C. ALLEN.
Rope-Molding Machine.

No. 197,446. Patented Nov. 27, 1877.

Fig. 1.

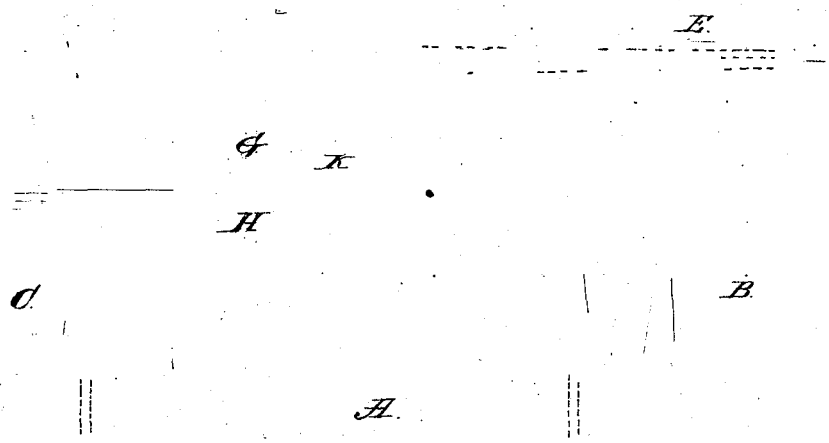
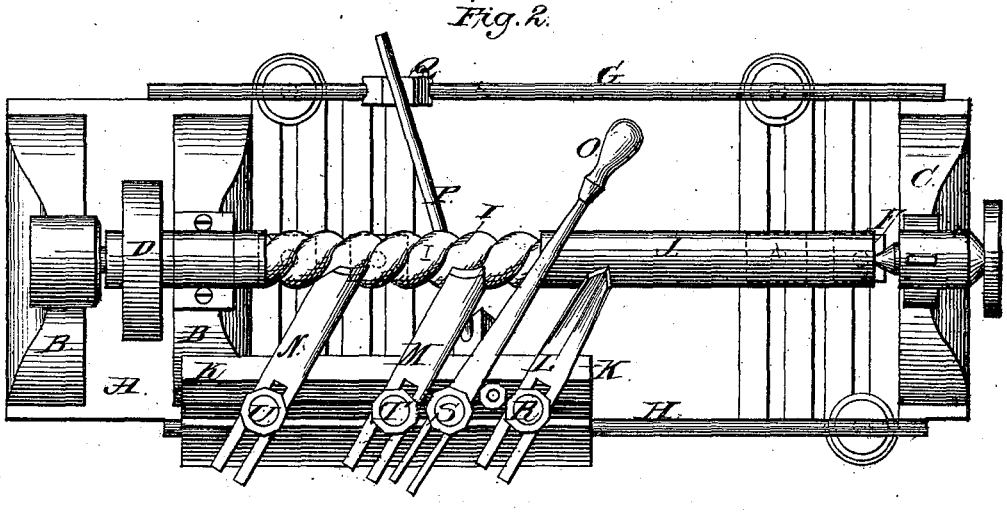


Fig. 2.



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CHARLES ALLEN, OF TRENTON, NEW JERSEY.

IMPROVEMENT IN ROPE-MOLDING MACHINES.

Specification forming part of Letters Patent No. **197,446**, dated November 27, 1877; application filed August 30, 1877.

To all whom it may concern:

Be it known that I, CHARLES ALLEN, of the city of Trenton, county of Mercer, and State of New Jersey, have invented certain new and useful Improvements in Machines for Making Rope-Molding; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part hereof, in which—

Figure 1 is a front elevation, and Fig. 2 is a plan, of my improved devices attached to a common lathe.

Like letters of reference refer to like parts in all the figures.

The object of my invention is to provide means for the production of spiral or rope molding, which means shall be simple in construction and applicable to any ordinary lathe, and which shall be so constructed that the feeding device shall be passably connected to the material operated upon, whereby the molding produced serves as a further feeding device.

