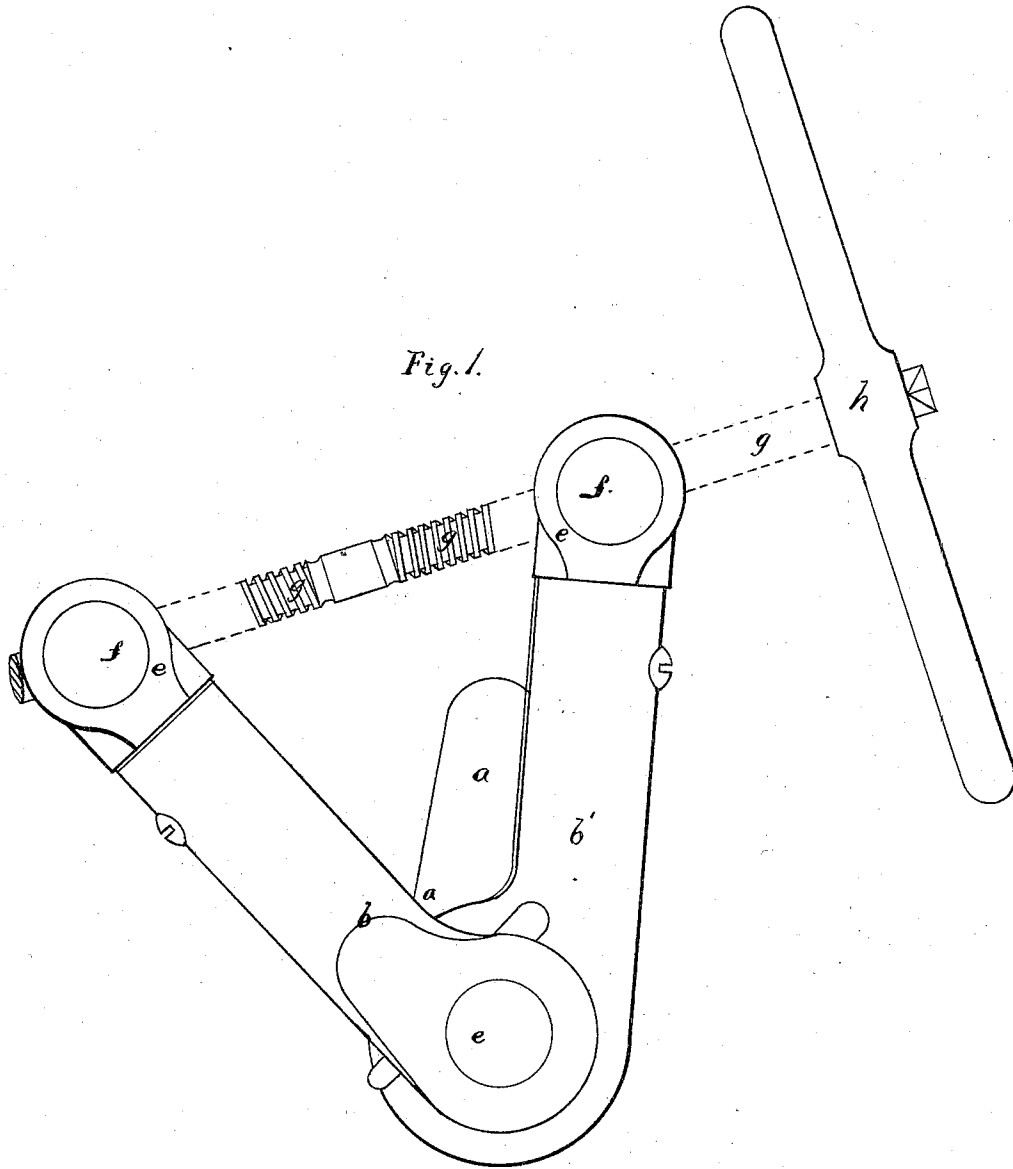


EDWARD CRADDOCK.

Improvement in Machines for Punching Metal.

No. 125,121.

Patented April 2, 1872.



