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G. REYNOLDS.

TURNING ATTACHMENT FOR LATHES.

(Application filed Oct. 7, 1899.)

(No Model.)

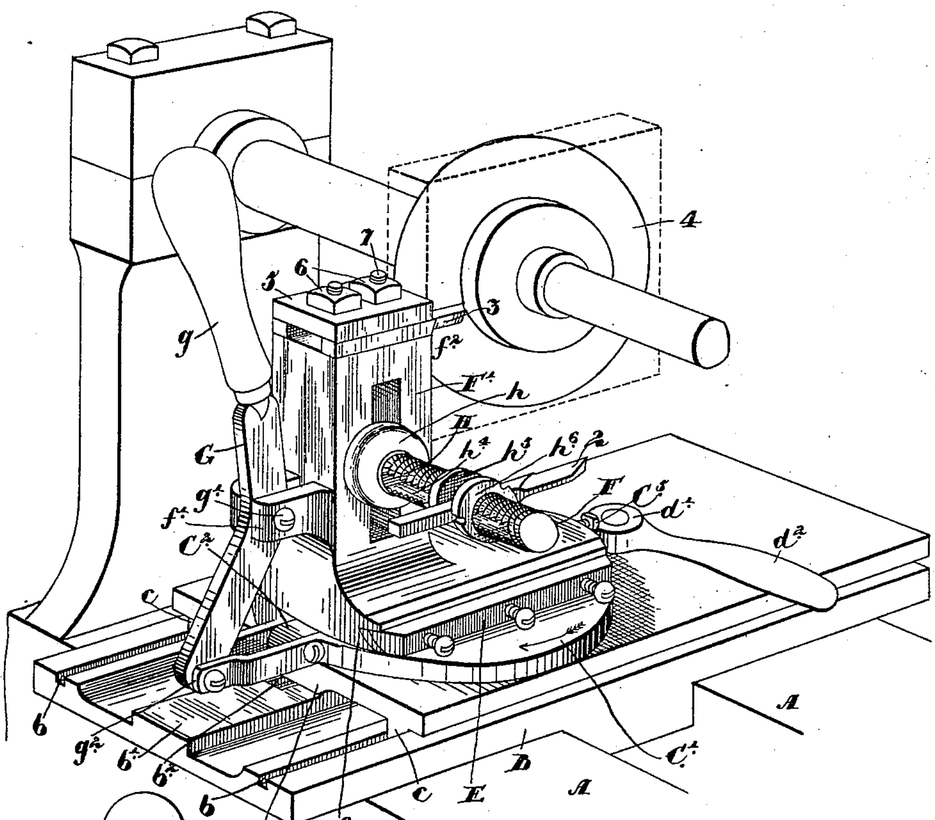

Fig. 1.

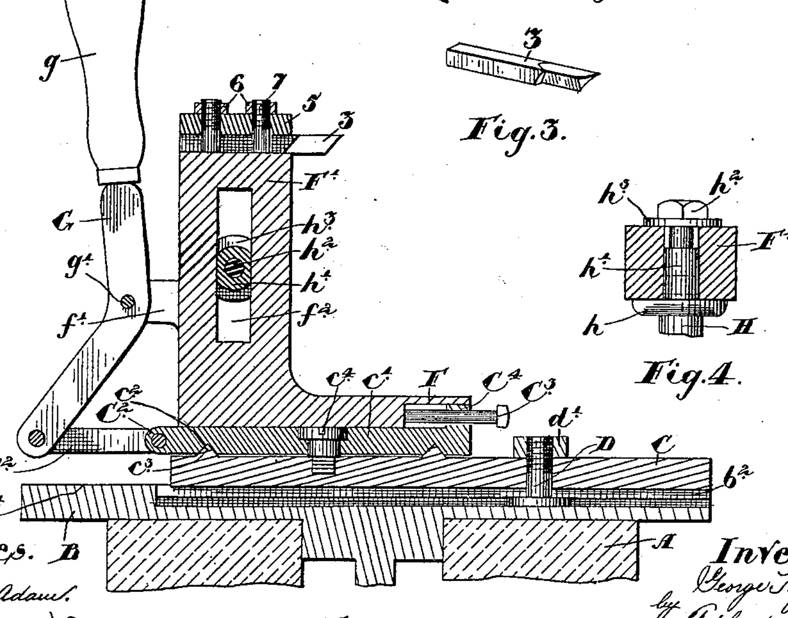

Fig. 3.

Fig. 2.

Fig. 4.

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GEORGE REYNOLDS, OF TORONTO, CANADA.

TURNING ATTACHMENT FOR LATHES.

SPECIFICATION forming part of Letters Patent No. 645,491, dated March 13, 1900.

Application filed October 7, 1899. Serial No. 732,927. (No model.)

To all whom it may concern:

Be it known that I, GEORGE REYNOLDS, wood-turner, of the city of Toronto, in the county of York, Province of Ontario, Canada, have invented certain new and useful Improvements in Turning Attachments for Lathes, of which the following is a specification.

My invention relates to improvements in turning attachments for lathes; and the object of the invention is to devise a suitable support for the turning-tools for turning wooden rings, balls, and like articles, whereby such tools may be swung around and manipulated into the different positions required in a very simple manner and with but one operation; and it consists, essentially, of providing crosswise of the lathe a suitable guideway, in which is adjustably held a plate and a guiding-ring, on which is supported the base-plate of the tool-standard, such tool-standard being longitudinally adjustable upon the plate and the parts being otherwise arranged and constructed in detail, as hereinafter more particularly explained.

