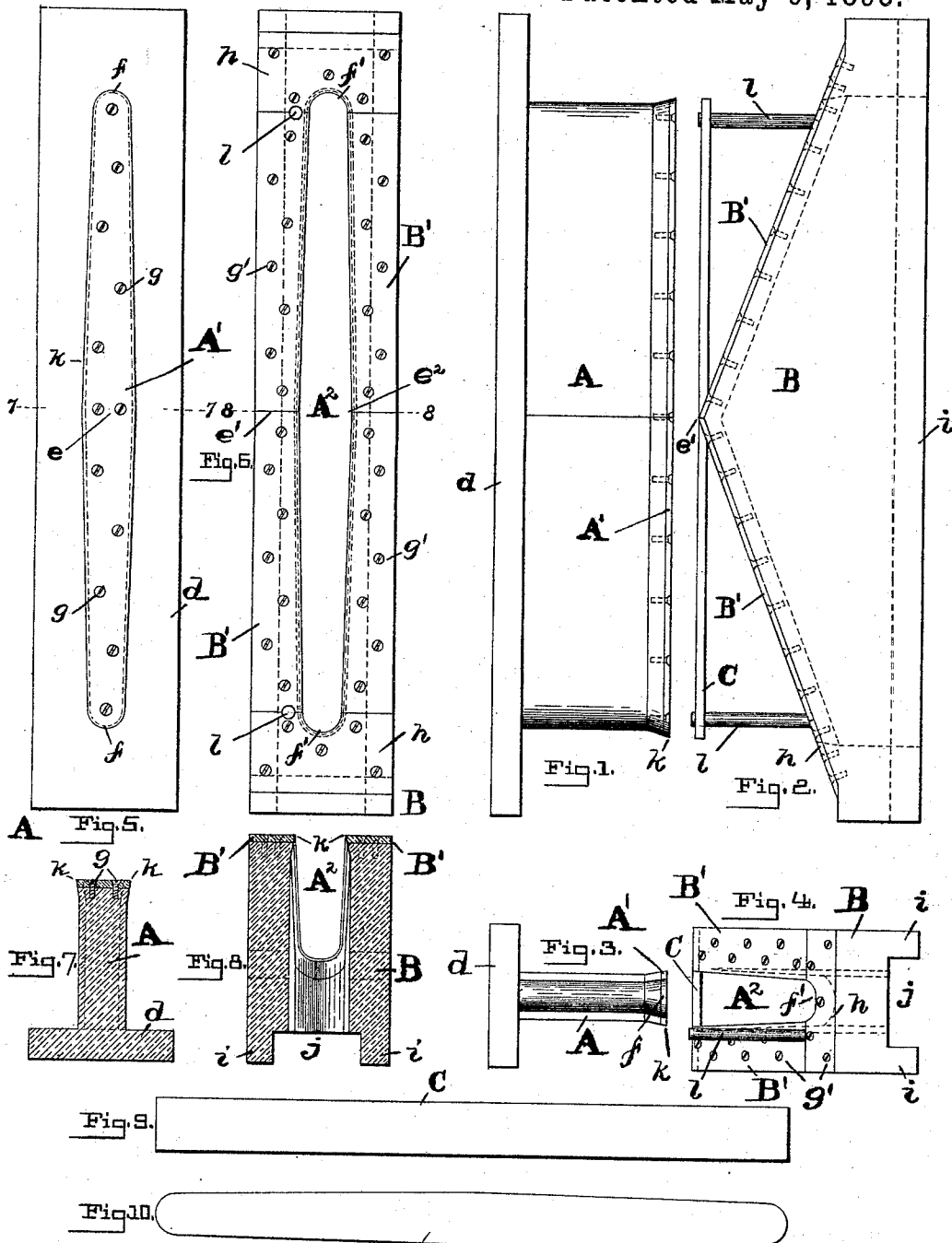


(No Model.)

J. P. MYER & H. CARLTON.
DIE FOR SHAPING DOUBLE TAPERED METAL BARS.

No. 497,101.

Patented May 9, 1893.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHN P. MYER AND HOWARD CARLTON, OF BALTIMORE, MARYLAND.

DIE FOR SHAPING DOUBLE-TAPERED METAL BARS.

SPECIFICATION forming part of Letters Patent No. 497,101, dated May 9, 1893.

Application filed June 30, 1892. Serial No. 438,489. (No model.)

