

M. BLAKEY.

Machines for Bending Sockets.

No. 134,349.

Patented Dec. 31, 1872.

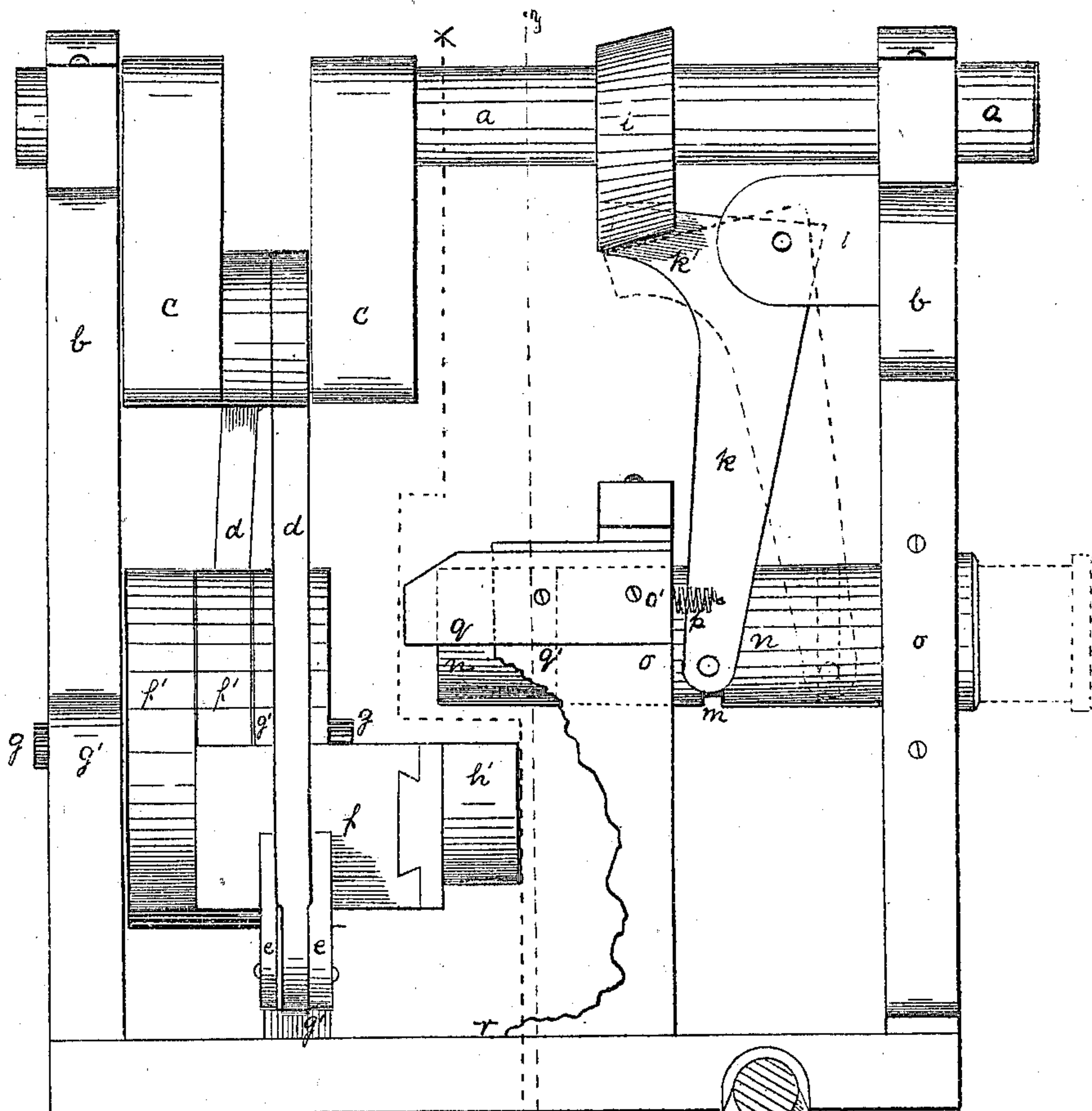


