

H. A. Shipp,
Punching Metals.

No. 96492.

Patented Nov. 2. 1869.

Fig. 4.

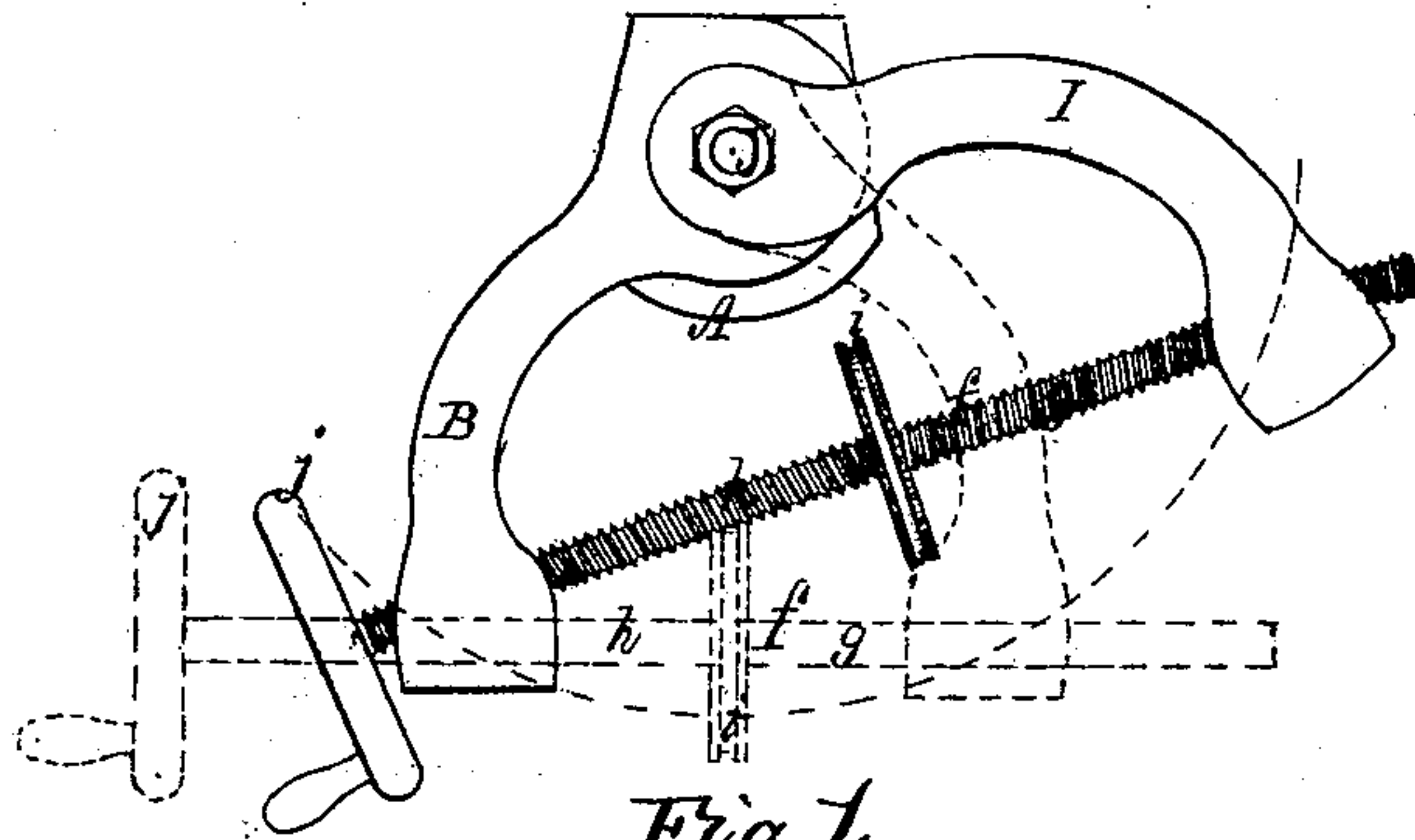


Fig. 1.

