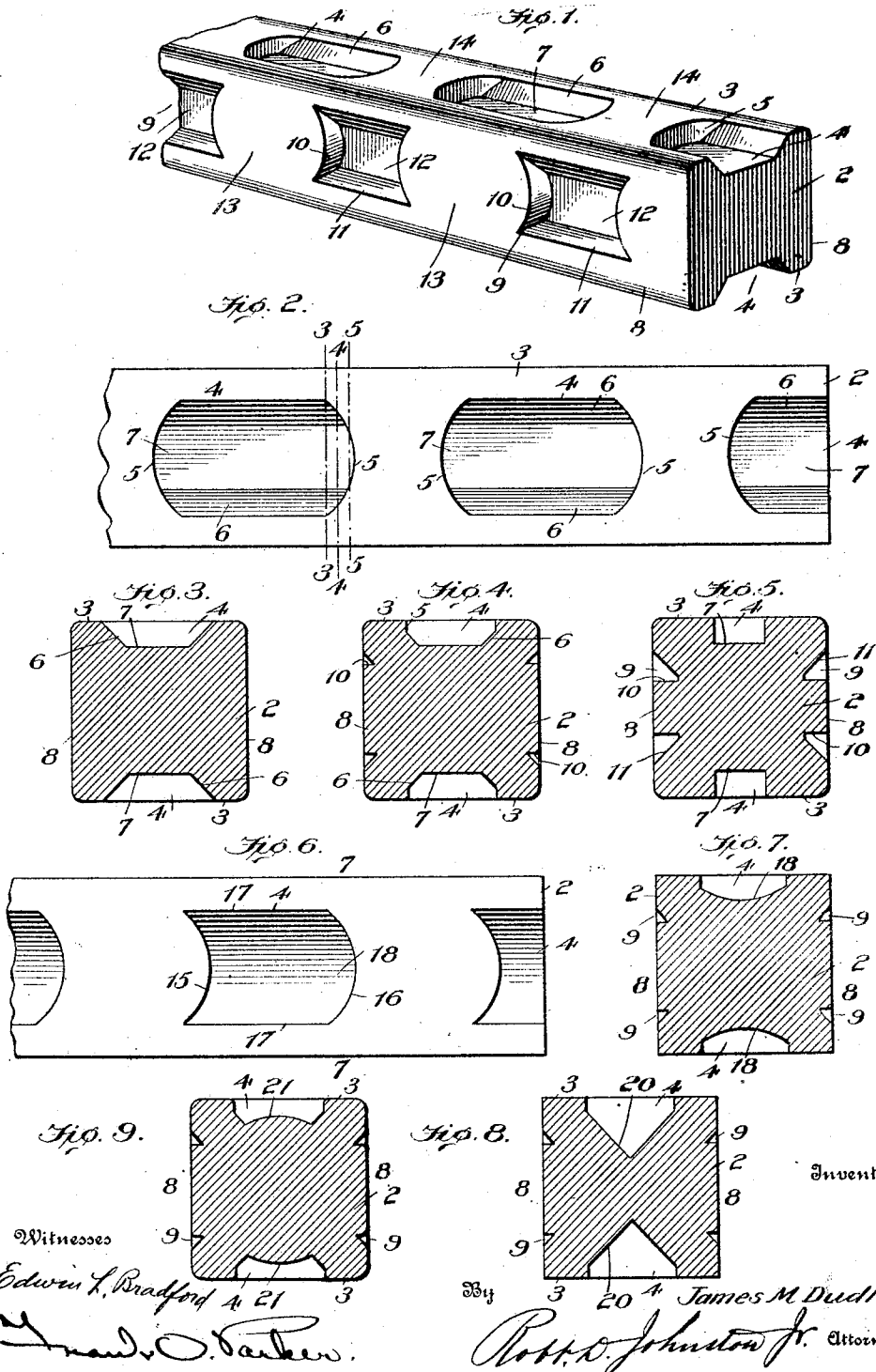


J. M. DUDLEY.
REINFORCING BAR FOR CONCRETE.
APPLICATION FILED JAN. 10, 1908.

931,185.

Patented Aug. 17, 1909.



UNITED STATES PATENT OFFICE.

JAMES M. DUDLEY, OF BESSEMER, ALABAMA.

REINFORCING-BAR FOR CONCRETE.

No. 931,185.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed January 10, 1908. Serial No. 410,127.

To all whom it may concern:

Be it known that I, JAMES M. DUDLEY, a citizen of the United States, residing at Bessemer, in the county of Jefferson and State of Alabama, have invented new and useful Improvements in Reinforcing-Bars for Concrete, of which the following is a specification.

The invention relates to reinforcing mediums and more particularly to the class of reinforcing bars or members for concrete and other masonry constructions.

The primary object of the invention is the provision of means, namely, these bars or members with depressions or indentations therein, so arranged that the cross sectional-area of the said bars or members is maintained absolutely uniform throughout the longitudinal extent of the latter.

Another object of the invention is the provision of a reinforcing bar or member for concrete and other constructions, having a minimum displacement of the metal in the said bar or member to produce a depression or depressions with a maximum resulting gripping area.

It is obvious with these objects in view the invention comprises a particular construction of reinforcing bar or member having therein indentations in one or more pairs of faces thereof and where the latter exist in one face the material displaced there is replaced in the adjacent face of the bar or member, which space is intermediate the indentations or depressions therein. In other words by providing spaced indentations or depressions in two faces and making the indentations or depressions in one face stand in a position relative to the spaces intermediate the indentations or depressions in the adjacent remaining face of the bar or member, thereby the latter is maintained at a uniform cross sectional area.

