

A. E. DAVIS.
 DEVICE FOR POSITIONING RODS IN CONCRETE STRUCTURE.
 APPLICATION FILED MAR. 16, 1912.

1,063,663.

Patented June 3, 1913.

Fig. 1.

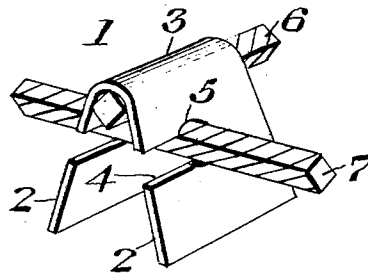


Fig. 2.

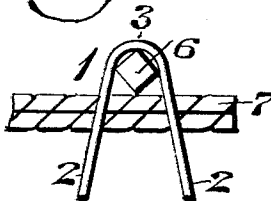


Fig. 3.

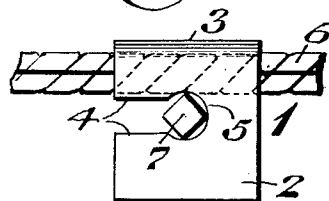


Fig. 5.

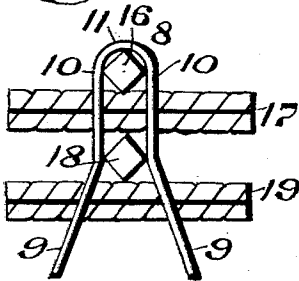


Fig. 6.

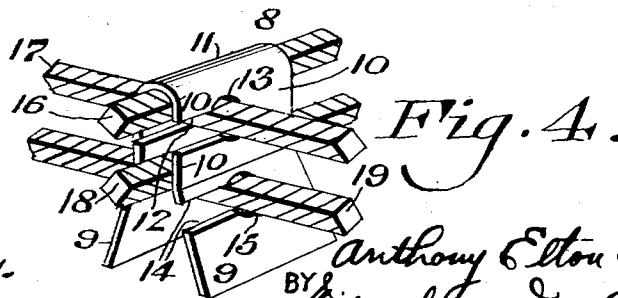
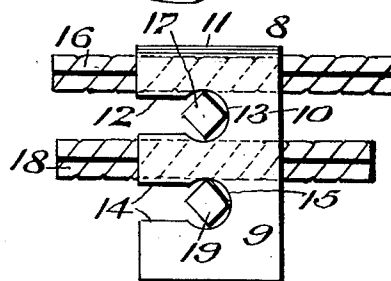


Fig. 4.

WITNESSES

P. F. Nagle.
 L. Douville.

INVENTOR

Anthony Elton Davis.
 BY Hodderstein & Gairbanks.

ATTORNEYS

UNITED STATES PATENT OFFICE.

ANTHONY ELTON DAVIS, OF PHILADELPHIA, PENNSYLVANIA.

DEVICE FOR POSITIONING RODS IN CONCRETE STRUCTURE.

1,063,663.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed March 16, 1912. Serial No. 684,092.

To all whom it may concern:

Be it known that I, ANTHONY ELTON DAVIS, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Device for Positioning Rods in Concrete Structures, of which the following is a specification.

My invention consists of a novel construction of a device or retainer for positioning reinforcing rods in concrete construction, whereby said rods are readily arranged and retained in their proper relative positions in respect to each other, preparatory to placing the cement or concrete around them, means being also provided for keeping said rods up out of contact with the form or mold which may be employed, so that in the finished structure, my novel device and the rods positioned thereby will be completely embedded in the concrete.

In carrying out my invention, I employ a U or V-shaped device or retainer made preferably of a springy or resilient material having a recess or recesses slightly larger than the rod or rods employed, which latter pass through the device and are located or locked in said recesses, so that when said rods are positioned in the device, the resiliency of the material of which the device is composed will cause the lower rod or rods to press or bear upon the upper rod or rods, while the upper rod in turn is pressed against or into contact with the top of the device.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating my invention, I have shown in the accompanying drawings one form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a perspective view of a device for positioning reinforcing rods embodying my invention. Fig. 2 represents an end view of Fig. 1. Fig. 3 represents a side view of Fig. 2. Fig. 4 represents a perspective view of another embodiment of my invention, wherein two pairs of rods are shown

in position with respect to each other, preparatory to applying the cement or concrete thereto. Fig. 5 represents an end view of Fig. 4. Fig. 6 represents a side elevation of Fig. 5.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings: 1 designates my novel device for positioning reinforcing rods, the same consisting of a U or V-shaped member or stirrup having the side portions 2, which are joined by the portion 3, which may be flat, curved or V-shaped, the said side portions or walls 2 each having therein a recess 4 therein, the inner terminal of which is preferably slightly enlarged or rounded, as indicated at 5, said recess simulating a keyhole slot.

6 designates the upper reinforcing rod in assembled position with respect to the device 1, and 7 designates the lower reinforcing rod extending, in the present instance, transversely thereto, it being apparent that when the rods 6 and 7 are assembled, the resiliency of the members 2 causes the lower rod 7 to press or bear on the upper rod 6, the terminals 5 of the recesses 4 being preferably of such area that the top edge or portion of the lower rod 7 contacts with the bottom portion of the upper rod 6, while the latter will be caused to bear or press against the under side of the top 3 of the device, when the parts are assembled.

