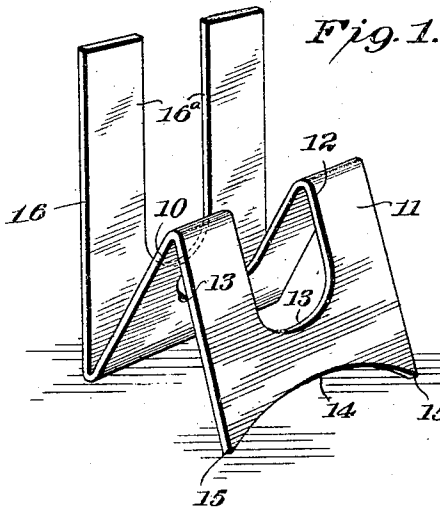
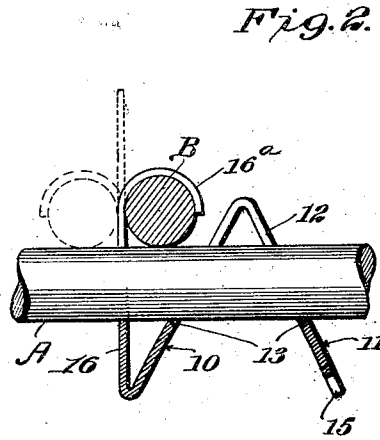
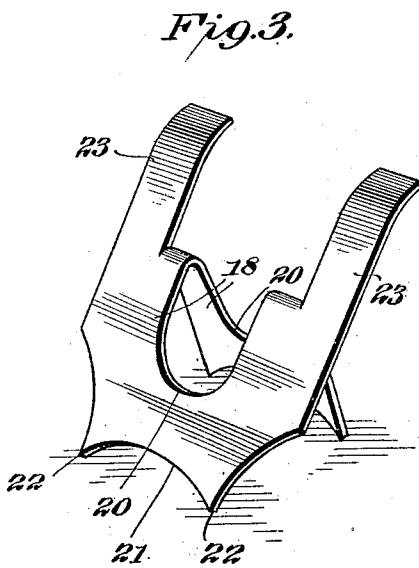
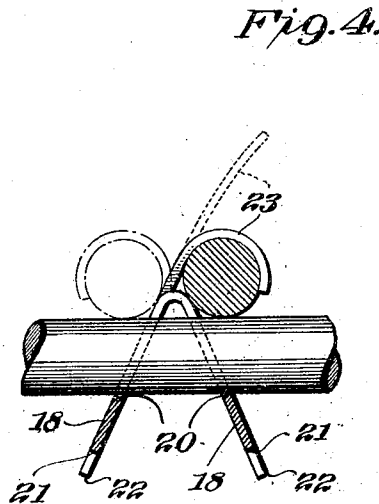


G. R. SCHOENTHALER,
SUPPORT AND TIE FOR CONCRETE REINFORCING BARS.
APPLICATION FILED APR. 4, 1913.

1,086,732.

Patented Feb. 10, 1914.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE R. SCHOENTHALER, OF CHICAGO, ILLINOIS.

SUPPORT AND TIE FOR CONCRETE-REINFORCING BARS.

1,086,732.

Specification of Letters Patent.

Patented Feb. 10, 1914.

Application filed April 4, 1913. Serial No. 758,837.

To all whom it may concern:

Be it known that I, GEORGE R. SCHOENTHALER, a citizen of the United States, residing at Chicago, county of Cook, Illinois, have invented a certain new and useful Improvement in Supports and Ties for Concrete-Reinforcing Bars, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates generally to reinforced concrete construction, and more particularly to a simple support and tie for the metal rods used in reinforcing concrete floors, ceilings and like structures.

My present invention relates to and is an improvement upon the support and tie disclosed in my pending application Serial #597,510, filed December 15, 1910.

In reinforcing concrete floor and ceiling construction it is desirable and in some instances essential that the reinforcing rods be supported in a plane above the temporary flooring or form upon which the concrete is laid, and it is the principal object of my invention to provide a simple, strong and inexpensive one-piece support which can be readily positioned on the temporary floor or form, and which will maintain the reinforcing rods a substantial distance above said floor or form while the plastic material is being poured or distributed thereupon.

Further objects of my invention are, to provide a simple, one-piece device particularly adapted for supporting and tying together reinforcing rods which are arranged substantially at right angles to each other, to form points on the base of the combined support and tie, which points are adapted to engage the temporary flooring in such a manner as to firmly hold the support and tie in place, and to form a support and tie with one or more upwardly projecting prongs or fingers which can be readily bent around one of the reinforcing rods, thereby practically tying said rod to the rod which is engaged and supported by the main body or base of the device.

