

E. Williams.

Wood-Turning Lathe.

N^o 76022

Patented Mar. 24, 1868

Fig. 2.

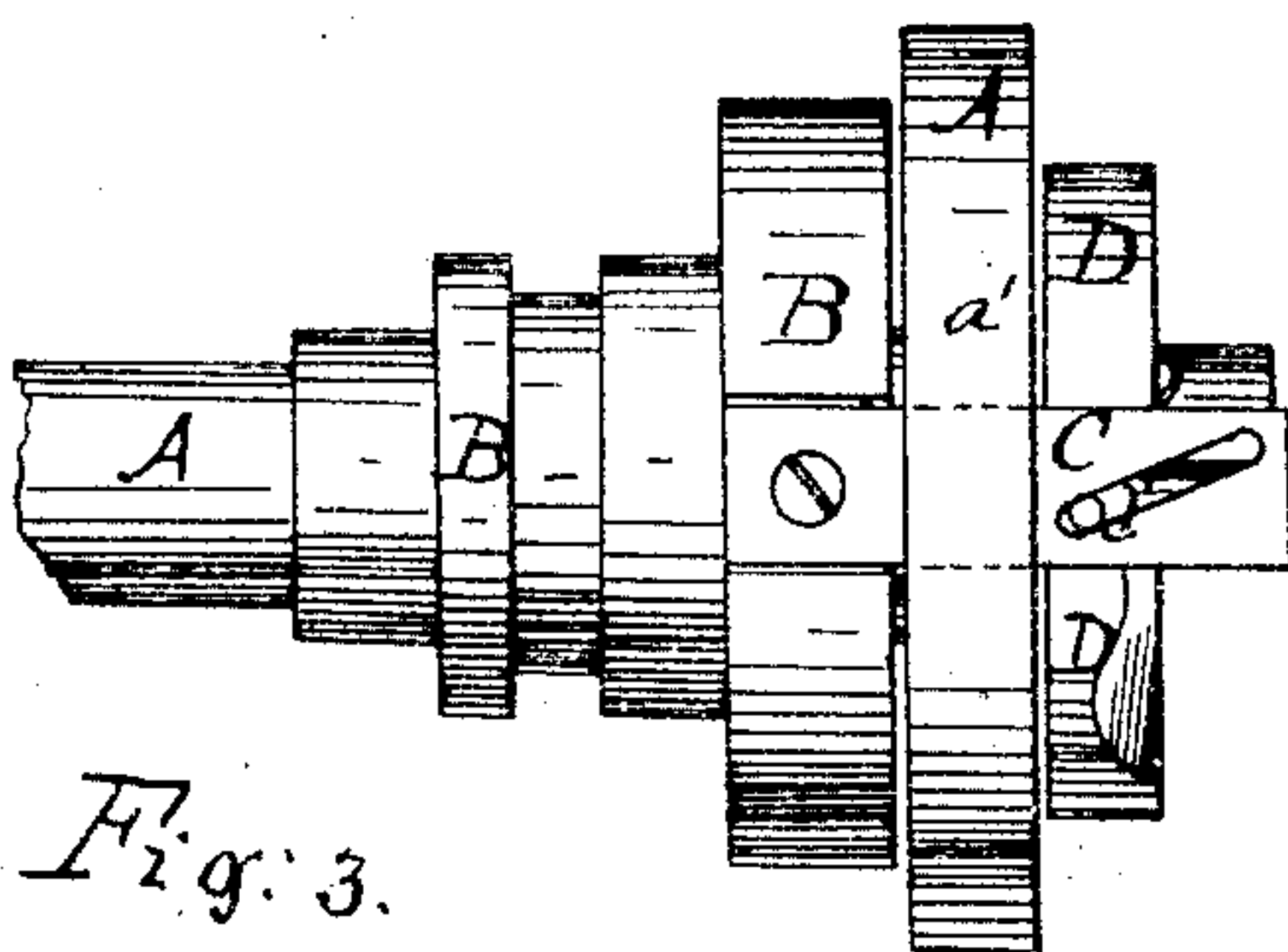


Fig. 3.