FIG. 1

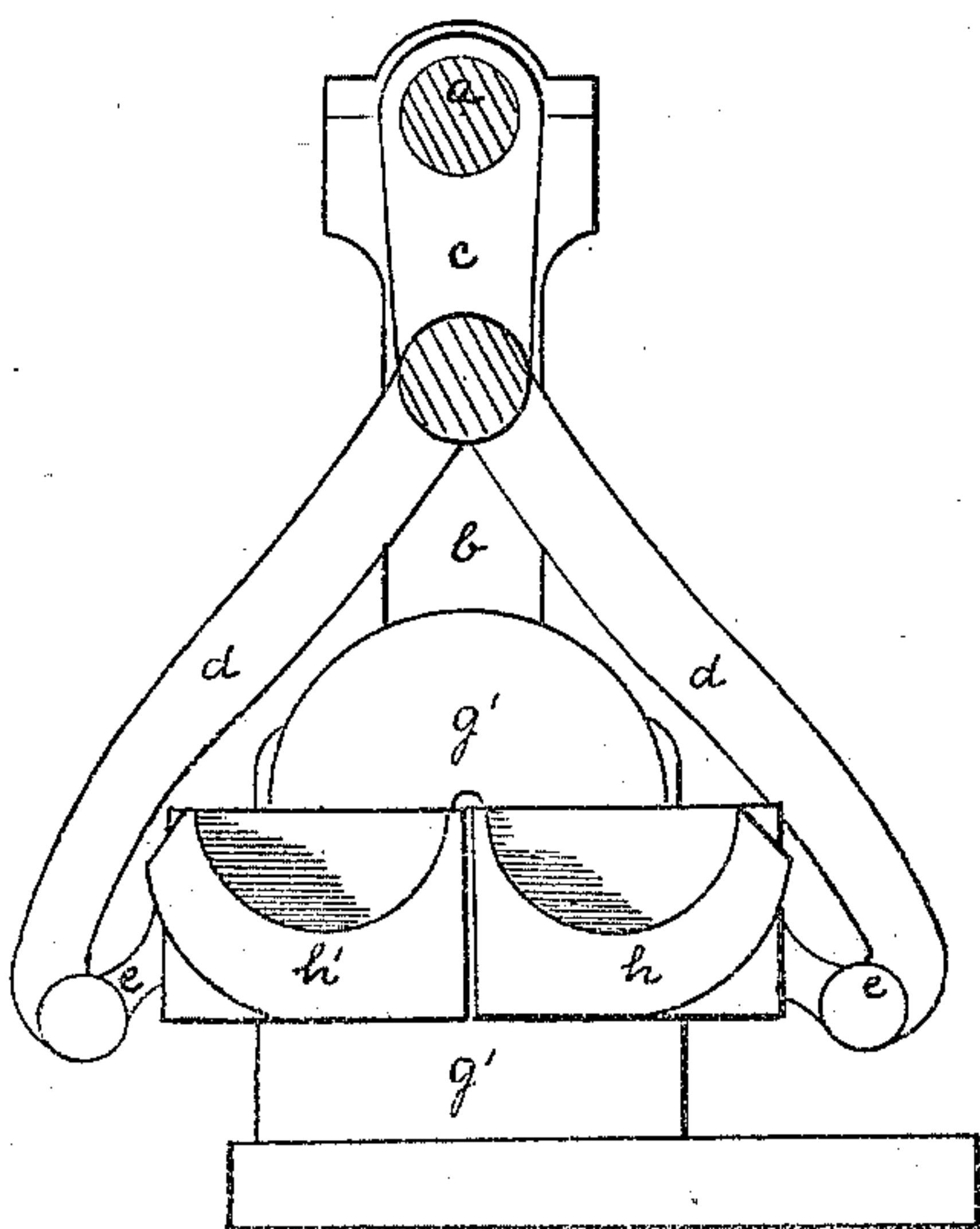


FIG. 2

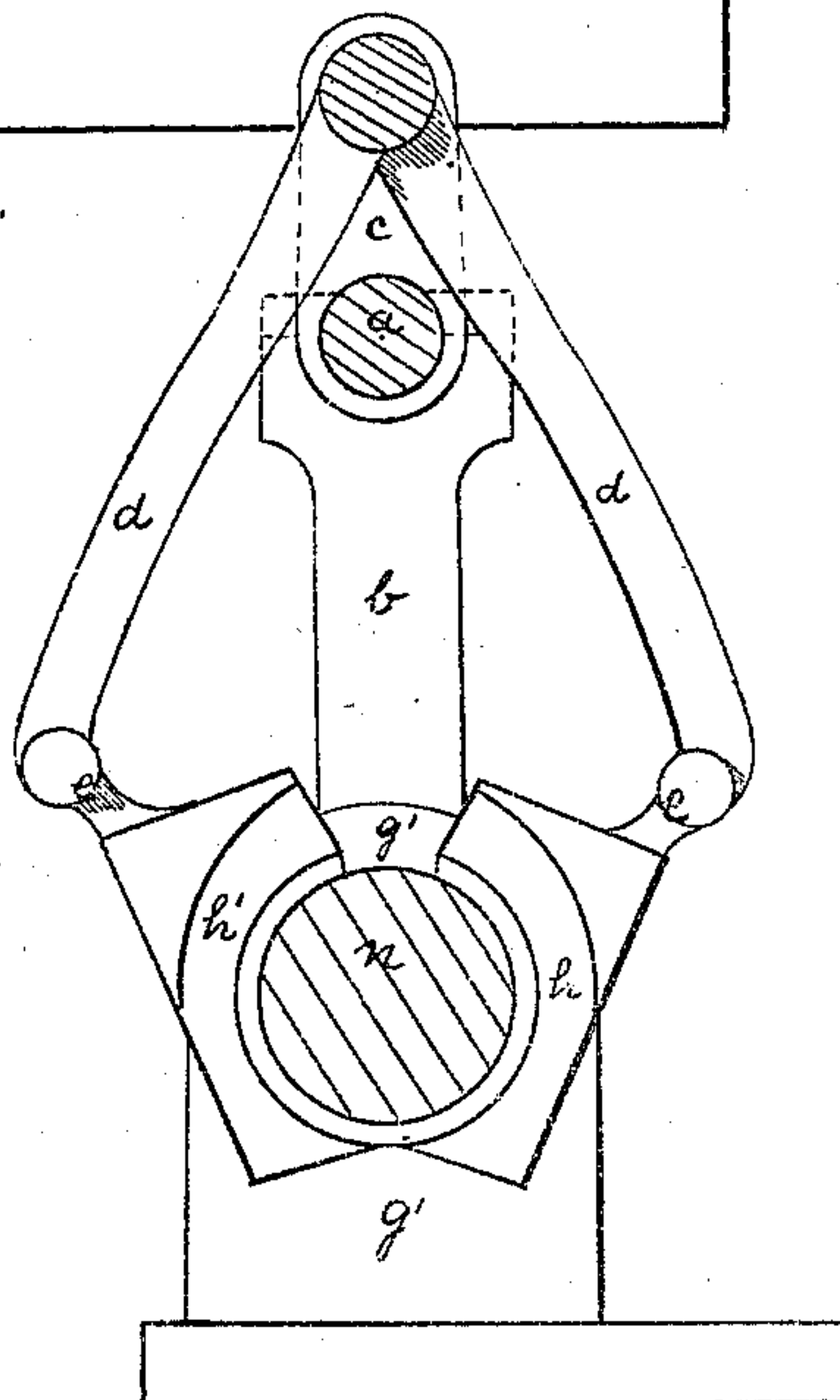


FIG. 3

WITNESSES. *Rowenishall*
James L. Hay

INVENTOR *Mildred Blakey*,
by *Bakewell, Christy & Kerr*, his Attys.

