E. I. Manville,

Wire-Pointing Machine,

No. 55,425. Patented June 5, 1866.

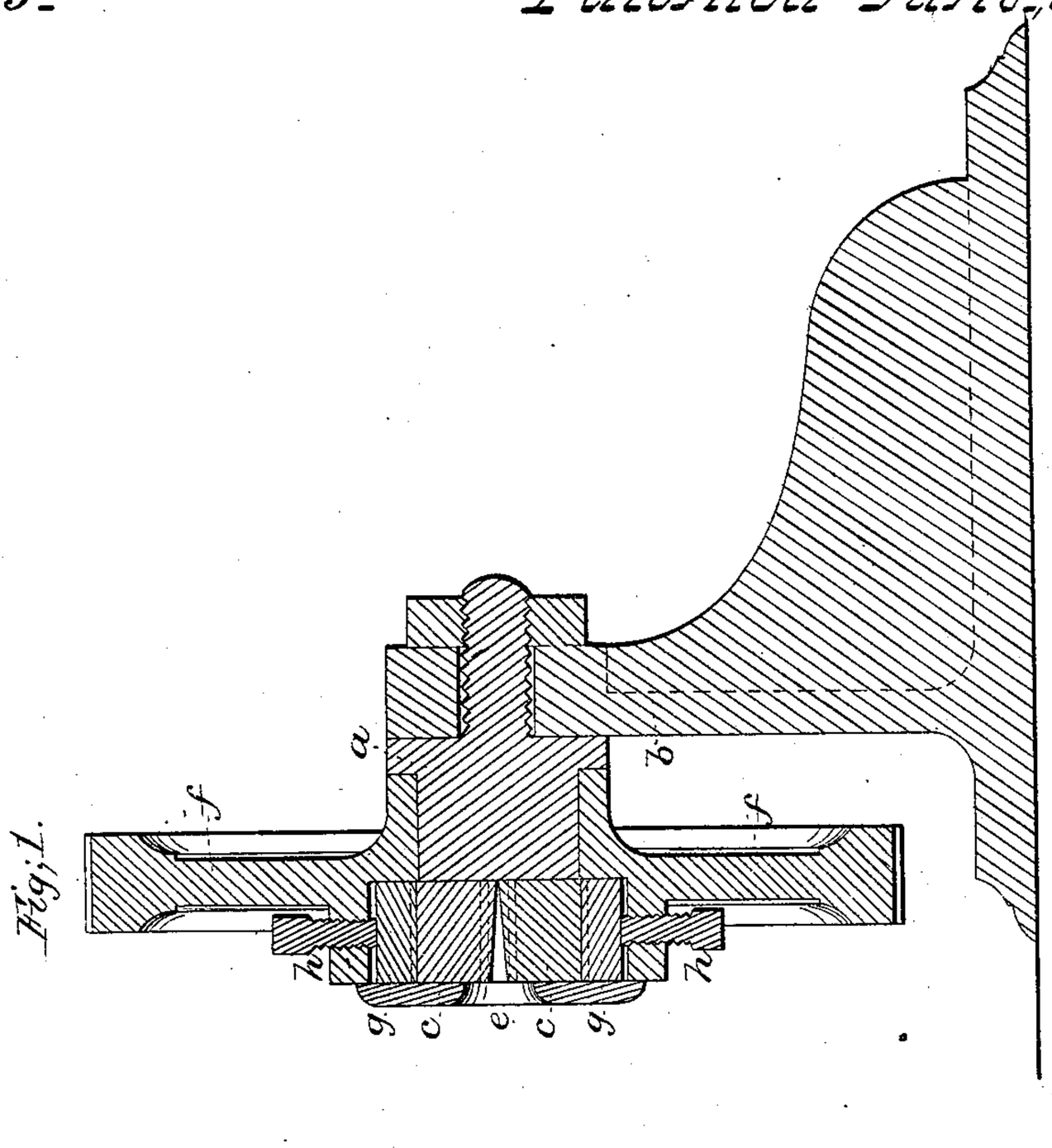

Fig. 1.

