

W. H. BURK.
 SPACING DEVICE FOR REINFORCING BARS.
 APPLICATION FILED AUG. 3, 1911. RENEWED AUG. 29, 1912.

1,043,200.

Patented Nov. 5, 1912.

2 SHEETS-SHEET 1

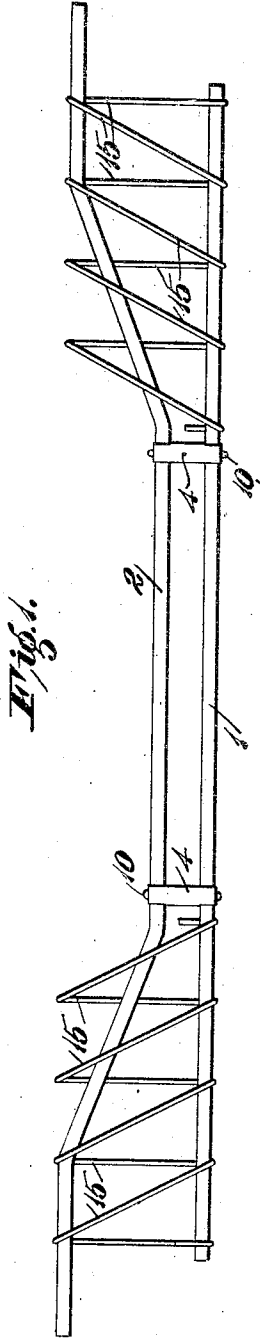


Fig. 1.

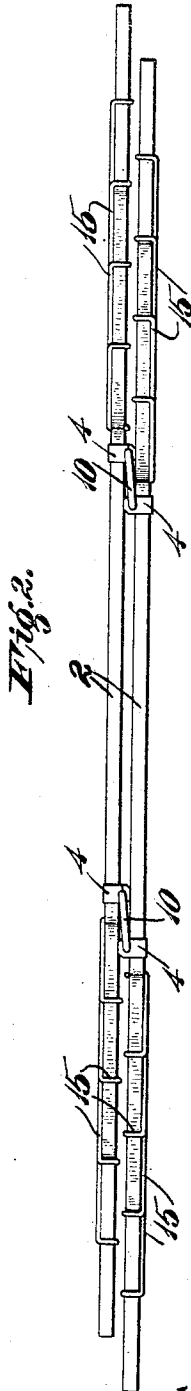


Fig. 2.

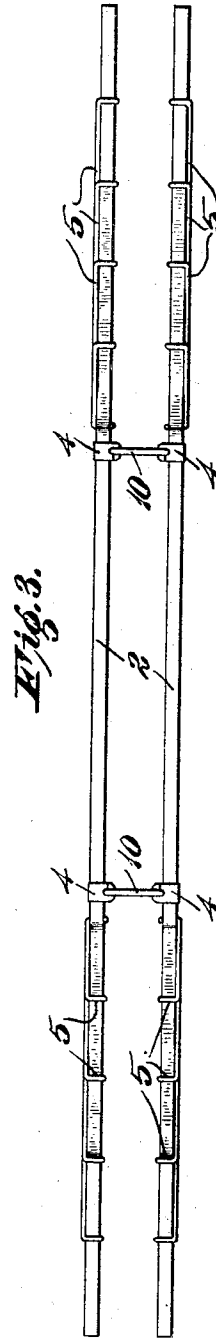


Fig. 3.

