J. A. Ray,

Burnishing Metal.

No. 22,452. Patented Dec. 28, 1858.

Fig. 1.

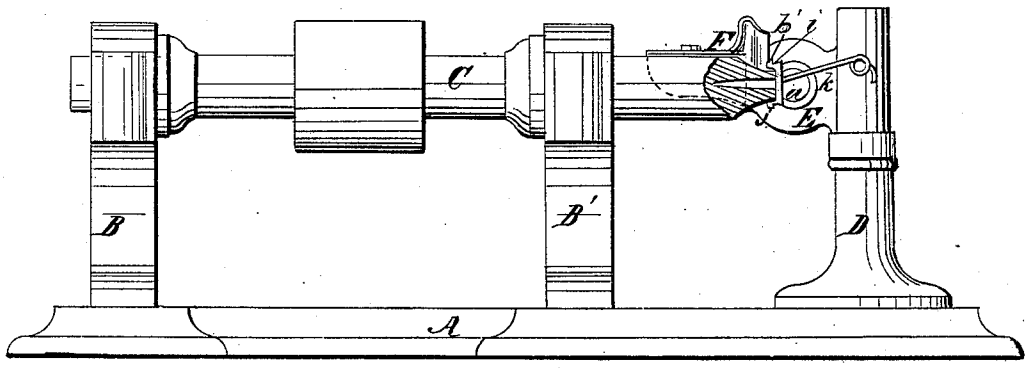


Fig. 3.

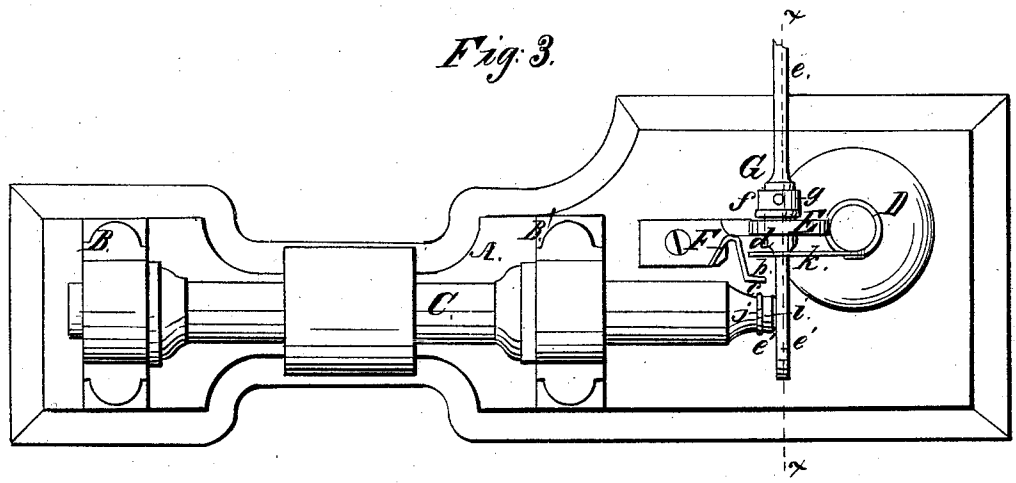
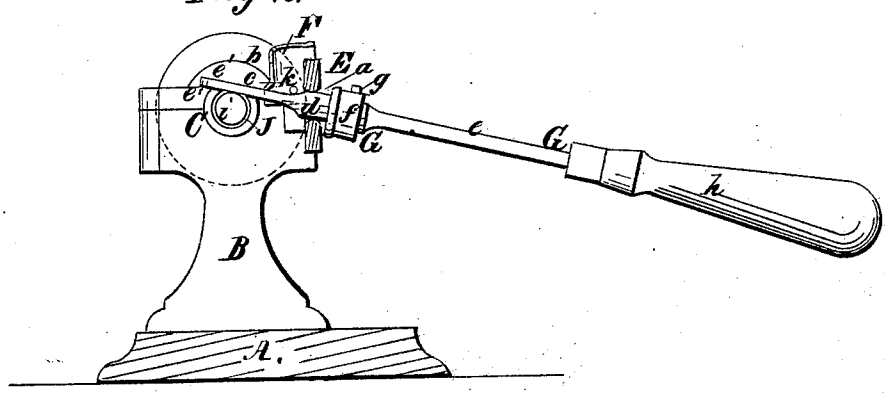


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES S. RAY, OF EAST HADDAM, CONNECTICUT.

