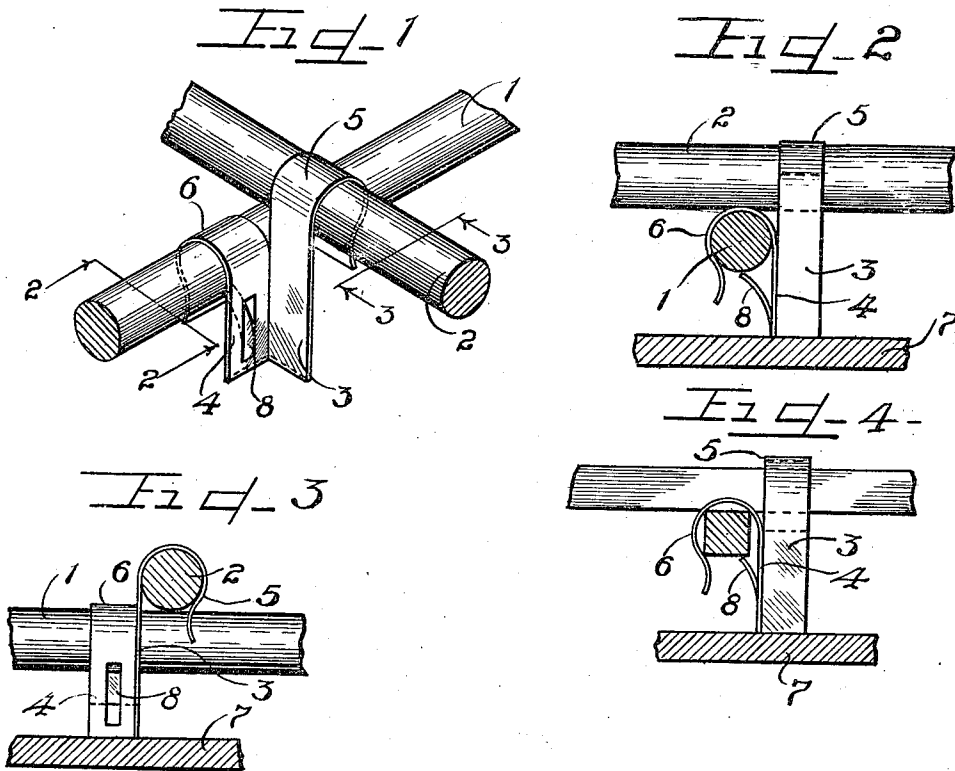


W. A. COLLINGS.
TIE OR CLIP FOR CONCRETE REINFORCEMENT MEMBERS.
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1,278,437.

Patented Sept. 10, 1918.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM A. COLLINGS, OF KANSAS CITY, MISSOURI.

TIE OR CLIP FOR CONCRETE-REINFORCEMENT MEMBERS.

1,278,437.

Specification of Letters Patent. Patented Sept. 10, 1918.

Application filed February 24, 1914. Serial No. 820,456.

To all whom it may concern:

Be it known that I, WILLIAM A. COLLINGS, a citizen of the United States, and a resident of Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Ties or Clips for Concrete-Reinforcement Members; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

Difficulty has often been experienced in the erection of concrete structures owing to the inconvenience and often times disability to properly dispose the reinforcing members in the forms. Generally it has been the custom to tie or lace the rods together by means of wires, but this is a tedious operation and often times unsatisfactory.

This invention relates to a tie or clip for concrete reinforcement members which frictionally engages said members to support the same in proper position in a form for a beam, floor or column, and permitting bonding of the concrete well around the reinforcement members when the concrete is poured into the form without displacement of said members.

It is an object of this invention to provide a tie or clip attachable to concrete reinforcing members to properly space said members within a form.

It is also an object of this invention to provide a tie or clip which may be clipped to reinforcing members to support and space the same properly disposed in a concrete form before the concrete is poured therein.

It is also an object of this invention to provide connecting and supporting means for the reinforcing bars of a concrete structure which serve to support and space a plurality of said bars within a form for the concrete before the concrete is introduced therein.