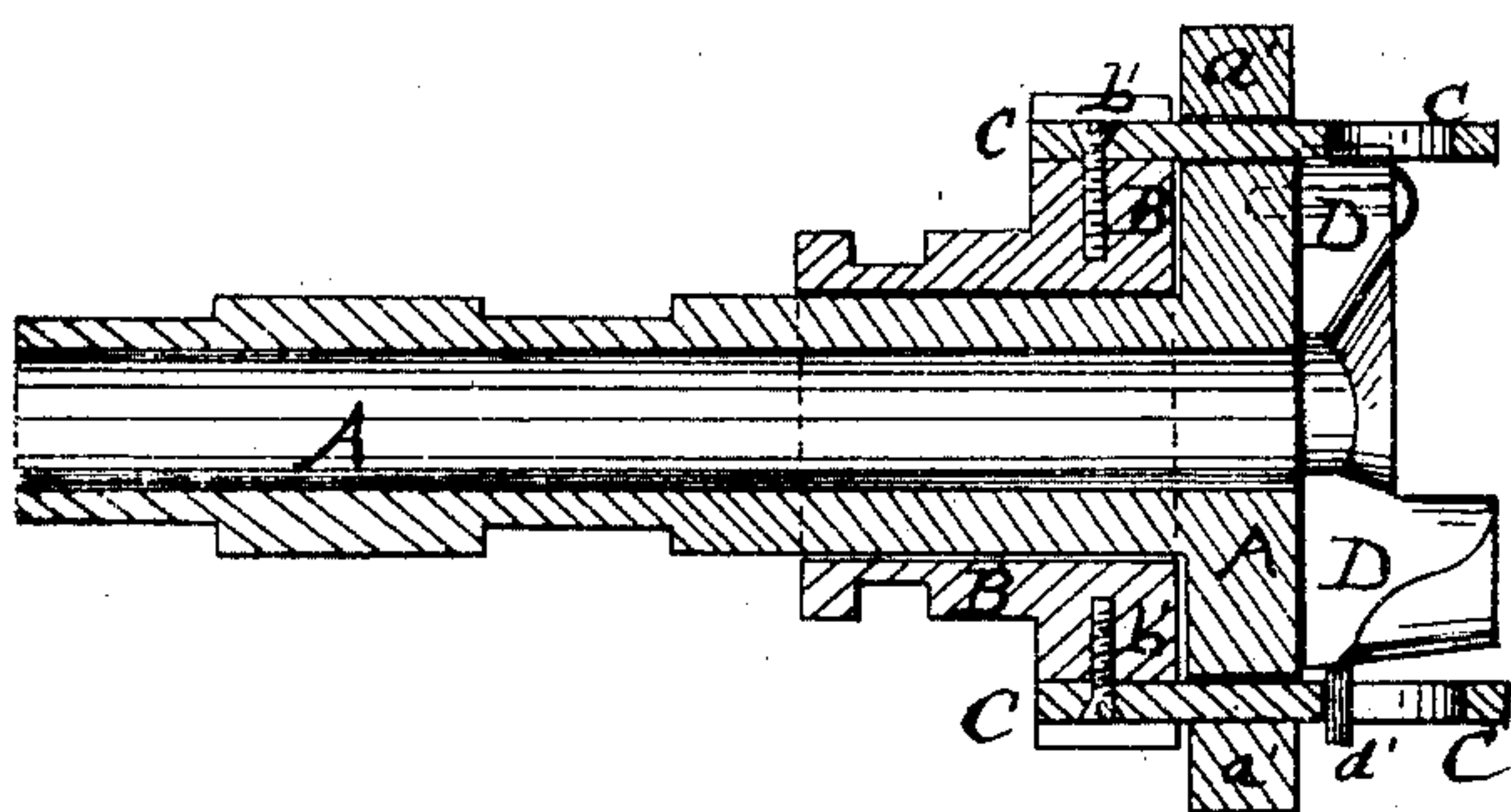
