

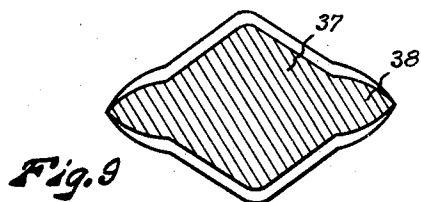
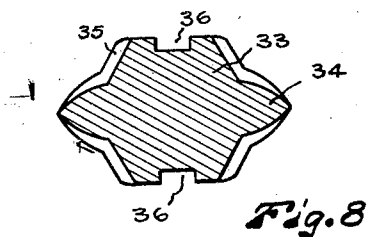
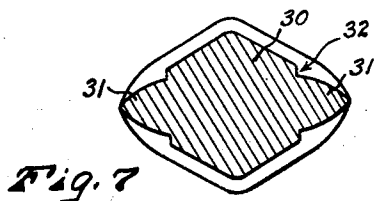
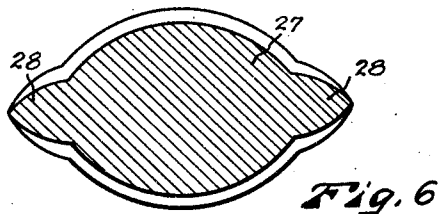
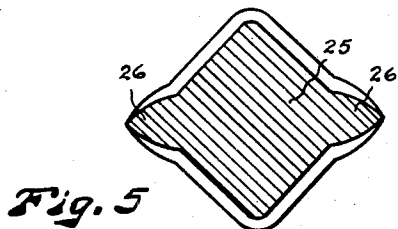
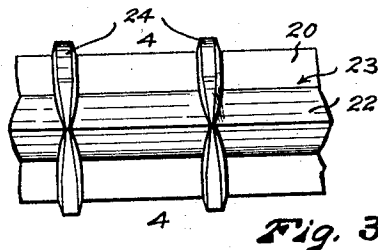
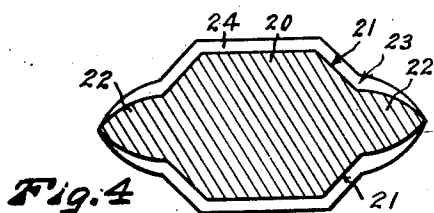
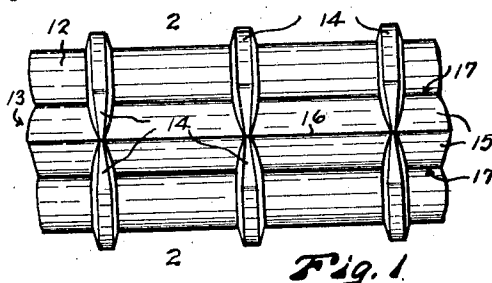
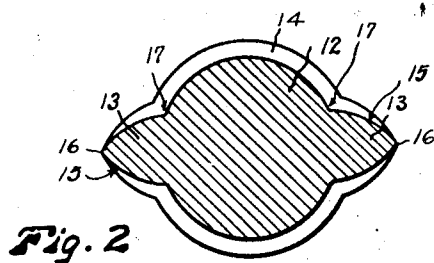
Oct. 30, 1928.

1,689,504

J. SHEEDY

REENFORCING BAR

Filed Sept. 20, 1926



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REENFORCING BAR.

Application filed September 20, 1926. Serial No. 136,455.

My invention relates to improvements in reinforcing bars for use in reinforced concrete construction and the object of my invention is to improve the shape of bars of this nature and render the same more efficient in operation.

Another object is to devise a reinforcing bar that is provided on two opposite sides with two longitudinally extending flanges each having curved exterior surfaces that taper to a sharp edge at their extremities and that form grooves or channels where they intersect the main body portion of the bar thereby affording efficient surfaces with which the concrete may interlock.

Another object is to provide a reinforcing bar of this nature in which the external surfaces of the portions that protrude outwardly from the bar are all curved or otherwise shaped so that all pressures and strains due to the contraction of the concrete in setting will be equalized as nearly as possible and distributed evenly over the bar and exerted directly against the bar. Another object is to provide a reinforcing bar in which the transverse lugs on the bar run continuously around said bar, the lugs on different sides of the bars being in the same transverse planes instead of being in planes that are offset with respect to each other as is common practice in reinforcing bars of this nature, the placing of said lugs in the same transverse planes further serving to better equalize and distribute the strains and forming a more efficient interlocking means for the surrounding concrete.

