W. J. Watson,

Lathe Tool,

No. 76,363. Patented Apr. 7, 1868.

Fig. 1.

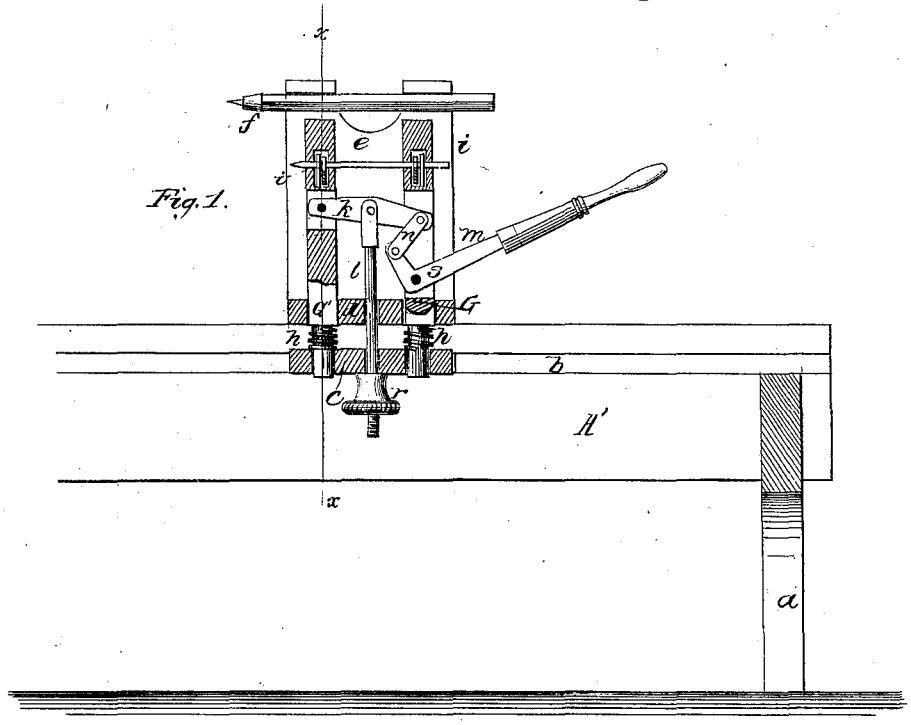
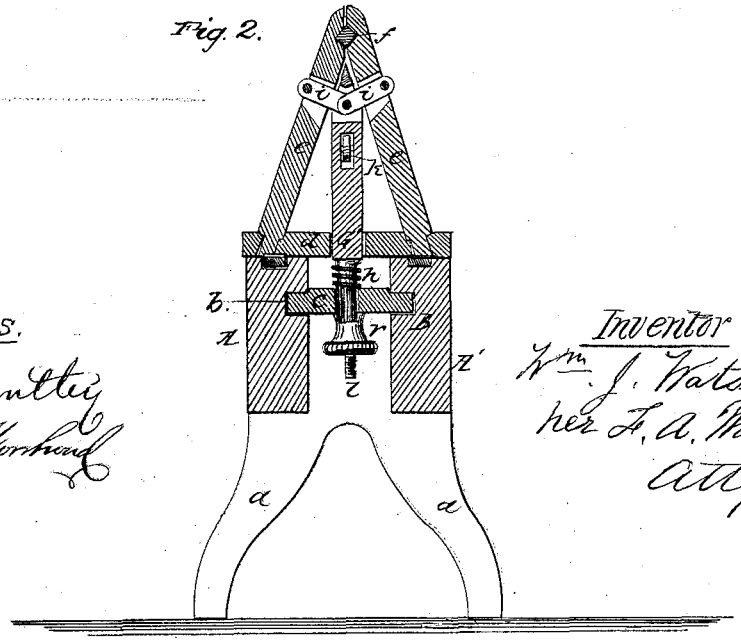


Fig. 2.



Witnesses.

O. N. Bentley

Wm. S. Morehead

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Atty.

United States Patent Office.