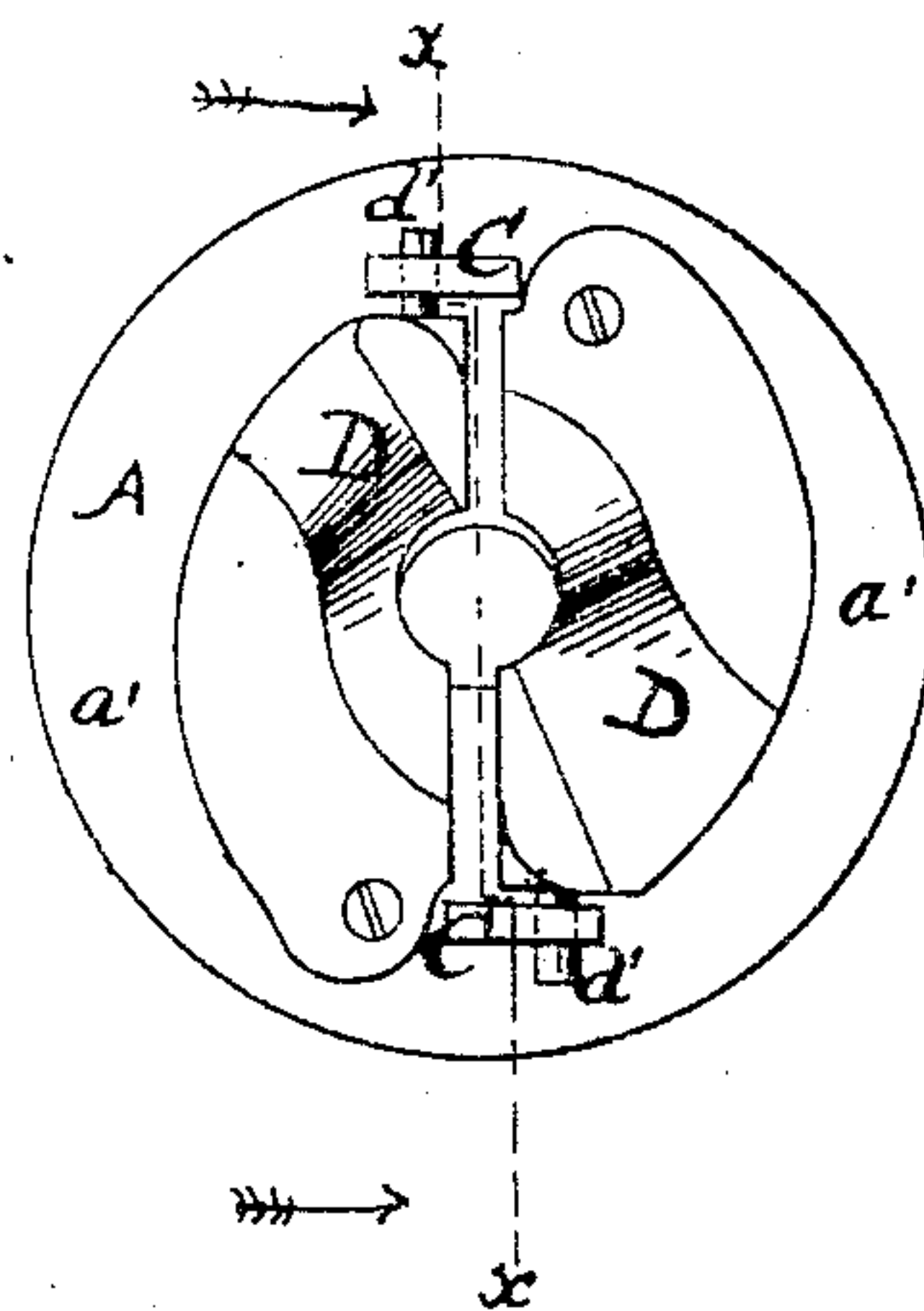