Other and more specific objects will be apparent from the following description taken in connection with the accompanying drawings, wherein—

Figure 1 is a fragmentary view in side elevation of a round reinforcing bar constructed in accordance with my invention;

Fig. 2 is a view in cross section of the same on line 2, 2 of Fig. 1;

Fig. 3 is a fragmentary elevation of a bar of general rectangular shape having my invention embodied therein;

Fig. 4 is a cross section on line 4, 4 of Fig. 3.

Figs. 5, 6, 7, 8, and 9 are cross sections showing my invention applied to reinforcing bars of different shapes.

Like reference numerals indicate like parts throughout the drawings.

Referring to Figs. 1 and 2, the numeral 12 designates the main body portion of a reinforcing bar which is of substantially cylindrical shape except that it is modified in accordance with my invention by providing along diametrically opposite sides of said bar two outwardly protruding longitudinally extending integral flanges 13, and by further providing at intervals on said bar a plurality of transverse ribs 14, each rib 14 extending substantially continuously around the bar and being in a plane at right angles to the axis of the bar. The flanges 13 each have arcuate sides 15 that converge to an edge at their outer extremities, as at 16, and that intersect or merge with the sides of the bar 12 so as to leave grooves 17 along each side of the base of each flange 13. The transverse ribs 14 extend over the flanges 13 and converge at the edges 16. When this bar is embedded in soft concrete the concrete will flow around the flanges 13 and ribs 14 and into the grooves 17 and will interlock very securely with the bar so that maximum reinforcement for the concrete will be obtained. As the concrete sets it will tend to contract around the bar thereby exerting a compressive force on the bar and on the flanges 13, which force is always squarely against the rounded surfaces 15 of the flanges 13 as indicated by the arrows in Fig. 1. This force of contraction being exerted squarely against the surface of the flanges 13 at all points does not have any tendency to cause the concrete to slip on the bar and become loose therefrom.

In Figs. 3 and 4 I have shown my invention applied to a bar 20 of general rectangular cross sectional shape, said bar 20 being convergent on opposite sides as at 21 and having longitudinally extending flanges 22 of substantially the same shape as the previously described flanges 13 extending from said convergent sides 21. The flanges 22 afford recesses 23 where they intersect the convergent sides 21 and transverse ribs 24 are provided and extend continuously around the bar 20.

Fig. 5 shows my invention applied to a bar 25 of substantially square cross section. Longitudinally extending flanges 26 which correspond to the flanges 13 being formed on opposite corners of said square bar 25.

Fig. 6 shows the invention applied to a bar 27 of substantially oval or elliptical

shape, the longitudinal flanges 28 which correspond to the flanges 13 being formed along opposite sides of the bar in the plane of the major axis.

5 Fig. 7 shows a bar 30 of a general hexagonal shape, said bar having longitudinally extending flanges 31 projecting from two opposite sides. In this form the flanges 31 are of the same shape as the flanges 13, of
10 Fig. 1, but said flanges 31 intersect the sides of the bar at substantially right angles leaving more abrupt grooves 32.

In Fig. 8 I show a bar 33 of the hexagonal type in which the longitudinal flanges 34
15 are formed along two oppositely disposed corners. In this form I show transverse ribs 35 extending over the flanges 34 and over the two sides of the bar adjacent to the flanges but these ribs are omitted from the sides of
20 the bar mid way between the flanges 34 and longitudinally extending grooves 36 are provided in said last mentioned sides.

Fig. 9 shows the invention applied to a bar 37 of diamond shape cross section, the
25 longitudinally extending flanges 38 being formed on the edges of the diamond in the plane of the major diagonal.

It will be noted that in all of the shapes illustrated I have provided on two opposite
30 sides of the bar the longitudinally extending flanges with the arcuate outer surfaces, convergent at their outer edge and forming

longitudinal grooves or channels where they intersect the main bar. It will also be noted that in all forms except that shown in Fig. 35 8 I have provided the transverse ribs extending continuously around the bars. These two features constitute the important parts of the invention.

The foregoing description and accompany- 40 ing drawings clearly disclose certain preferred embodiments of my invention but it will be understood that these disclosures are merely illustrative and that changes may be made within the scope and spirit of the 45 following claim.

What I claim is:

In a reinforcing bar, a main bar portion, continuous flanges extending longitudinally along opposite sides of said main bar portion, 50 said flanges having arcuate external surfaces that converge to a point at their extremities and said flanges having relatively wide base portions that form longitudinally extending grooves at the locations where said curved 55 surfaces intersect said main bar portion and continuous ribs arranged at intervals and each extending around said bar and over said flanges in transverse planes.

In witness whereof, I hereunto subscribe 60 my name this 11th day of September, A. D. 1926.

JOHN SHEEDY.