

T. De Witt,

Punching Metals.

No. 102,510.

Patented May 3. 1870.

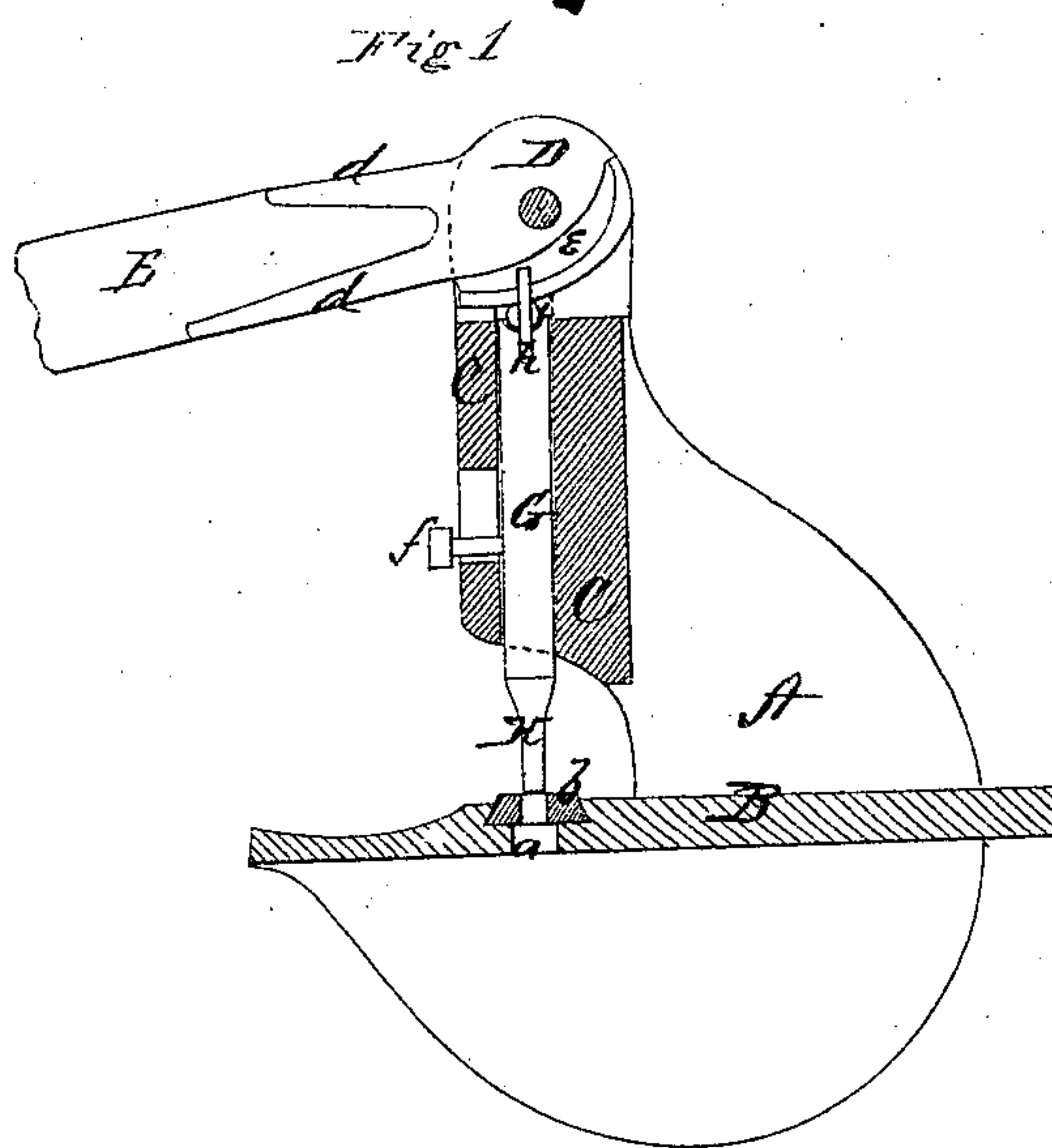
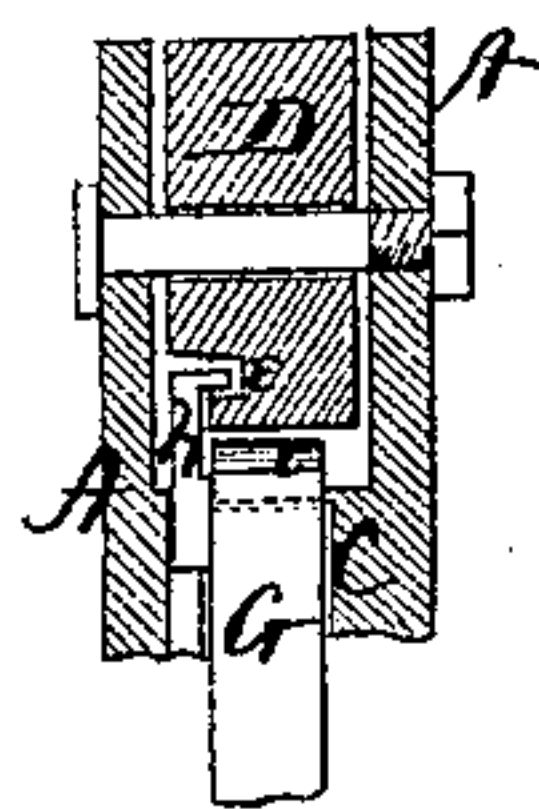


Fig 2



Witnesses.

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UNITED STATES PATENT OFFICE.

THOMAS DE WITT, OF DETROIT, MICHIGAN, ASSIGNOR TO JOHN T. MAXSON,
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IMPROVED PUNCHING APPARATUS.

Specification forming part of Letters Patent No. 102,510, dated May 3, 1870.

To all whom it may concern:

Be it known that I, THOMAS DE WITT, of Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Punches; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the construction and arrangement of a punch for punching metals, as hereinafter more fully described.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a longitudinal vertical section of my machine, and Fig. 2 is a transverse vertical section of the cam and upper end of the mandrel.

A represents the casing of my punch, made in two parts, substantially of the shape shown in Fig. 1, so as to form, when put together, the bed B and mandrel-guide C. In the bed B is an aperture, *a*, in which is inserted the die *b*. This die is so arranged that it can be readily removed and replaced by another of different dimensions.

In the upper end of the casing A is pivoted the cam D, which on one side is provided with projecting ears or arms *d d*, between which the lever or handle E is firmly secured. The side of the cam D is provided with a groove,

e, running parallel with the outside circumference of the cam for a suitable distance.

Within the guide C is placed the mandrel G, which is moved vertically up and down by means of the grooved cam D, and is prevented from turning in the guide by a screw or bolt, *f*, inserted in the mandrel and passing through a vertical slot in the guide.

In the head of the mandrel G is inserted a loose roller, *i*, against which the outside of the cam D bears when it is forced down, thereby, in a great measure, if not completely, overcoming the friction. On the side of the mandrel, near its head or upper end is secured a bar or dog, *h*, which is bent inward into the groove *e*, so as to lift the mandrel when the lever is raised.

The punch H, constructed in any suitable manner, is attached to the lower end of the mandrel by any convenient means.

It will be observed that there is an opening above the bed B in the casing A, in rear of the punch, for the passage of chips, &c., or the article to be punched.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the casing A with die *b*, grooved cam D, mandrel G, with roller *i*, dog *h*, and screw *f*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

THOMAS DE WITT.

Witnesses:

PETER GUENTHER,
NICHOLAS TISLER.