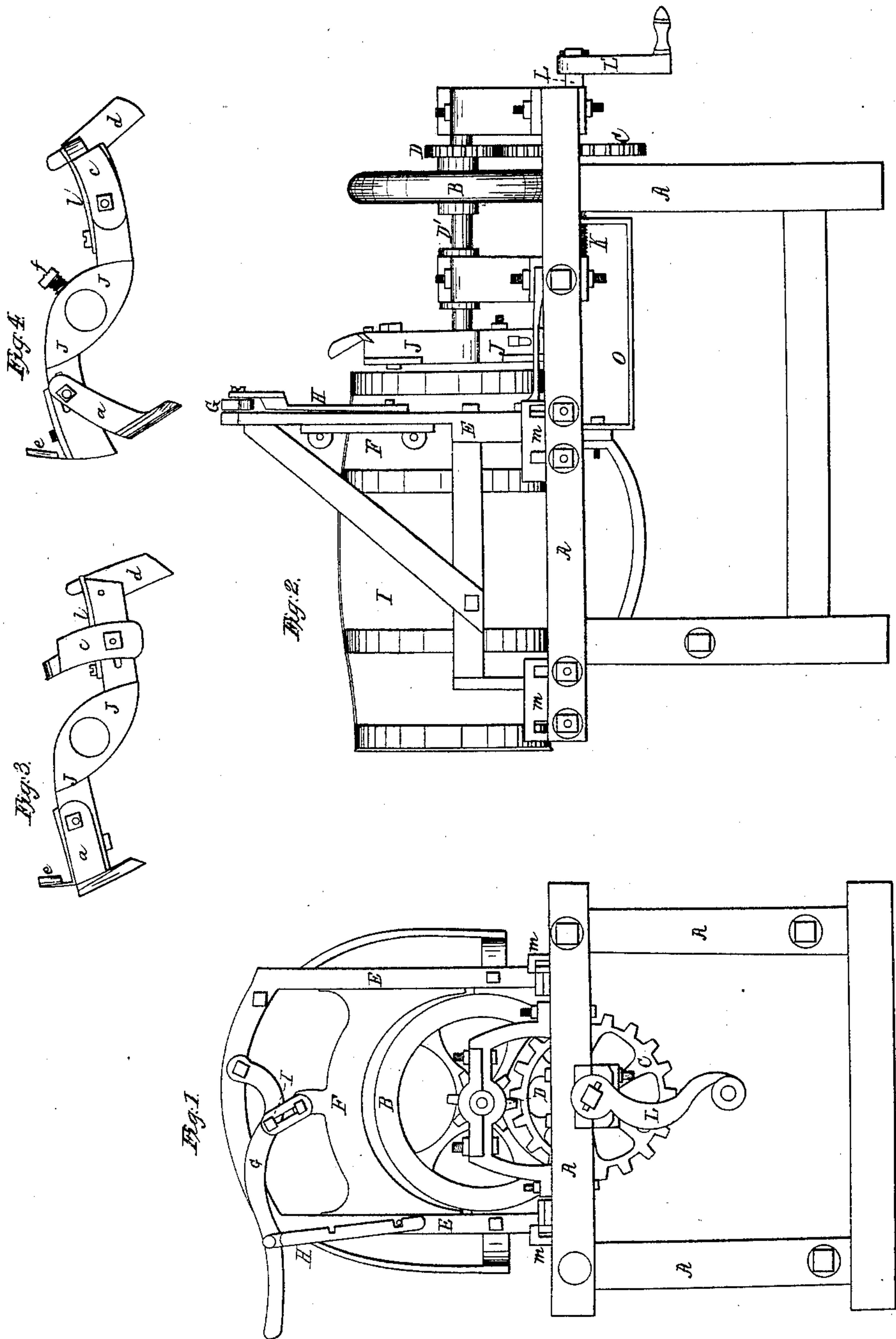


W. M. Arnall,  
Crozing Stares.

*Crozing Stares.*

*N<sup>o</sup> 21,718,*

*Patented Oct. 5, 1858.*



# UNITED STATES PATENT OFFICE.

WM. M. ARNALL, OF SPERRYVILLE, VIRGINIA, ASSIGNOR TO HIMSELF, O. P. SMITH, AND  
A. C. JORDAN.

