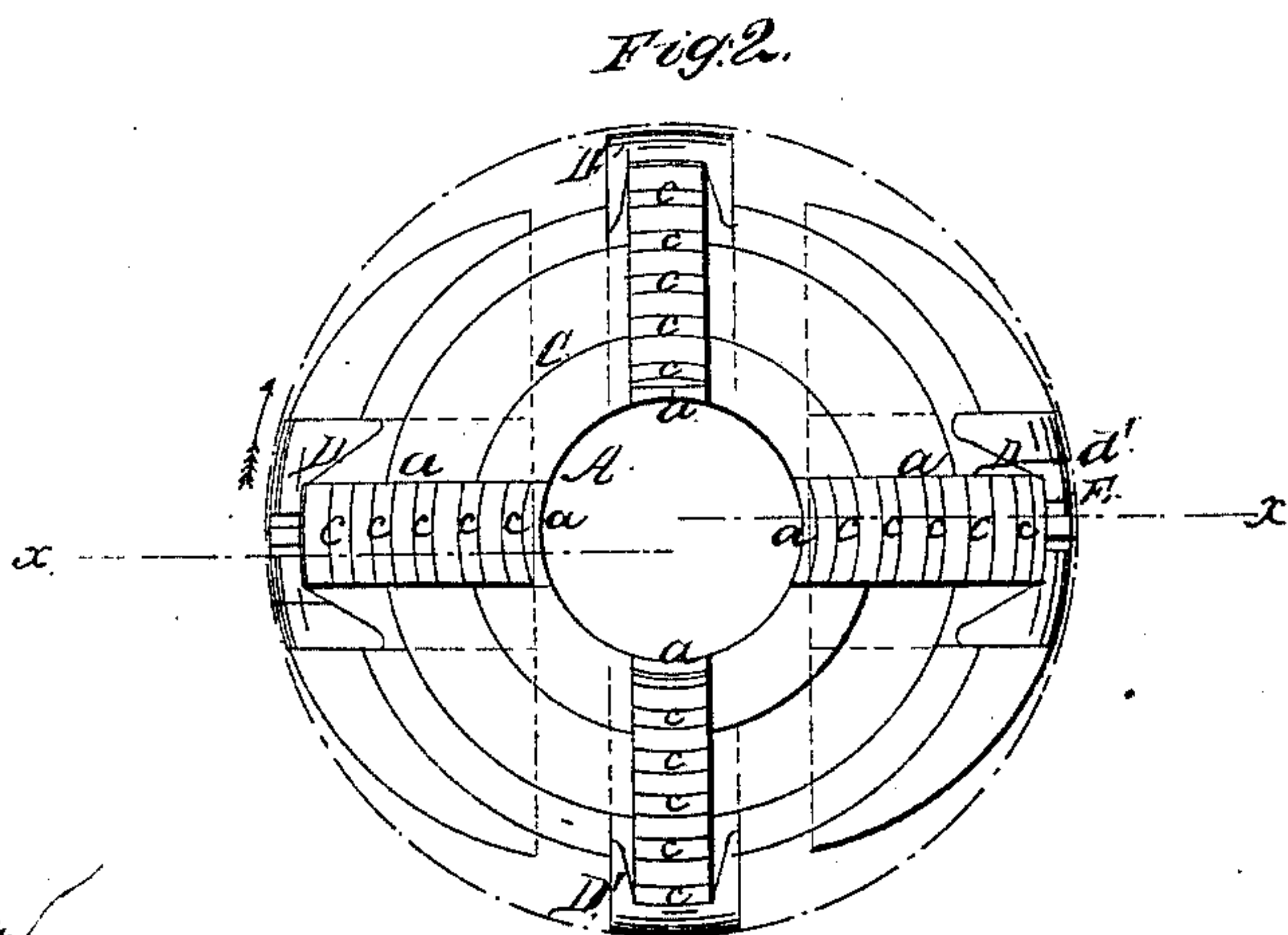
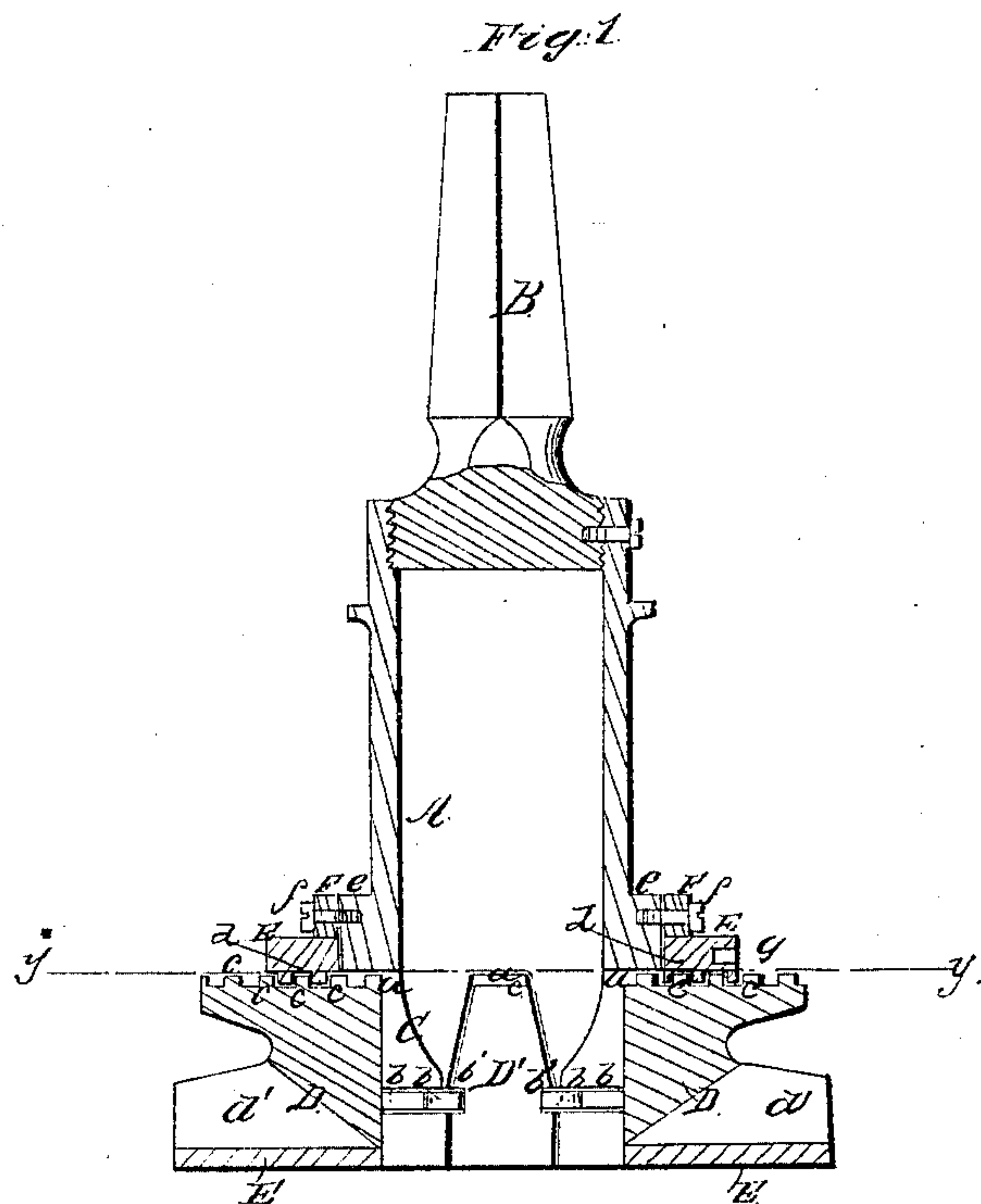


