A. Wood.

Engine-Lathe for Turning Shafting.

No. 76130 Patented Mar. 31, 1868.

Fig. 4.

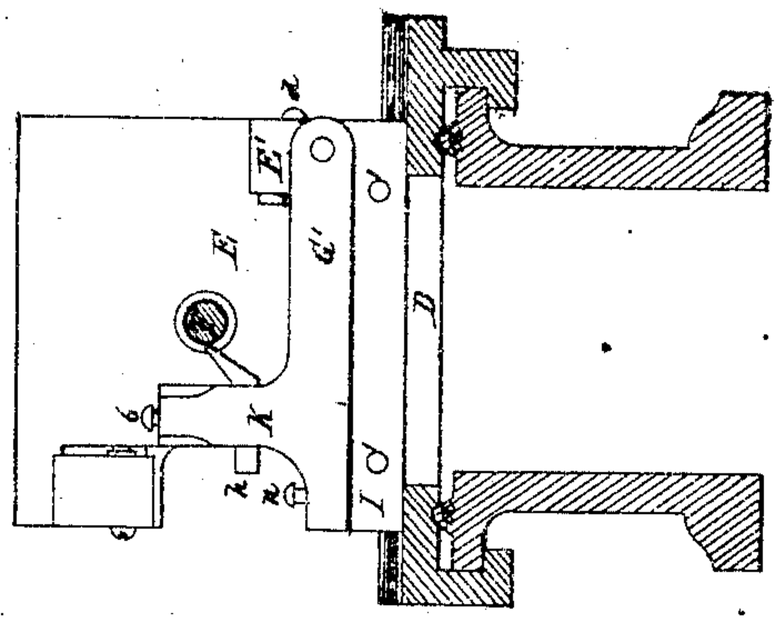


Fig. 3.

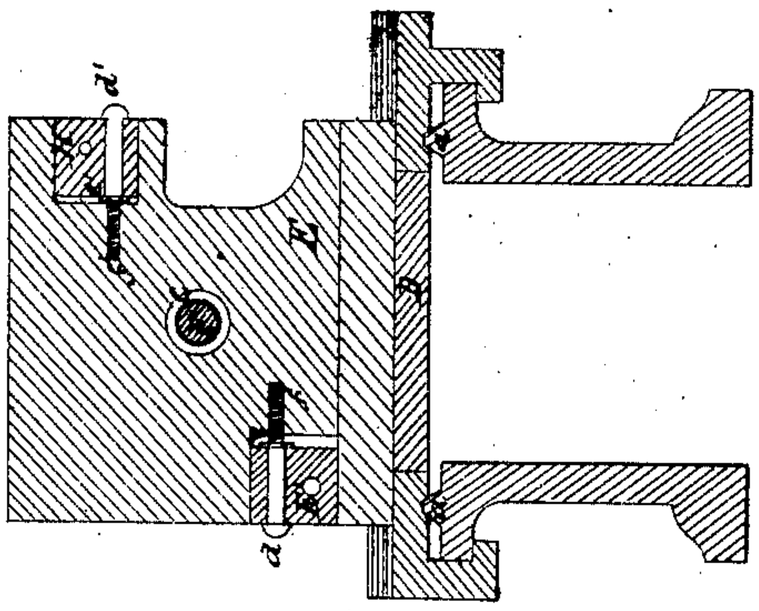


Fig. 2.