The nature of my invention will be readily understood from the following description.

In the drawing, A represents an ordinary lathe, having the head-stock B, tail-stock C, driving-pulley D, mandrel E, back center F, and tool-rests G H, all of the usual construction and operation.

To the mandrel E, I attach the feeding device I by any suitable means. In this case I have adopted the ordinary plain chuck, having a center-point and an extension, which also has a point, both of which points are inserted into the material to be operated upon, as is the common method well known to persons acquainted with lathes and their construction. This chuck I pass through the feeding device and into the mandrel, where it is retained by frictional contact, its points extending beyond the free end of the feeding device to permit of their insertion into the material, as shown by dotted lines in Fig. 1.

I may also attach my feeding device to the mandrel by means of internal screw-threads, which shall engage with the external screw-threads usually formed upon lathe-mandrels, in which case I form upon the free end of my feeding device, and integral therewith, similar points for insertion into the material, which material I will hereinafter designate as the molding J.

By these means I provide an ordinary lathe with a device which is attached to and rotates with the mandrel, and is provided with such means of connection with the molding that it shall, when supported by the back center F and the device, rotate with it and the mandrel. Upon the tool-rest H, I place a tool-holder, K, which is provided with a groove upon its under surface to adapt it to slide upon the tool-rest, and upon the upper surface of the tool-rest I attach the cutting-tools L, M, and N and an operating-lever, O, by any suitable means. In this case the tools and lever are slotted at their extremities to admit the passage of the screw-bolt, and to retain the nut in such a manner that such tools and lever may be adjusted to any desired angle relative to the center of rotation of the feeding device and molding. To the under side of the tool-holder K, I pivotally attach the lever P, which is curved to fit the spiral grooves on the surface of the feeding device, and is further extended so as to rest upon the sliding block Q.

The operation of my invention is as follows: A suitable piece of material is supported at its center upon the back center and the center of the free end of the feeding device, and is turned to the required diameter in the usual manner. The tool-holder K is then placed upon the rear tool-rest H, and the lever P is placed in the position shown in Fig. 1, its curved portion bearing upwardly into the spiral groove of the feeding device, and its free end resting upon the sliding block Q. The lever O is then adjusted by means of a retaining-bolt to a direction coincident with that of the lever P, or it may be to a groove of the feeding device in advance of that in which the lever P rides, as shown in the drawing. The knives L, M, and N are then adjusted by means of their retaining-bolts R, T, and U, so that their cutting-edges shall be a trifle above the horizontal center of the molding. Power is now applied to the driving-pulley D, causing the mandrel, feeding device, and molding to rotate. The levers O and P embrace the spiral groove of the feeding device, which acts as a screw, and moves the tool-holder in a direction from the mandrel. The knife L,

ing against the molding, cuts a V-groove ılly around it, and the knife M follows, ıding off the rear edge of the groove, and knife N the forward edge.

fter the levers O and P pass beyond the ts of the feeding device they continue to as feeders, by reason of their bearing in grooves which were formed while they e resting in the grooves of the feeding de-. By this construction I am enabled to duce spiral molding of any desired length hout a feeding device of the length of the ding produced.

)uring this entire operation the lever P has wn with it the sliding block Q, thus pre-ting a continued support to the molding J, rcoming the tendency of the pressure of knives to spring it out of line, which, if overcome, would cause the production of perfect and crooked molding.

By means of this sliding support I am enabled to produce molding of very small diameter and in long pieces.

I am aware that revolving patterns have been used in lathes for turning irregular forms, and that a sliding tool-holder has been used in connection with an edged tool placed diagonally to the direction of the rotating material. This I do not claim as my invention.

What I desire to secure by Letters Patent is—

The combination of the feeding device I, tool-holder K, levers O P, tools L M N, and tool-rest G H with the mandrel of a lathe and means for operating the same, substantially as shown and described.

CHARLES ALLEN.

Witnesses:

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M. H. TOULISS.