No. 652,358. Patented June 26, 1900.

F. P. GRODE.

ATTACHMENT FOR WOOD TURNING LATHES.

(Application filed Mar. 2, 1900.)

(No Model.)

Fig. 1.

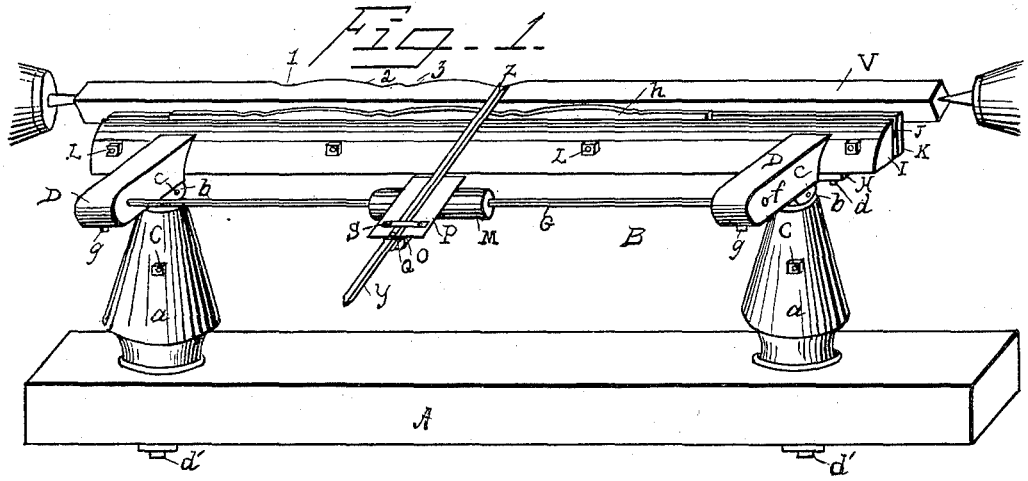

Fig. 2.

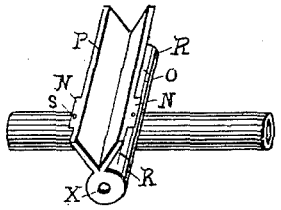

Fig. 3.

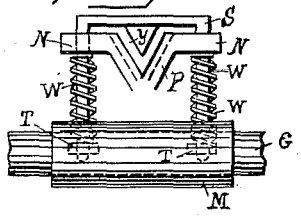

Fig. 4.

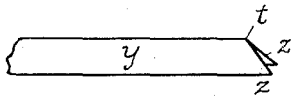

Fig. 6.

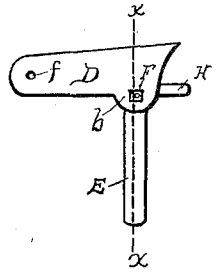

Fig. 7.

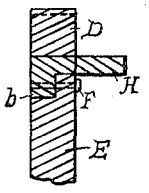

Fig. 5.

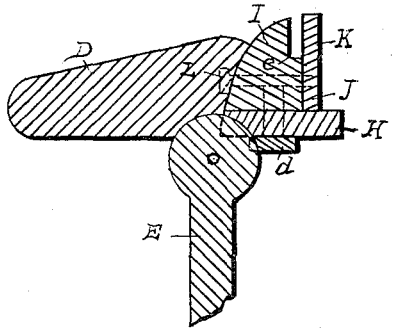

Fig. 8.

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ATTACHMENT FOR WOOD-TURNING LATHES.

SPECIFICATION forming part of Letters Patent No. 652,358, dated June 26, 1900.

Application filed March 2, 1900. Serial No. 7,104. (No model.)

To all whom it may concern:

Be it known that I, FRANK P. GRODE, a citizen of the United States, residing at the city of Dubuque, in the county of Dubuque and State of Iowa, have invented certain new and useful Improvements in Attachments for Wood-Turning Lathes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to wood turning; and one object is to provide means whereby greater accuracy and uniformity may be obtained, especially in the production of these articles of manufacture, such as balusters, spindles, newel-posts, and the like.

A further object is to provide a simple device whereby an inexperienced operator can readily manipulate the chisel or cutter in turning with greater accuracy and uniformity and without danger of gouging or marring the article to be turned.

It consists in a rest adjustably secured to the bed of a turning-lathe, to which is attached a clamp for holding a pattern.

It also consists in a holder for the chisel or cutter adjustably attached to the rest and means for limiting and controlling the action of the chisel, whereby the operator, though inexperienced in turning, can accurately follow the grain of the wood and finish the article in exact conformity with the pattern.