C. Meyer,
Hollow Auger,
No 23,381,
Patented Mar. 29, 1859.



Witnesses:
J. Goheffer,
Saml. Rupp

Inventor:
Charles Meyer

UNITED STATES PATENT OFFICE.

CHARLES MEYER, OF FOND DU LAC, WISCONSIN.

EXPANDING AUGER.

Specification of Letters Patent No. 23,381, dated March 29, 1859.

To all whom it may concern:

Be it known that I, CHARLES MEYER, of Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented
5 a new and Improved Expanding Auger; 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, making a part of this spec-
10 ification, in which—

Figure 1 represents a vertical section of my auger taken in the plane indicated by the line *x, x*, Fig. 2, and Fig. 2 is a horizontal
15 section of do, the line *y, y*, Fig. 1, indicating the plane of section.

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

This invention consists in arranging the cutters on sections which slide in and out
20 in slots made in the stock of the auger and which sections are operated and retained by a scroll groove so as to be always at equal distances from the center and the cutters are
25 sections in such manner that the bottom of the hole made by this auger is perfectly flat and even.

To enable others skilled in the art to fully understand and construct my invention, I
30 will proceed to describe the same.

A, is a hollow tube in the top of which the square handle B, is secured or otherwise rigidly attached thereto so that the auger
35 wrench or brace. To the lower end of the tube A, the stock C is attached which serves as a guide to four sections D, D, and D', D', which slide in and out in slots *a*, and which are guided in their respective slots by ribs
40 or projections *b*, attached to the stock C, and working in corresponding grooves *b'*, in the several sections.

The cutters E, are attached to the sections D, D, and these sections are considerably
45 larger than the other two D', D', forming nearly a half circle, so as to give a firm bearing to the cutters and the places *d'*, *d'*, behind the cutters are hollowed out so as to leave room for the shavings to escape. The
50 sections D', D', nearly serve to retain the auger in the center.

Projections *c*, are attached to the upper face of the sections D and D', and the projections fit into a scroll groove *d*, which is

cut into the lower face of a plate E, which
55 fits over the tube A, the lower end of which, where the same joins the stock, is strengthened so as to form a shoulder *e*, and a ring F, fits over this part of the tube and it is
60 attached to the same by means of screws *f*, *f*, just over the plate E, so as to prevent the tubes from getting out of gear with the projections *c*, but leaving space enough for the plate to work easy.

The plate E, is operated by means of a
65 suitable wrench which fits into cavities *g*, in the edge of the plate.

The circumference of the hole made by the auger is indicated by a red circle in Fig. 2, and the sections D, D, and D', D',
70 when expanded by the operation of the scroll groove are at equal distances from the center so that their outer edges touch the circumference of the hole and the auger is
75 thereby perfectly guided in its motion, and in whatever direction the plate E, is turned, the sections D, and D', will always be at equal distances from the center and they
80 will be retained in their position by the plate E, itself.

This tool may be used with particular advantage for boring tenons, in which case the inner edges of the cutters E, serve to form the tenon and the whole of the cutting edge
85 of the cutters comes into use for the purpose of clearing the space around the cutters.

I am well aware that expanding augers have been before constructed in which the sections are moved in and out concentrically, but not in the same manner, nor by the same
90 means;—and I also know, that the dies of universal chucks have been operated heretofore in a manner similar to that in which I operate my cutters, but this is for an entirely different purpose, and I do not claim
95 therefore the expanding cutters. Neither do I claim separately the manner of expanding the sections; but having thus described my invention

What I claim as new and desire to secure
100 by Letters Patent, as, a new article of manufacture is,

An expanding anger constructed and operated substantially as herein described.

CHARLES MEYER.

Witnesses:

J. SCHEFFER,
LOUIS RUPP.