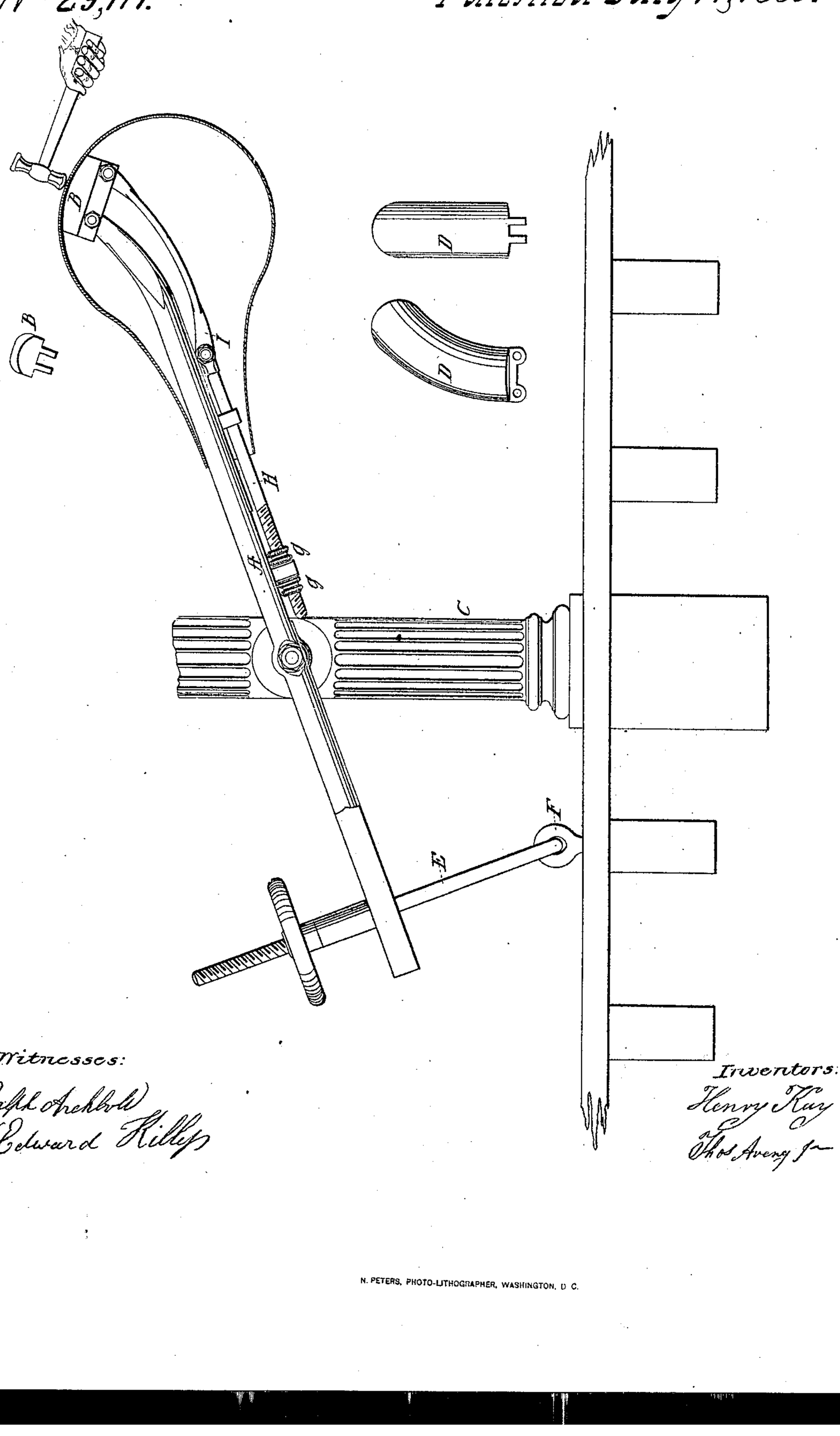
H. Kay & T. Avery, Jr.,

Tool for Working Sheet-Metal.

No. 29,177. Patented July 17, 1860.



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY KAY, OF BROOKLYN, AND THOMAS AVERY, JR., OF MORRISANIA, N. Y.

IMPROVEMENT IN PLANISHING COPPER VESSELS.

Specification forming part of Letters Patent No. **29,177**, dated July 17, 1860.

To all whom it may concern:

Be it known that we, HENRY KAY, of the city of Brooklyn, county of Kings, and State of New York, and THOMAS AVERY, Jr., of the town of Morrisania, county of Westchester, and State of New York, have invented a new and useful adjustable tool and heads for working, planishing, and riveting air-chambers, bends, and sheet metals of all descriptions into various forms; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, which makes a part of this specification, and which represents the construction of said tool or instrument and heads, such as are used for working, planishing, and riveting air-vessels and bends, &c.

Reference is now directed to the different parts represented by letters, viz:

A is a lever or arm; B B, heads suitable for forming air-vessels, &c.; C, a column or rest for holding lever or arm; D D, heads suitable for planishing or forming bends; E, hand-screw; F, an eyebolt; G G, adjusting-nuts; H, adjusting-screw; I, connecting link or rod.

The following is a description of the construction of our instrument or tool.

A represents a lever or arm, which can be fastened, as represented in drawing, to a cast-iron column by means of a bolt and nut, said bolt forming a fulcrum for lever.

B B is a head suitable for forming, planishing, and riveting air-chambers, the face of which is made of a suitable curve to form the desired shape, having a jaw on the back to receive and to which is attached the end of lever A and one end of link I, one end of said head being held to end of lever by means of a bolt, said bolt forming a pivot upon which the head is moved.

D D is a head suitable for forming, planishing, and riveting bends, elbows, &c., and can be attached to lever or arm A, and adjusted in the same manner as head B B.

The hand-screw marked E and eyebolt marked F are used to hold the end of lever or arm, and control the height of the article which is to be worked, formed, planished, or riveted.

H is an adjusting-screw, on one end of which is formed or forged a jaw which receives and to which is connected one end of link I. Said screw passes through two eyes which are fastened to lever or arm A, and act as a guide or support for screw H. The screw H forms, in conjunction with the link I and nuts G G, the means by which the position of the head or or heads can be changed and held.

I is a connecting-link attached by one end to head B by means of a bolt and nut, and the other end fastened to the screw H by means of a bolt and nut, both bolts acting as pivots and enabling us, with the assistance of screw H, to adjust the bearing or position of said heads.

The explanation of the operation of our instrument or tool is as follows: The instrument or tool in the first place is drawn in the smallest possible space or closed together, then inserted through the aperture or opening into the vessel and brought to bear on the internal surface of the vessel which is to be formed, planished, or riveted, and moved or changed into any position, as the workman may desire, corresponding with the curved shape of the vessel, by means of the combined action of the different parts and turning of the vessel. The planishing is done in the usual manner.

One of the advantages to be derived from this invention is that a head or heads of suitable shape or form when in a certain position can be inserted through a small aperture, and can be so adjusted or moved by the workman from the outside as to bear on any part of the article which is to be worked, formed, planished, or riveted.

What we claim as our invention, and desire to secure by Letters Patent, is—

The application of the screw, nuts, and links, as herein described, to the head or heads in the interior of the work for adjusting and controlling the position of the heads from the outside during the operation of planishing, riveting, &c., as before set forth.

HENRY KAY.
THOS. AVERY, JR.

Witnesses:
RALPH ARCHBOLD,
EDWARD KILLIP.