

F. V. McMULLIN.
DEFORMED BAR.
APPLICATION FILED JUNE 7, 1907.

911,062.

Patented Feb. 2, 1909.

FIG. 1

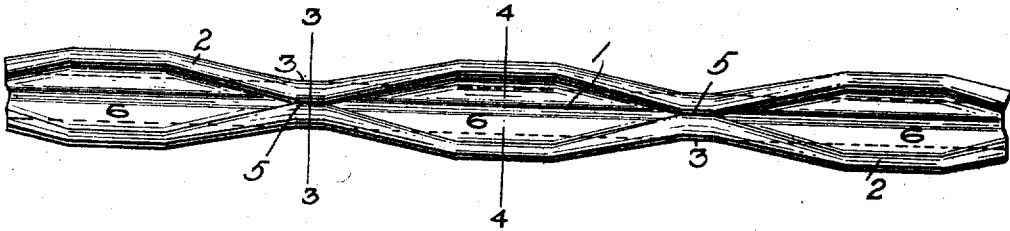


FIG. 2

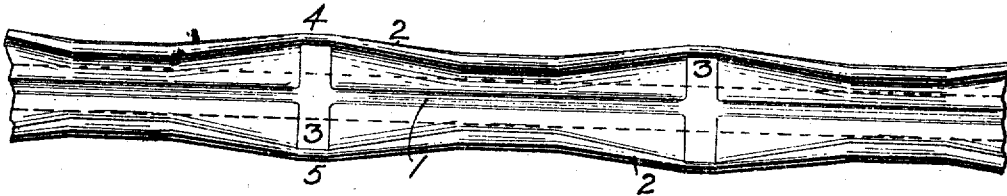


FIG. 3

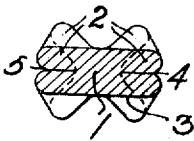


FIG. 4

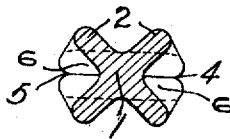
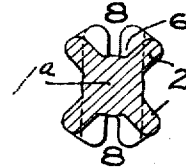


FIG. 5



WITNESSES.

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UNITED STATES PATENT OFFICE.

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DEFORMED BAR.

No. 911,062.

Specification of Letters Patent.

Patented Feb. 2, 1909.

Application filed June 7, 1907. Serial No. 377,831.

To all whom it may concern:

Be it known that I, FRANK V. McMULLIN, a resident of Edgewood, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Deformed Bars; and I do hereby declare the following to be a full, clear, and exact description thereof.

This invention relates to deformed metallic bars and especially to bars for use for the reinforcement of concrete and similar cementitious materials.

The object of the invention is to provide a bar which is cheap to manufacture and which forms strong anchorages for the cement or other cementitious substance to prevent the slipping of the bar in the cement and thereby increase the efficiency of the reinforcement.

The invention comprises a bar having the construction hereinafter described and claimed.

In the accompanying drawings Figures 1 and 2 are side views of the bar taken at right angles to each other; Figs. 3 and 4 are transverse sectional views taken respectively on the lines 3—3 and 4—4, Figs. 1 and 2, and Fig. 5 is a cross section showing a modification.

The improved bar, in its preferred form, is substantially cruciform in cross section, as shown in Fig. 3, having the central or core portion 1 and four longitudinal ribs or webs 2. While four longitudinal ribs or webs are preferred any other number may be used. These webs or ribs are out of parallelism in order to provide gripping pockets or anchorages in the cement. This irregularity of the ribs may be conveniently secured by causing certain ribs to approach each other at intervals, such as by flattening the bar at the points 3, in such a manner as to cause two of the ribs to come in contact, as at 4, and the opposite two to come in contact as at 5. This forms in two opposite faces of the bar a series of pockets 6 into which the cement fills and therefore provides a good anchorage. The flattening of the bar at points 3 makes the outline irregular when viewed from any posi-

tion, as clearly indicated in Figs. 1 and 2. When viewed from one position the bar is narrow at the flattened portions 3 and wide at the pockets 6, while viewed at right angles to this position the bar is narrowest at the pockets 6 and widened out at the flattened portions 3. This bar can be conveniently formed by rolling the bar of the cross section shown in Fig. 4, after which it is flattened at the point 3 in any suitable way, such as in suitably formed rolls or under a press, hammer or the like. Consequently the bar is cheap to manufacture as the flattening may be carried out while the bar is cold.

It is not necessary that the flattened portions be always in the same plane, as shown in Figs. 1 and 2, but they can be alternately arranged at right angles to each other, or in any irregular manner without affecting the efficiency of the bar. Indeed, it is not necessary that the ribs should be brought absolutely in contact, but any distortion of the ribs to get them out of parallelism enables them in some degree to perform their desired function.

Fig. 5 shows a modification having the central or core portion 1* enlarged to provide more material. In this case, the ribs cannot conveniently be brought into contact at the flattened portions, as shown at 8.

What I claim is:—

1. A metallic bar having a plurality of independent continuous ribs extending longitudinally of and laterally beyond the bar and having portions thereof disposed at angles to the axis of the bar and alternately in opposite directions, adjacent ribs being substantially in contact at intervals.

2. A metallic bar having a plurality of independent ribs extending longitudinally of and laterally beyond the bar and alternately receding from and approaching each other.

3. A metallic bar having a central portion and a plurality of independent ribs projecting beyond said central portion and extending longitudinally of the bar, and alternately receding from and approaching each other.

4. A metallic bar of cruciform cross section having adjacent ribs lying more closely

in proximity at some portions of their length than at other portions.

5 5. A metallic bar of cruciform cross section laterally distorted at intervals to bring adjacent ribs into proximity.

6. A metallic bar provided with a plurality of independent ribs extending longitudinally of and laterally beyond the bar and flattened

laterally at intervals to bring adjacent ribs into proximity.

In testimony whereof, I the said FRANK V. McMULLIN have hereunto set my hand.

F. V. McMULLIN.

Witnesses:

ROBERT C. TOTTEN,
JOHN F. WILL.