Figure 1 is a perspective view of the bed portion of a lathe, showing my attachment applied thereto. Fig. 2 is a cross-section. Fig. 3 is a detail of the turning-tool. Fig. 4 is a sectional plan showing the means for securing the lower tool-holder in position.

In the drawings like letters of reference indicate corresponding parts in each figure.

A A is the bed of the lathe, and B a supplemental bed fitting crosswise thereon and provided with the guiding-grooves *b b* and the central slide *b'*.

C is the bed-plate of my turning attachment, which is provided with the side ribs *c c*, which extend into the grooves *b b*. The central wider rib *c'* is adapted to slide upon the rib *b'*.

b^2 is a T-shaped slot extending for the major portion of the length of the rib *b'*.

D is a bolt having the head fitting in a slot and the stem of the bolt extending up through the bed-plate C. A nut *d'*, provided with a handle d^2, fits onto the threaded end of the bolt and is manipulated so as to loosen or tighten the bolt D, and thereby permit of the bed-plate being moved laterally crosswise of the lathe. This bed-plate is of course set in the desired position for turning any desired wooden article of manufacture and is permanently set during the operation.

C' is a circular plate which is provided with a groove c^2, which fits upon the projecting ring c^3 at the top of the plate C, such plate being designed to be turned upon such ring. The plate C' is held in place by the retaining-screw c^4.

E are guiding-ribs attached to or forming part of the plate C.

F is the base-plate of the turning standard F', which plate is provided with the side ribs *f* to fit the guiding-ribs E.

C^2 is a lug formed at one end of the plate C', and G is a lever provided with a handle *g* and pivoted on the pin *g'*, between the lugs *f'*, forming part of the standard F', and connected at the bottom end by the links g^2 to the lug C^2.

C^3 is a screw which extends through the upwardly-extending end C^4 of the plate C' and is designed to abut and limit the movement of the standard-plate F.

H is the holding-spindle for the lower tool, which is designed to take off the corners of the rectangular block from which the turning or ring, as in the present instance, is made. (See dotted lines, Fig. 1.) The spindle H is provided with a flange *h* and reduced end *h'*, into which extends a bolt h^2 through a washer h^3 at the opposite side of the vertical opening f^2 of the standard. The opposite end of the spindle H is threaded and provided with a longitudinal slot h^4 and two adjustable collars h^5 and h^6, between which the tool 2 may be longitudinally adjusted and held within the slot h^4.

3 are the upper tools, which are designed to cut around from the outer periphery to the center of the inner periphery of the ring 4 on each side of the ring. The tools 3 are held in position by the clamping-plate 5 and nuts 6, fitting the upper ends of the bolts 7, extending upwardly from the standard F'.

It will be seen from this description that the tool 2 may be readily adjusted vertically, so as to take off the corners of different-sized blocks. It will also be seen that by manipulating the handle *g* the standard F' and tools 3 may be brought nearer to or farther from the work, depending on the nature of

the work, and also that by such handle the standard may be swung around, so as to cause one of the tools 3 at a time to follow the desired circle of the cross-section upon which the ring 4 is to be formed. By throwing around the standard by the handle in the direction indicated by arrow the tool 3 will cut from the center of the periphery on the outside immediately to the foreground to the center of the periphery on the inside, and by swinging the handle around in the opposite direction the remaining portion of the article is completed, and this, too, with only the manipulation of one lever. By this means it will be readily understood that not only are the tools brought into proximity with the block to roughly turn it, but also are brought into position to turn out the ring complete merely by the manipulation of one lever, which is an important desideratum, as it effectually provides for a more rapid turning out of the ring or ball, as the case may be, than has heretofore been accomplished. The amount of skilled labor is also necessarily reduced to a minimum by this simple attachment. Another advantage I obtain is that I can turn rings from a larger diameter piece and then turn rings from such piece as it is being reduced in diameter without stopping the lathe.

What I claim as my invention is—

1. The combination with the mandrels, of the bed-plate adjustably supported, the annular guiding-ring on the same, the circular plate provided with a groove to fit the ring and guiding-ribs on the bed-plate, the standard-plate and standard fitting within ribs on the circular plate, the tools supported in the plate and the lever pivoted to lugs in the standard and connected by links to a lug on the circular plate as and for the purpose specified.

2. In a machine of the class described, the combination with the standard, of the holding-spindle extending through a vertical opening thereof and suitably secured in position and provided with a longitudinal slot and threaded outer end, and the collars fitting on the threaded end of the spindle and designed to hold the tool in position as and for the purpose specified.

3. In a machine of the class described, the combination with the standard and vertical opening therein, of the spindle provided with a flange intermediate of its length and a threaded end provided with a slot and a reduced end extending into the opening, a bolt extending through the opposite side of the opening into the reduced end, and the tool extending through a slot and the adjustable collars all arranged as and for the purpose specified.

4. The combination with the standard and two tools extending one on each side of the block and suitably held on the standard, of the circular plate provided with guiding-ribs and a circular groove at the bottom and the bed-plate provided with a circular projection fitting the aforesaid groove and the lever suitably connected to the standard and designed to rotate and move the same longitudinally as and for the purpose specified.

GEORGE REYNOLDS.

Witnesses:
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