WILLIAM J. WATSON, OF BENTON CENTRE, NEW YORK.

Letters Patent No. 76,363, *dated April* 7, 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, WILLIAM J. WATSON, of Benton Centre, in the county of Yates, and State of New York, have invented a new and useful Improvement in Tail-Block for Turning-Lathes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those 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 a central vertical longitudinal section of my invention, and

Figure 2 is a vertical cross-section of the same, taken in the line *x x* in fig. 1.

Similar letters of reference indicate corresponding parts.

This invention consists in a new and improved construction of tail-block for turning-lathes, whereby the block and centre are secured in place or released with greater facility than heretofore, as hereinafter explained.

In the accompanying drawing, A A′ is the frame of the lathe, the inner faces of which are provided with grooves, *b b*, which hold a sliding block, *c*. *d* is a second sliding block, which is mounted on top of the frame-pieces A, and this block supports two movable jaws, *e e*, which hold the centre *f*. The lower ends of jaws *e* have tenons, which engage with mortises in the supporting-block *d* in such manner that the upper ends of the jaws are free to move laterally, or open and close slightly, while their lower ends are held stationary. The uprights or sliding standards, G G, are held in a vertical position, by passing through holes in the blocks *d e*, but are free to move vertically under pressure, although they are supported by spiral springs *h h*. The standards G have each a pair of links, *i*, at their upper ends, which connect with the upper parts of the jaws *e e*, as shown in fig. 2. *k* is a two-armed lever, which is pivoted at its centre to a rod, *l*, and one arm of this lever is pivoted to the standard G′, while the opposite end is connected to the elbow hand-lever *m*, by means of link *n*, fig. 1. The rod *l* is held at its lower end by a nut, *r*.

Its operation is as follows: After the block and centre have been adjusted to the work, the lever *m* is pressed down, and both the centre and block are thereby simultaneously and firmly secured in position. By pressing down the hand-lever, its short arm and the link *n* are brought into line, by which the lever *k* forces down the standard G′, and the pressure upon the hand-lever fulcrum S forces down the other standard, G, and all this downward pressure on the standards G′ and G is brought upon the links *i*, excepting a small item of force which is employed in compressing the spiral springs *h h*, which act as knee-joints to press the jaws *e e* upon the centre, *f*, with great force, and thus the centre is very rigidly secured by a single movement on the part of the operator. The tail-block is secured by the upward strain on rod *l* pressing the block *c* upward in the grooves *b*, while the block *d* is forced down upon the frame A by the downward strain on jaws *e e*, so that the blocks *d c* grasp the frame A. The short arm of the hand-lever and the link *n* also form another knee-joint, so that the clamping-power rapidly increases as the hand-lever is moved down, and gives the parts a very powerful gripe. And also, the strength of the bite is easily regulated at any time, or wear taken up, by means of a nut, *r*, which allows the fulcrum-rod *l* to be lengthened out or taken up, as desired. When the clamping-pressure on the jaws is removed, the springs *h h* press upward on the standards G sufficiently to open the jaws *e e* slightly, so that the centre *f* is quite free to be moved.

By this method of securing the centre, it is adjusted to its work and secured much more expeditiously than can be done with a screw and tightener, as usual; and as both centre and tail-block are secured or loosened by the same movement of the lever, the tail-block is always free to be moved at the only time when occasion can arise for its being moved.

V, fig. 2, is a guide to aid in steadying the tail-block, and is held in a recess of the tail-block, and travels in a groove in the upper side of the frame A. The ends of this guide are bevelled off to a sharp point, so as to clear its way in the groove of chips which may lodge in said groove.

The parts may be made of any suitable material, and may be used for a wood or metal-working lathe.

By these means these parts of a turning-lathe are operated with much more rapidity and facility than heretofore.

95,363

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

A tail-block having a pair of movable centre-holding jaws, *e*, when the securing-devices for the tail-block and the operating-devices for the said jaws act in conjunction, substantially as and for the purpose set forth.

WM. J. WATSON.

Witnesses:

EDWIN LAMPORT,

WM. H. CRANE.