Witnesses

D. J. Brown
J. C. Lyons

Edward Craddock,
By his attorney,
J. S. Brown

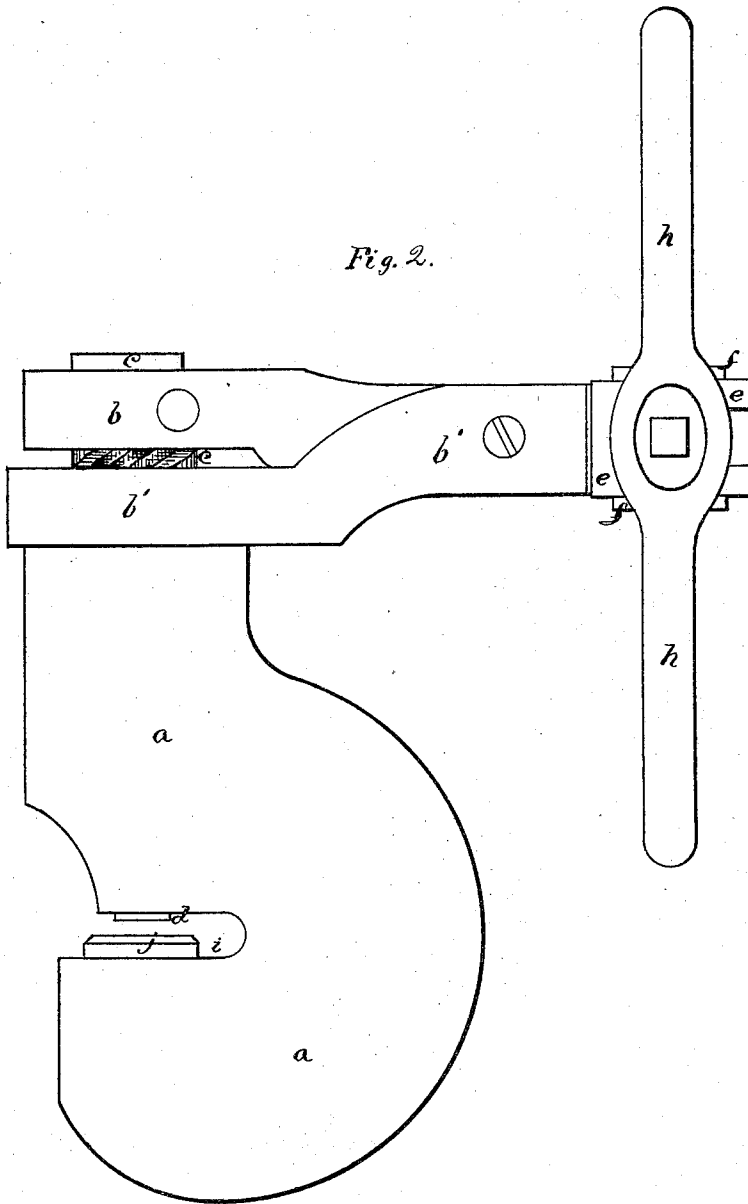
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Fig. 2.



