

(No Model.)

F. S. PALMATIER.

MACHINE FOR CROZING, CHINING, AND TRIMMING BARRELS.

No. 549,651.

Patented Nov. 12, 1895.

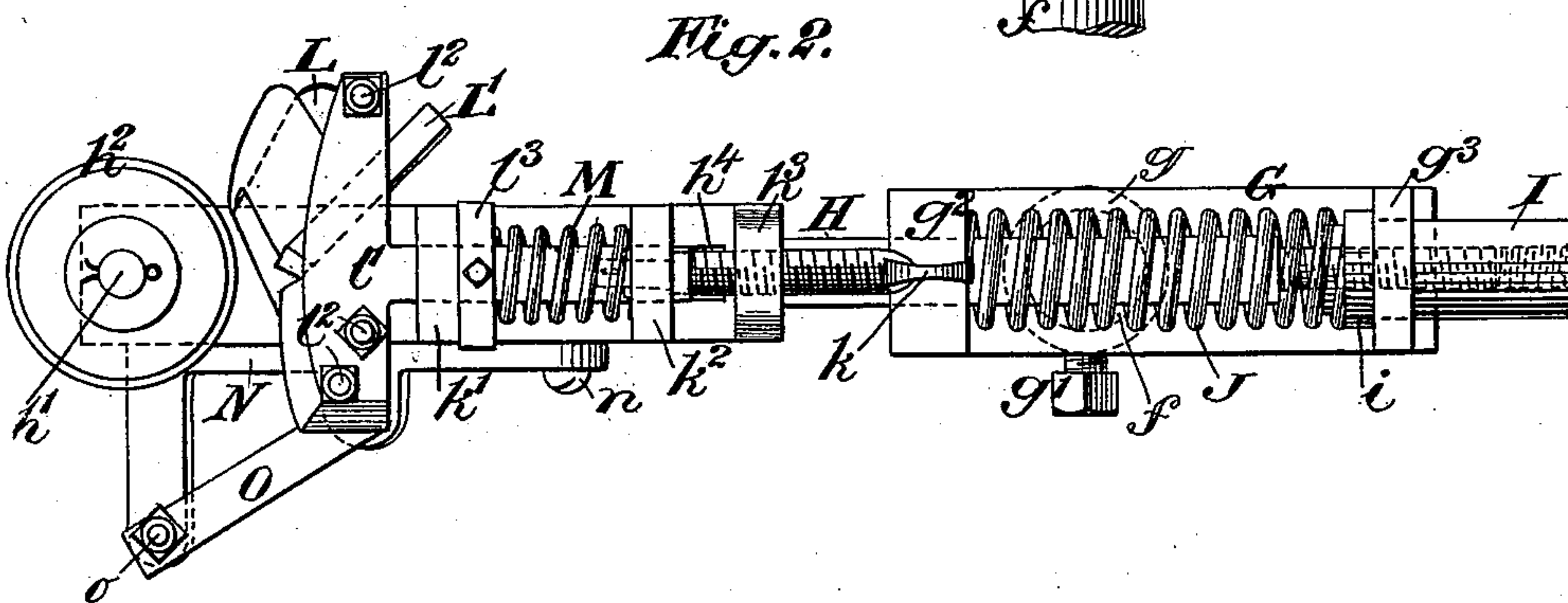
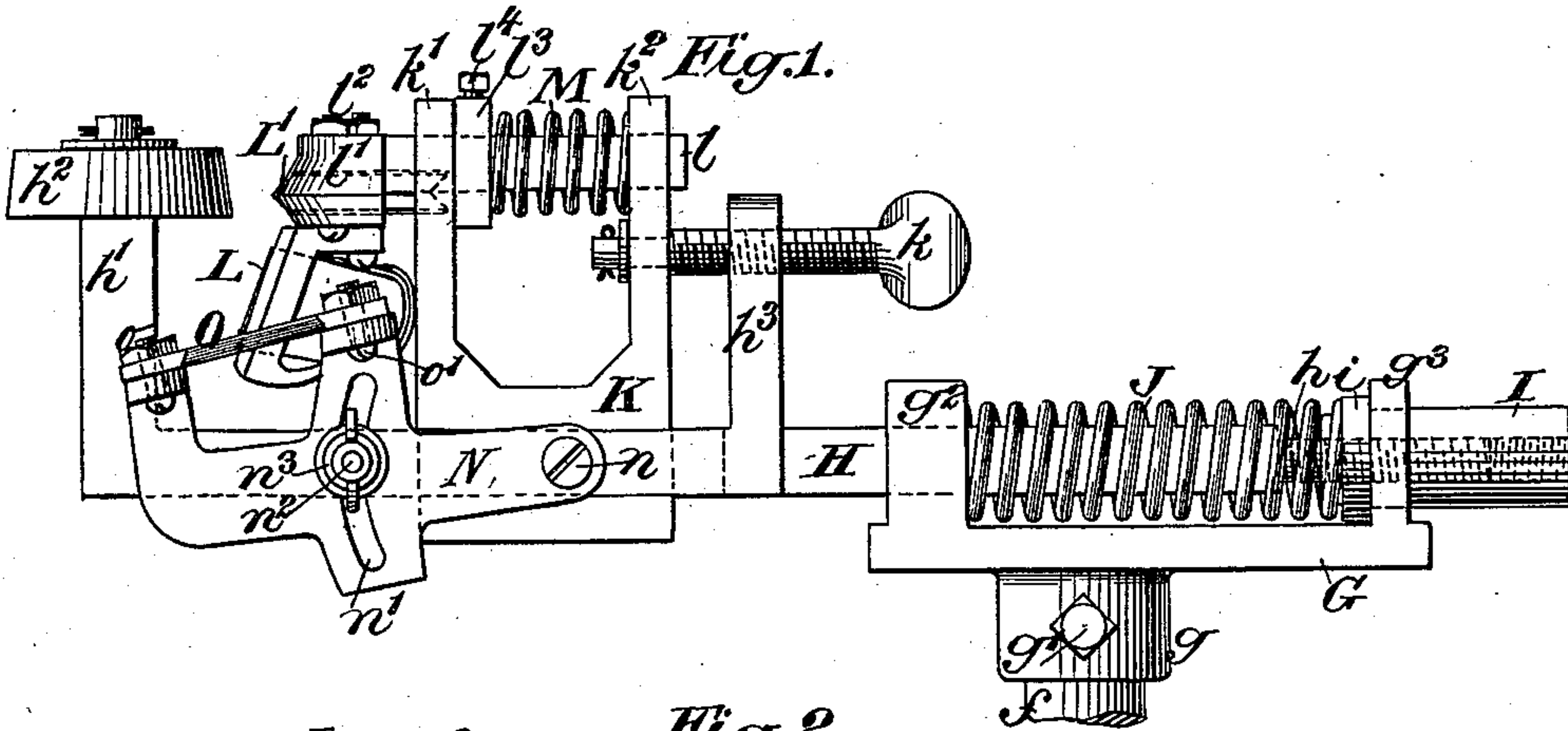
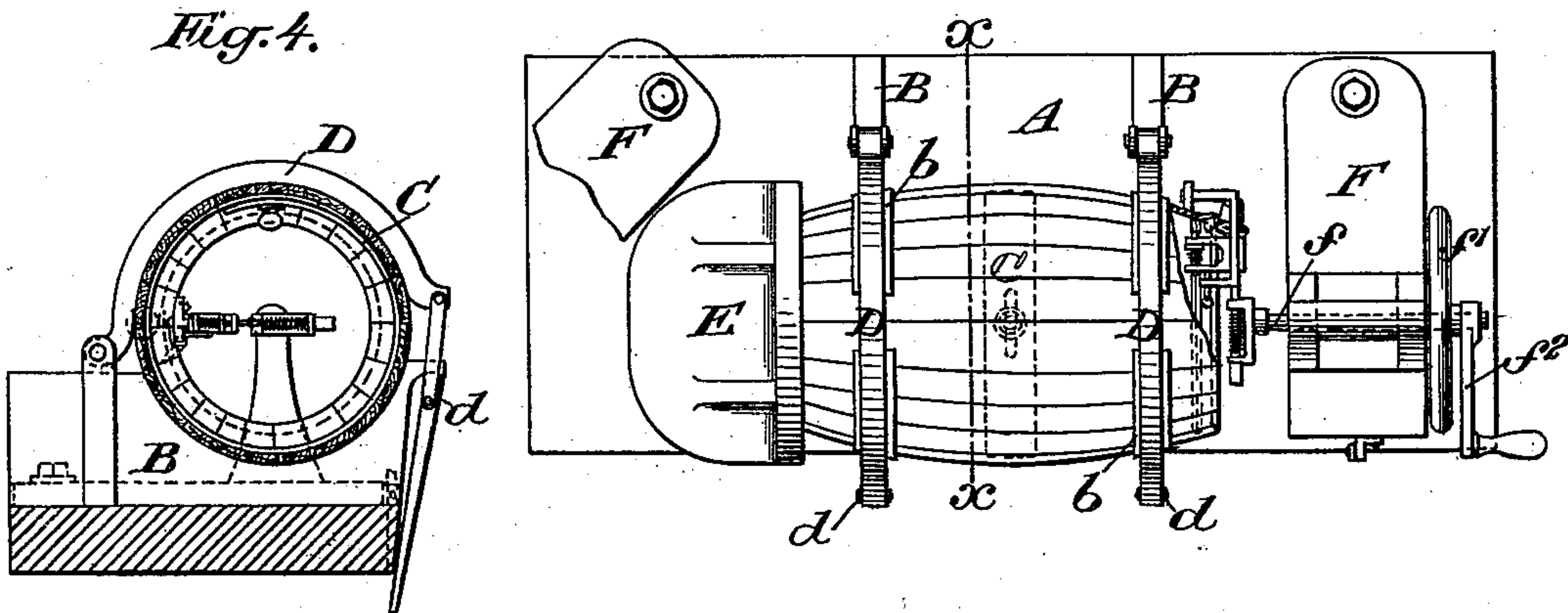


