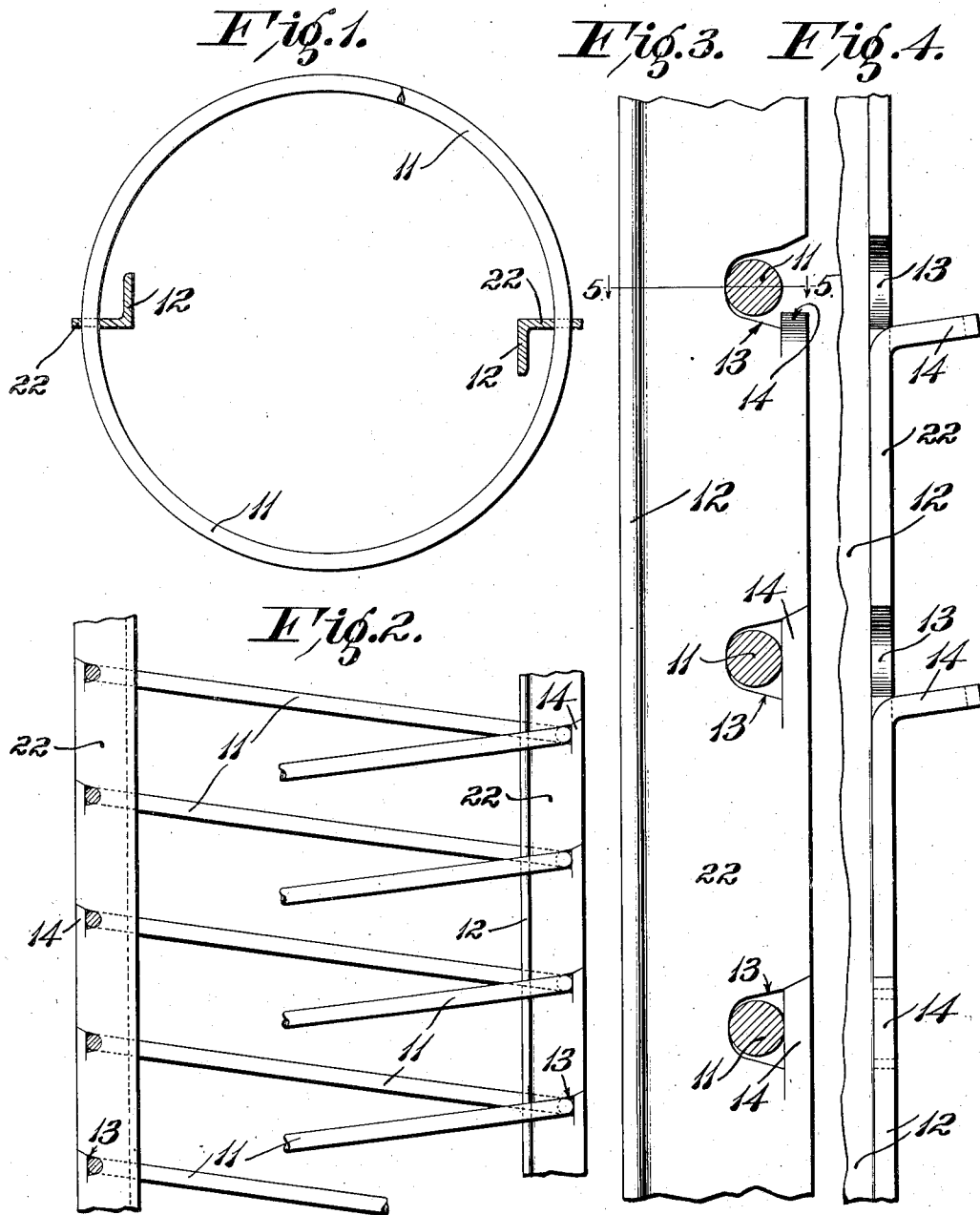


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APPLICATION FILED JAN. 25, 1911.