## MACHINE FOR CROZING, CHAMFERING, AND BEVELING BARRELS.

Specification of Letters Patent No. 21,718, dated October 5, 1858.

*To all whom it may concern:*

Be it known that I, WM. M. ARNALL, of Sperryville, in the county of Rappahannock and State of Virginia, have invented certain new and useful Improvements in Barrel-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in the peculiar arrangement and adjustability of the blades, as also the clamp for the barrel as will be hereinafter fully described.

In order that those skilled in the arts may make and use my invention I will proceed to describe its construction and operation.

In the annexed drawings Figure 1 is an end view of the machine. Fig. 2 is a side elevation. Figs. 3, and 4, represent the tools in different positions on the arms.

In the several figures A, represents the frame work of the machine.

C, is a large cog wheel which drives the machine. This wheel is secured to a shaft L. On one end of this shaft is a screw K, and on the other is a handle L'. The cog wheel C, works into a pinion D', on a shaft marked D'.

B, is a balance wheel located on shaft D'.

J, J, represent two arms which are secured to one end of the shaft D', and to these arms are secured the cutting blades which are four in number—a blade (d), for the purpose of leveling the end of the barrel, blade e, for chamfering blade (a) for troweling, and the croze (c). Two of these blades are secured to each of the arms. The peculiarity of the arrangement of the blades will be perceived when we consider the work to be performed. The first operation necessary in this kind of work is the chamfering of the staves. Consequently, this should be the first cutting blade—and as the inshave, or trowel and the crozing, is further in the mouth of the barrel it is necessary that these blades should not be in the way of the working of the chamfering blade. In order to accomplish this object, I arrange the trowel blade and the croze, in such a manner that they may be adjusted out of the way while the chamfering blade is at work. In Fig. 3, the croze, is moved back and in Fig. 4 the

trowel blade is thrown out of the way. After the staves are chamfered, it is necessary that the inshave or trowel, should be made before crozing. The machine is then stopped and the wheel turned in an opposite direction. This throws the trowel blade in cutting position. The barrel after being troweled is ready for crozing. The direction of the driving wheel is again changed, moving the trowel blade out of the way. The croze is then raised as seen in Fig. 4, and the spring placed against its back to keep it in position and it is then ready for work. The crozing being done the croze may be moved back and the leveling blade will then level the end of the barrel. These blades are all common to this class of machines, but in no machine now known are the blades so easily and quickly adjusted to suit the work as in this.

E, E, is the frame which bears the barrel to and from the cutters. This frame is provided with slots, on both sides, into which pass the supports (n, m,) at front and back. O, is a bar connecting this frame with the screw K. K passes through bar O, and by means of it operates the frame backward and forward, by reversing its motion. The bed of this frame in which the end of the barrel lies is made circular—in a half circle.

F, is a semicircular clamp which is secured to the front of the frame so that it will slide up and down.

G, is a cam lever connected to the clamp by means of the piece i.

H is a bar attached to lever G, and is provided with slots which catch on pins in the frame E and serves to secure the lever at any desired point.

The object of this clamp is as follows—the barrel being placed upon the carriage it is not necessary that it should be fully hooped, for being brought up under the clamp, with the ends of the staves flaring out, the clamp can be lowered upon it and by means of the cam lever, the staves will be pressed closely together and are then ready to be operated upon. Clamping the staves thus and securing the lever is but the work of a moment. I know that the ends of the staves have been forced into a solid rim but in order that they should be tight together the rim should be small and if small the end of the barrel will not go in without first a hoop on or near the end. By my ar-



arrangement any sized barrel may be put under the clamp and the staves pressed together ready for work in a moment of time.

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

Not the employment of the several tools—  
but the arrangement of the adjustable croze

and trowel blade, with the stationary leveling blade, and chamfering tool when the 10 same are constructed and operated in the manner and for the purpose herein specified.

WM. M. ARNALL.

Witnesses:

C. M. ALEXANDER,

JOHNS HITTINGSHEAD.