Fig. 3.



Witnesses:-

George Barry.

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FRANK S. PALMATIER, OF LEEDS, NEW YORK.

MACHINE FOR CROZING, CHINING, AND TRIMMING BARRELS.

SPECIFICATION forming part of Letters Patent No. 549,651, dated November 12, 1895.

Application filed June 12, 1895. Serial No. 552,519. (No model.)

To all whom it may concern:

Be it known that I, FRANK S. PALMATIER, of Leeds, in the county of Greene and State of New York, have invented a new and useful Improvement in Machines for Crozing, Chining, and Trimming Barrels, of which the following is a specification.

My invention relates to an improvement in machines for crozing, chining, and trimming barrels, the object being to provide a machine of the above class in which the several cuts upon the end of the barrel may be made accurately, even though certain portions of the interior of the end of the barrel lie out of a true circular path.

A further object is to provide a machine of the above character in which the several parts may be quickly and accurately adjusted so as to form the required depths of cuts.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a view in side elevation of the chine and croze cutters and the trimming-blade with their support. Fig. 2 is a top plan view of the same. Fig. 3 is a view of a barrel when set up, a portion of the end of the barrel being broken away to show the several parts which form the cuts on the barrel in position as in use; and Fig. 4 is a transverse vertical section through the line $x x$ of Fig. 3.

The table which supports the operating parts is denoted by A, and it is provided with suitable apparatus for setting up the barrel, which apparatus consists of suitable blocks B, having each a cylindrical recess therein, formers b , a setting-up band or loop C, and suitable forming-levers D, which are hinged at their rear ends to the blocks B and are provided at their front ends with suitable locking mechanism d . Upon the table A, I temporarily secure an even-er-block E, against which one end of the staves which form the barrel are caused to engage when the barrel is being set up.

The mechanism for chining, crozing, and trimming the end of the barrel is as follows: A suitable block F is pivoted to swing upon the table A. A shaft f is mounted upon the said block, so that when the block is swung into position for the croze and chine cutters to operate the longitudinal axis of the barrel

will be substantially in alignment with the said shaft. The shaft f is provided upon its end farthest from the barrel with a suitable balance-wheel f' and a crank f^2 for rotating the said shaft. Upon the opposite end of the said shaft f I secure the support for the chining and crozing mechanism. This support preferably consists of a suitable plate G, having a socket-piece g depending therefrom, which socket-piece is adapted to be secured to the end of the rotary shaft f by means of a suitable set-screw g' . The plate G is further provided with uprising ears or lugs $g^2 g^3$. A bar H, which supports the several operating parts, has a sliding movement through the ear or lug g^2 upon the supporting-plate G. This bar is of angular form in cross-section, in the present instance shown as rectangular, and is provided at its inner end with a screw-threaded portion h , which enters a suitable adjusting-nut I, which nut turns in the lug or ear g^3 on the supporting-plate G. It will thus be seen that the turning of the nut I advances or withdraws the bar H, thereby adjusting it for use in connection with barrels of varying sizes. The adjusting-nut I has a suitable shoulder i , which engages the lug g^3 , and between the said shoulder i and the lug g^2 I locate a suitable spring J, so that the bar H is allowed a yielding outwardly-sliding movement for the purpose hereinafter to be set forth.

