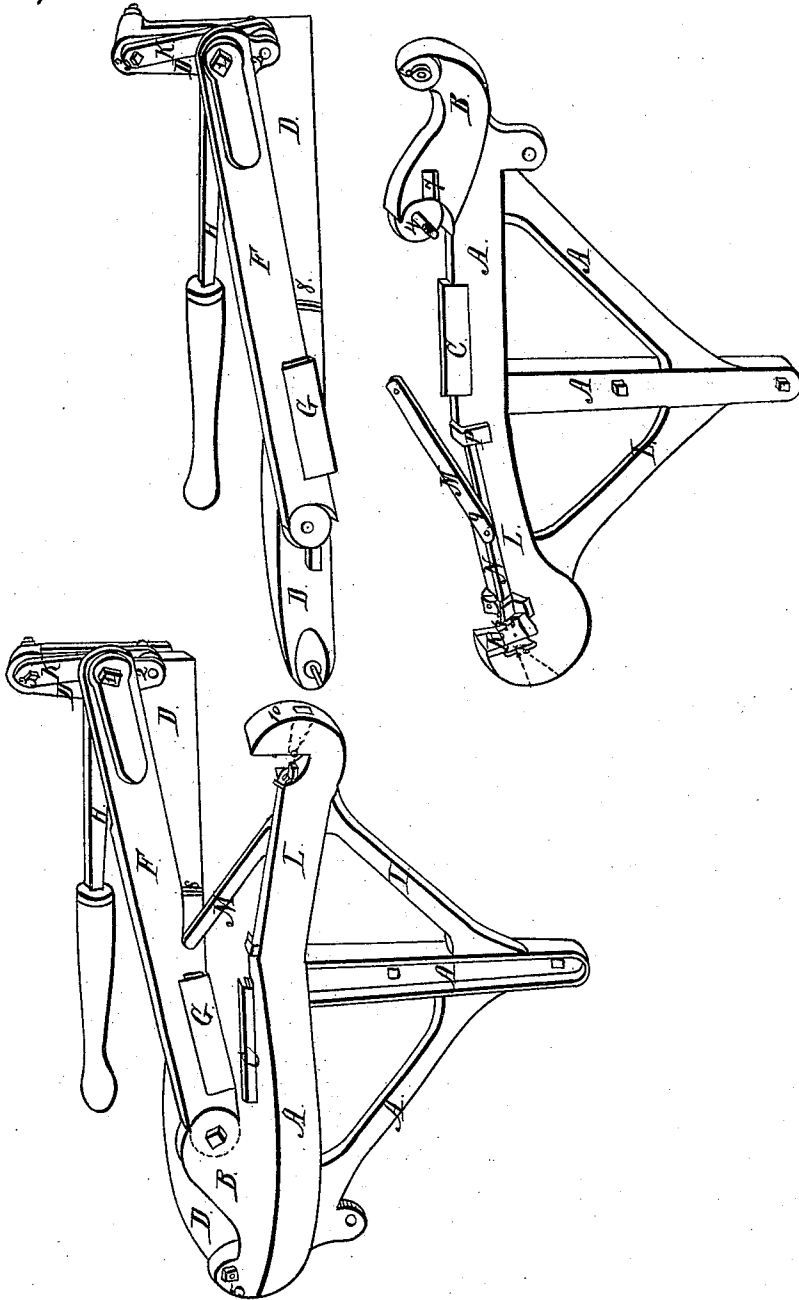


L. T. Pope.

Metal Punch and Shears.

N^o 639.

Patented Mar. 17, 1838.



UNITED STATES PATENT OFFICE.

L. T. POPE, OF BOSTON, MASSACHUSETTS.

MACHINE FOR PUNCHING AND SHEARING IRON.

Specification of Letters Patent No. 639, dated March 17, 1838.

To all whom it may concern:

Be it known that I, LEMUEL THOMAS POPE, of the city of Boston, in the county of Suffolk and Commonwealth of Massachusetts, plane-maker, have invented a new and Improved Machine for Cutting and Punching Iron and other Metals, called "L. T. Pope's Shears and Punch;" and I do hereby declare that the following is a full and exact description thereof.

The frame A, A, A, is of iron or other strong material, on the upper back edge of which at B, is raised a fulcrum for lever F. On the back of fulcrum B, an iron or other suitable plate D, D, D, is bolted to secure lever F from springing, and for the support of arm K. Lever H is attached to lever F by a bolt at (Figure 1). Arm K is attached to lever H by rivet (Fig. 2) and also to back plate D by bolt (Fig. 3). On the front lower edge of lever F a cutter is dovetailed and let in flush with the front edge of lever F firmly secured by a wedge or any other method, said cutter is lettered in the drawing G and directly under this cutter is another one similarly affixed in frame A, lettered C.

To steady lever F it is halved into fulcrum B playing upon bolt (Fig. 4) which passes through the back plate D and is there secured by a nut. The back plate D is also secured to fulcrum B by a bolt (Fig. 5).

On the inner side of fulcrum B at bolt (Fig. 5) is a tenon projecting a quarter of an inch, more or less, which is received into back plate D, being represented in segment drawing (Fig. 6). On the back side of lever F a fender is raised or affixed at (Fig. 8) or at more places projecting $\frac{1}{8}$ of an inch and an inch wide more or less to stay too great a friction in the machine. On the inner side of fulcrum B is a mortise represented at (Fig. 7) in segment drawing to receive a tenon cast or affixed to back plate D making the two more firm and steady.

The above is a description of all the parts necessary to construct a machine for cutting iron or other metal.

In order to construct a machine for punching iron or other metal the following described parts must be added thereto. To

construct a perfect machine for cutting and punching metals the frame A and L should be of one solid material. That part of the frame L for punching to be inclined downward sufficiently to give a proper motion to the punch and to obtain room between the punch and lever F.

Affixed and let in flush to lever F is arm M, playing in a socket and on a pivot. The lower end of arm M is affixed to follower N by a pivot as represented by the inner segment drawing (Fig. 9). The follower N holds the punch secured by a screw to perform the work. The follower is halved into the frame L flush with the inner edge of the same, and secured by two or more boxes constructed and affixed in the best manner to allow a correct motion to the follower N, and to save friction. One end of follower N must be halved out to admit box P to be flush with the outer edge of follower N and inner edge of frame L to permit arm M to drop below whenever the punch is not in operation.

The punch plays into a receiving plate at R, which plate is secured by two or more screws, and at the back of said plate a hole is made for the punched chips to drop out freely (represented at Fig. 10).

The whole machine may be placed on a block or frame or bolted to a bench as convenience may suggest. The great motion of lever H and its arrangement with lever F gives to my shears at least twice the power possessed by any lever of equal length in the shears now in use.

This arrangement of the levers allows the machine to be of a compact form and with it one man may do the work that could only be accomplished with two by the shears now used. This compact arrangement is also fitted for cutting sheets of metal, no obstacle being offered to the passage of the sheets, whereas in the shears now in use this work can only be performed by carrying the strap that connects the levers to a distance from the cutters and then requiring two persons to perform the work.

This machine possesses a further advantage in the connection of the punch with the shears without any interference with the operations of the latter.

The machine may be made of any size and of proportions suitable to any required purpose, and it may be constructed with or without the punch.

5 The invention claimed by me and which I desire to secure by Letters Patent is—
The combination of levers H, K, and F

and the arm M and the follower N as set forth in the foregoing description and the drawing annexed.

LEMUEL T. POPE.

Witnesses:

THOMAS B. POPE,
E. HERSEY DUBY.