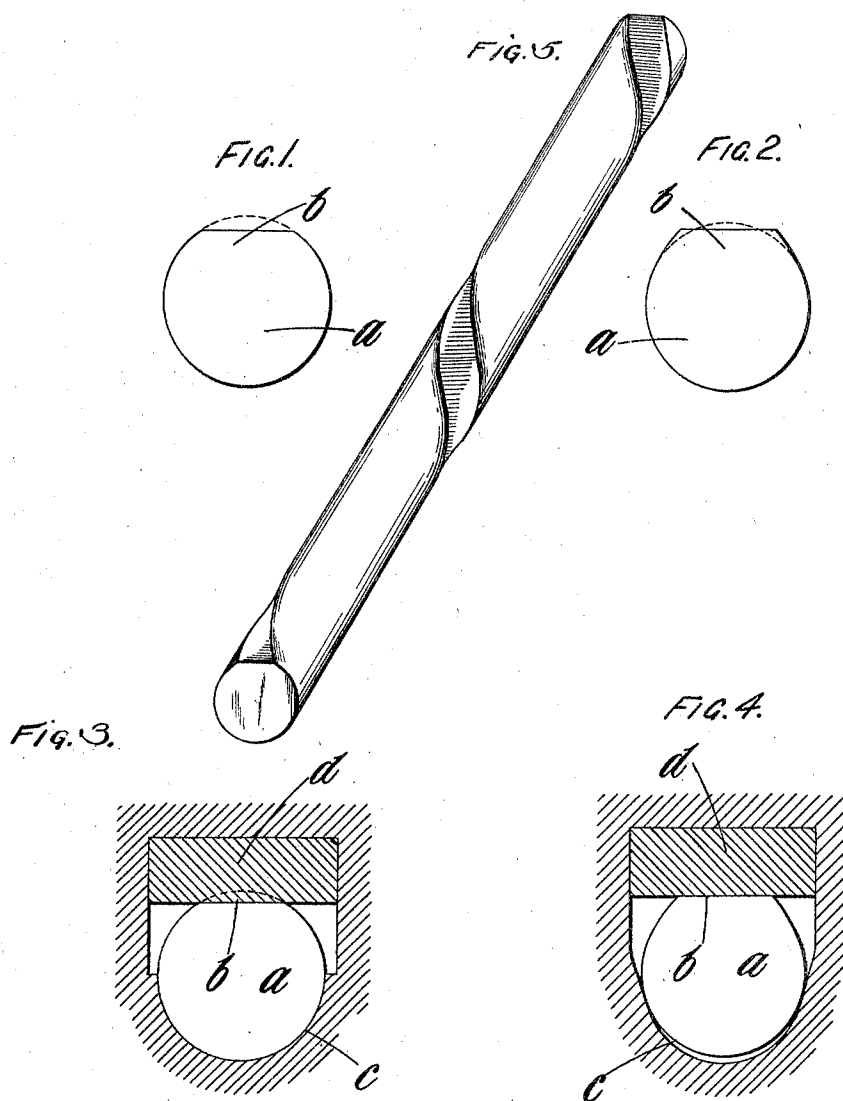


H. K. DYSON.
TWISTED METAL BAR FOR REINFORCED CONCRETE CONSTRUCTION.
APPLICATION FILED NOV. 16, 1920.

1,399,701.

Patented Dec. 6, 1921.



INVENTOR
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by *[Signature]* Atty.

UNITED STATES PATENT OFFICE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERBERT KEMPTON DYSON, a subject of the King of Great Britain, residing at 17 Warwick Square, Westminster, London, S. W. 1, England, have invented certain new and useful Improvements in Twisted Metal Bars for Reinforced Concrete Construction, of which the following is a specification.

10 This invention relates to twisted metal bars for use as reinforcement in concrete construction.

Twisted bars of square, triangular and other special forms possessing a plurality of flat surfaces or depressions have previously been proposed to serve as reinforcement in concrete construction. Experience and theoretical considerations have demonstrated the fact that the section of bar employed for this purpose should differ as little as possible from the circle; but it is necessary to provide some departure from the circular form in order that the twist of the bar may be readily detected.

25 In accordance with my invention I provide a section of bar consisting substantially of a circle provided with a single flat side, depression or protuberance. This has the advantage of securing a small departure from the circular form and of giving a form of section which enables the twisting operation readily to be performed after the rolling or drawing operation.

35 In the accompanying drawings which illustrate my invention Figures 1 and 2 illustrate two alternative forms of bar section in accordance with my invention; while Figs. 3 and 4 show alternative forms of gripping dies or chucks for performing the twisting operation. Fig. 5 is a perspective view of the bar section.

40 The section *a* shown in Fig. 1 is of circular form except for the flat side *b*, the center dimension of the section at right angles

to the chord is nearly equal to the diameter of the circle and the departure from the circular form is indicated by the dotted line. In the form shown in Fig. 2 the requisite width of the flat side *b* is obtained without so much diminution in depth of the section by allowing the metal to flow sidewise into the section shown, the initial circular form being indicated by the dotted lines.

In the gripping dies for the twisting operation illustrated in Fig. 3 the lower surface *c* of the die is of semi-circular or other circular arcuate form, and the bar is gripped against it by means of a key *d* provided with a suitable head to facilitate withdrawal.

In the form illustrated in Fig. 4, the lower die is of curved but not of circular contour giving contact at two points. This form has the advantage that it gives a better grip and that the same die can be employed for bars of slightly different diameter.

It is to be understood that the surface *b* need not be flat but may comprise any suitable single depression or protuberance, the lower surface of the key *d* being correspondingly contoured.

What I claim is:

1. A twisted metal bar for reinforced concrete construction having a cross sectional profile, consisting of a circular outline with a comparatively small interrupted portion of a non-conforming plane, the interrupted portion following a spiral line throughout the length of the bar.

2. A twisted metal bar having a transverse section of circular form interrupted by a flat portion of a limited chord length, the flat portion defining a spiral throughout the length of the bar.

In testimony whereof I affix my signature.

HERBERT KEMPTON DYSON.