Fig. 7.



Witnesses
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EDWIN WILLIAMS, OF ROWLESBURG, WEST VIRGINIA.

Letters Patent No. 76,022, dated March 24, 1868.

IMPROVEMENT IN WOOD-TURNING LATHES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, EDWIN WILLIAMS, of Rowlesburg, in the county of Preston, and State of West Virginia, have invented a new and useful Improvement in Broom-Handle Lathe; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an end view of my improved device.

Figure 2 is a side view of the same.

Figure 3 is a detail sectional view of the same, taken through the line *xx*, fig. 1.

Similar letters of reference indicate like parts.

My invention has for its object to improve the construction of Peter Prescott's broom-handle lathe, patented October 8, 1861, and numbered 33,466, so as to make it more satisfactory and effective in operation.

In Prescott's patent the cutter-blocks are provided with pins, extending through openings in the flanged head of the hollow spindle, and through openings in the flange of the sliding collar. As the collar is moved to or from the flange, upon the spindle, the pins are extended through or withdrawn from said collar, and thereby made to assume a greater or less angle, determining the degree of contraction or expansion of the cutter-blocks. By this arrangement the pins cannot be made to hold the cutter-blocks in place when the lathe is in motion. In order to render the pins operative, the openings in the flanges of the collar and spindle must be of greater diameter than the pins to accommodate the varying angles of the latter, as the cutter-blocks are opened or closed. This construction causes the pins to play to a greater or less extent, and when the revolutions of the spindle have reached the requisite velocity to turn the broom-handle, the cutter-blocks are liable to be thrown open and destroy the shape of said handle. The constant play of the cutters, when the spindle is revolving at low speed, also destroys the symmetry of the broom-handle, causing unevenness and irregularities.

My invention is designed to obviate these difficulties, as the arms operating the cutters are rigidly secured in the flange of the sliding collar, and pass in horizontal planes through the flange of the spindle. The openings in the flange are therefore only sufficiently large to receive the arms without any lateral or side play.

The outer ends of the arms are slotted diagonally, to receive pins upon the free ends of the cutter-blocks, which blocks are expanded or contracted thereby. The inclination of the slots holds the pins perfectly rigid in whatever position the cutter-blocks are made to assume.

A is the hollow spindle, about the construction and operation of which there is nothing new. B is a collar, sliding back and forth upon the hollow spindle A. To the head or flange *b'*, of the collar B, are securely and rigidly attached two arms C, which pass through and fit into slots or holes in the flange or head *a'* of the hollow spindle A, as shown in figs. 2 and 3. D are the cutter-blocks, one end of each of which is pivoted to the face of the head *a'*, of the hollow spindle A, and the other or free ends have projections or pins *d'* formed upon or attached to them, which pass through incline slots in the arms C of the sliding collar B, as shown in figs. 1, 2, and 3, so that as the sliding collar is drawn in one direction, the cutter-blocks will be drawn towards each other, and when moved in the other direction, they will be drawn from each other. The sliding collar B is moved back and forth by a lever, as it is acted upon by an eccentric, so that the cutter-blocks may be gradually expanded and then gradually contracted, and so on alternately.

In using the machine, the broom-handles are turned alternately from the larger to the smaller end, and from the smaller to the larger end, which enables a larger number of handles to be turned in the same time than can be done without my improvements. My improvements also effectually guard against the tendency of the cutter-blocks to fly off or expand from the centrifugal force engendered by the rapid revolution of the hollow spindle, and thus enable the handles to be turned with a true taper.

I claim as new, and desire to secure by Letters Patent—

The sliding collar B, when provided with the arms *c*, passing through slots in the flange *a'* of the hollow spindle A, and having the diagonal slots for the reception of the pin *d'* upon opposite ends of the cutters D, which are also pivoted at opposite ends to the flange of the hollow spindle, all constructed and operating as described for the purpose specified.

Witnesses:

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