It further consists in a peculiar-shaped cutter or chisel which is used therewith.

The following specifications will point out in detail how these and other objects are developed when taken in connection with the drawings accompanying the same.

Figure 1 shows a perspective of my device. Fig. 2 shows a perspective of the cutter-holder. Fig. 3 is an end view of Fig. 2 with chisel in the holder. Fig. 4 is a perspective of the chisel or cutter. Fig. 5 is a longitudinal section of one of the arms of the rest, sustaining-post of the arm, and a cross-section of the clamp. Fig. 6 shows a side view of one of the arms of the rest. Fig. 7 shows a cross-section of Fig. 6 through line X X, and a longitudinal section of the supporting-post. Fig. 8 is a cross-section of a clamp for limiting the movement of the cutter longitudinally.

Like letters of reference denote corresponding parts in each of the drawings.

Referring to the drawings, A designates the bed of a turning-lathe. Upon this bed is removably fastened two hollow standards *a* by the screws *d'*. Within each of the standards *a* is adjustably secured the rest B by the set-screws C. This rest consists of two arms D, (shown in Fig. 6,) provided with a curved projection *b* upon its lower side, through which is a screw-hole *c*, and at its outer end a hole *f*. The forward end terminates in a platform H. A sustaining-post E is fastened to the projection *b* by a screw F. In this manner the arms D can be tilted to such angle as required for the purpose hereinafter to be described. Through the outer end of the arms D is passed a rod G and held in position by the set-screws *g*.

Upon the platforms H is fastened one part I of a clamp J by the screws *d* passing up through the platform H into the part I of the clamp, and in this manner the part I is firmly held upon the platforms, as shown in Figs. 1 and 5. This part I of the clamp is cut away near the top, forming a shoulder *e* for the pattern. The other part K of the clamp consists of a rectangular plate extending from the platform H to the top of the clamp and is held against the part I by the screws L.

Upon the rod G is loosely fitted a sleeve M, adapted to turn upon said rod. To the sleeve M is rigidly fastened a tube O, which forms one half of a hinge. It will be seen that this sleeve may slide along the rod G between the arms D.

The cutter-holder P, as shown in Fig. 2, is formed in V shape with the journal-bearings R, which form the other half of a hinge at the vertex of the angle and is also provided with the flanges N at the top. Perpendicular through these flanges are holes *s*, through which a rectangular stay S passes and holds the cutter in the holder P, as shown in Fig. 3. The legs of the stay S are screw-threaded at their lower ends and provided with the screws T. Around these legs, between the screws T and the flanges N, are coiled springs W for the purposes presently to appear.

This holder P thus formed is hinged upon the sleeve N by a journal or rod X, passing through the bearings or half-hinge R and the tube O or the other half of the hinge. In this manner it will be seen that the chisel-holder can be turned over in either direction until the flanges N come in contact with the sleeve M, and, further, the holder may be moved from right to left upon the rod G.

The chisel or cutter Y (shown in Fig. 4) is of V shape and adapted to fit into the holder P. It is provided with cutting edges Z and beveled to form an obtuse angle on each side at *t* and is inserted in the cutter-holder beneath the stay S. For the purpose of limiting the longitudinal motion of the chisel and preventing it from being pushed too far into the blank there is set a collar Q, (shown in Fig. 8,) which is also the form of the chisel and provided with a set-screw *p*, passing down through the horizontal part of the collar. The collar is slipped over the outer end of the chisel, and when it is adjusted the set-screw is tightened. It will be seen that if the operator attempts to force the chisel unduly toward the blank the collar will come in contact with the end of the holder and prevent any further movement toward the blank.

The manner of operating my device is as follows: The blank V is placed in the turning-lathe in the usual manner, and the pattern *h* is inserted in between the two parts of the clamp I and K, resting upon the shoulder *e*. Then the screws L are tightened, holding the pattern *h* firmly in the clamp, with the full outline of the pattern extending slightly above the clamp. The operator then adjusts the height of the pattern with reference to the blank V by loosening the set-screws C and raising or lowering the post E within the standards *a*, and when at the proper height he sets the screws C firmly and holds it in the adjusted position. The operator then adjusts the angle of the chisel by loosening the screw F and tilting up or down the outer ends of the arms D. He then adjusts the distance that the chisel Y shall project beyond the edge of the pattern by moving the collar Q along the rear end of the chisel Y and tightening the set-screw *p*. The blank is then caused to revolve in the lathe, and the operator grasps the outer end of the chisel Y and attacks the blank. As the chisel Y cuts along down the incline 1 the operator turns it over to the left, and when it is to cut on the upward curve 2 he turns it to the right, and when he desires to cut at the end of the curve 3 he turns the chisel upright.