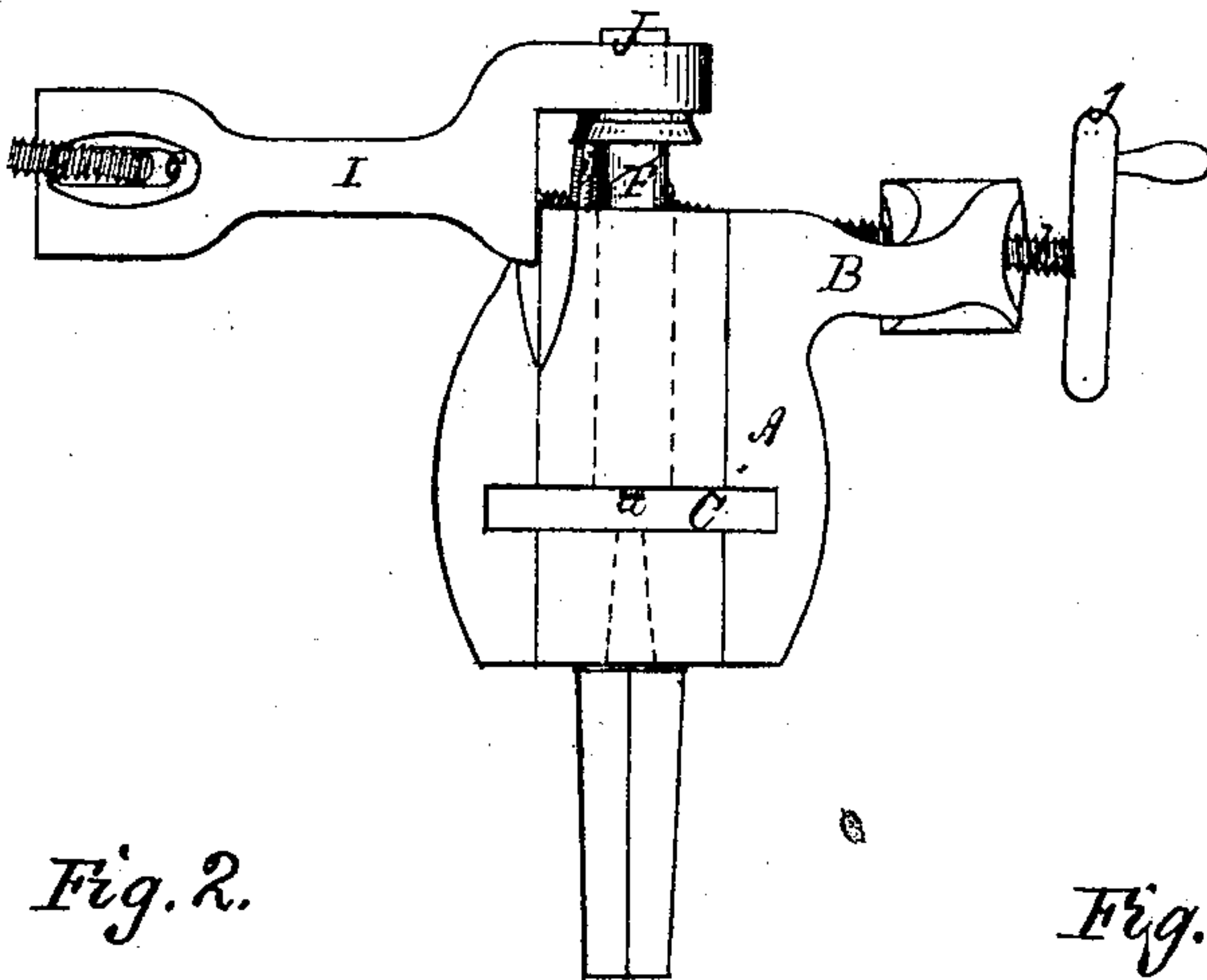
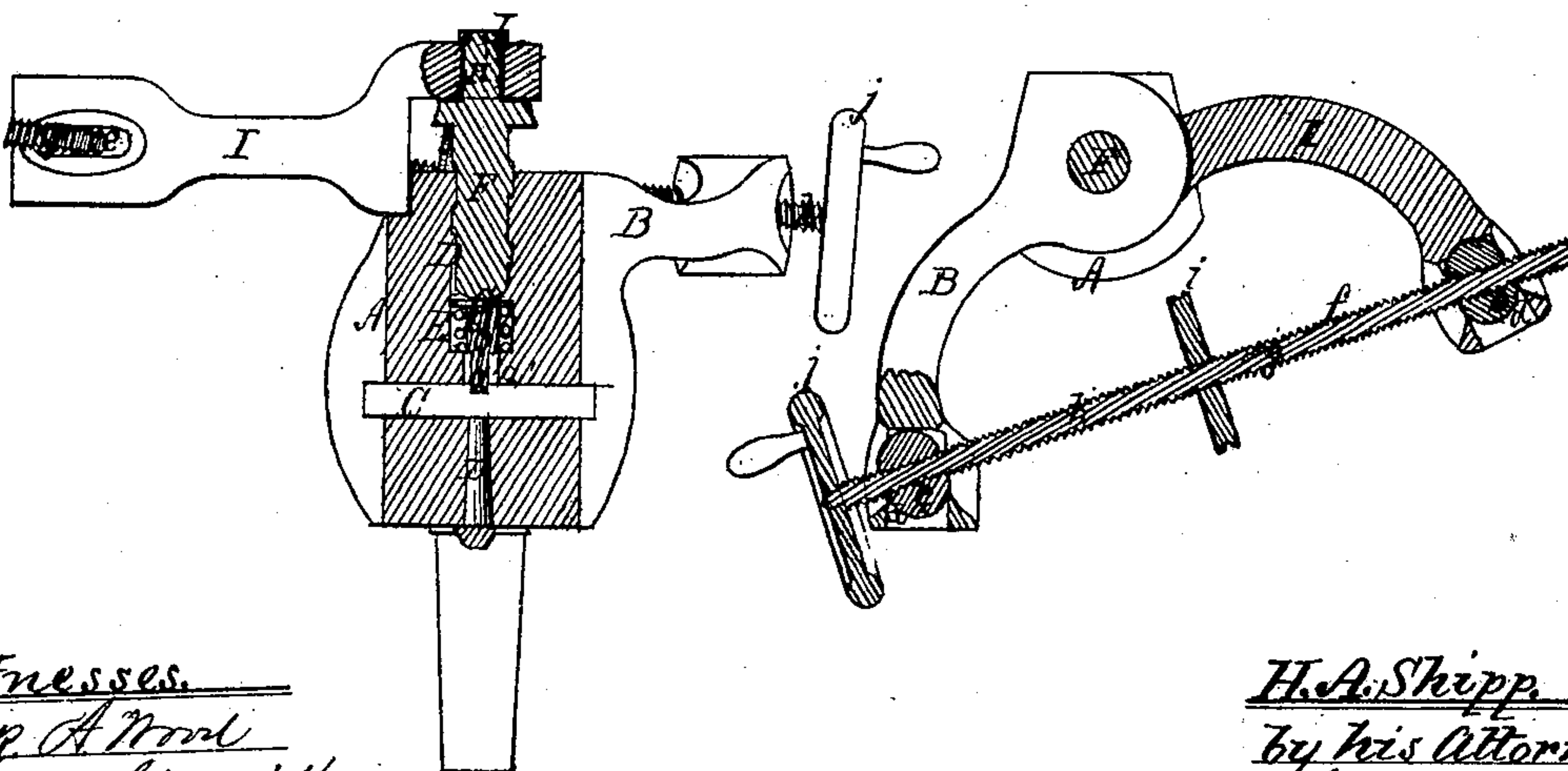


