

No. 813,303.

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E. B. JARVIS.
REINFORCING TRUSS FOR CONCRETE.

APPLICATION FILED JAN. 13, 1905.

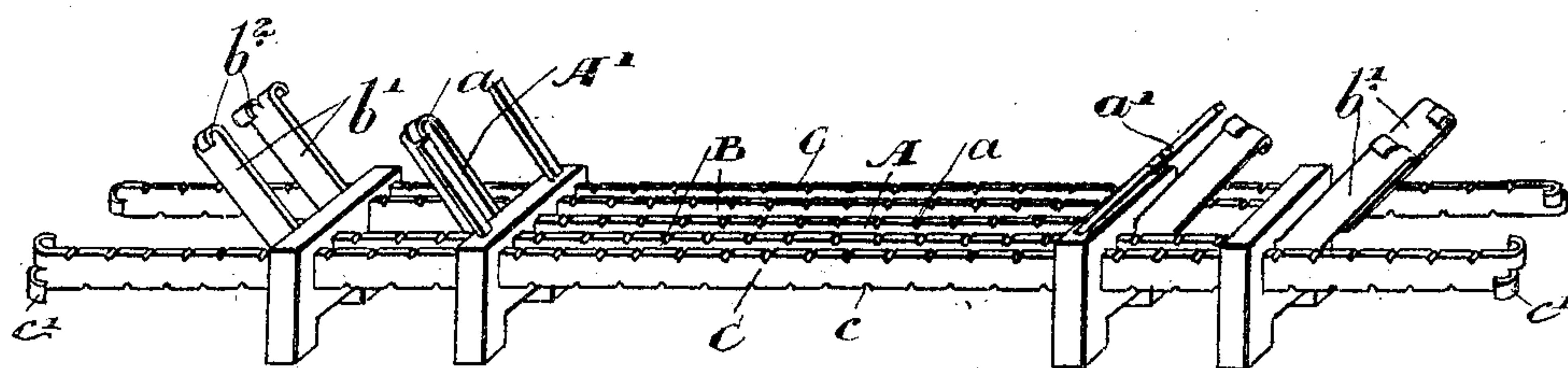


Fig. 1.

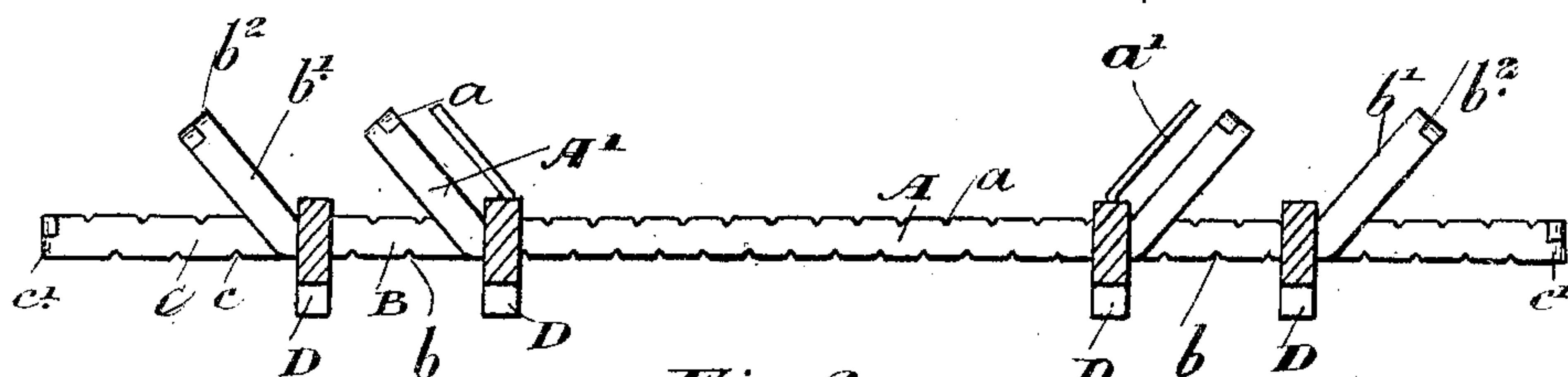


Fig. 2.

