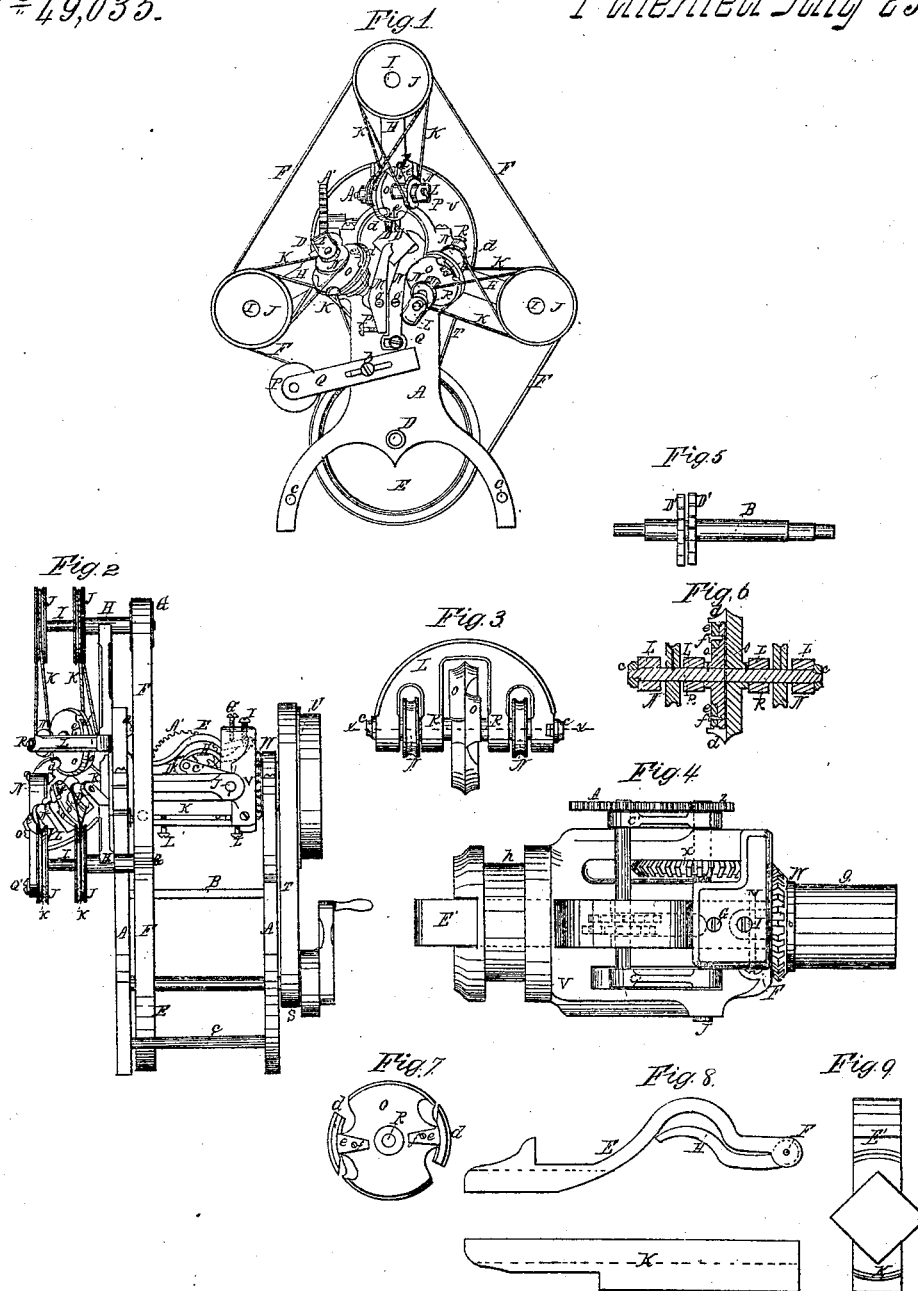


H. Locke,
Making Rope Molding.

N^o 49,035.