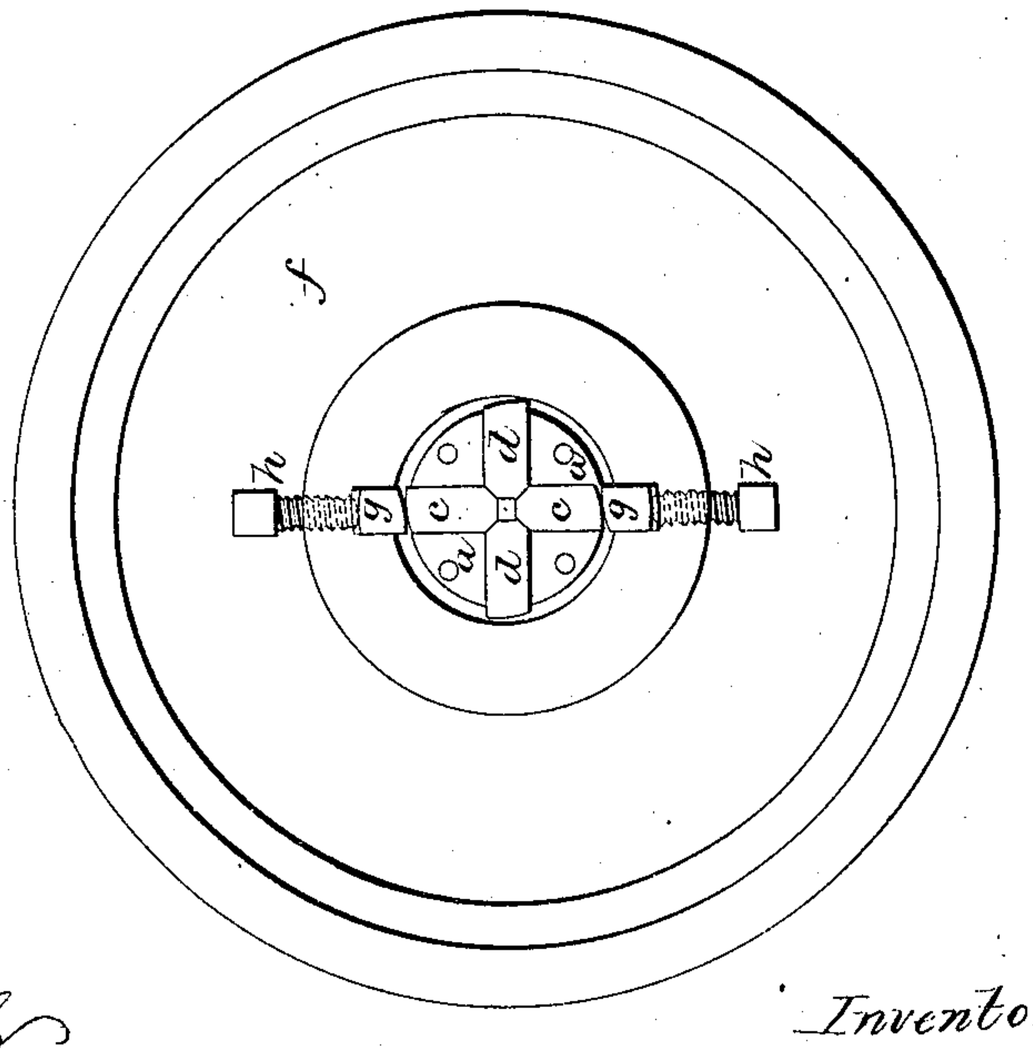

Fig. 2.

Fig. 4.

Fig. 3.

Witnesses;

Peter Lawlor

John A. Wiedersheim

Inventor;

Eli J. Manville

UNITED STATES PATENT OFFICE.

ELI J. MANVILLE, OF WATERBURY, ASSIGNOR TO HIMSELF AND SIDNEY S. CLARK, OF TORRINGTON, CONNECTICUT.

