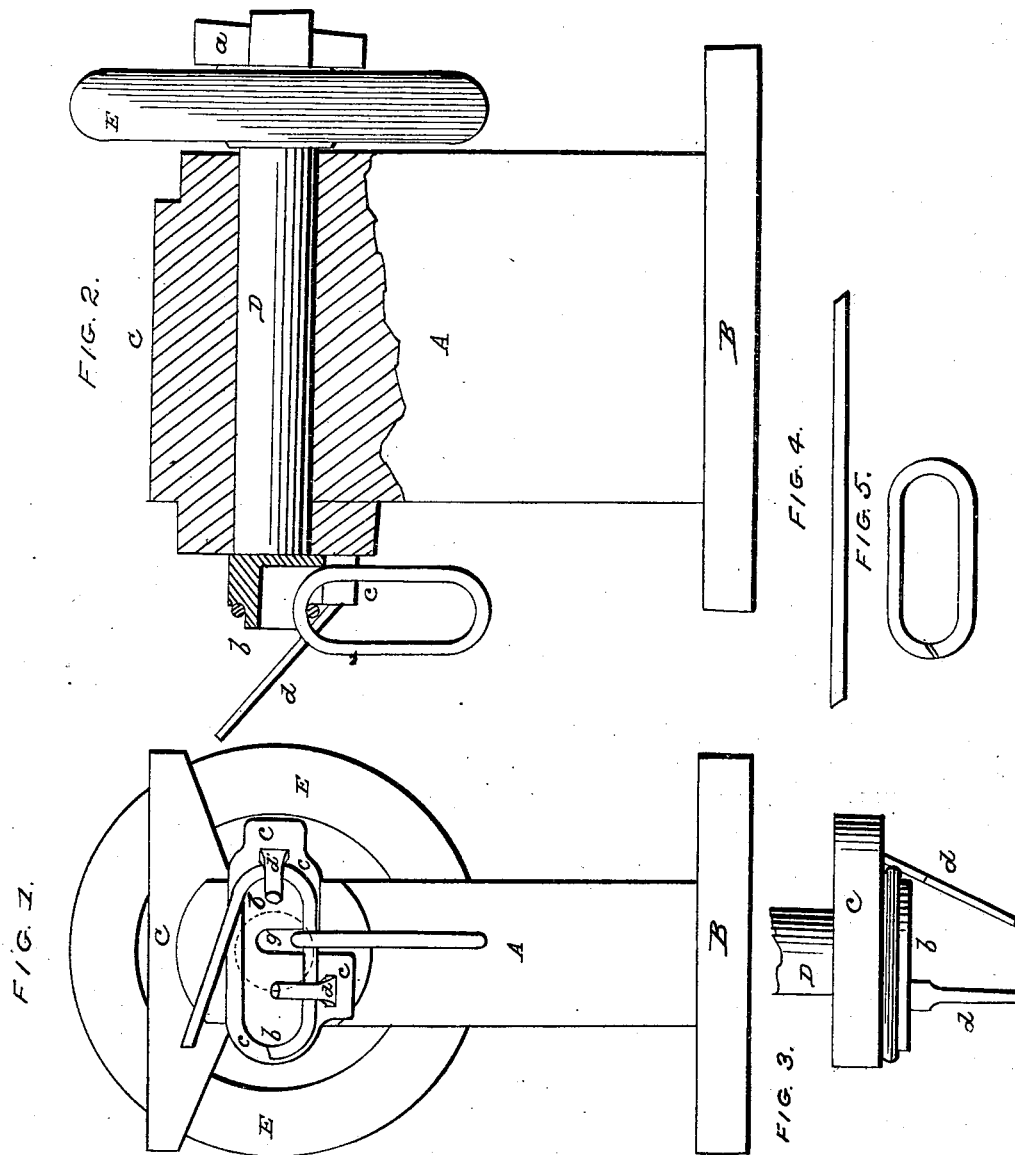


P. L. WEIMER.
Apparatus for Bending Chain Links.

No. 50,758.

Patented Oct. 31, 1865.



WITNESSES:

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UNITED STATES PATENT OFFICE.

PETER L. WEIMER, OF LEBANON, PENNSYLVANIA.

APPARATUS FOR BENDING CHAIN-LINKS.

Specification forming part of Letters Patent No. 50,758, dated October 31, 1865.

To all whom it may concern:

Be it known that I, PETER L. WEIMER, of Lebanon, in the county of Lebanon and State of Pennsylvania, have invented a new and useful Machine for Making Chain-Links and Chains; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation of my improved machine, showing a rod in process of being formed into a link. Fig. 2 is a longitudinal section taken in a vertical plane through the center of the machine. Fig. 3 is a top view of the link-formers. Figs. 4 and 5 show the rod before and after it is bent into the form of a link.

Similar letters of reference indicate corresponding parts in the several figures.

The object of my invention is to facilitate the work of making links and chains for railroad-cars and other purposes by combining the contrivance upon which the links are formed with a turning-mandrel, for the purpose of enabling the smith to have that portion of the link which is being bent always uppermost, so as to enable him to strike vertical blows with his hammer.

Another object of my invention is to combine a link-forming device with an anvil upon which the links are flattened.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents a vertical standard, which is mounted upon a base, B, and which has an anvil, C, with a horizontal top suitably secured on its upper end.

D is a horizontal mandrel, which passes through the standard A, as shown in Fig. 2, and receives on one end a balance-wheel, E, which is secured in place by means of a key-wedge, a. On the opposite end of the mandrel D is a form, b, over which the link is bent, as clearly represented in the drawings. This form b projects from the face of a block or head, c, which is adapted for receiving keys d d', that are used in the operation of bending the rods (shown in Figs. 1 and 5) for holding these rods

in place on the form b. The keys are driven into the head c so as to incline over the link-rod, as shown in Figs. 1, 2, and 3. At an intermediate point between the ends of the form b a slot, g, is made for the purpose of receiving the ends of links in the operation of connecting them together, as will be hereinafter shown.

The operation of forming links upon my machine is as follows: The rods of which the links are formed are cut of the proper length, and their ends beveled, as shown in Fig. 4. One of these rods is then heated its entire length and placed across the former b, so as to be held firmly by the key d when this key is driven into its place. The ends of the rod thus confined are now hammered down by an assistant, while the smith turns the mandrel by means of the hand-wheel E in such manner as to enable the assistant to strike vertical blows. When one end of this rod has been bent around one portion of the former b, and keyed in place by means of the key d', the other end of the rod is similarly bent.

As car-couplings generally consist of three links only the following additional process is pursued in their manufacture on my machine: Say that the smith receives an order for one hundred couplings, he commences by cutting up the rods in proper length, and taking one hundred pieces he bends them as above described, and welds their ends together. A welded link is now inserted into the slot g, and a straight rod passed through it and bent around the former b, as above described. By this means the links can be connected together very conveniently.

It will of course be necessary to employ different sizes of formers b for different sizes of links. The change is effected by driving out the key a and removing the mandrel D, upon the end of which the former b and its key-holding head are permanently applied.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a link-former, b, with a turning-mandrel, D, substantially as described.

2. The link-former *b* and key-holding head *c*, applied to a turning-mandrel, *D*, which can be removed from its bearings at pleasure, substantially as described.

3. The recess *g* in the former *b*, in combination with the holding-keys *d* *d'* and head *c*, substantially as described.

4. Providing the standard *A* of the link-

forming contrivances with an anvil, *C*, substantially in the manner and for the purposes described.

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Witnesses:

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