J. MANN.

Manufacturing Coupling-Links.

No. 201,261. Patented March 12, 1878.

FIG. 1.

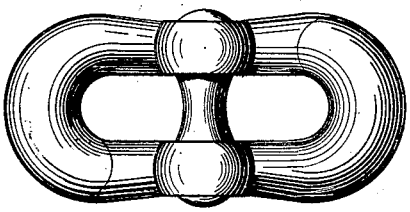


FIG. 2.

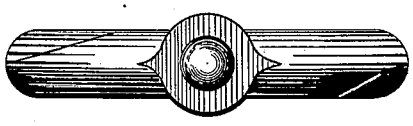
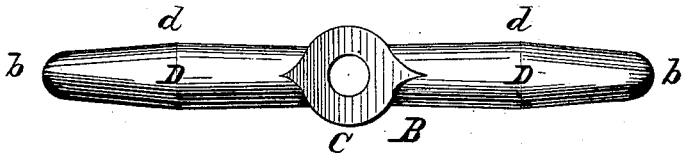


FIG. 3.



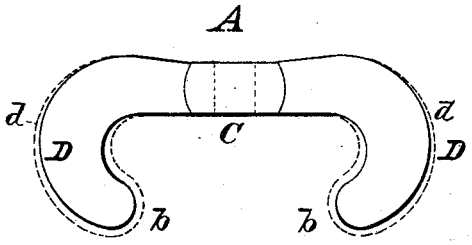


FIG. 4.

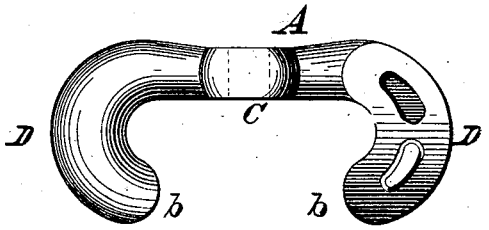


FIG. 5.

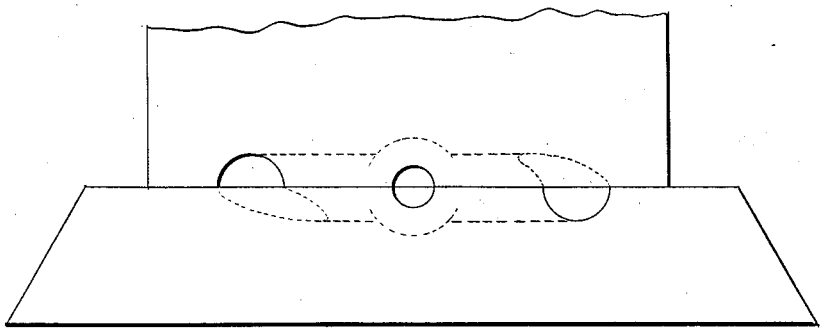


FIG. 6.

Witnesses:

Frank Hirsch

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Inventor:

James Mann

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atty.

UNITED STATES PATENT OFFICE.

JAMES MANN, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO W. A. MANN AND D. MANN, OF SAME PLACE.

IMPROVEMENT IN MANUFACTURING COUPLING-LINKS.

Specification forming part of Letters Patent No. **201,261**, dated March 12, 1878; application filed February 6, 1878.

To all whom it may concern:

Be it known that I, JAMES MANN, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements on the Process and Means for Manufacturing Coupling-Links; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has particular reference to the process of and means for manufacturing coupling-links, and especially those for which Letters Patent of the United States No. 185,037 were granted to me on the 5th day of December, 1876; and said method consists in subjecting bars of iron or steel to the action of swages and shaping-dies, in such manner that complete and exact counterparts of the said links may be readily and cheaply produced, substantially as and for the purpose hereinafter fully set forth and described.

In the drawings, which serve to illustrate my invention more fully, Figure 1 is a plan of the coupling-link complete. Fig. 2 is a side view of the same. Fig. 3 is a plan of one-half of the link in the first stage of the process of manufacturing said links. Fig. 4 is a plan of the same link after the second stage, and Fig. 5 a similar view of the same link complete. Fig. 6 is a longitudinal sectional elevation of the drop-dies used in the second stage of manufacture of my coupling-links.

Like letters of reference indicate corresponding parts in all the figures.

A is one-half of the connecting-link illustrated in the Letters Patent aforesaid. This half I make from iron or steel, of proper width and thickness, by subjecting said bar to the action of swages to produce the blank B, (illustrated in Fig. 3,) which consists of the central part C, of the original size of the angular iron or steel used, and the two diametrically-opposite round shanks D. These shanks are slightly larger in diameter at the points *d* than at the junction with the central part C, and the extreme ends *b* are again reduced in size to be somewhat less than the diameter of the shanks at said junction before mentioned. The swaging of this part or blank may be done between forging-dies, and preferably in such manner that both shanks are being swaged simultaneously, and the blank thus produced is then bent into the shape shown in Fig. 4, after having its central part C punctured for the subsequent reception of the pivot or stud connecting the two halves.

The blank, after being bent into the shape described, is ready for the drop-dies, which have the exact shape of the half-link in depression, and it is subjected therein to pressure, in the usual manner, by a drop-hammer, &c., whereby the desired shape is imparted to the blank, a mandrel having previously been inserted into the eye in the central part C, to prevent its being compressed in the process of drop-forging.

Two of the halves or parts heretofore described form the connecting-link proper, and they may, in order to secure a very perfect fit of the parts and the locking-projections described in the patent heretofore recited, be placed two and two together upon a mandrel, and there subjected to the action of a pair of dies having the contour of the complete link in depression, whereby they are forced in close contact with each other, and thus made to exactly fit. This latter action may, however, be dispensed with if the drop-dies heretofore mentioned are made very accurate, so that the links, when placed opposite each other, will properly match.

By constructing the links in the manner and by the process described, I have the fibers of the metal running lengthwise, in contradistinction to a link produced in the process of punching and shearing from a flat bar, in which case the fibers would in some part of the link run crosswise. The link thus produced by my improved process will be more uniform in size, and stronger and more durable, than those produced by any other process.

Having thus fully described my invention, I claim—

The method of manufacturing connecting-links, consisting, essentially, in subjecting bars of metal to the action of dies to produce the blank B in the shape and contour described,

then bending the shanks D, and finally subjecting the parts so produced to the action of drop-dies, whereby the correct shape is imparted to said blanks, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my invention I have hereto set my hand and affixed my seal in the presence of two subscribing witnesses.

JAMES MANN. [L. S.]

Witnesses:
MICHAEL J. STARK,
E. Y. KNEELAND.