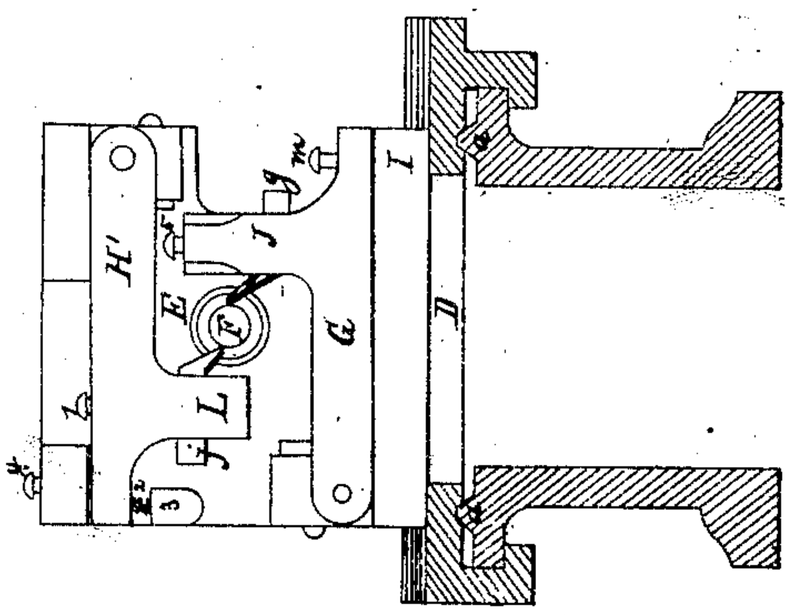
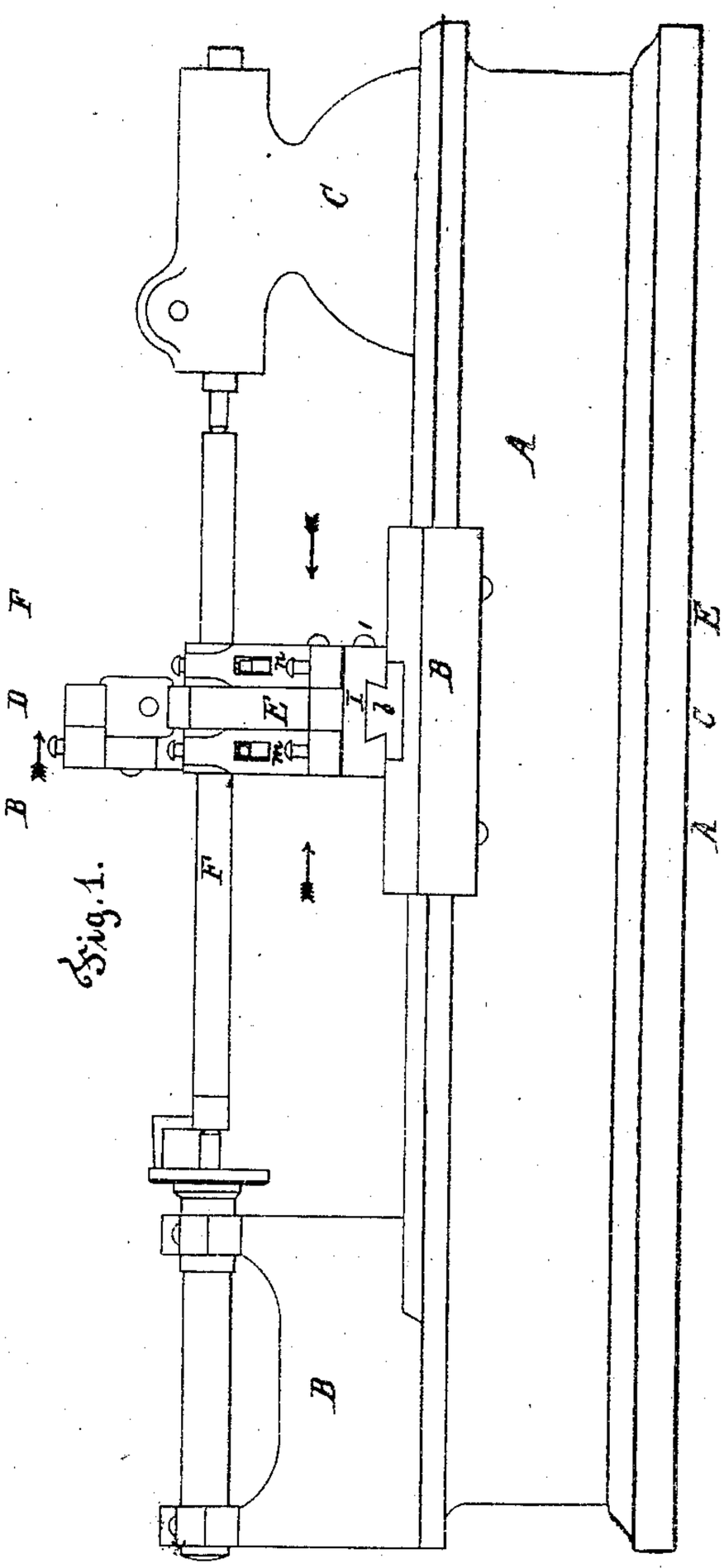


Fig. 1.



Witnesses.
Thos. H. Dodge.

Inventor.
Aaron Wood.

United States Patent Office.

AURIN WOOD, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 76,130, *dated March* 31, 1868.

IMPROVED ENGINE-LATHE FOR TURNING SHAFTING.

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

KNOW ALL MEN BY THESE PRESENTS:

That I, AURIN WOOD, of the city and county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Engine-Lathes for Turning Shafting; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a front view of so much of an engine-lathe as is necessary to illustrate my present improvements.

