

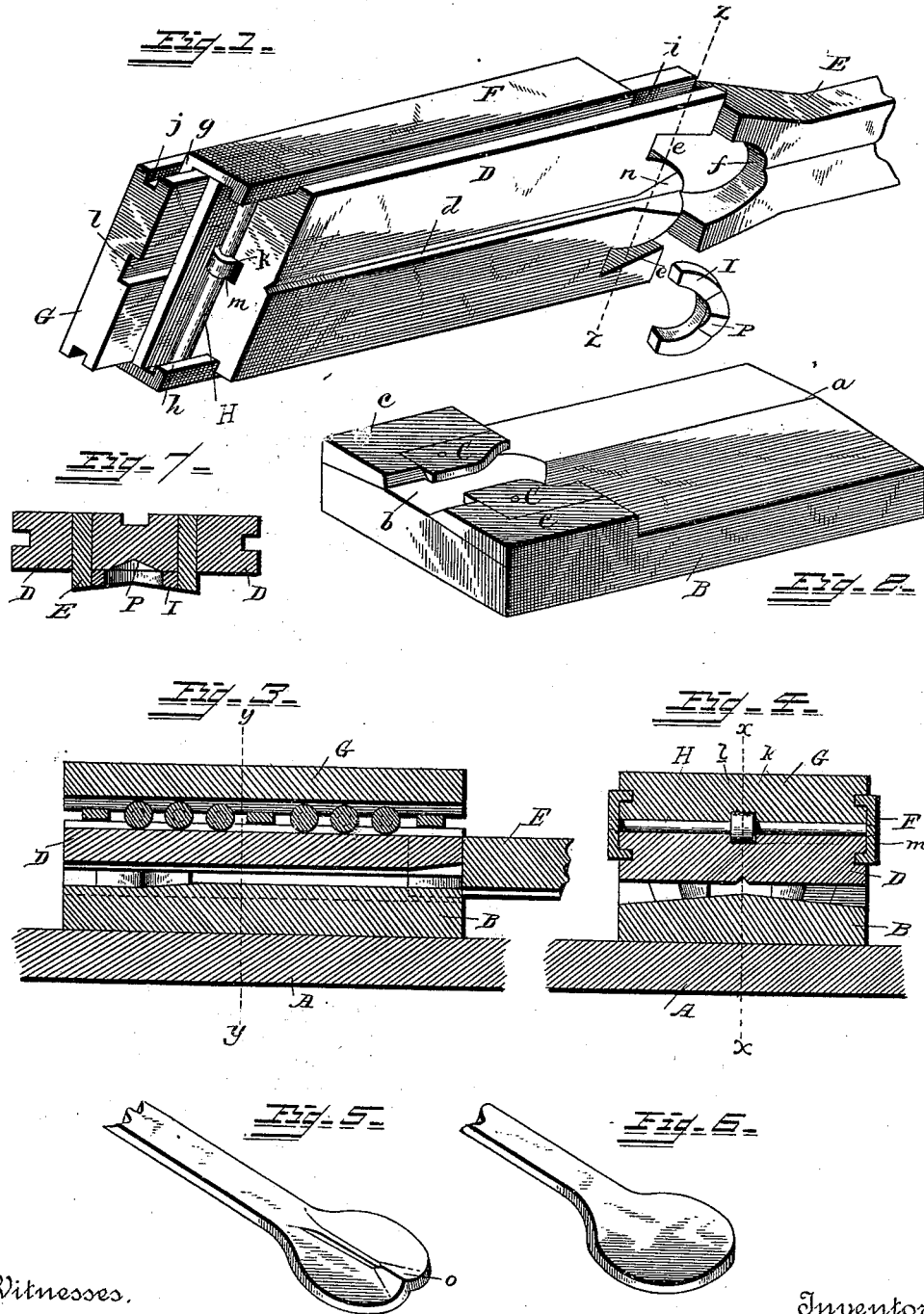
(No Model.)

J. F. KINGSLEY.

DIE FOR MAKING EYE BARS.

No. 384,450.

Patented June 12, 1888.



Witnesses.

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JOHN F. KINGSLEY, OF ATHENS, PENNSYLVANIA.

DIE FOR MAKING EYE-BARS.

SPECIFICATION forming part of Letters Patent No. 384,450, dated June 12, 1888.

Application filed March 13, 1888. Serial No. 267,082. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. KINGSLEY, a citizen of the United States, residing at Athens, in the county of Bradford and State of Pennsylvania, have invented certain new and useful Improvements in Dies for Making Eye-Bars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

This invention relates to dies for the manufacture of eye-bars, and is designed as an improvement on my former patent, No. 369,014, dated August 30, 1887; and it consists in forming the upper die-section flat, with a small groove in the center running longitudinally, and in other peculiarities of construction, as well as the combinations, the arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the claims.