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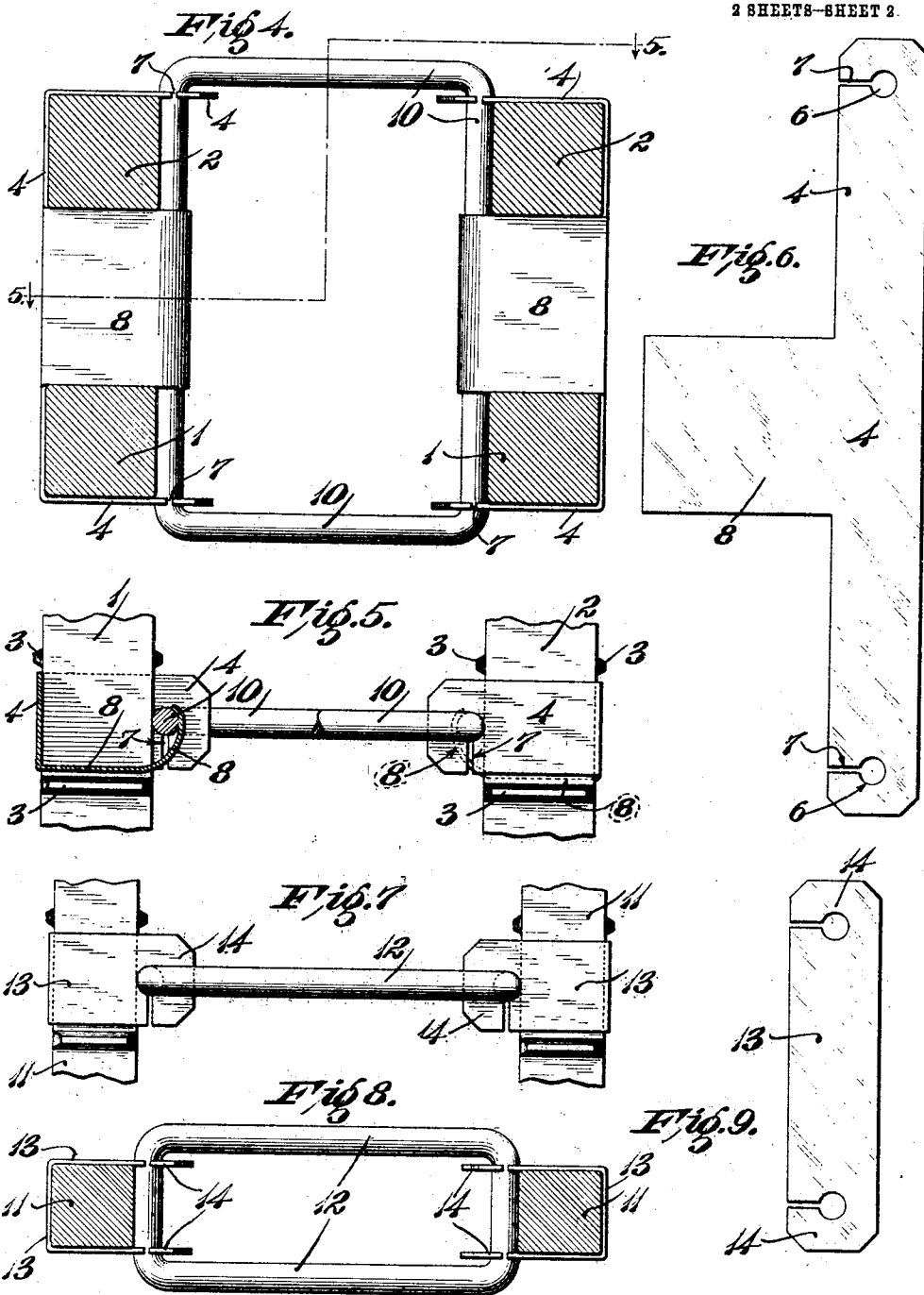
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Witnesses:
Edgar T. Farmer,
Attest: Alvin C. Colcomb

Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM H. BURK, OF ST. LOUIS, MISSOURI, ASSIGNOR TO CORRUGATED BAR COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

SPACING DEVICE FOR REINFORCING-BARS.

1,043,200.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Original application filed June 17, 1910, Serial No. 567,347. Divided and this application filed August 3, 1911, Serial No. 642,173. Renewed August 29, 1912. Serial No. 717,737.

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-Bars, (illustrated and described, but not claimed, in my application, Serial No. 567,347, filed June 17, 1910, of which application this one is a divisional part,) of which invention the following is a specification.

In the construction of reinforced concrete beams and like structures it is the common practice to position the several bars or other reinforcing members individually at the work; and with unskilled workmen and unfavorable conditions at the work, the actual positions of the reinforcing members are liable to vary from the positions they are designed to occupy. On the other hand, if the reinforcing members are assembled at the factory, in proper relation to each other, they are liable to be bent or to be shifted with relation to each other before reaching the work.

The principal object of the present invention is to provide for the assembling of the reinforcing members into a unitary frame which will minimize the risk of having its members distorted or unintentionally shifted in relation to each other during shipment.

Another object is to make the distance between the side members easily adjustable and to facilitate the spacing of one unit frame from another.

I carry out these objects by connecting the side members of the frame together by links, or frame spacing members, that will permit such side members to come together, these links being pivotally mounted on the spacing clips or distance pieces which serve to position the main reinforcing members at the respective sides of the frame, my invention residing in the arrangement of these spacing clips and the pivotal connection of the links therewith, as hereinafter described.

In the drawings accompanying this specification and forming a part thereof, and in which like parts are designated by like characters throughout the several views,—Figure 1 is a side elevation of a reinforcing frame embodying my invention; Fig. 2 is a top plan view of the same, showing the

frame in collapsed condition; Fig. 3 is a top plan view of the same, showing the frame in open position; Fig. 4 is an enlarged transverse vertical section through the frame in open position, showing a spacing clip and link in elevation; Fig. 5 is a section on the line 5—5 of Fig. 4; Fig. 6 is a plan view of the blank from which my improved spacing clip is formed; Fig. 7 is a top plan view of a portion of a reinforcing frame showing the clips and link on an enlarged scale; Fig. 8 is a section on the line 8—8 of Fig. 7, showing the spacing clips and link in elevation; and Fig. 9 is a plan view of the blank from which the spacing clip shown in Fig. 8 is formed.