Figure 2 represents a section on line A B, fig. 1.

Figure 3 represents a section on line C D, fig. 1; and

Figure 4 represents a section on line E F, same figure.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, the part marked A represents the bed of an ordinary turning-lathe, having a head-piece, B, and tail-piece, C. Upon the ways *a a* of the bed A, is fitted to move, a common slide-rest, D. This rest is provided, in this instance, with a dove tailed tongue piece, *b*, to fit into the auxiliary rest, E, which is fitted to move thereon at right angles to the ways *a a*. In the centre of the auxiliary rest E is fitted a gauge-ring, *c*, through which the shaft F passes, as indicated in the drawings. The back of the auxiliary rest E is recessed or cut out, and a block, E′, fitted to work in said recess, and which block can be moved back and forth by means of the screw or bolt *d*, which passes loosely through said block, the head of said bolt or screw bearing against the outside of said block, while a collar, *e*, is fastened to the bolt, so as to bear against the inside of the block. The screw part, *f*, of the bolt *d*, works in the auxiliary rest E. By turning bolt or screw *d*, block E′ can be adjusted in or out, to draw or move the tool-stands G G′, which are hinged upon opposite sides of said block, so as to cause their cutting-tools, *g h*, to approach or recede from shaft F.

The auxiliary rest E is fastened to the sliding rest D by means of the screws 1 1. The front side of the auxiliary rest E is recessed out, and fitted with a sliding block, H, and is provided with an adjusting-screw or bolt, *d′*, having a collar, *e′*, and a screw part, *f′*, whereby it can be operated in the same manner as the sliding block E′, to move the tool-rest H′, hinged thereto, so as to cause its tool, *j*, to approach or recede from shaft F. The end of the tool-rest H′ bears upon a spiral spring, 2, in the cup 3, upon the side of auxiliary rest E, and is forced up by the spring 2, against the point of the adjusting-screw 4, which passes through a projection on the rest E. An adjusting-screw, *m*, passes through the end of the tool-rest G, and a similar screw, *n*, through the tool-rest G′, the points of said screws bearing upon the projecting part, I, of the rest E. The cutting-tools *g h j* are held in place by screws 5, 6, and 7.

The operation is as follows: The operator runs rest D, which is to be operated in any of the well-known modes, by screw, rack, or otherwise, back to the tail-piece C. The blank bar for the shaft is then placed in proper position, and one of the cutting-tools, *g* or *j*, adjusted to rough-turn the shaft, while the other tool turns the shaft to a good fit in the gauge-ring *c*, which affords the desired support to the shaft while it is being turned to a gauge or calipered size by the finishing-tool *h*.

It will be observed that each tool has a double adjustment, so that the cutting-tools can be used until their points have worn up short, and still be made to work properly. When considerable adjustment is required, as when different shafts are to be turned, or the tools become much worn off, recourse may be had to the screws *d d*; but when only slight and inconsiderable adjustments are requisite, these are obtained by means of the screws *m n* and 4.

It will be noticed that by my mode of hinging and adjusting the tool-rests G G′ and H′, the adjustment can be made very perfectly, while there is no danger of back play of the adjusting-devices. As no change or loosening of the tools in their slotted supports, J, K, and L, upon their respective rests, takes place when an adjustment is made, shafting can be turned with far greater accuracy than by the modes in common use, in which the tool itself is moved to obtain the desired adjustments.

It will be understood that two tools may be arranged upon the finishing-side of the rest E, if preferred. The parts G G′ and H′ could be hinged direct to the rest E, if preferred in any case. By simply turning back

the screws 1 1, the auxiliary rest E may be slipped from the rest D, and the common tool-support substituted in its place in a very short time, thus fitting the machine for common work.

The present mode of putting up and running shafting renders it necessary that very great accuracy should be observed in its manufacture, so that any part of it may be used for a bearing-surface, and in view of which fact, those skilled in the art will appreciate my present improvements, which require but comparatively a small outlay to fit a common engine-lathe for turning shafting with as much precision as expensive engine-lathes fitted expressly for the purpose.

Having described my improvements in engine-lathes for turning shafting, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the auxiliary rest E, of the slide-pieces E′ H, and hinged adjustable tool-rests or supports, G G′ and H′, substantially as and for the purposes set forth.

2. The combination, with the auxiliary rest E, of the hinged adjustable rest H′, cup 3, and spring 2, substantially as and for the purposes set forth.

Witnesses:

THOS. H. DODGE,

D. L. MILLER.

AURIN WOOD.