To all whom it may concern:

Be it known that we, JOHN P. MYER and HOWARD CARLTON, citizens of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Dies for Shaping Double-Tapered Metal Bars, of which the following is a specification.

Our invention relates to dies for shaping double-tapered metal bars.

One object of the invention is to provide for the manufacture of double-tapered bars such as levers for the foundation gear of air-brakes. These levers consist of flat bars which are broadest at their middle, or broadest at a point midway of their two ends and which taper from said broadest part toward each end,—thus having a double taper,—and have rounded extremities. At the broadest part of the finished brake-lever is a hole and near each end also is a hole for the pivot-bolts. Heretofore these bars have been shaped by a forging process,—the tapered ends being produced by the action of a hammer, but this process is both slow and expensive. By our invention the double tapered bars can be produced very rapidly and with a great economy of labor.

Referring to the drawings,—Figure 1 is a plan view of the male part of the shearing die. Fig. 2 is a plan view of the female part of the shearing die. Figs. 3 and 4 are end views of the said plunger and die respectively. Figs. 5 and 6 are face views of the plunger and die. Figs. 7 and 8 are cross-sections of the plunger. Figs. 9 and 10 are views of an ordinary flat bar from which the lever is to be made, and of the double-tapered lever after it has been shaped by the improved method.

The shaper consists of two shearing dies, A, B, which have cutting edges adapted to shear the ordinary iron bar, C, and at one stroke or operation produce the double-tapered lever, C'. The plunger, A, has a suitable base, d; the face of this die is straight, and it has a steel plate, A', of the exact shape and size of the double-tapered lever, C',—that is, it is broadest at the middle, denoted by the letter, e, and therefrom tapers toward both ends and has rounded extremities, f.

The steel plate is secured by screws, g, having countersunk heads, or by other suitable means; this steel plate constitutes a shear-plate. The female die, B, has an opening, A², 55 corresponding, exactly, with the shape and size of the shear-plate, A', of the plunger; this die, however, instead of having a shear-plate which is straight from one end to the other has an obtuse-angle shear-plate; the 60 initial point, e', of shear-cut is at the middle; the shear-plate, B', is secured by screws, g' and comprises four pieces, to wit: the two side-pieces and the two end-pieces, h. The middle angle-point, e', is the most prominent 65 and projects toward the middle of the straight shear-plate, A', of the plunger. The female die-opening is widest at the middle, e², and therefrom gradually narrows toward the ends which are rounded, as at, f'. The female die 70 has at its base two parallel side-bar seats, i, which extend the entire length of the die, in the present instance; a space, j, is thus left at the base of this die which is open at each end, and this space is broader than the opening, A². It will be observed that the shear-plates, A', and, B', on both die-parts, A, B, have contour edges that are prominent and which are designated by the letter, k; this insures the requisite clearance to make the de- 80 vice practical. These dies are to be worked, preferably, by a movement in a horizontal plane, though neither the particular manner of moving nor the mechanism for moving constitutes any part of the present invention. The 85 female die, B, will ordinarily remain stationary and the male die, A, will be moved. The female die is provided with arms, l, which project toward the male die and serve to support or hold the blank bar, C, in position 90 while it is being presented for the action of the dies. The cutting or shearing of the blank bar, C, is commenced at or near the middle and therefrom it is sheared toward both ends simultaneously and thereby the double-ta- 95 pered bar is produced at one stroke or operation. This constitutes a new and improved method. The pivot holes heretofore referred to are put in subsequently.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is— 100

1. The combination of the shearing dies consisting of the female die, B, having a projecting obtuse-angle point on its shear-face and an elongated opening with rounded ends, 5 *f'*, said opening being widest at a point coincident with the obtuse-angle point and therefrom gradually narrowed to each rounded end, and the male die or plunger, A, having a shear-face that is straight from end to end 10 and broadest intermediate of its ends and tapered from the broadest part toward each end.
2. The female die provided with a projecting obtuse-angle shear-face and an elongated opening through the shear-face which opening 15 is narrower at the ends than it is at the

point where the obtuse-angle is located and also provided with arms to support the blank bar in position preliminary to its cut, in combination with a male die having a shearing face that is broadest intermediate of its ends 20 and tapered from the broadest part toward each end.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN P. MYER.
HOWARD CARLTON.

Witnesses:

D. M. HAGNER,
J. E. HARVEY.