Fig. 2.

Fig. 3.



Witnesses.
Frank A. Wood
Edmond Griffith

H. A. Shipp.
by his Attorney,
Frederick Curtis.

United States Patent Office.

H. A. SHIPP, OF LONDON, ENGLAND, ASSIGNOR TO HIMSELF AND ABNER A. GRIFFING, OF NEW YORK.

Letters Patent No. 96,492, dated November 2, 1869.

IMPROVED MACHINE FOR PUNCHING METALS.

The Schedule referred to in these Letters Patent and making part of the same

To all to whom these presents shall come:

Be it known that I, H. A. SHIPP, of the city of London, England, and a subject of the Kingdom of Great Britain, have made an Improved Hand-Implement or Machine for Punching Metals; and do hereby declare the following to be a full, clear, and exact description thereof, due reference being had to the accompanying drawings, making part of this specification, and in which—

Figure 1 is an elevation, and

Figures 2 and 3, longitudinal and transverse sections of a machine embodying the principles of my invention,

Figure 4 being a plan.

Heretofore, in the minds of mechanics in general, the great power required to punch metals has precluded the possibility of accomplishing this result by means of a small and cheap implement, such as I have devised.

The motives which have actuated me in originating the invention herein described, have been to produce a small, compact, and effective, but above all inexpensive machine, such as will adapt itself to use, not only in shops of any grade or size, but which may be purchased by mechanics for their individual use at home, and in fact by a multitude of people whom the comparative high cost of such articles has heretofore prevented from possessing.