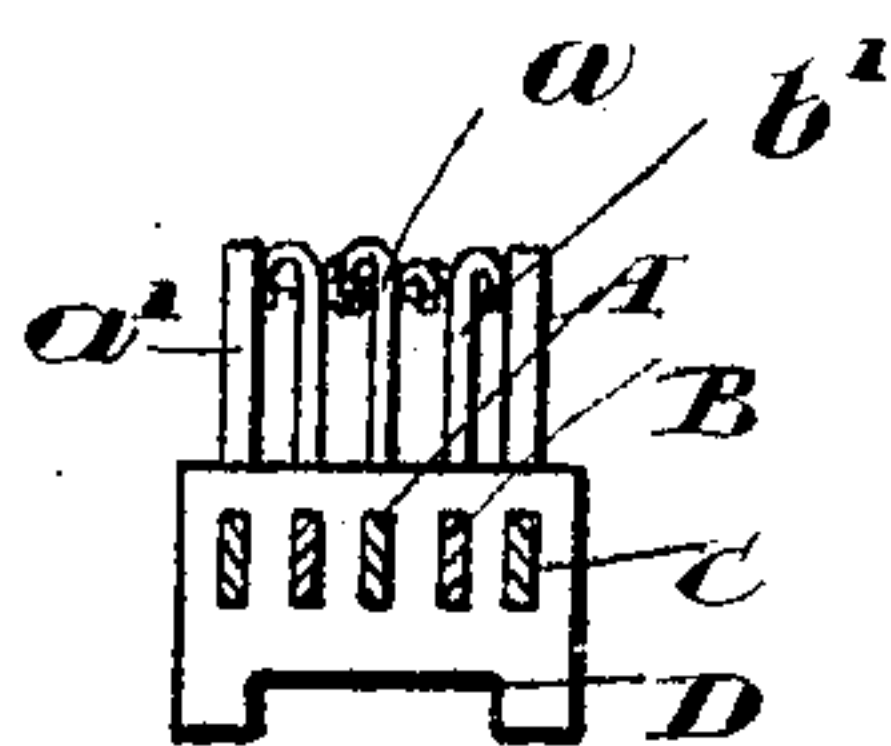


Fig. 3.

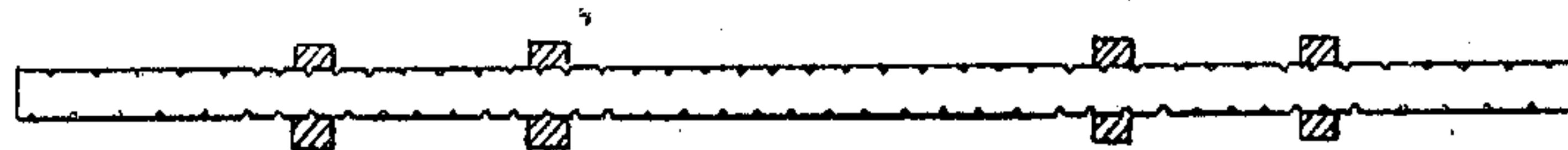


Fig. 4.

Witnesses.

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REINFORCING-TRUSS FOR CONCRETE.

No. 813,303.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDGAR BEAUMONT JARVIS, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Reinforcing-Trusses for Concrete, of which the following is a specification.

My invention relates to improvements in reinforcing-trusses for concrete; and the object of the invention is to devise a simple, strong, and efficient truss to be used in concrete beams which will take up the tensile and shearing strains and which may be readily embedded intimately in the concrete; and it consists, essentially, of a truss formed of a series of bars set side by side and having obliquely-shaped ends provided with curled terminal lips, the shortest bar being located in the center of the width and length and the longer arranged in pairs on each side of the central bar and having the ends projecting equidistant from the ends of such bar, and clamps molded so as to extend across and around the bars to hold them separated from and yet locked in relation to each other, the said truss being otherwise arranged and constructed in detail as hereinafter more particularly explained.

Figure 1 is a perspective view of my improved truss for cementitious bodies. Fig. 2 is a longitudinal section through the truss at one side of the central bar. Fig. 3 is a cross-section. Fig. 4 is a detail of a single bar.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the central bar, which is preferably made with nicks *a* in the edges thereof and particularly in the horizontal portion. The bar A is set edgewise in the cement in the beam—that is to say, with the narrowest portion at the top and bottom—and is provided with obliquely-shaped ends *A'*, having the curled terminal lips *a'* extending equally on each side of the bar, being divided centrally of the width of the bar.

