J. W. Russell,

Lathe Dog,

No. 80,770, Patented Aug. 4, 1868.

Fig. 1.

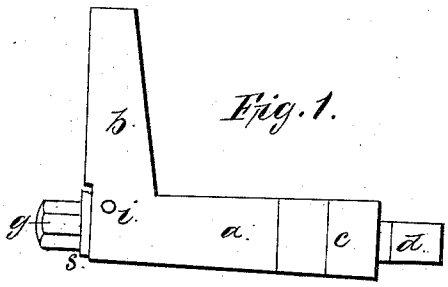


Fig. 2.

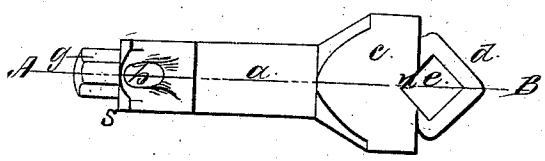


Fig. 3.

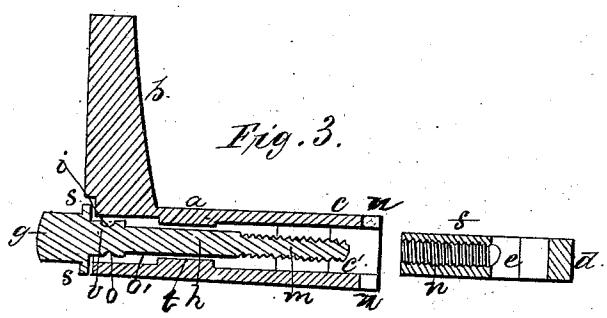
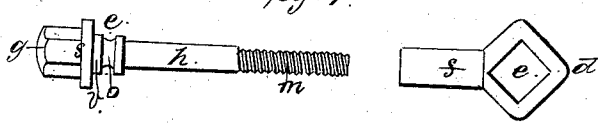


Fig. 4.



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J. W. RUSSELL, OF SPRINGFIELD, MASSACHUSETTS.

Letters Patent No. 80,770, *dated August* 4, 1868.

IMPROVEMENT IN LATHE-DOGS.

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, J. W. RUSSELL, of Springfield, in the county of Hampden, and Commonwealth of Massachusetts, have invented a new and improved Lathe-Dog; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a side view of my invention,

Figure 2 is plan view of the same,

Figure 3 is a longitudinal section, through line A B of fig. 2, showing the clamp separate from the shank, and

Figure 4 is a view of the screw and clamp.

My invention relates to that class of machine-tools known as a lathe-dog, and consists of an improvement in the construction of the same, whereby any article may be held in its proper position for turning, or for being operated upon in a lathe, more firmly than in the common lathe-dog, and that, too, without any danger of defacement or liability to injury.

As lathe-dogs are now constructed, it is almost impossible to hold nicely-finished work in them sufficiently firm and secure to operate upon it in a lathe, without more or less injury to it by abrasion, and much annoyance is experienced by the workmen on account of the work becoming loose in the dog while being operated upon, as it is only kept in place by the article being placed between the screw and side of the dog, and the screw being then turned firmly against it. The force of the cutting-tool, or the friction of the cutting-tool against the work, often gets the work loose, or the screw is turned so firmly against the finished work as to deface it. My invention is designed to obviate these objections, while it is cheap in its construction, and reliable in its operation.

To enable others skilled in the art to make and use my invention, I will describe its construction and mode of operation.

In the drawings—

a represents the body or shank of the dog, having the arm *b* thereon, said shank *a* being hollow, and somewhat enlarged at the end *c*, said enlargement being also hollow, and of sufficient size to admit the clamp *d*, which is rectangular in form, but of a suitable thickness to pass into the space *c'* within the enlarged part *c*. The clamp *d* has a rectangular hole therein, or space, *e*, and to this portion of the clamp is attached the socket *f*, at one of the corners, so that one corner of the rectangular hole or space *e* shall be nearer the screw *m* than the others when it is in place within the hollow shank *a*. The bolt *h* has a nut, *g*, upon the end, with a collar, *s*, thereon, which bears or operates against the outer end of the shank *a*, and said bolt also has an enlargement or annular projection, *v*, thereon, with a groove *o* made therein, and the screw-thread *m* is cut upon the bolt *h*, which engages with the screw-thread cut in the socket *f* of the clamp *d*. A portion of the bore or space within the shank *a* is made smaller at *t*, to more perfectly fit the bolt *h*, in order that said bolt may be kept more securely in its proper position. A small hole is made through the shank *a*, near the arm *b*, for the insertion of the small pin *i*, and a small triangular space, *u*, is made in the end *c* of the shank.

Having thus described its construction, I will now describe its mode of operation.

The bolt *h* being inserted in its place within the hollow or bore of the shank *a*, the small pin *i* is inserted in its hole, which pin *i* also passes into the annular groove *o* in the bolt *h*, and keeps said bolt in its proper position.

The threaded socket *f* is then inserted in the space *c'*, and by turning the screw *m* of the bolt *h* into the threaded socket *f*, said socket is drawn into its place in the space *c'*. If now any article to be worked upon be passed into the rectangular space or hole *e*, and the bolt *h* be turned by means of a wrench, applied to the nut *g*, the clamp *d* will be drawn farther into the space *c'*, until one side of the article is passed firmly against the corner *u*, or into the triangular space *u*, by the opposite angle *d* of the clamp, or it will be drawn in firmly against the corner *u* by the clamp *d*, and the article may then be operated upon by placing the arm *b* in the lathe-chuck in the usual way.

This dog may be made of any desired pattern and size, but I prefer the shape shown in the drawings, as it may be made lighter, while at the same time it is sufficiently strong for all ordinary work.

Instead of using the pin *i* and groove *o*, a small slot might be cut in the end of the shank for the collar *s* to work in, or a small piece might be attached to the shank *a* or arm *b*, and outside of the collar *s*, and the socket might perhaps be made upon the end of the bolt *h*, while the thread *m* might be cut upon the stem of the clamp *d*. The hole *e* in the clamp *d* may be made of any other desired form, and the nut *g* might be a thumb-nut, if desirable. All or any of said changes might be made, without departing from the principle of operation, and would be equivalent to my device. I prefer, for efficiency, to make the tool as shown in the drawings.

I am aware that all of the devices herein described, separately considered, are old and well known, and I do not therefore claim them, or any of them; but

What I do claim is—

The combination of the screw-bolt *h*, having the annular groove *o* thereon, the threaded clamp *d*, the hollow shank *a*, and the arm *b*, all constructed, arranged, and operating substantially as herein described, and for the purposes specified.

J. W. RUSSELL.

Witnesses:

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