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By his Attorney,

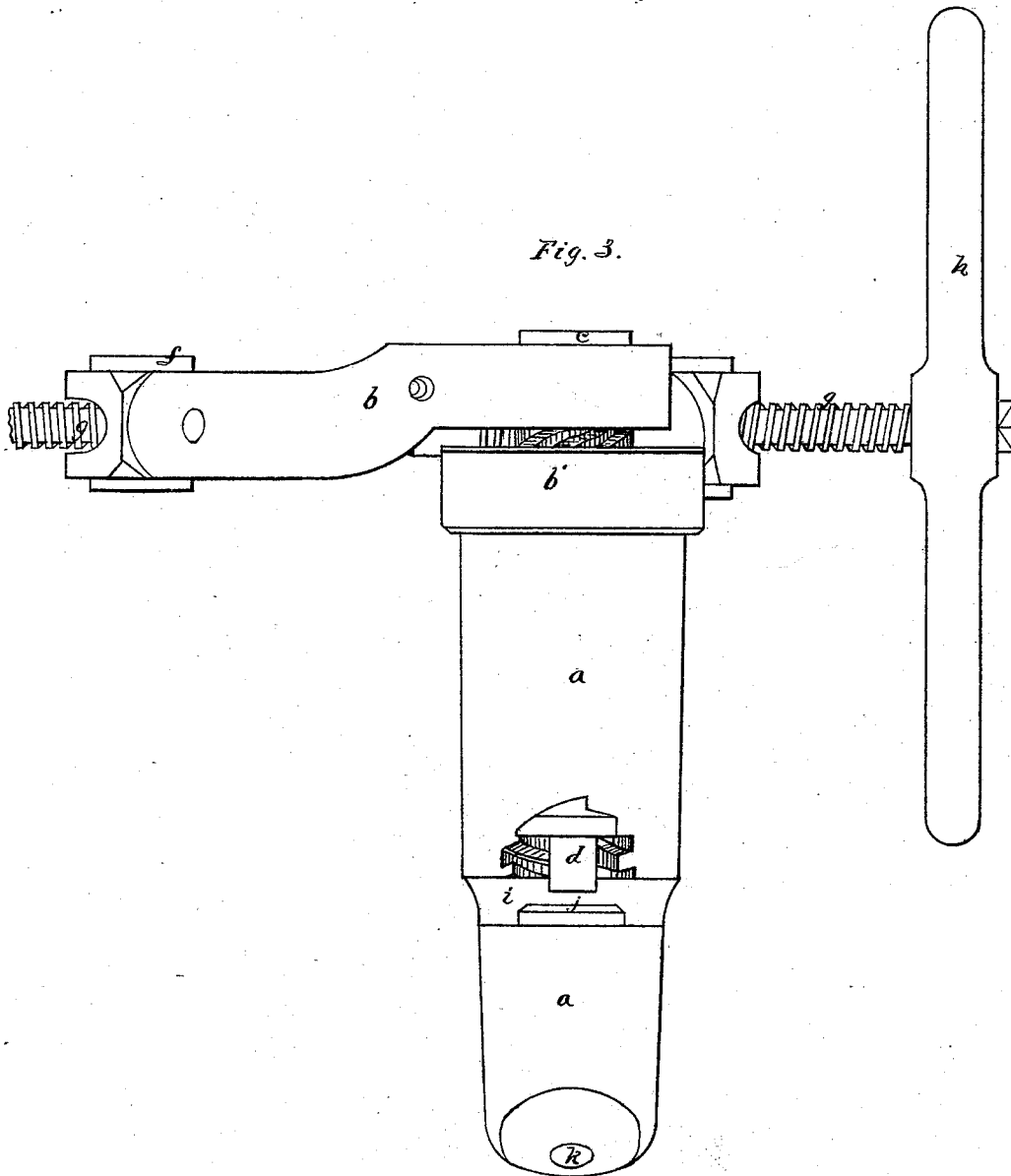
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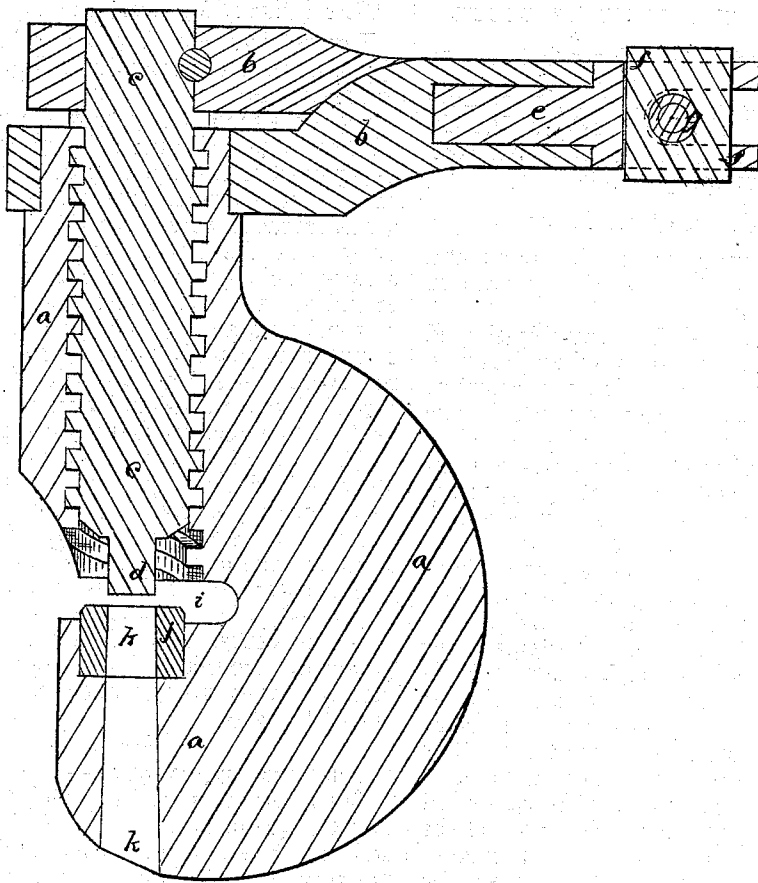
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Fig. 4.