In the drawings and forming part of this specification I have shown in detail effective forms of the embodiment of the invention which, to enable those skilled in the art to practice the same, will be fully set forth in the following description, while the novelty of the invention will be included in the claim succeeding the said description.

In the drawings:—Figure 1, is an enlarged perspective view of a portion of the length of one form of the bar or member. Fig. 2, is a plan view thereof. Fig. 3, is a transverse sectional view on the line 3—3 of Fig. 2.

Fig. 4, is a similar view on the line 4—4. Fig. 5, is a similar view on the line 5—5. Fig. 6, is a plan view of a further modification of the invention. Fig. 7, is a transverse sectional view on the line of Fig. 6. Figs. 8 and 9, are transverse sectional views of still further modifications, showing slight variations in the formation of the depressions or indentations.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to Figs. 1 to 5, the numeral 2, designates a bar or member of any suitable material, though, preferably of metal, such as steel or iron, which is approximately rectangular in cross section, its edges being preferably rounded. In its faces 3, 3, are depressions 4, of elongated formation, and spaced from each other a suitable distance and disposed within marginal edges of the said faces 3, 3, of the bar. It is apparent that these indentations or depressions 4, in one face 3, are diametrically opposite in transverse planes the indentations or depressions 4, in the other face 3, of the bar or member. Each of the said depressions or indentations 4, in the faces 3, 3, respectively, is formed by outwardly curved opposite end walls 5, beveled opposite side walls 6, and a flat bottom 7, into which merge the end and side walls, as shown in the transverse section, Fig. 3.

In the faces 8, 8, of the bar 2, are depressions or indentations 9, which are formed by inwardly curved oppositely disposed end walls 10, beveled opposite side walls 11, and a flat bottom 12, into which merge the said side and end walls. Said depressions are adapted to form intermediate spaces as 13, which correspond in shape to the formation or contour of the indentations or depressions 4, in the adjacent faces 3, 3, respectively, of the bar. Likewise do the said depressions 4, produce spaces as 14, to correspond in shape to the formation or contour of the indentations or depressions 9, in the faces 8, 8, respectively, of the bar.

Particular attention is directed to the fact that in view of the position of all of the depressions or indentations they assume a staggered relation when traced in a spiral trend circumferentially of the bar, and this fact also applies to the relation of the intermediate spaces formed by said indentations or depressions.

The spaces 13, intermediate the indenta-

tions or depressions 9, in the faces 8, 8, are in such position as to occupy the same relative position as the diametrically adjacent indentations or depressions 4, in the faces 3, 3, of the bar; and it will be obvious that due to this relation the curved end walls 5, of the said depressions 4, are overlapped by the spaces 13, at their extremities in view of the relative position of the inwardly curved walls 10, of the indentations or depressions 9, and thereby effect a uniform area in cross sections, as shown in Figs. 3, 4, and 5.

In Fig. 6, I have shown a modified form of the invention, wherein is shown the bar or member 2, with the faces 3, 3, having therein depressions or indentations 4, the latter formed at one extremity with an inwardly curved wall 15, and the opposite extremity with an outwardly curved wall 16. Said depressions or indentations 4, having opposite straight side walls 17, with respect to the adjacent opposite sides of the bar, and which merge into a convex bottom 18. In the faces 8, 8, the indentations or depressions 4, are identical in formation or contour as the indentations or depressions in the faces 3, 3, however, they are positioned relative to the intermediate spaces 19, left undisturbed between the indentations or depressions 4, in the adjacent faces 3, 3, so that in cross sections throughout the bar 2, the curved extremities of the spaces 19, will overlap the indentations at their outwardly curved end walls 16, therefore, it is obvious that the bar is maintained at a substantially uniform area in cross section throughout its length, and its marginal edges are left wholly undisturbed.

In Fig. 8, is shown a variation in the formation of the indentations or depressions 4, wherein the bottom 20, is of V-shaped contour in cross section. Also in Fig. 9, the bottom of the indentations is convex as 21, in cross section, otherwise, the shape or formation of these indentations is identical

with those illustrated in Figs. 6, 7, and 8, in the drawings.

Though, I have described a bar with its four faces provided with indentations it is obvious that any two faces may be provided with correlated indentations and that the bar may have one or more of such pairs of correlated faces.

It is to be understood that I may make variations, modifications and changes as come properly within the scope of the claim hereunto appended, without departing from the spirit of the invention.

Having described the invention, what is claimed is:—

A reinforcing bar having a plurality of equi-distant alternating spaces and depressions in each face thereof throughout the length of the bar, said depressions being removed from the corners of the bar and wholly within the respective faces thereof to form unbroken continuous corners the entire length of said bar, the end walls of the spaces and depressions being reversely curved with respect to each other in adjacent faces of said bar to produce depressions of different formation in one face with respect to the adjacent face, the spaces between the depressions in each pair of diametrically opposite faces occupying the position of the depressions in the remaining pair of diametrically opposite faces and said spaces being of the same area and correspondingly shaped with respect to the depressions in the adjacent face, and in alinement with the said depressions, whereby the cross-sectional area of the bar is maintained constant.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES M. DUDLEY.

Witnesses:

HINDS PEEVEY,
R. D. JOHNSTON, Jr.