UNITED STATES PATENT OFFICE.

MILDRED BLAKEY, OF ETNA, PENNSYLVANIA, ASSIGNOR TO HIMSELF,
GEO. A. CHALFANT, AND J. L. ROBERTSON, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR BENDING SOCKETS.

Specification forming part of Letters Patent No. 134,349, dated December 31, 1872.

To all whom it may concern:

Be it known that I, MILDRED BLAKEY, of Etna, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Machine for Bending Circular Forms; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a side elevation of my improved machine; Fig. 2 is a sectional view through the line *x x*, Fig. 1; and Fig. 3 is a sectional view through the line *y y*, the dies being closed.

Like letters of reference indicate like parts in each.

My invention consists in the machine hereinafter described and claimed, which is used for the purpose of bending circular-form metallic sockets, rings, &c.

The operative parts of my machine are all moved by power from the main shaft *a*, which is mounted on suitable bearings *b b*. The crank *c* on the shaft *a*, by means of the arms *d d*, pivoted at their opposite ends to the crank and to the lugs *e e*, communicates a reciprocating motion to the die-blocks *f f*. The die-blocks *f f*, by means of their collars *f' f'*, are hinged or pivoted to the shaft *g*, which is mounted on suitable bearings *g' g'*. The dies *h h'* are set into or fastened or secured to the front face of the die-blocks *f f* by a dovetail or other proper joint or fastening. The inner faces of the dies *h h'* are concaves of the proper form to give the desired shape to the article to be bent. The cam or eccentric *i* on the shaft *a* operates against the shoulder *k'* of the forked lever *k* hinged to the cleat *l*. The forks of the lever *k* extend into the groove *m* in the mandrel *n*, which operates in the guides *o o*. By the action of the cam *i* upon the shoulder *k'* the mandrel *n* is forced back to the position shown by dotted lines in Fig. 1. When the eccentricity of the cam *i* ceases to engage or is turned past the shoulder *k'*, the mandrel is drawn forward by the recoil of the spring *p*, which is fastened to the guide-frame *o'* and the forked lever *k*. When in position the mandrel *n* stands directly above the dies *h h'*, as shown in Fig. 1, so that when they operate

the dies will close around it, as shown in Fig. 3. At the side of the machine, where it is fed, standing just clear of the path of one of the dies, *h'*, is a knife or shear, *q*, rigidly secured to the piece *q'*, which operates, in connection with the die *h'*, to cut off the blanks from the bar or sheet of iron.

The operation is as follows: Power is communicated to the shaft *a* by means of a band-wheel or in any other known or suitable way. The shaft *a* operates the other parts of the machine in the manner described. When the dies *h h'* are in the position shown in Fig. 1 the end of a bar or sheet of iron is inserted between them and the mandrel *n*. The dies *h h'*, then coming up, fold or bend the blank around or against the mandrel *n*, and at the same time the shear *q* cuts off the blank at the proper length. The further revolution of the shaft *a* causes the dies to be opened, and turns the cam *i* so that it engages the shoulder *k'*, and thereby withdraws the mandrel *n* from the blank, so as to allow the blank to fall onto the bed *r*, from whence it is removed.

By changing the mandrel and the dies, which is an operation of little trouble or labor, different sizes and shapes of socket-blanks, rings, or bands may be made on this machine.

Other devices for operating the dies and the mandrel in the manner described may be substituted for those described, and answer equally well.

The dies *h h'* may be reversed so as to close downward and bend the blank down against the mandrel instead of upward, as shown.

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

The hinged dies *h h'*, opened and closed by suitable connections thence to a crank-motion, *c*, in combination with the intermittently-reciprocating mandrel *n* and the stationary shear *q*, constructed and arranged substantially as and for the purposes set forth.

In testimony whereof I, the said MILDRED BLAKEY, have hereunto set my hand.

MILDRED BLAKEY.

Witnesses:

A. S. NICHOLSON,
T. B. KERR.