It is furthermore an object of this invention to construct a simple device of the class described constructed from sheet metal and resilient in its nature, permitting ready attachment thereof to reinforcement members and acting to hold the same properly spaced by frictional engagement therewith.

It is finally an object of this invention to provide a device simple in construction and

cheaply manufactured and to efficiently serve the purpose.

The invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

In the drawings:

Figure 1 is a fragmentary perspective view taken at the crossing points of two reinforcement bars showing the same attached together by a device embodying the principles of my invention.

Fig. 2 is a section taken on line 2—2 of Fig. 1.

Fig. 3 is a section taken on line 3—3 of Fig. 1.

Fig. 4 is a view similar to Fig. 2, showing my device used in connection with bars of square cross-section.

As shown in the drawings:

A longitudinal bar of circular cross-section may be denoted by the reference numeral 1, and lying closely adjacent thereto is a similar bar 2, extending at right angles thereto, or at any angle necessary for the purpose, depending upon the type of concrete structure to be erected. The means for spacing and supporting said bars in the form comprises a sheet of metal bent along a vertical axis to afford the integrally connected portions 3 and 4, respectively, the portion 3, being slightly longer and provided with a resilient hook 5, and the portion 4, having a similar hook 6, said hooks, of course, owing to the crease or bend between the respective portions, being disposed in different planes.

When the reinforcement bars 1 and 2, are clipped together in the manner shown they are supported upon the bottom 7, of the form, with the lower end of the ties or clips resting thereon. If it is desired to further insure the positive support of the lower longitudinal bar 1, in the tie or clip, a resilient tongue 8, may be struck inwardly from the portion 4, to engage beneath the rod 1, to prevent downward movement thereof from its retaining hook 6. Of course, owing to the resilient nature of said tongue 8, the hook may be readily clipped over the rod, and during the operation the tongue springs back to allow the rod to pass and then springs forwardly beneath the same. Inasmuch as the transverse rod 2, is above the rod 1, it may be supported thereon and only retained from movement by the hook 5.

Owing to the fact that the clip is constructed of resilient sheet metal it may be cheaply manufactured and obviously it is easily clipped over any reinforcement members which lie adjacent one another, serving to space said members as well as join the same together to prevent displacement thereof when the concrete is poured into the form.

10 I am aware that various details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

15 I claim as my invention:

1. In a device of the class described integral resilient portions of sheet metal disposed in different planes, hooks on the extremities of each thereof at different distances from the junction of said portions, and resilient means stamped outwardly from underneath the hooks of certain of said portions to engage a reinforcement rod and prevent the removal thereof from the hook portion.

2. In a device of the class described, a plurality of integrally connected hook members of different lengths, resilient means struck outwardly forming supporting means beneath the hook of the shorter of said members to receive the weight of a rod engaged in said hook, a flat bearing angular surface afforded at the lowest junction of the hook members to rest against the form in which the rods are disposed.

3. In a device of the class described, integrally connected hook members of different lengths disposed at an angle with one another, and an integral supporting member

for a rod engaged in the supporting end of the shorter of said hook members, said supporting member formed by cutting out a portion of the metal of the device.

4. In a device of the class described, connected resilient portions of sheet metal of different lengths disposed in different planes, hooks on the extremities of each thereof adapted to engage reinforcing rods disposed in different planes, and upwardly directed integral means struck outwardly from beneath the hook of the shorter portion of sheet metal adapted to support the lower one of said reinforcement rods.

5. A clip of the class described made from a single piece of sheet metal and embracing an angle support, and an outwardly and downwardly directed hook integrally formed on the upper end of each of the flanges of the angle support at different distances from the bottom of said angle support and at right angles with respect to one another.

6. A clip of the class described made from a single piece of sheet metal and embracing an angle support, and an outwardly and downwardly directed hook integrally formed on the upper end of each of the flanges of the angle support at different distances from the bottom of said angle support and at an angle with respect to one another.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

WILLIAM A. COLLINGS.

Witnesses:

CHARLES W. HILLS, Jr.,
FRANK K. HUDSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."