

W. J. LEWIS.
 Manufacture of Flanged-Wire.
 No. 212,239. Patented Feb. 11, 1879.

Fig. 1.

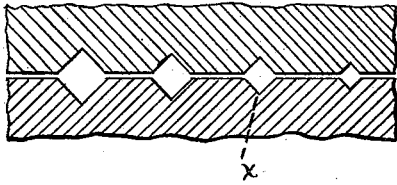


Fig. 2.

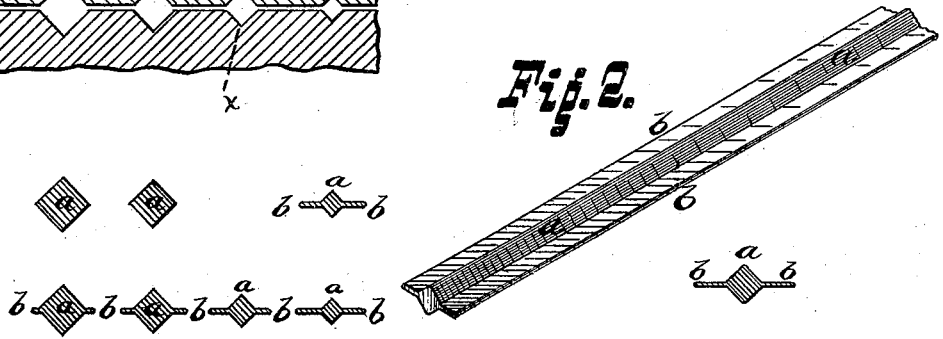


Fig. 3.

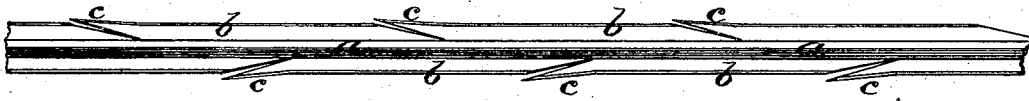
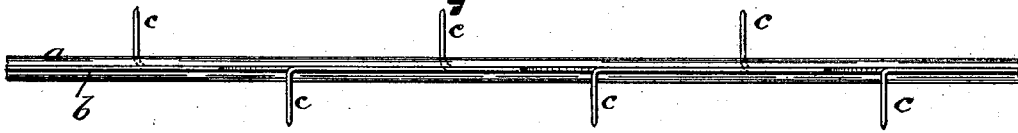


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM J. LEWIS, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN THE MANUFACTURE OF FLANGED WIRE.

Specification forming part of Letters Patent No. **212,239**, dated February 11, 1879; application filed December 12, 1877.

To all whom it may concern:

Be it known that I, WILLIAM J. LEWIS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in the Manufacture of Flanged Wire; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

In said drawings, Figure 1 is a sectional view of portions of two or a set of rolls. Fig. 2 represents, in perspective and cross-section, respectively, the bar or blank. Figs. 3 and 4 are, respectively, plan and side views of the wire, flanged and barbed.

This invention relates to a method of rolling flanged wire for use as fence-wire and other purposes; and consists in using ordinary grooved rolls in the hereinafter-described manner, whereby the desired form of wire is produced without the use of special rolls or special grooves, thus enabling the manufacturer to produce the special shape with the means at his command—namely, a pair of ordinary V-grooved or half-round grooved rolls.

The form of wire—namely, a rib having two lateral fins or flanges, one on each side—has been made heretofore by rolling; but no known means has existed for producing this special section except a pair of rolls having special grooves to give such form. Such special grooves necessarily consisted of a central groove and a shallow recess on each side. On account of the smallness of the section such grooves must have the edges of the flange-forming portions sharp and clean, and the sharp edges soon chip and wear away, necessitating the frequent re-turning of the rolls.

I take an ordinary pair of grooved rolls, as shown in Fig. 1, which are found in all bar-mills, the grooves being V-shaped, oval, or half-round plain ones. In this case the grooves are V-shaped, making ordinarily-square rods, and with these rolls I produce the special rod shown in Fig. 2, having a flange, *b*, on each

side of a central rib, *a*. To produce this rod I adjust the rolls from each other until the spaces between the plain portions of their faces are as far apart as the thickness of the flange to be made. The bar or rod of round, square, or oval section is then inserted in a groove which is smaller than its own section and passed through. The draft of the diminished grooves squashes out the extra metal into the open space on either side, and at once forms the flanges. It is obvious, of course, that this effect may be reached by gradual reduction in the same manner by simply omitting the customary "quarterings."

The advantages of this mode of manufacture are that every bar or rod mill has the plain grooved rolls, while none of them are apt to have the special grooves which would be necessitated under the old method of manufacturing this class of bar. Consequently the one who must construct special rolls or special grooves cannot produce the flanged wire at as low a cost as he who is able to make precisely the same wire without any expensive alteration of his old or construction of new special rolls. Thus I can produce a special shape at the same cost as ordinary commercial forms, and can take and fill an order for such special with my ordinary rolls without destroying or impairing their subsequent utility for their original purpose.

In Figs. 3 and 4, which represent the wire as finished and barbed, the letters *c c* indicate the barbs, which, after being cut or punched, are bent at right angles to the plane of the wire.

I am aware that English Patent No. 19 of 1858 describes a method of producing a fin on a metal bar by rolling, which method I specifically disclaim, limiting myself to the particular process which I describe and claim, whereby I am enabled to produce the fin by means of ordinary grooved rolls devoid of grooves for the reception and shaping of the fin.

I claim as my invention—

The method of rolling flanged wire in ordinary plain grooved rolls, consisting in separating the rolls to a distance determined by

the thickness of the desired flanges, and then inserting a blank of greater sectional area than the groove into which it is inserted, substantially as shown, whereby the metal is crushed down, the grooves forming the rib of the wire, and the plain faces of the rolls making the flanges out of the extra metal.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WM. J. LEWIS.

Witnesses:

E. V. McCANDLESS,
THOS. J. McTIGHE.