The outer end of the bar H is turned upwardly, as shown at h' , and it is provided at its end with a suitable guide h^2 , which guide in the present instance consists of a small wheel or roller, which is adapted to engage the exterior of the end of the barrel when the parts are in their operating position.

Upon the bar H, beyond the lug g^2 , I provide a suitable uprising post h^3 . The bar H is preferably widened beyond the said post h^3 , and it is provided with an elongated slot h^4 . Within this slot the support for the croze and chine cutters is located so as to have a sliding movement therein. This support is denoted by K, and it is advanced and retracted along the bar H by means of a suitable adjusting-screw k , which is secured to rotate in the support K and has a screw-threaded engagement with the upwardly-extending post h^3 upon the bar H. By this means the chine

and croze cutters may be adjusted so as to cut any depth which may be required in the end of the barrel.

The upper portion of the support K is bifurcated, and each of its branches k' k^2 have suitable openings therethrough for the reception of the shank l of the chine and croze cutters L L', respectively, which chine and croze cutters are secured to a single head l' , preferably by means of bolts l^2 .

The chine and croze cutters are allowed a yielding sliding movement in the openings in the branches k' k^2 of the support K. This is accomplished by means of a suitable collar l^3 , which is secured to the shank l by means of a suitable set-screw l^4 , and a spring M, interposed between the said collar l^3 and the branch k^2 of the support K.

The mechanism for leveling or ending off the barrel consists of a vertically-swinging plate N, which is pivoted at n to the bar H. This plate is provided with a curved elongated slot n' , through which the shank of a clamping-screw n^2 extends, so that when the thumb-nut n^3 is turned the plate N will be clamped securely in position.

A trimming blade or knife O is secured to the plate N in position to engage the end of the barrel. This plate is secured in position by suitable bolts o o' .

In operation, when it is desired to croze, chine, and trim the end of a barrel, the mechanism is swung into position to engage the end of the barrel. The adjusting-nut I is first turned, so that the guide h^2 will rest upon the exterior of the barrel. The chine and croze cutters are then adjusted so as to cut the required depth in the interior of the barrel by means of the set-screw k . The trimmer is then adjusted so as to trim the end of the barrel evenly at the desired distance from the croze. It will be seen that the guide-wheel h^2 will be caused to engage the barrel at all times as the device is rotated because of the yielding movement of the bar H, which is allowed by reason of the spring J, so that the depth of the cut in all of the staves will be uniform, even though some of the staves are flatter than others. The spring M allows the croze and chine cutters to be forced back when the chine and croze are first begun to be cut, and as the cutters are rotated they will be gradually caused to advance until the required depth has been cut.

The mechanism as thus described provides for cutting accurately the chine and croze on barrels which are not even and barrels of varying sizes.

Instead of using hand-power I may, if desired, use any other power for rotating the cutters.

By the term "barrel" as used in this specification I mean to include kegs, hogsheads, and all kinds of casks.

What I claim is—

1. In a machine for crozing and chining barrels, a rotary shaft and means for operating it, a supporting plate secured to the said shaft, a bar having a sliding engagement with the said plate, a guide and chine and croze cutters supported on said bar, means for advancing and retracting the said bar and means for independently advancing and retracting the chine and croze cutters, substantially as set forth.

2. In the machine for crozing and chining barrels, a rotary shaft and means for operating it, a supporting plate secured to the said shaft, a bar having a sliding engagement with the said plate, a guide carried by said bar, croze and chine cutting mechanism having a sliding engagement with the said bar and means for yieldingly holding the chine and croze cutters at the limit of their extended movement, substantially as set forth.

3. In a machine for crozing and chining barrels, a rotary shaft, means for operating it, a supporting plate secured to said shaft, a bar having a sliding engagement with said plate, chining, crozing and guide mechanisms mounted on said bar, and trimming mechanism comprising a vertically swinging plate, a knife carried thereby, the said plate being pivoted to the bar in position to be swung up for leveling or ending off the barrel and a clamping device carried by the bar and engaging the said plate for locking it in any of its positions relative to the croze and chine cutters, substantially as set forth.

4. In a machine for crozing and chining barrels, a rotary shaft and means for operating it, a supporting plate secured to the said shaft, a bar engaged with said plate, a guide carried by said bar, means for adjusting the bar longitudinally, means for yieldingly holding the said bar in its several adjustments, crozing and chining mechanisms supported on said bar, means for advancing and retracting the said crozing and chining mechanisms and means for yieldingly holding the said mechanisms in their adjusted positions, substantially as set forth.

FRANK S. PALMATIER.

Witnesses:

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