My improved machine consists, first, in a solid and substantial block of metal, preferably of cast-iron, for obvious reasons of economy, such block, at about its centre, having formed or cut within it a transverse groove or orifice, for receiving the object to be punched, and also having a hole bored partially or wholly, endwise, through it, to meet or intercept such orifice, the inner portion of such bore receiving a punch to puncture the object, and the outer portion of the same receiving a screw, which is screwed into it, and abuts against the adjacent end of the punch or punch-bar, the necessary rotations of such screw being effected by a movable lever or crank applied to its head, the movements of such lever, found necessary to revolve the screw, being effected by a right-and-left screw, one portion of which screws through the outer extremity thereof, and the other portion through a stationary arm or branch, making part of the main block of the machine, and disposed in juxtaposition to the lever, the whole being in manner and for the purpose as hereinafter more fully explained.

In the drawings, annexed to this specification, and which illustrate my invention, the oblong block, composing the body of the instrument, is represented at A, such block having an outstanding stationary arm or branch, B, departing from it near to one end, and at about right angles to its longest axis.

The block A has a transverse groove or passage, C, cut into it from the side opposite the arm B, before mentioned, this passage being intended to receive the object to be punched.

A cylindrical hole, D, is bored axially through the block A, from end to end thereof, and so as to intercept the cross-cut or passage C, the portion of this bore below such passage constituting the "punch-well," so called, which admits of the escape of the pellets produced by the punch.

The portion E, of the bore D, above the passage C, is for reception of the punch *o* and its operating-screw, the extreme lower end, *a'*, of this portion, E, of the bar being contracted, to permit escape of the punch in this direction. The shank of the punch is shown at *a*, and its head at *b*, the latter loosely filling the bore D.

A spiral spring, *c*, is placed within the bore E, and between the bottom thereof and the head of the punch, and serving, by its expansion, to force the shank or cutter of the punch from out of the passage-way C.

A screw-bolt, F, is screwed into a female screw, cut within the upper part of the bore E, such bolt screwing down upon the head of the punch, a cap, G, being preferably interposed between the two.

The head H, of the bolt F, is square or polygonal, and is embraced by one extremity of a movable or vibratory arm or lever, I, of substantially like shape, and of the length of the stationary arm B, before mentioned, and being in general disposition parallel to such stationary arm.

A nut, J, should be secured upon the outer end of the bolt F, to secure the arm I firmly thereto.

Within an enclosure, *d*, produced in the extreme end of each arm B and I, I swivel an oblong nut, *e*, while interposed between these arms, and screwing into these nuts, I dispose a rod, *f*, having cut upon opposite halves a right-and-left screw, *g h*, as represented, a milled head, *i*, or a winch, *j*, being applied in a suitable manner to such rod, for the purpose of rotating it in either direction.

The pitch of the threads of the screw bolt F runs in such direction, that the approach of the two arms B and I shall lower this bolt, and consequently the punch, with a powerful leverage, or sufficiently so to punch a piece of metal of considerable thickness, which may be placed in the cross-cut C, the bottom of which serves as an abutment to resist such leverage.

Hence, it will result that a turning of the hand-screw *f* in one direction will contract the arms or jaws B I, and lower the screw-bolt and punch, and a reverse movement or separation of the jaws will raise the screw-bolt, by this means permitting the spring *c* to elevate the punch from out of the metal and of the passage C.

The body A, of the instrument, should be con-

structed with a bottom extension or shank, to serve as a bench-rest, and to maintain it in a perpendicular position.

My implement, made as above described, has been found, in practice, to work admirably, punching metals of considerable thickness with great ease.

It is durable, not liable to derangement, as will be at once apparent, and, as has already been herein prefaced, may be produced at such small cost as to be within reach of any one having occasion for such an implement.

Claims.

Having thus described the nature, operation, and advantages of my invention,

What I believe to be novel, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination and arrangement of the block A, the lever B, and arm I, the punch O, and the screw-threaded bolt F, the lever B being operated by the

right-and-left screws *g h*, connecting said levers to the arm, and the whole operating as explained.

2. The combination, with the stationary arm and movable jaw or lever, of the right-and-left hand screw connecting the same, and the swivel-nuts, arranged in said arm and lever, to receive the ends of the screw, as shown and set forth.

3. In a hand punching-machine, constructed as above described, the employment of a loose punch, substantially as explained.

4. The combination of the screw-threaded bolt F with the movable jaw or lever to which it is connected, and the stationary arm and the screw-rod by which said lever is actuated to produce the endwise movement of the bolt, as shown and set forth.

H. A. SHIPP.

Witnesses:

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