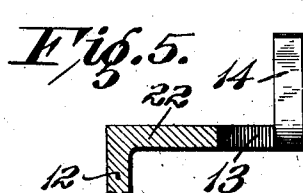
1,016,319.

Patented Feb. 6, 1912.

2 SHEETS—SHEET 1.



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Fig. 6.

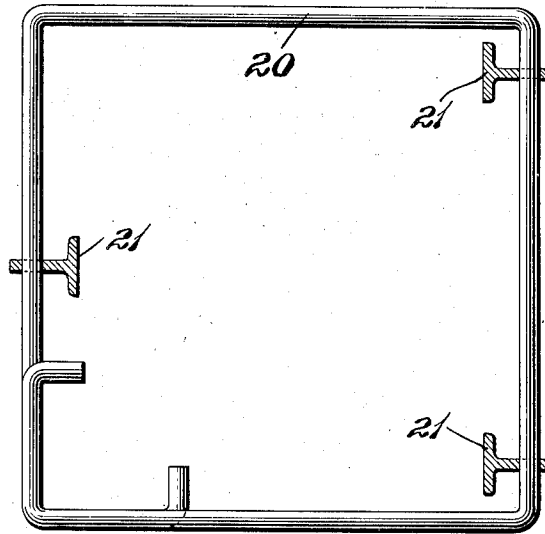
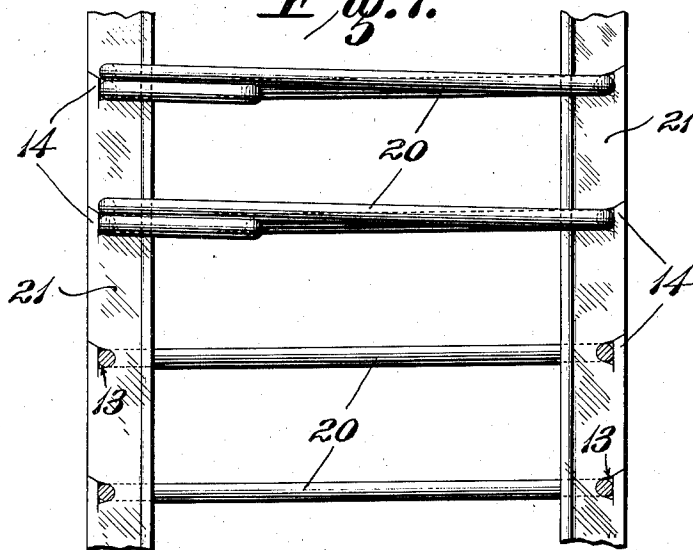


Fig. 7.



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UNITED STATES PATENT OFFICE.

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SPACING DEVICE FOR REINFORCING-RODS IN CONCRETE STRUCTURES.

1,016,319.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed January 25, 1911. Serial No. 604,686.

To all whom it may concern:

Be it known that I, WILLIAM H. BURK, a citizen of the United States, and a resident of the city of St. Louis and State of Missouri, have invented a new and useful Improvement in Spacing Devices for Reinforcing-Rods in Concrete Structures, of which the following is a specification.

My invention relates particularly to improvements in reinforced concrete columns, pipes, tanks or cylinders, but is applicable to any structure in which spiral reinforcement or a plurality of spaced parallel reinforcing bars is used.

The object of my invention is to provide a simple and efficacious means for securing the metal reinforcement in spaced relationship in the forms or molds preparatory to filling in the concrete in the process of erecting reinforced concrete columns and like structures.

Another object is to provide a secure and rigid mechanical connection between reinforcing rods and a metal spacing device.

A further object of my invention is the production of a spacing device formed from rolled stock of usual shape, such as the ordinary sizes of structural steel and merchant iron, as such stock can be easily and cheaply secured, and I also desire to produce a device which is suitable for transportation without being boxed or crated, and which can be shipped in standard sizes and lengths and cut up at the place of use to suit the work in hand.