Witnesses.

D. J. Brown
J. C. Lyons

Edward Graddock,
My friend's attorney.
J. S. Brown.

UNITED STATES PATENT OFFICE.

EDWARD CRADDOCK, OF LONDON, ENGLAND, ASSIGNOR TO GEORGE AUGUSTUS THOMSON, OF UNIONTOWN, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR PUNCHING METALS.

Specification forming part of Letters Patent No. 125,121, dated April 2, 1872.

SPECIFICATION OF EDWARD CRADDOCK.

Improved Portable Punch for Metals.

I, EDWARD CRADDOCK, of the city of London, in the United Kingdom of Great Britain and Ireland, have invented an Improved Portable Punch for Punching Metals.

Nature and Objects of the Invention.

This portable punch is for the quick and accurate punching of holes of any form in metals of every kind.

It is made as follows: To a suitably-shaped body of metal are attached two metallic arms, one of them being fixed to the upper part of the body, or it may be cast or made of one piece with the body; and the other, which is movable, is secured to a quick-threaded screw passing through the center of the body of the apparatus, to the lower extremity of which screw a punch is firmly secured. At the outer end of each arm is fitted a jaw or joint made capable of revolving, and in each jaw or joint a stud or nut is placed, which is also made capable of revolving. A "screw" or circular piece of steel—one-half of which is threaded as a right-hand screw and the other half as a left-hand screw—is passed through the studs, one end being so formed as to allow a handle or key to be fitted thereon to operate the screw. On the "screw" being turned by the handle or key the double action of the screw causes the movable arm to approach to or recede from the other arm, and causes the punch to be forced down by means of the quick-threaded screw secured to the movable arm and to the punch itself, thereby causing the desired orifice or perforation to be made in the metal submitted to the operation. In the lower part of the body of the apparatus a space or cavity is formed to admit the metal plate which is to be operated upon by the punch. In the lower part of this space is fitted a small bed or die, having a hole in the center immediately under the punch, through which the pieces of metal, as they are "punched," drop down out of the way.

Description of the Accompanying Drawing.

Figure 1 is a plan, Fig. 2 a side elevation, Fig. 3 a front elevation, and Fig. 4 a section of the punch.

a a is the metal body, to which are connected two metallic arms, *b b'*, one of them, *b'*, being fixed to the upper part of the body *a*; and the other, which is movable, secured to a quick-threaded screw, *c*, passing through the body *a*, at the lower extremity of which a screw-punch, *d*, is firmly secured. At the outer end of each arm is fitted a jaw, *e*, capable of revolving, and in each jaw or joint a stud or nut, *f*, is placed, which is also capable of revolving. A screw, *g*, one-half of which is threaded as a right-hand and the other half as a left-hand screw, passes through the studs *f f*, one end of the same being so formed as to allow a handle or key, *h*, to be fitted thereon to operate the screw *g*. In the lower part of the body *a* a space or cavity, *i*, is formed to admit the metal plate under the punch, and in the lower part of the space is fitted a small die or bed, *j*, having a slightly-tapering hole, *k*, in the center and immediately under the punch *d*, through which hole the pieces of metal, as they are punched out, drop down out of the way.

Claim.

I claim as my invention—

The improved portable punch for punching metals, substantially as hereinbefore described and illustrated on the accompanying sheet of drawing, and of which a working specimen or model is herewith delivered, or any mere modification or imitation thereof acting in the same or a similar manner.

In witness whereof I, the said EDWARD CRADDOCK, have hereunto set my hand this 31st day of December, in the year of our Lord one thousand eight hundred and seventy.

EDWARD CRADDOCK.

Witnesses:

ROBT. DE TRACY GOULD,
4 Garden Court, Temple, London.

ROBERT HOWE GOULD,
At the same address.