With the above and other objects in view, my invention consists in certain novel features of construction and arrangement of parts hereinafter more fully described,

claimed and illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of a combined concrete reinforcing bar support and tie of my improved construction. Fig. 2 is a vertical section taken through the center of a device of my improved construction, and showing the same in position for supporting and tying together a pair of crossed concrete reinforcing bars. Fig. 3 is a perspective view of a modified form of the combined support and tie. Fig. 4 is a vertical section taken through the center of a modified form of support and tie, and showing a pair of crossed reinforcing bars supported and engaged thereby.

Referring particularly to the form of support and tie illustrated in Figs. 1 and 2 it will be noted that the support and tie is formed of a single piece of sheet metal, the main body portion of which is bent into inverted V-shape so as to form a pair of inclined legs 10 and 11, and the upper portions of these legs are slotted, as designated by 12. The ends of the slot 12 are preferably rounded, as designated by 13, in order to form seats for a reinforcing bar or rod A. The lower end of the leg 11 is notched or cut away, as designated by 14, which construction readily permits the concrete, while in plastic condition, to flow freely beneath the main body portion of said leg, and said construction also forms points 15 at the lower corners of said leg 11, which points tend to engage the temporary flooring or support upon which the floor or ceiling is formed, thereby anchoring the support and tie while the concrete is being poured onto said flooring around the reinforcing rods. Formed integral with the lower end of the leg 10 is an upwardly projecting leg 16, the upper portion of which is slotted to form a pair of prongs or projections 16^a which are adapted to be bent downward partially around a reinforcing rod B which is positioned on top of the rod or bar A, and arranged substantially at right angles thereto.

When a device constructed as just described is associated with a pair of crossed reinforcing rods, the lower rod A rests upon the seats 13 and passes through the slot in the plate 16, and the rod B occupies a position between the upper portion of the leg 10 and the prongs or fingers 16^a, although, if desired, said rod B can be arranged outside

the prongs or fingers 16^a, as shown by dotted lines in Fig. 2. When the upper ends of the prongs or fingers 16^a are bent downward to engage the rod B, the two rods are
 5 effectually tied together, and they are supported in a firm and substantial manner a suitable distance above the temporary flooring on which the floor or ceiling is formed. The rounded lower end of the slot in the
 10 plate 16 is in horizontal alinement with the seats 13 and thus the rod A rests at three different points on the support and tie.

In the construction illustrated in Figs. 3 and 4 the main body of the device comprises
 15 a rectangular plate of sheet metal bent into inverted V-shape to form a pair of inclined legs 18 and 19, the upper portions of said legs being slotted to form seats 20 for the lower one of a pair of crossed reinforcing
 20 rods, and the lower ends of the legs 18 are notched, as designated by 21, to form anchoring points 22, and for the purpose of permitting the plastic concrete to flow freely into the space between said legs. In this
 25 form of the device one of the legs 18 is made slightly wider than the opposite leg, and formed integral with the side portions of this wide leg is a pair of upwardly projecting prongs or fingers 23 which are adapted
 30 to be bent downward over the upper one of the reinforcing rods, as shown in Fig. 4, and which upper rod rests upon and occupies a position substantially at right angles to the lower rod, which latter rests upon the
 35 seats 20.

Combined supports and ties of my improved construction are simple, strong and durable, can be made in various sizes so as to accommodate reinforcing rods of different
 40 diameters, and said devices can be very cheaply produced inasmuch as they can be readily stamped from large sheets of metal, and bent into shape at the same time they are stamped out.

45 I do not desire to limit myself to the exact details of construction herein shown and de-

scribed, for obviously minor changes in size, form and construction may be resorted to without departing from the nature and principle of my invention, the scope of which is 50 set forth in the appended claims.

I claim:

1. A device of the class described comprising a metal plate bent transversely into V-shape so as to form a pair of inclined 55 legs, the upper portions of which legs are slotted to form a pair of oppositely disposed seats adapted to receive a reinforcing rod, means integral with one of the inclined legs and projecting upwardly 60 therefrom on opposite sides of the seat in said leg for engaging a second reinforcing rod which is arranged substantially at right angles to the first mentioned rod, and one of said legs being provided at its lower 65 end with a pair of points which are adapted to engage the surface on which the device is positioned.

2. A device of the class described comprising a metal plate bent transversely into 70 V-shape so as to form a pair of inclined legs, the upper portions of which legs are slotted to form a pair of oppositely disposed seats adapted to receive a reinforcing rod, means integral with one of the in- 75 clined legs and projecting upwardly therefrom on opposite sides of the seat in said leg for engaging a second reinforcing rod which is arranged substantially at right angles to the first mentioned rod, and the 80 lower end of one of said legs being notched to permit concrete to flow beneath said leg and also, to form a pair of anchoring points on said leg, which points engage the surface on which the device is positioned. 85

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 29th day of March, 1913.

GEORGE R. SCHOENTHALER.

Witnesses:

M. P. SMITH,
 M. A. HANDEL.