Two embodiments of my invention accomplishing these objects are shown in the drawings accompanying this application, in which like numerals are used to designate like parts throughout the several views, and in which—

Figure 1 is a horizontal section through my spacing device used with a spiral reinforcing bar; Fig. 2 is a partial view partly in section and partly in elevation of the same; Fig. 3 is a partial side view of my spacing device showing horizontal bars inserted therein in section; Fig. 4 is a partial side view of my spacing device looking at the edge of the notched flange; Fig. 5 is a section on the line 5—5 in Fig. 3; Fig. 6 is a horizontal section through another form of my spacing device used with looped reinforcing rods; and Fig. 7 is a view in side

elevation of the same showing some of the loops in section.

In the form of my invention shown in Figs. 1 to 5, the spacing device comprises a commercial angle-bar 12 provided with notches 13 on the edge of one of the flanges 22 thereof, into which notches the coils 11 of spiral metal reinforce may be inserted to space the coils at the proper distances from each other. Two or more spacing devices may be used with each spiral reinforce, as may be found desirable, to properly space the coils and secure them rigidly in this spaced relationship. The reinforcing member thus made up is ready to be placed as a unit in the form, after which concrete may be placed about it to make up the column or other structure desired without liability of the reinforce being distorted or knocked out of place during the placing of the concrete.

Figs. 6 and 7 show a metal reinforcing unit for a square column or other structure, in which separate loops of metal 20 are held in spaced relationship by spacing devices 21 T-shaped in cross section. The object of using angle-bars, T's, or similar structural shapes is to give lateral stiffness to the spacing device that the assembled structures may not easily be distorted by the accidental bending of the spacing members. Such rolled commercial structural shapes are readily procured in the market and may be shipped uncrated without danger of being injured.

In order to form a secure connection between the spacing device and the metal reinforce with which it is used I have arranged adjacent the notches 13 prongs or tongues 14 which are stamped from the edge of the flange 22 and bent transversely to the flange in the operation of punching out the notches. These prongs 14 are bent nearly at right angles to the plane of the flange 22 and on the side thereof away from the other flange of the angle bar. After the loops 11 of the reinforce are inserted in the notches 13 these prongs 14 are easily bent back to close the open edge of the notch and secure the reinforce therein. This is done at the place of use either before or after the assembled reinforcing member is placed in the form. The spacing members are made up at the factory, away from the place of

use, in lengths convenient for shipment, tied in bundles, and shipped uncrated. At the place of use they can easily be cut to suitable lengths.

- 5 For convenience in shipping the spacing device shown in Figs. 1 to 5, made from angle-bars, the prongs 14 are bent away from the other flange of the angle-bar, so that looking at the end of the angle-bar the shape thereof is substantially that of a Z-
10 bar, as shown in Fig. 5. These bars are readily packed together with flanges and prongs arranged parallel to each other and thus packed may be tied together and
15 shipped without danger of the prongs being bent through rough handling, as the prongs will not project from the bundle so as readily to catch on adjacent objects. This particular form of spacing device thus lends
20 itself very readily to shipment uncrated without liability of damage to itself, or of inflicting any injury on those handling it.

While I have described specific forms of my spacing device, I do not wish to be limited thereto, but what I desire to secure and
25 protect by Letters Patent is as follows:

1. A spacing device for structural members comprising a longitudinal metal strip having a part projecting from one edge

thereof at an angle to the plane of the strip 30 and notches in the other edge thereof, and prongs having a length greater than their width adjacent said notches and projecting from said strip in an opposite direction to the part projecting from the other edge of 35 the strip, the lateral width of said prongs being not greater than the thickness of the part projecting from the opposite edge of the strip.

2. A spacing device for metal reinforce 40 comprising an angle-bar having spaced notches along the edge of a flange and flexible prongs integral with the flange and adjacent the notches, said prongs projecting at an angle to the plane of said flange, and 45 lying in a plane parallel to the other flange and on the side of the first named flange away from the other flange of the angle-bar, the length and lateral width of the prongs being not greater than the width 50 and thickness respectively of the opposite flange, whereby substantially a Z-shape section is formed.

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