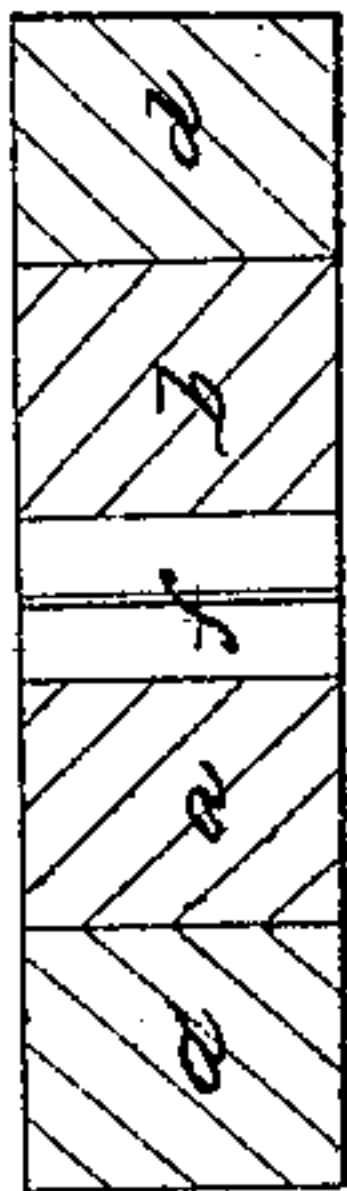


*T. J. Mayall,*  
*Polishing Metal.*

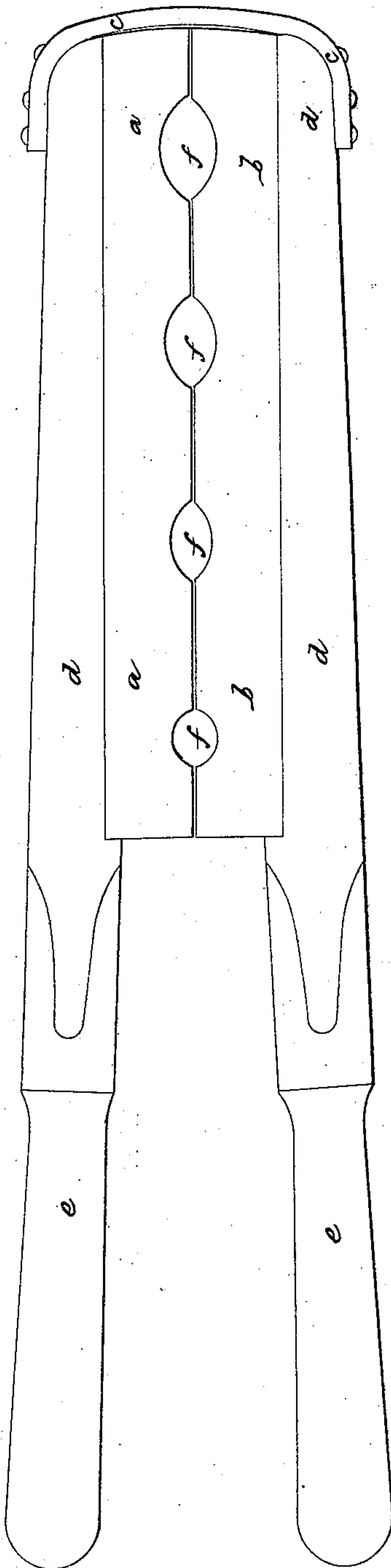
*N<sup>o</sup> 31,180.*

*Patented Jan. 22, 1861.*

*Fig. 2.*



*Fig. 1.*



*Witnesses.*  
*A. W. Brown*  
*Frederic A. Lazenby*

*Inventor.*  
*Thos J Mayall*

# UNITED STATES PATENT OFFICE.

THOMAS J. MAYALL, OF ROXBURY, MASSACHUSETTS.

## POLISHING-TOOL.

Specification of Letters Patent No. 31,180, dated January 22, 1861.

*To all whom it may concern:*

Be it known that I, THOMAS J. MAYALL, of Roxbury, in the county of Norfolk and State of Massachusetts, have invented a new and useful Tool or Implement for Polishing Shafts, &c., and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The figures of the accompanying plate of drawings represent my improvements.

Figure 1 is a plan or top view of my new tool. Fig. 2 is a transverse vertical section of same.

My new tool or implement is designed for the more perfect and rapid polishing of shafts, rods, &c. than can be effected by the ordinary modes, such as by the use of sand paper, files &c., which quickly become worn out and useless.

My new tool is formed in two pieces united by a hinge at one end and composed of india rubber or gutta-percha or of a composition of either with other articles and emery, sand, glass or other gritty materials, the two pieces or sides composing the tool being formed with one or more suitable depressions or dies to fit over the article to be polished.

To make the polishing compound or substance for the tool, the following mode may be pursued. I make a composition of about the following proportions, viz: 15 lbs. of emery or other gritty substance, 1 lb. of rubber or gutta-percha and 5 oz. of sulfur. To these may be added if desired, 1 oz. of olive oil as it gives adhesiveness to the composition. These ingredients are perfectly combined and mixed together and the composition thus formed is then placed in suitable molds, to form each half of the tool, *a a—b b*. The halves or sides *a a—b b* are then subjected to pressure in the molds and

heated any desired length of time at a temperature from 260° to 300° Fahrenheit. They are then united by a hinge *c c*.

The tool may, if desired, have a suitable backing *d d* composed of hard rubber, wood, metal or other material.

It will be evident that the halves or pieces *a a—b b* may have any number of depressions or dies *f, f* &c. formed in them by constructing the mold accordingly so as to adapt the tool to all forms of articles.

For polishing a shaft or rod, the tool is first opened and then by means of the handles *e e* is made to embrace the shaft or rod, so that the same shall fit into one of the dies or depressions *f, f* &c. which being composed of the polishing material as above described will, while the rod or shaft is revolved or rotated, quickly and truly produce a finished surface thereon.

There are of course a variety of modes and shapes in which my new tool may be made and the composition above stated and the degrees of heat to be employed also admit of many modifications and therefore I do not limit myself to the proportions named or to the degree of heat to be employed.

I do not claim the composition herein described of rubber or gutta percha with emery sand or other material, but

Having thus described my improvements, what I claim is—

As a new article of manufacture, the tool herein described for polishing shafts, rods or other objects of cylindrical or round formation and capable of revolution, the same consisting of two pieces provided with corresponding cavities and hinged together to admit of their being separated and brought together for operation as described, the polishing surfaces being composed of india rubber or gutta percha or of the various compositions of these with which emery, sand, glass or other suitable gritty substance is incorporated substantially as set forth.

THOS. J. MAYALL.

Witnesses:

JOSEPH GAVETT,  
ALBERT W. BROWN.