J. H. HELM.

DIE FOR WELDING CHAIN-LINKS.

No. 192,827. Patented July 10, 1877.

Fig. 1.

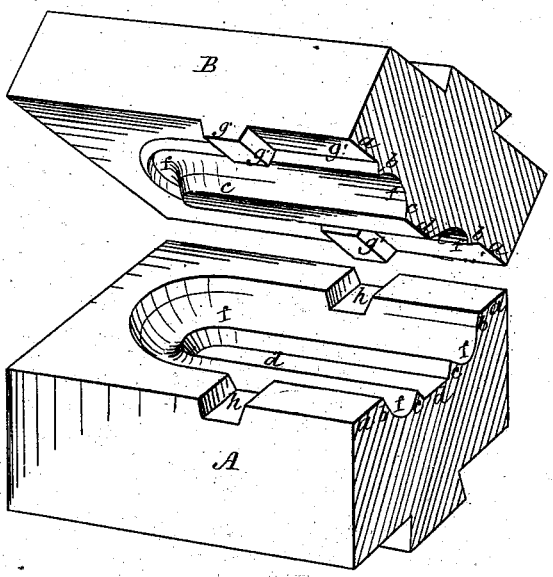
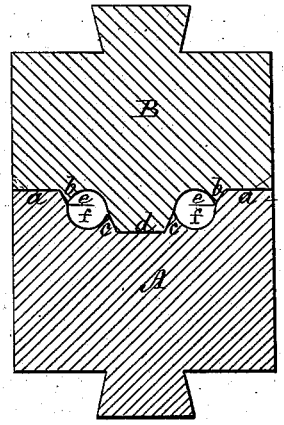


Fig. 2.



Witnesses.

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JOHN HENRY HELM, OF ALLEGHENY, PENNSYLVANIA.

IMPROVEMENT IN DIES FOR WELDING CHAIN-LINKS.

Specification forming part of Letters Patent No. **192,827**, dated July 10, 1877; application filed May 15, 1875.

To all whom it may concern:

Be it known that I, JOHN HENRY HELM, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Dies for Welding Car and other Links; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents, in perspective, the two parts of the die opened, so as to see the shape and form of the interior. Fig. 2 represents a vertical transverse section or end view of the die as closed, and showing the line of separation of the two parts thereof.

My invention relates to an improvement in the construction of two-part dies for welding chain-links; and it relates more particularly to that form of die wherein the line of separation of the upper and lower die is either above or below, or partly above and partly below, the center of the link to be welded.

The invention consists in a guiding-wall surrounding the die proper, due to the particular construction of the molded die-surfaces of the two die-blocks, as I shall proceed to describe.

In the lower or anvil die-block A the U-shaped groove *f*, concave in cross-section, is one portion of the die proper, and the corresponding groove *f* in the movable die-block B is the other portion. The line of parting of the two die sections or blocks intersect the die proper at a point below the center of the die on the inner side, as shown at *c*, and above the center of the die on the outer side, as shown at *e*, and it is to the direction given to these lines that my improvement is due. Thus the outer line, starting from the die at a point above its center, instead of passing outward horizontally in a straight direction, takes first a sloping direction upward and outward for some distance, as indicated at *b*, and then assumes a horizontal direction, as indicated at *a*, while the inner line, starting from a point below the center, at *c*, takes first a sloping direction downward and outward for some distance, and then a horizontal direction, as indicated at *d*.

The advantages of this construction grow out of the circumstance that rough unwelded link-blanks are never true in shape nor uniform in size, and the wall sloping down from without to the die on the anvil-block permits the blank, if too large for the die, to rest upon it, and yet be in position to be surely guided into the die by the descending upper die-block.

On the upper die are wedge-shaped projections *g'*, which, when the dies are brought together, fit into similarly-shaped recesses *h* in the lower die. These projections and recesses prevent one die from slipping longitudinally upon the other, as they are apt to do in striking or working upon the rounded end of the link that is being welded.

Having thus described my invention, what I claim is—

As an improvement in link-welding dies, in which the line of parting of the two die-blocks is broken up into different planes, none of which are coincident with the plane of the center of the die proper, the external sloping wall *b*, substantially as described.

J. HENRY HELM.

Witnesses:
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