IMPROVEMENT IN OPERATING DIES FOR FORMING ARTICLES OF METAL.

Specification forming part of Letters Patent No. **55,425**, dated June 5, 1866.

To all whom it may concern:

Be it known that I, ELI JOSIAH MANVILLE, of Waterbury, in the county of New Haven and State of Connecticut, have invented, made, and applied to use a certain new and useful Improvement in Operating Dies for Forming Articles of Metal; and I do hereby declare the following to be a full, clear, and exact description of my said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a vertical section of my apparatus. Fig. 2 is an elevation of the same with the plate that holds the dies in place removed. Fig. 3 represents a chisel point formed on a round wire by my apparatus, and Fig. 4 is a view of a pyramidal or tapering point similarly formed.

Similar marks of reference denote the same parts.

In Letters Patent granted August 9th, 1864, to O. L. Hopson and H. P. Brooks a mode of making round or circular articles of metal by means of revolving dies actuated by stationary cams is set forth. The said device is not adapted to the forging of prismatic, pyramidal, or polygonal articles in consequence of the motion of the dies around the article being shaped. Dies have been arranged in a radial position and operated on by a grooved cam-wheel contiguous to the said dies, the dies themselves having projections entering said groove; but there was no provisions for adjustment in case of wear.

The nature of my said invention consists in an adjustable tappet or tappets revolving around and acting upon the outer ends of dies standing radially in a supporting-stock, so as to operate on opposite sides of a piece of metal introduced between such dies, whereby a chisel or brad-awl point, a nail or pyramidal point, or other shape bounded by planes or nearly flat surfaces can be produced with great rapidity and precision, and of a shape corresponding to the surfaces of the dies.

By this arrangement the power that actuates the dies operates directly upon the ends of said dies, so that great power can be applied to them, and the adjustment of the tappets allows for wear.

In the drawings, *a* is a die-stock, sustained by the brackets *b* or other suitable supports. Within the end of this die-stock *a* transverse recesses are formed for the reception of the dies, which dies can slide in said stocks toward each other, and radially, or nearly so, to the center of the stock *a*. I have shown four of these dies, they being arranged in pairs *c c* and *d d*. There might, however, be only two dies where the article to be formed only required pressure on two sides, or a larger number might be employed.

The dies *c c d d* are retained by a cap-plate, *e*, with an opening in the middle. Said cap-plate is removed in Fig. 2.

Around the stock *a* is a pulley or wheel, *f*, having said stock for its gudgeon. This wheel *f* carries adjustable cams or tappets *g*, regulated by the screws *h*, and the outer ends of the dies *c c d d*, projecting slightly from the stock *a*, are acted upon by the tappets as they come around and pressed together, the respective pairs being acted on in succession.

The wheel *f* may be revolved by a belt or other competent means.

The inner angles of the dies *c c d d* are beveled, so that the parts that come in contact as the dies move are inclined planes; hence as the dies *c c* are pressed together their inclined edges force open the dies *d d*, and the reverse, thus causing the one pair of dies to be removed by the act of closing the other pair, so that any springs for opening the dies are rendered unnecessary, and the speed of the moving parts is only limited by their strength.

This improvement may be employed for pointing wire or nails, forging nails, or for drawing down or reducing prismatic wires or rods, in which latter case it will be necessary to form an opening through the center of the stock *a*.

It will be evident that a similar operation would take place if the wheel *f* remained stationary and the cams *c c d d* and stock *a* were revolved together with the piece of metal to be shaped; but I prefer the construction set forth.

What I claim, and desire to secure by Letters Patent, is—

1. Two or more dies fitted to move radially in a stock, in combination with an adjustable tappet or tappets revolving around the said stock and acting directly upon the outer ends or edges of said dies, substantially as set forth.

2. Pairs of radial dies formed with their contiguous edges beveled or at an inclination, as specified.

In witness whereof I have hereunto set my signature this 8th day of August, 1865.

ELI J. MANVILLE.

Witnesses:
PETER LAWLOR,
JOHN O'NEILL, Jr.