H. FOUGNER.

REINFORCING BAR.

APPLICATION FILED MAR. 15, 1921.

1,400,278. **Patented Dec. 13, 1921.**

Fig. 1.

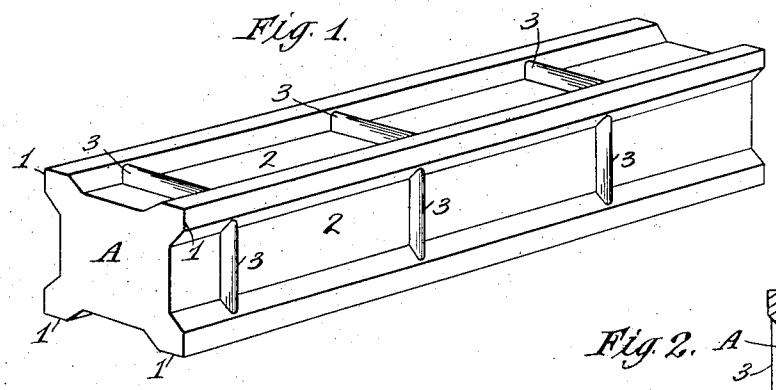


Fig. 2.

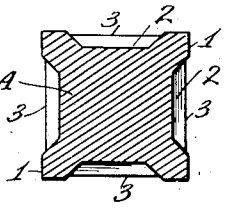


Fig. 3.

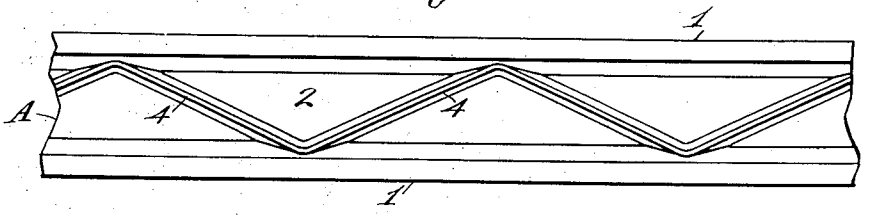


Fig. 4.

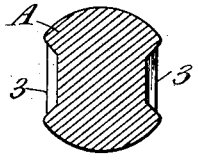
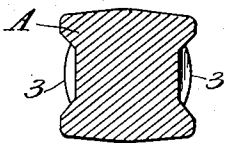


Fig. 5.



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REINFORCING-BAR.

1,400,278. Specification of Letters Patent. Patented Dec. 13, 1921.

Application filed March 15, 1921. Serial No. 452,524.

To all whom it may concern:

Be it known that I, HERMANN FOUGNER, residing at New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Reinforcing-Bars, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to an improvement in reinforcing bars for concrete structures.

It is the especial object of the invention to provide an improved bar of this character which will have the bonding projections or ribs so formed thereon as not to interfere with the handling of the bars when in stock pile, or when being run through bending rollers. Heretofore, the handling of reinforcing bars provided with such bonding projections or ribs has been more or less inconvenient or difficult, because where transverse projections were employed the bars could be pulled from the stock pile only with difficulty due to interference with similar ribs on other bars, or when bonding ribs of either lateral, longitudinal or other type were formed on the bar, they were of such height that they were either flattened or otherwise deformed by the bending rollers when the bar was run through them or the rollers themselves were injured by contact with such ribs or projections.

For a full understanding of the invention, the same will now be described in detail in connection with the accompanying drawings, and the novel features thereof then be specifically pointed out in the claim.

In the drawings—

Figure 1 is a perspective view of a reinforcing bar provided with transverse bonding ribs formed according to the present invention;

Fig. 2 is a cross section of the bar of Fig. 1;

Fig. 3 is a side view of a bar with a modified form of continuous rib; and

Figs. 4 and 5 show bars of modified cross section and with transverse ribs on at least two sides.

Referring now to the drawings, and particularly to Figs. 1 and 2, A indicates a reinforcing bar of approximately square cross section, with each of the corners thereof thickened or enlarged, as indicated at 1, so as to form in effect a trough or wide groove 2 on each side of the bar.

At suitable points in the troughs or grooves 2, and preferably at approximately equidistant points, are provided transverse bonding projections or ribs 3, these ribs being in all instances of slightly less height than the extreme points of the thickened corner portions 1.

In Fig. 3 I have shown a bar similar to that of Fig. 1, but with a continuous rib or projection 4 running in an approximately zig-zag direction from end to end of the bar. In this construction it will be observed that the continuous rib 4 is also of less height than the corner portions 1, but coalesce therewith.

Figs. 4 and 5 show bars of modified cross section, but having troughs or grooves 3 formed in diametrically opposite sides. In Fig. 5 the ribs 2 are slightly rounded to facilitate rolling of the bars in machines designed to roll only bars having bonding ribs or projections arranged longitudinally of the bar, or in other directions but not entirely across the troughs 2.

From the foregoing it will be obvious that the bars may be easily pulled out of stock piles without the inconvenience or difficulty caused by the ribs catching on similar ribs on other bars, and that when the bars are being run through the bending rollers the latter will engage only the thickened or enlarged corner portions 1, and the ribs or projections will not, therefore, come into contact with such rollers. A bar can thus be readily bent without damage to such ribs or projections, or to the bending machine, which is often caused by the ribs coming into contact with the bending rollers. The shape of the enlarged corner portions 1 is immaterial, and it is understood that the invention is not to be confined to the shape shown. So long as such corner portions are sufficiently enlarged as to afford a bearing surface for the bar, either when it is pulled out of a stock pile, or form a bearing surface for the bending rolls so that the bonding ribs or projections will not be deformed or cause interference with such bending operation, they will, in connection with the relatively less height of such ribs or projections, enable the advantages above described to be realized. The invention also possesses the advantage that when stirrups or other auxiliary members are used in connection with the bars for reinforcement of concrete beams, such stirrups will lie close to the main bar

at all points without striking such projections or ribs.

In addition to the foregoing advantages, it will be observed that where even large and small bars are stacked together, as often happens, it will be impossible for such smaller bars to catch on the transverse ribs of the larger bars.

What is claimed is:

A reinforcing bar having straight longitudinal oppositely-disposed enlargements forming a plurality of troughs therein, the outer edges of the oppositely-disposed enlargements lying in the same horizontal plane, and continuous transversely extending bonding ribs located in said troughs, said ribs being of less height than said enlargements, the outer portions of said enlargements and ribs being gradually reduced in thickness whereby the bar may be easily freed from the rolls.

In testimony whereof, I have hereunto set my hand.

HERMANN FOUGNER.