T. D. Bassett,

Threading Screws.

No. 79,721. Patented July 7, 1868.

Fig. 1.

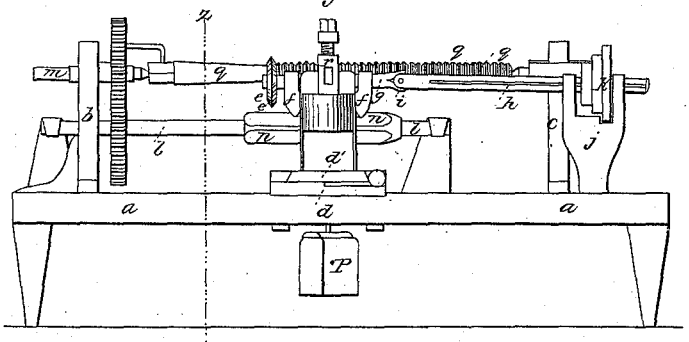


Fig. 2.

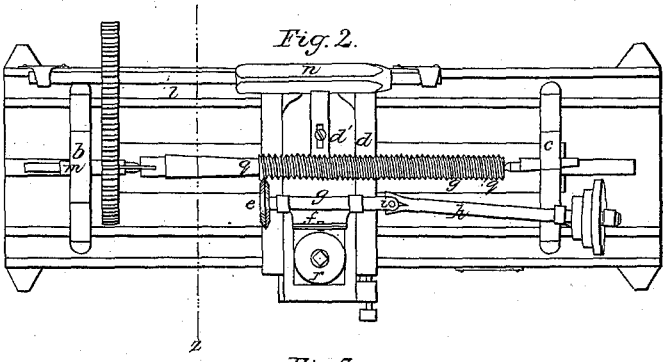
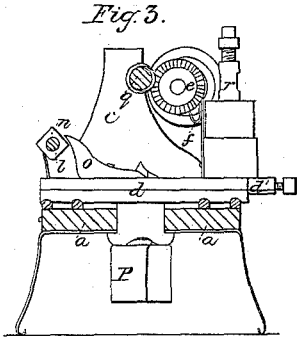


Fig. 3.



Witnesses.
J. B. Crosby
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T. D. BASSETT, OF CHARLESTOWN, MASSACHUSETTS.

Letters Patent No. 79,721, *dated July* 7, 1868.

IMPROVEMENT IN LATHES FOR SCREW-CUTTING.

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, T. D. BASSETT, of Charlestown, in the county of Middlesex, and State of Massachusetts, have invented certain new and useful Improvements in Screw-Cutting Lathes; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

This invention consists in the combination of a jointed shaft with a rotating burr-cutter, mounted on a swinging frame; also, in combining these last-named features with a weighted and sliding tool-rest; also, in arranging the dead-centre in the edge of the tail-stock, for the purpose hereinafter described.

Figure 1 shows a front elevation of a screw-cutting lathe embodying my invention.

Figure 2 shows the same in plan, and

Figure 3 a cross-section and an elevation of the parts beyond, the section being taken on the line *z z*, seen in figs. 1 and 2, the elevation being of the parts seen looking toward the tail-stock.

a is the lathe-bed; *b*, the head-stock; *c*, the tail-stock; *d*, the slide-carriage, having a transverse motion imparted to it along the blank in any well-known manner, and which carries the burr-cutter *e*. This cutter is mounted on an arbor, which has its bearings in a piece, *f*, which is made so that it can pivot or swing and be secured in any ordinary manner needed to give the proper inclination of the cutter to correspond with the angle of the pitch of the screw-threads to be cut.

To the end of the arbor *g*, carrying the burr-cutter *e*, a splined shaft, *h*, is coupled by means of a universal joint at *i*, said shaft being supported in bearings in a piece, *j*, which is capable of yielding to the amount required by the movements and position of the cutter-arbor.

Between the bearings of piece *j* there is a cone-pulley, *k*, fixed to the shaft *h*, by means of a feather, so that by means of a belt on the pulley the shaft *h* can be rotated, and will be free to slide through the pulley.

The carriage, to which the piece *f* is attached, is a compound one, there being in the piece *d* a piece, *d'*, which is capable of moving in *d* crosswise with respect to the centre of the piece which is to be turned. This crosswise movement is given as follows: Parallel with the lathe-centres there is mounted, in suitable bearings, a mandrel, *l*, which is geared from the lathe-mandrel *m*, so as to rotate isochronously therewith, and on this mandrel *l* is fixed a pattern-cam, *n*, of any desired length and form of cross-section. Against this pattern-cam a projection, *o*, from the piece *d'* is kept in contact by means of a weight, *p*, or spring, suitably arranged for that purpose, so that it will be obvious that as the pattern-cam *n* is made to rotate, the cutter *e* will be drawn toward and will be forced from the centre of the screw *q*, by the conjoined action of the cam *n* and weight *p* acting through the cross-slide *d'*, this movement being that which is required in the formation of screw-taps with several faces.

By disconnecting from the lathe the pieces *f* and *j*, with their immediate connections, and by removing the pattern-cam and weight, the lathe may be used as an ordinary one for turning plain cylindrical bodies with an ordinary tool, there being a tool-post, *r*, provided, in which to secure the tool, or keeping the weight and providing a pattern-cam, fac-similes of the pattern-cam may be turned in the lathe with an ordinary cutting-tool or point.

Inspection of fig. 3 will show how the tail-stock *c* is offset or set back, so as to bring the dead-centre *s* to the front, and thus afford room for the passage of the universal joint, seen at *i*, and the bearings of the mandrel *g* to allow the burr-cutter *e* to operate on the extreme end of a piece mounted on the lathe-centres.

I do not claim the devices, separately considered, herein described, but

I claim—

1. The combination of the jointed shaft *h*, burr-cutter *e*, and its swinging frame *f*.
2. The combination of the elements last above mentioned with the weighted and sliding tool-rest.
3. Arranging the dead-centre in the edge of the tail-stock in the manner and for the purpose described.

T. D. BASSETT.

Witnesses:

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