IMPROVED BURNISHING ATTACHMENT FOR LATHES.

Specification forming part of Letters Patent No. **22,452**, dated December 28, 1858.

To all whom it may concern:

Be it known that I, JAMES S. RAY, of East Haddam, in the county of Middlesex and State of Connecticut, have invented a new and Improved Burnishing Attachment for Lathes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view of my invention applied to a lathe. Fig. 2 is a transverse section of the same, taken in the line *x x*, Fig. 3. Fig. 3 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to facilitate the manipulation of the burnishing-tool to such a degree that apprentices, females, and comparatively inexperienced persons may perform the desired work equally as well as the experienced workmen now required. The invention is applicable to all burnishing that is performed with the aid of a lathe, such as the burnishing of metal buttons, coffin-screw heads, &c.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the bed of a lathe. B B′ are uprights or heads attached thereto, and C is a mandrel which is fitted in the heads. The lathe is of the usual construction, and therefore need not be more particularly described.

D is a standard which is attached to the bed A of the lathe, a short distance in front of the end of the mandrel C, and a little at one side, as shown clearly in Fig. 3. To this standard D a plate, E, is attached at right angles, said plate being parallel with the mandrel C, and extending nearly to the head B′ of the lathe, as shown in Figs. 1 and 3. The standard D and plate E are of metal, and the plate E has a circular opening, *a*, made through it, said opening having its inner edge about in line with the end of the mandrel C. (See Figs. 1 and 3.

To the inner edge of the plate E a guide, F, is attached. This guide is a metal plate so bent that its outer end *b* will be in a vertical position near the end of the mandrel C, a short distance at one side of it. The lower part of the end *b* projects out farther than the upper part, so as to form an inclined shoulder or surface, *c*. (Shown clearly in Fig. 2.) The guide-plate F may be so attached to the plate E as to admit of being adjusted thereon nearer to or farther from the head B′.

G is a burnishing-tool formed by having a cylindrical head, *d*, on a shank, *e*, the outer end of the head *d* being flattened at two opposite sides, as shown at *e′ e′*. On the head *d* a ring, *f*, is placed loosely and secured at any desired point by a set-screw, *g*. The front edge of the ring *f* is rounded, as shown clearly in Figs. 2 and 3, and the end of the head *d* is also rounded. The shank *e* of the burnishing-tool is provided with a handle, *h*. The hole *a* in the plate E has both its inner and outer edges rounded, as shown clearly in Fig. 2.

The operation is as follows: The article *i* to be burnished, which in this case is a coffin-screw head, is placed on the end of the mandrel C, and the mandrel is rotated by any proper means. The operator places the head *d* of the burnishing-tool through the aperture *a*, the ring *f* being so adjusted as to permit the end of the head *d* to extend just past the article *i* to be burnished. The operator presses one of the flat sides *e′* of the head *d* against the outer or face side of the work *i*, and gradually turns the head over on the upper side, as shown in Fig. 2, and the work is completed. The hole *a* in the plate F serves as a perfect guide to the tool, and comparatively little strength is required to guide the tool to its work, as the hole *a* is a bearing or fulcrum rest as well as a guide for the tool. Ordinarily a simple rest is alone used, and the operator is obliged to hold the tool firmly thereto to prevent its slipping, and to insure a sufficient pressure of the tool on the work, considerable practice is required in order to perform the work as hitherto practiced in a proper way; but by my improvement the tool may be manipulated with the greatest facility. In cases where the work *i* has a bead on its end, as shown at *j*, said bead will form a stop for the head *d* of the burnisher, and the work cannot be marred or injured by the tool slipping off the head. In cases, however, where the work is not provided with a bead, the tool would be liable to slip off and destroy the sharp angle at the end of the work. To

avoid this the plate F is used and so adjusted relatively with the work *i* that as the head *d* is passed over the top of the work the inclined shoulder will throw up the head from the work. A spring, *k*, is attached to the standard D, said spring extending across the opening *a* in the plate E, and bearing on the head *d* of the tool, the spring serving to aid the manipulation of the tool.

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

The arrangement and combination of the plate E, plate F, spring R, mandrel C, and tool G, as and for the purposes set forth.

JAMES S. RAY.

Witnesses:

JULIUS ATTWOOD,

SAMTEL COOK.