Patented July 25, 1865.



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IMPROVEMENT IN WOOD-TURNING LATHES.

Specification forming part of Letters Patent No. 49,035, dated July 25, 1865.

To all whom it may concern:

Be it known that I, HARVEY LOCKE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Machines for Cutting Rope or Twist Molding; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation. Fig. 2 is a side view. Fig. 3 is an enlarged plan of a single set of the oppositely-revolving cutters. Fig. 4 is an enlarged detached plan of the revolving feeding-apparatus. Fig. 5 is an enlarged detached plan of the feed-rolls. Fig. 6 is a longitudinal section through the shaft of one of the cutters and its bearings in the line *xx* of Fig. 3. Fig. 7 is an enlarged side elevation of one of the cutter-wheels. Fig. 8 is an enlarged side view of the rotating clamps, and Fig. 9 is a front elevation of the same.

Like parts are indicated by the same letters in all the drawings.

The nature of my invention consists, first, in the employment of a stationary bevel-gear wheel, *W*, in combination with a rotating pinion, *X*, on the rotating hollow spindle *V*, for actuating the feed-rolls *D' D'*, by which the molding to be cut is fed along; second, in the employment of an adjustable clamp, *K'*, and a spring-clamp, *E'*, running through the hollow spindle *V*, so as to hold the material close to the rotary cutters to keep it from chattering; third, in the employment of the adjustable clamps *M'* and *N'* in front of the cutters to hold the molding after it is cut, or as it passes through, and thus prevent it from trembling; fourth, in making the cutters adjustable toward and from the center of the spindle, so as to cut moldings of different diameters; fifth, in making the feed-roll *D'* in two parts, or with a central groove around it, so as to take hold firmly of each side of the corner of the stock to be cut; sixth, in confining the cutters *d* to the wheels *O* by means of a dovetail and clamp inside of the circle described by the edge of the cutters; and, seventh, in constructing the nuts *c* with a flange extending into the boxes of the cutter-shafts, so that as they (the nuts) wear off on their inner ends the said flange

may be shortened by filing, and thus prevent the oppositely-revolving cutter-wheels *O O* from coming in contact or vibrating.

To enable others skilled in the art to make and use my improvement, I will now proceed to describe the construction and operation of the same.

A A are the two ends of the frame, united by the rods *C C* and table *B*.

D is the main driving-shaft, turning in suitable bearings in the ends of the frame.

E is a large pulley fast to the shaft *D*, and *F* is a belt passing from said pulley round the three pulleys *G G G* of the series of cutters, as clearly shown in Fig. 1, *P* being a pulley whose axle runs in the end of the adjustable arm *Q*, which is provided, as shown in Fig. 1, with a longitudinal slot, and is held in any required position by means of the screw *b*, the object of said pulley being to tighten the belt *F* as the arms *H* are adjusted for different-sized moldings.

I employ three sets of double cutting-wheels, *O*, arranged one hundred and twenty degrees apart, around the hollow spindle *V*, in front of the frame *A*, as clearly shown in Figs. 1 and 2. As these three sets, with their appendages, are all alike in construction and operation, a description of one will answer for all.

H is an arm, the inner end of which slides in a corresponding mortise in the front of the frame, so that, with its appendages, it may be set nearer to or farther from the spindle *V*, being held in place by means of the set-screw *a*, which passes through a longitudinal slot in the frame into said arm. At right angles to the outer end of this arm *H* is a box, in which revolves the axle *I* of the pulleys *G* and *J J*.

Attached to the inner end of the arm *H* is a frame, *L*, (an enlarged top view of which is shown in Fig. 3,) to form the bearings of the axles *R R* of the cutter-wheels *O O*. These wheels are made of cast-iron, shaped as shown in Figs. 3, 6, and 7, and fast to the contiguous ends of the axles *R R*, so as to run as near together as possible without actual contact. These wheels *O O* are driven in opposite directions by means of the crossed bands or belts *K K* passing over the pulleys *J* and *N*.

c is a nut screwed onto the outer end of the axle *R*, being provided with a flange which enters the box of said axle, as represented in

Fig. 6, so that in case the parts should ever wear enough to cause the two wheels O O to vibrate or come in contact they can be tightened by filing a little off of the said flange on the nut.