In the construction illustrated in Figs. 1 to 5, inclusive, the main reinforcing members are framed together in two groups, each of which constitutes a side of a collapsible unit frame. In this construction, the primary reinforcing members of each side comprise a straight horizontal bar 1 at the bottom and a second bar 2 located above it, both of which are preferably corrugated to provide transverse ribs 3 (see Fig. 5). The middle portion of the second bar is parallel with the first mentioned bar but, at each end of said middle portion, said second bar inclines upwardly and thence extends horizontally to each end, in conformity with the common practice; and the ends of said second or upper bar are preferably carried some distance beyond the ends of the bottom bar. The two bars thus constituting the primary reinforcing members of a side of the unit frame are firmly held together by suitable spacing clips or distance pieces 4, preferably of the kind hereinafter more fully described. The respective side frames constituting the primary reinforce, in practice, support groups of secondary reinforcing members or loops 15, whose principal function is to take care of the shearing stresses and diagonal tension stresses in the beam. The side frames or members of the complete unit frame are connected together by horizontal spacing members 10, consisting of links formed of wire loops, which links are pivotally secured to the spacing clips 4.

Referring to Figs. 4, 5 and 6, the spacing clip 4 comprises a sheet metal blank whose opposite end portions are perforated, as at

6, and slitted, as at 7, and are bent over the outer sides of the respective bars 1, 2, so that the slitted and perforated end portions project beyond the inner sides of the bars in parallel planes that the links 10 may be positioned therein. The slit 7 enables the adjacent tongue formed thereby to be sprung sufficiently to insert the link 10 in the perforation 6, where it is pivotally secured.

10 The middle portion of the spacing clip or distance piece 4 is extended laterally, and this portion 8 is bent inwardly to provide a rigid strut between the bars 1, 2. The inner end portion 9 of this strut is bent around the adjacent side of the rectangular link 10, forming an additional securing means therefor.

As shown in Figs. 7 and 8 the collapsible frame comprises single bar side members 11 connected by links 12 similar to the link 10. The securing clips 13 are formed from a sheet metal blank of the form shown in Fig. 9, and have perforated and slitted ends 14 adapted to be folded over the top and bottom of the bar, similar to the clips 4. The ends of the links 12 are pivotally secured in the projecting end portions 14 in the manner already described in connection with the clips 4 and links 10.

While the foregoing description relates to unit frames having either single or double side members, it is obvious that the invention may be embodied in a unit frame having any number of parallel frames or side members. So, too, it is obvious that it is not necessary that the parallel frames or members should be counterparts of each other.

What I claim is:

40 1. A collapsible reinforcing frame comprising parallel reinforcing members each consisting of reinforcing bars framed together, clips secured to said members, and links pivotally mounted on said clips and connecting adjacent reinforcing members, said clips comprising sheet metal straps which are bent around said reinforcing members and have their opposite end portions projected inwardly from said reinforcing members, said end portions being perforated to receive the ends of said links.

55 2. A collapsible reinforcing frame comprising parallel reinforcing side frames each comprising upper and lower members, clips connecting said side frame members, and links pivotally mounted on said clips and

connecting adjacent reinforcing frames, said clips comprising sheet metal straps which are bent around said reinforcing members and have their opposite end portions projected inwardly from said reinforcing members, said end portions being perforated to receive the ends of said links, and intermediate portions of said clips projecting between said side frame members.

3. A collapsible reinforcing unit frame comprising parallel reinforcing members and rigid parallel links connecting said reinforcing members and adapted to hold the same in position, said links comprising rectangular wire frames, and clips comprising sheet metal straps which are bent around said reinforcing members and having their opposite end portions projecting inwardly from said parallel reinforcing members and perforated in alignment to receive the sides of said links and the end portions of said clips being slitted transversely from one side to the perforations therein.

4. A collapsible reinforcing unit frame comprising members arranged to form vertical side frames and rigid rectangular wire links pivotally connecting said side frames together, and adapted to hold the same in position, and clips adapted to hold the members of the respective side frames in proper relation to each other, said clips comprising a sheet metal blank whose opposite end portions are bent around the adjacent reinforcing members, and having an intermediate portion which is turned inwardly between the reinforcing members and curled around the adjacent vertical side of the respective links.

5. A collapsible reinforcing unit frame comprising parallel reinforcing members each consisting of reinforcing bars framed together, spacing clips secured to said reinforcing members, said spacing clips having intermediate portions between said reinforcing bars and end portions embracing said reinforcing bars, and rigid links pivoted at their opposite ends to said spacing clips, said links comprising portions adapted to engage in the end portions of said clips.

Signed at St. Louis, Mo., this 31st day of July, 1911.

WILLIAM H. BURK.

Witnesses:

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ALBERT E. CROISSANT.