B B are a pair of bars located one on each side of the bar A and separated a slight distance therefrom and provided with nicks *b* in the edges, the obliquely-shaped ends *b'*, and the curled terminal lips *b²*, and C C are a pair of bars provided with nicks *c* in the edges and curled lips *c'* at the ends, the bars C being separated from end to end, as indicated. The bars C C are located to the outside of the bars B B.

All the bars A, B, and C are held separated

from each other by the clamps D, which are molded around the bars, as indicated in the drawings, the bars being temporarily held together in their proper position and set in the molds, so that the metal will flow into the mold around the bars. It will thus be seen that the bars will be held securely together. The molds are preferably placed close to the obliquely-shaped ends.

In my truss the clamps D extend at a greater distance below the bottom than the top of the bars in order to hold the bars well clear of the bottom of the concrete beam. In molding the clamps D it will be seen that they will be held securely from longitudinal displacement in the bars by the metal extending into the nicks *a*, *b*, and *c*. When the clamps are placed close to the obliquely-shaped ends, they are necessarily, of course, prevented from longitudinal displacement in the one direction, but even if they are not so placed the nicks will hold them from longitudinal displacement on account of the metal running into the nicks. As the bars are placed edgewise and the clamps securely hold them in such position, it will be understood that I have produced a truss which with the obliquely-shaped end is capable of resisting a maximum tensile and shearing strain. In order to further take up the shearing strain, I preferably utilize obliquely-set bars *a'* in the blocks D, such bars being inserted in the mold and the block or clamp cast around them.

I may in some forms of truss simply use a bar or a plurality of bars with blocks cast around them at desired distances apart and dispense with the obliquely setting of the ends of the bars. In fact, I may cast the blocks obliquely-set extending upper end.

Of course I do not wish to limit myself to the cross-sectional form of the bar, which may be changed to either a square, round, or other suitable cross-sectional form.

I preferably cast the blocks D with lugs *d*, so that the tensile strength of the concrete will be reinforced to a minimum extent below the bottom of the bars.

What I claim as my invention is—

1. In a truss for concrete beams and the like, the combination with the central bar provided with obliquely-set ends, of the side bars provided with obliquely-set ends and located on each side and extending beyond each end of the central bar, perforated clamps

permanently carried by the bars and through which the bars extend for holding the bars separated and from lateral and longitudinal displacement as and for the purpose specified.

2. In a truss for concrete beams and the like, the combination with the central bar provided with obliquely-set ends, of the side bars provided with obliquely-set ends and located on each side and extending beyond the central bar, and clamps molded onto the bars and designed to hold them separated and from lateral and longitudinal displacement said molded clamps extending transversely of the side bars and central bar and forming the sole connection between them as and for the purpose specified.

3. In a truss for concrete beams and the like, the combination with the central bar provided with obliquely-set ends, of the side bars provided with obliquely-set ends and located on each side and extending beyond each end of the central bar, and clamps molded onto the bars and obliquely-shaped ends and designed to hold them separated and from lateral longitudinal displacement said molded clamps extending transversely of the side bars and central bar and forming the sole connection between them as and for the purpose specified.

4. In a truss for concrete beams and the like, the combination with the central bar provided with obliquely-set ends, of the side bars provided with obliquely-set ends and located on each side and extending beyond each end of the central bar, the said bars being provided with nicks on their edges and clamps molded onto the bars and designed to hold them separated and from lateral and

longitudinal displacement said molded clamps extending transversely of the side bars and central bar and forming the sole connection between them as and for the purpose specified.

5. In a truss for concrete beams and the like, the combination with the central bar provided with obliquely-set ends, of the side bars provided with obliquely-set ends and located on each side and extending beyond each end of the central bar, clamps through which the bars extend for holding the bars separated and from lateral and longitudinal displacement, and supplemental side bars located on each side of the aforesaid bars and extending beyond the obliquely-set ends of the aforesaid bars and clamps through which the bars extend for holding the bars separated and from lateral and longitudinal displacement as and for the purpose specified.

6. In a reinforcing-truss for concrete and the like, the combination with a plurality of bars placed side by side and having nicked or roughened surfaces, of a block or clamp cast around the bars, so that the metal will flow into the nicks as and for the purpose specified.

7. In a reinforcing-truss for concrete and the like, the combination with a plurality of bars placed side by side and having nicked or roughened surfaces, of a block or clamp cast around the bars, so that the metal will flow into the nicks, and a supplemental bar extending from the cast block or clamp as and for the purpose specified.

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Witnesses:

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