In the construction shown in Figs. 4, 5 and 6, I have shown the broad principle of my invention as applied to a retainer or device 8, wherein the lower portion of the walls 9 preferably diverge outwardly and at their upper portion meet the preferably substantially parallel walls 10, which are joined by the portion 11, which may be flat, bent or curved. In place of the single recess 4 in each wall, as seen in Figs. 1, 2 and 3, I employ an upper recess 12, whose inner terminals 13 are preferably curved or widened, while below the recesses 12 are the substantially parallel or similar recesses 14, whose inner portions or terminals are curved or widened, as indicated at 15. When the rods 16, 17, 18 and 19 are assembled, as will be understood from Figs. 4 to 6, inclusive, it will be seen that by reason of the construction of the recesses 12 and 14 and the arrangement of the enlarged portions 13 and 15 thereof respectively, the lower rod 19 will bear against the bottom portion of the rod

next above it, 18, while the top of the rod 18 will bear against the bottom of the rod 17, and the top of the rod 17 will bear against the bottom of the upper rod 16, the top of the latter contacting with the under side of the portion 11, whereby all the rods will be arranged and retained in their proper relative position, and will be kept up out of contact with the form or mold so that the rods and their retainer 8 will be completely embedded in the cement or concrete when the finished structure is completed.

It will be apparent that I may employ as many of the devices 1 or 8 as may be necessary, and that said devices 1 or 8 may be constructed out of any suitable resilient or springy material, which will have the effect of keeping the contacting edges of the assembled rods in the desired position preparatory to applying the cement or concrete thereto, and when the structure is completed by the application of concrete thereto, the rods and the positioning device 1 or 8 will be completely embedded and sealed within the concrete.

It will be apparent that without departing from the spirit of my invention, I may make the device 1 or 8 of V shape or more nearly U-shaped, but in practice, I prefer to have the lower portion of the members 2 or 9 slightly flare outwardly or diverge, substantially as shown, but I do not desire to be limited to the precise construction I have shown in every instance, as it will be apparent that various modifications may be made by those skilled in the art, which will come within the scope of my invention.

It will now be apparent that I have devised a novel and useful construction of a device for positioning rods in concrete structure, which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. As an improved article of manufacture, a device for positioning reinforcing rods comprising a plurality of walls joined together by a looped portion, each wall having a recess therein terminating in an enlarged opening, in combination with a rod of rectangular cross section traversing said openings and having a diagonal dimension greater than the width of said recess, a second rod, between said looped portion and

said first rod and having a diagonal dimension substantially equal to the distance between a corner of said first rod and said looped portion whereby said second rod is locked in operative position by wedging action created by a partial rotation of said first rod.

2. A device for positioning reinforcing rods, comprising a reinforcing bar, a stirrup adapted to straddle and seat on said reinforcing bar, diverging side walls forming a part of said stirrup, each of said walls having a keyhole slot therein, a transversely disposed reinforcing rod of rectangular cross section traversing said slots and having a diagonal dimension greater than the width of the narrow portion of said slot, said reinforcing bar having a diagonal dimension substantially equal to the distance between a corner of said transverse rod and said stirrup and said transverse rod being adapted to be partially rotated to engage a corner of said reinforcing bar thereby creating a wedging action to lock said bar and rod in operative position.

3. As an improved article of manufacture, a device for positioning reinforcing rods comprising a U-shaped member having substantially parallel upper walls and outwardly flaring lower terminals, a plurality of recesses 12 located in said upper walls, a plurality of recesses 14 located in said terminals, said recesses 12 and 14 each terminating in an enlarged opening, reinforcing rods 17 and 19 of rectangular cross section adapted to respectively traverse a pair of said openings, said rods being arranged in superposed relation and each having a diagonal dimension greater than the width of its respective recess, a pair of reinforcing rods 16 and 18 straddled by said U-shaped member, said rod 16 being located between said member and said rod 17 and in contact relation with said member and said rod 17, said rod 18 being located between said rods 17 and 19 and in contact relation with said rods 17 and 18, all of said rods being locked in operative position by partial rotation of said rods 17 and 19 to bring the same to diagonal position to create a wedging action.

4. As an improved article of manufacture, a device for positioning reinforcing rods comprising a U-shaped member having outwardly flaring lower terminals, a plurality of recesses 12 and 14 in each of said walls extending inwardly from the edges of said wall and terminating in an enlarged opening, polygonal reinforcing rods 17 and 19 arranged in parallel relation and respectively traversing said openings, said rods having a diagonal dimension greater than the width of the respective recess, a polygonal reinforcing rod 18 straddled by said device and having a diagonal dimension sub-

stantially equal to the distance between juxtaposed corners of said rods 17 and 19, and a polygonal rod 16 above said rod 17 and straddled by said device, said rod 16 having
5 a diagonal dimension substantially equal to the distance between a corner of the rod 17 and said U-shaped member and said rods 17 and 19 being adapted to be partially rotated into engagement respectively with

said rods 16 and 18, whereby all of said 10 rods are locked in operative position by a wedging action created by the diagonal positioning of said rods 17 and 19.

ANTHONY ELTON DAVIS.

Witnesses:

E. HAYWARD FAIRBANKS,
C. D. McVAY.