The cutters *d* are formed of the sections of a ring turned to the requisite shape for cutting the moldings, and having a dovetail tenon on the inner side to fit into a corresponding mortise in the side of the wheel O, to which it is securely confined by means of the clamp *e* and screw *f*, as clearly shown in Fig. 6.

V is a hollow spindle, through which the square strips of wood to be cut into spiral or "twist" or "rope" moldings is fed. This spindle turns on the bearing-points *h* and *g* in suitable boxes in the two ends of the frame, being driven by means of the pulley U and belt T, which passes over the smaller pulley S, fast upon the driving-shaft D. Through the center of this spindle V is a square hole. (Shown in Fig. 1.) Arranged in two opposite corners of this square hole are the adjustable clamp K' and spring-clamp E', the general shape of which is clearly shown in Figs. 8 and 9. The clamp K' is confined in the spindle V by means of the set-screws *i i*, the front end of the same projecting beyond said spindle, as shown in Figs. 4 and 8. The clamp K' may be adjusted at any required distance from the center of the spindle by means of the screws L' L', as shown in Fig. 2. The clamp E' is also a spring, having its back end attached to the spindle by means of the pivot F'. More or less pressure may be given to said clamp by means of the screw G'.

Fast to the inner end of the frame, as shown in Fig. 2, is a bevel-pinion, W, which actuates another bevel-pinion, X, fast to the axle Y, and turning freely in a slot on one side of the center of the spindle V, as shown in Fig. 4. Z is a smaller pinion fast to the outer end of the axle Y. A' is a larger pinion engaging with the pinion Z, and fast to the outer end of the shaft B', which latter turns in the free ends of the arms or links C' C', one of said links turning on the pivot-pin J' and the other on the axle Y.

Fast to the axle B' are the toothed feeding-wheels D' D', which are arranged a little distance apart, as shown in Fig. 5, so as to take fast hold of the square strip of wood to be fed through the spindle. Each side of one of the corners D' D' may be either separate wheels, or a single wheel with a groove around the center.

H' is a slotted spring, one end of which is attached to the spindle V by means of the pivot-screw F', the opposite or forked end resting on the shaft B', each side of the wheels D', as represented by the dotted lines in Fig. 4. More or less pressure may be given to the spring H' by means of the screw I, so that the wheels D' may bear more or less upon the stock that is being fed through the spindle, as may be required.

N' is a clamp or guide attached to an arm in front of the frame by means of the pivot-screw O'. The shape of this clamp is clearly shown in Fig. 1, the lower end being provided with a slot, through which is passed the screw Q', by means of which the clamp may be readily adjusted and set in any required position. M' is another clamp or guide, the size and shape of which are clearly shown in Fig. 1, being confined to the front of the frame, in the same manner as the clamp N', by means of a pivot-screw, O'. The distance between the upper ends of these clamps is regulated by means of the screw P', which passes through the lower end of M' against the lower end of N'. The object of these clamps has been described above in setting forth the nature of my invention.

Having thus fully described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the stationary bevel-gear W, rotating pinion X, hollow spindle V, pinions Z and A', links C' C', and feed-wheels D' D', substantially as and for the purpose described.

2. The adjustable clamp K' and spring-clamp E', substantially as set forth, and for the purpose described.

3. The adjustable clamps M' and N', arranged substantially as and for the purpose described.

4. So arranging the feed-rolls D' D' as to bear on each side of the corner of the square stock to be cut, substantially as and for the purpose described.

5. Confining the cutters *d* to the wheels O by means of a dovetail and a clamp and screw inside of the circle described by the edge of the cutters, substantially as described.

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Witnesses:

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