The present invention is clearly illustrated in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of the upper die-section and its attachments; Fig. 2, a similar view of the lower die-section. Fig. 3 is a longitudinal central section on the line *x x* of Fig. 4. Fig. 4 is a transverse section taken on the line *y y* of Fig. 3. Fig. 5 is a perspective view of so much of an eye-bar as is operated upon by my improved die; and Fig. 6 is a similar view of a like portion of an eye-bar, the same being represented as finished and ready to be perforated. Fig. 7 is a transverse section, taken on the line *z z* of Fig. 1, with the piece I in position.

Referring to the details of the drawings by letter, A designates the base or bed of the machine, upon which is supported the lower die-section, B, which is provided with a central longitudinal rib or elevation, *a*, or, in other words, the upper face is inclined from the center in opposite directions. At one end this lower section is provided with a recess, *b*, and is provided at said recessed end with the detachable plates C, the edges of said plates abutting against the flanges *c* on said section, as shown in Fig. 2. The upper and movable

die-section, D, is substantially flat on its lower face, and is provided with a central longitudinal groove or channel, *d*. The end of the upper die, D, is cut away to form recesses *e*, to receive the bifurcated end *f* of the rammer E.

Above the upper die-section, D, is a frame, F, provided with flanges *g h*, which fit correspondingly-formed channels or grooves, *i j*, in the edges of the upper die-section, D, and the platen G, respectively, as shown in Fig. 1, this construction being similar to that shown in my patent above referred to.

To the sides of the frame F are journaled the anti-friction rollers H, upon which bear the platen and upper die-section, said rollers having an enlarged bearing, *k*, midway of the ends, which fit in the grooves *l m* in the platen and upper die-section respectively, this being substantially the same in construction and operation as in my previous patent.

The rammer is formed with a longitudinal depression, or is triangular in cross-section upon its under face, to fit the shape of the lower die-section, and the bifurcated end of the rammer is of such shape as to form the end of the upset portion of the bar when acted upon, and in operation this rammer is connected to the piston-rod of the machine.

The pieces C are designed to be made to correspond to the thickness and shape of the head or neck, and are adapted to be interchangeable, according to the kind of bar desired. The end of the upper die-section is formed with the depression *n*, as will be seen in Fig. 1, to form the ridge *o*, as seen in Fig. 5.

I is a removable piece made to conform to the upper and lower die sections and the rammer and the shape of that portion of the head, and is designed to be used when the head desired is smaller than the concave end of the rammer. Pieces I may be made of varying sizes and shapes to correspond to the shapes of the heads desired. The projection *p* on the piece I shown is to fit the depression *n* in the upper die-section.

The operation is as follows: The end of the bar (as it comes from the rollers with parallel sides and edges) is heated and laid upon the lower die-section between the plates C. The upper die-section is then lowered and forced upon the heated bar, which is placed centrally

on the bottom die-section and against the rammer and piece I, so as to produce a thinning of the bar in the center of its width and to a point at about the center of the upset head, except at the depression *n*, where the bar would be simply bent to a point corresponding with the center of the head. Power is then applied to the rammer, and the top die-section is forced out by the ram in the process of upsetting. At the same time the thinning of the bar in the center is done a portion of the metal is forced into the groove *d* in the top die section, and as the metal slides along with it it has the tendency of holding the heated portion straight during the process of upsetting. After the upsetting is done the head is flattened out to the thickness required in any well-known way.

What I claim as new is—

1. The combination, with a lower die section having a recess at one end and central longitudinal rib, of the flat upper die-section having central longitudinal groove, substantially as described.
2. The combination, with the upper die-section, flat upon its under face and provided with a central longitudinal groove, of the lower die-section having a central longitudinal rib

and recessed at one end and the interchangeable plates at said recessed end, substantially as set forth.

3. The combination, with the lower die-section having central longitudinal rib and a recess at one end, of the upper die-section, flat upon its under face and formed with central longitudinal groove and depression *n*, and the rammer, substantially as described.

4. The combination, with the lower die-section having at one end a recess and the plates at said recessed end, of the upper die-section, the rammer, and the removable piece, all substantially as described.

5. The combination, with the lower die section having recess at one end and the plates at said recessed end, of the upper die-section formed with depression *n*, the rammer, and the removable piece I, having the projection *p*, adapted to fit said depression, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN F. KINGSLEY.

Witnesses:

S. A. HINES,

N. A. GRAHAM.