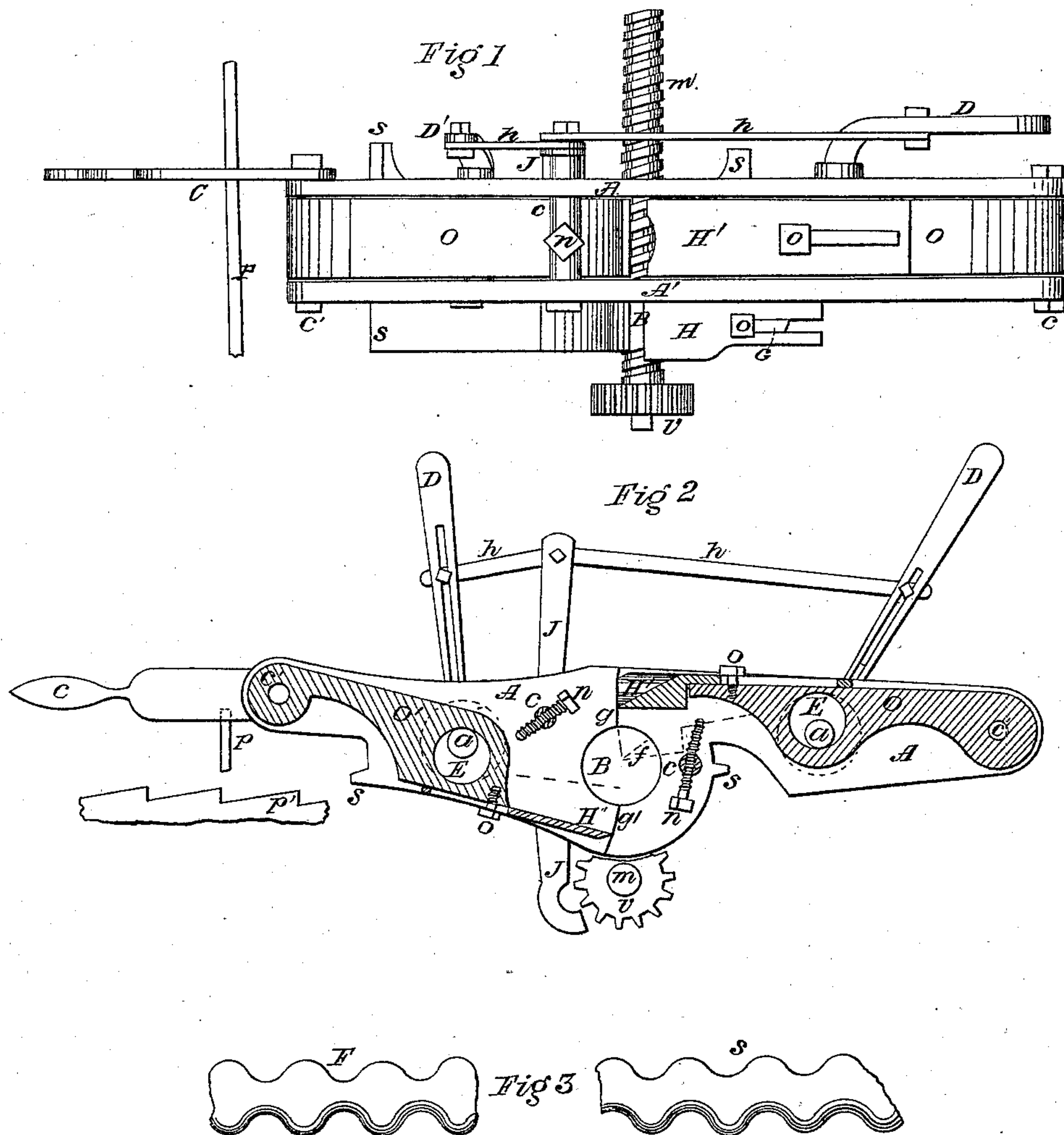


*J. Coleman.*  
*Making Rope Molding.*  
*No. 43,477.* *Patented July 12, 1864.*



Witnesses:

*Andrew Whiteley*  
*R. D. Smith*

Inventor.

*John Coleman*  
*By his Atty. Wm. S. Laughton*



# UNITED STATES PATENT OFFICE.

JOHN COLEMAN, OF ARGYLE, NEW YORK.

## IMPROVEMENT IN TURNING-LATHES FOR WOOD-TURNING.

Specification forming part of Letters Patent No. 43,477, dated July 12, 1864.