It will be seen that it is impossible for the operator to cut in any manner different from the pattern, from the fact that he cannot raise the chisel. Neither can he push it toward the blank any farther than is necessary, from the fact that the collar Q will come in contact with the end of the holder P and prevent any farther advance. It will be further seen that by the under bevel of the cutter when it is passing down the incline 1 it will not tear the grain of the wood on account of the under bevel of the cutting edge of the chisel; nor will it tear the grain of the wood when it is on the rise at 2, from the fact that the cutter will be turned to the right and will still keep the line of the grain, and he cannot turn the chisel farther over than is necessary, from the fact that the flanges N will come in contact with the sleeve M. He cannot get the chisel out of line with the pattern and blank, as it always travels along on the rod G in a line parallel with the blank and pattern. Moreover, the cutter being fastened to the sleeve, which is movable upon the rod G, will readily follow the line of the pattern and will not be allowed to gouge or injure the blank in any manner; nor can the operator turn the cutter to the right or left, as it must always follow the line of the rod G. It will further be observed that he cannot push the cutter beyond the center of the blank, as he will be prevented by the collar coming in contact with the end of the holder. With these various guards which are provided for the holding of the chisel it requires little or no experience to operate the chisel successfully and manufacture balusters and the like, and all of the product will be uniform and precisely like the pattern, and there will be no tearing of the grain of the wood. It will be still further seen that there will be an advantage over the former method of turning, as only one chisel is used and no time is lost in the changing of chisels, and very little in sharpening. A still greater advantage consists in the fact that in the use of my invention there is little or no need of any marking, laying-out, or gaging, whereby so much time is taken up and the uniformity of the product is much less complete.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an invention of the character described, a rest for sustaining the pattern and chisel, a chisel-holder, and means for attaching the holder to the rest, whereby the chisel in the holder may be moved parallel with the pattern and turned on an axis at right angles to that of the blank, as and for the purposes shown.

2. In an invention of the character described, a rest attached to the bed of a turning-lathe, a clamp for holding the pattern, a chisel-holder attached to a rest and adapted to carry the chisel parallel with the pattern and turned on an axis at right angles to that of the blank, as and for the purposes shown.

3. In an invention of the character described, a rest consisting of standards attached to the bed of a lathe, a clamp for holding the pattern, a rod parallel with the pattern, a sleeve on said rod, and a chisel-holder attached to the sleeve and adapted to carry the chisel along the rod and turned on an

axis at right angles to that of the blank, as and for the purposes shown.

4. In an invention of the character described, a rest consisting of standards removably attached to the bed of the lathe, sustaining-arms secured within the standards, a clamp for holding the pattern attached to the inner ends of said arms, a rod connecting the outer ends of said arms, a sleeve on said rod, a chisel-holder secured to said sleeve and adapted to carry the chisel along the rod, and turn said chisel on an axis at a right angle to that of the blank, all combined to operate, as and for the purposes shown.

5. A device of the character described, consisting of standards adjustably attached to the bed of the turning-lathe, posts adjustably secured in said standards, arms adjustably secured upon the post, a clamp for holding the pattern secured upon the inner ends of the arms, a rod connecting the outer ends of the arms, and carrying a sleeve, a chisel-holder hinged to the sleeve and adapted to travel with the sleeve, along the rod and to be turned upon its longitudinal axis to the right or left on the sleeve, as and for the purposes shown.

6. In a device of the character described, a rest, a clamp for holding the pattern attached to the rest, a rod secured to the rest, a sleeve on the rod, and a chisel-holder hinged at right angles to the sleeve, as and for the purposes shown.

7. In a device of the character described, a chisel-holder adapted to be turned on its longitudinal axis to the right or left, a yielding stay across the holder, a chisel in said holder and a collar around the outer end of the chisel, to limit its longitudinal movement, as and for the purposes shown.

8. A device of the character described, consisting of standards attached to the bed of the turning-lathe, posts E, adjustably set in the standards, arms D, secured to said posts, a clamp secured upon said arms, rod G, sleeve M, and holder P, hinged to said sleeve, all combined, as and for the purposes shown.

9. In a device of the character described, a holder for the chisel of V shape, means for attaching it to a rest, whereby it may be turned on its longitudinal axis, in combination with a V-shaped chisel, having its cutting edges beveled outward from its vertex, as and for the purposes shown.

In testimony whereof I affix my signature in the presence of two witnesses.

FRANK P. GRODE.

Witnesses:
M. M. CADY,
J. B. LANE.