*To all whom it may concern :*

Be it known that I, JOHN COLEMAN, of Argyle, in the county of Washington and State of New York, have invented a new and useful Nulling or Scallop or Beading and Spiral Turning Attachment to Lathes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view of my invention. Fig. 2 is a vertical section of the same. Fig. 3 shows at F a sample of the scallop-turning, and at S of spiral-turning.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in the employment of a simple, cheap, and efficient attachment to ordinary lathes for turning every variety of scallop and spiral work. Its nature will be better understood by reference to the drawings and specification.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

A and A' in the drawings represent the sides of the machine, which are coupled together by the four tie-bolts *c* and *c'*. B represents the die or opening through which the stick is held while being turned; C, the pawl or ratchet by means of which and the notched plate *p* the machine is gaged and held at uniform distances while forming the scallops. D and D' are the hand-levers for operating the eccentrics E. H is the sizing knife or cutter, and is attached to the fixed plate G, projecting from the side plate A'. H' is the scalloping-knife, and is attached to the pivoted bed-plate O. H'' is a tenoning-knife, and is attached to the under side of the pivoted bed-plate O'. The scalloping-knife H' is made as seen in Fig. 5, the shape of the edge being shown in the end view. The journals *a*, Fig. 2, of the eccentrics E hang in the sliding boxes, (not shown in the drawings,) and one end of each has a square projection to receive the hand-levers D and D'.

My invention may be applied to any ordinary wood-turning lathes, by attaching a grooved strip to the lathe-bench on each side, for the guides *s* to run in, and providing the gage-plate *p*, which is also fixed to the side of the lathe. This is all the preparation required

for turning scallops or beads; but for turning spirals it is necessary to put a spur-wheel upon the driving-mandrel of the lathe, and hang the screw *m* with the lathe-centers in such a manner that the pinion *v* will gear into the spur-wheel, which wheel and pinion should bear such relative size to each other as will produce the desired "lead" to the spirals. This lead may be increased or diminished by changing the size of the gears, or by using a double or a triple threaded screw. Two knives made with the concave grooves running diagonally from the edge, to cause them to conform to the lead of the spirals being turned, are substituted for H' and H'' for turning spirals, and the hand-levers D and D' are coupled to the upper arm of lever J by the links *h*, which should be attached at such a point in the slots of the levers as will bring the two knives to the proper depth in the turning stick when the lower arm of the lever J is in gear with the screw *m*. The clutch C is removed for spiral turning. After the stick is placed in the lathe the lever D is moved to the left from its present position, carrying the others with it, which forces J into gear with the screw and sets the knives the proper depth. J may be thrown out of gear at the proper point automatically by means of a tappet, a wedge, or a cam attached to the head-block or to the ways of the lathe. The lever J and links *h* are removed for turning scallops or beads, and the clutch C and knives H' and H'' are replaced, and the set-screw *n* under the knife H' is turned up until it strikes the under side of the bed-plate O, when the knife is down, as indicated by the red lines *f*, Fig. 2, and the screw *n* over the plate O' (seen in Fig. 2) is so set that the knife H'' shall form the tenon on the stick of any desired size, when the lever D' is moved to the left. One or both of the side plates, A and A', is provided with a mark, *g*, struck from the axis *c'* of the bed-plate O, which mark should range through the center of the die or opening B, and a similar mark, *g'*, should be struck from the axis of O'. These marks are guides or gages, to which the edge of the several knives should be set. The knives should be so made and arranged that their side toward the center of the die B should meet the gage-marks *g* and *g'* perpendicularly, or very nearly so, which is the only position of the knives in relation to the turning stick that



will produce a perfectly "clean cut," (there being no scraping across the edge of the cutters in this arrangement,) and as will be seen both knives retain their relative direction throughout the entire process of turning, so that they require but very little whetting, and at the same time turn out their work so smooth as not to require any sandpapering at all preparatory to making up or varnishing.

In turning scallops or beads the lever D is swung to the left, and the eccentric E forces the knife H' down into the stick until the point of the set-screw in the tie-bolt c strikes the bed plate O, as before shown, when the lever is returned to its present position, and at the same time the operator with the other hand raises the clutch C out of the notch, and the machine is moved forward until the clutch strikes the shoulder of the next notch, when the operation is repeated—all of which is performed very rapidly with a little practice.

The tenons are formed on the ends of the stick by swinging the lever D' to the left, as before stated, until the bed-plate O' strikes the point of the screw n, Fig. 2, which determines the size of the tenons.

The object of shaping the notches of the plate p as seen in Fig. 1, at p', is to enable the operator to change the clutch C from one notch to another instantly without danger of skipping a tooth or notch.

Much of the work for "cribs," &c., is required to have plain sections, where the parts join, laterally, and the plate p, for such turning, should have corresponding portions of its edge left straight, and, if desirable, one of the knives may be so arranged as to just "round" the stick at such points when operated by its lever.

A great variety of styles of work may be made in this machine by changing the shape of the knives, or rather by having a series of different shaped knives.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. Arranging the knives H' and H'' upon the pivoted bed-plates O and O', as described, when said plates are operated by the hand-levers D and D' and the eccentrics E.

2. The combination of the pivoted bed-plates O and O' with the eccentrics E, which are operated by the hand-levers D and D', or their equivalents, for the purpose set forth.

3. Gaging the concentric action of the knives H' and H'', by means of the set-screws n, tapped through the tie-bolts c, substantially in the manner and for the purpose described.

JOHN COLEMAN.

Witnesses:

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