

No. 859,315.

PATENTED JULY 9, 1907.

D. MAXWELL.

REINFORCEMENT FOR CONCRETE STRUCTURES.

APPLICATION FILED NOV. 28, 1906.

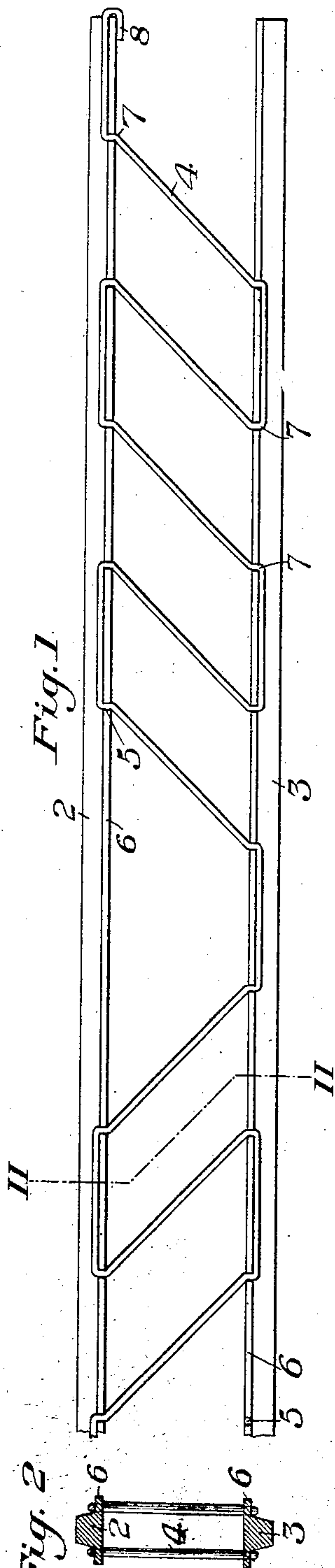


Fig. 1.

Fig. 2

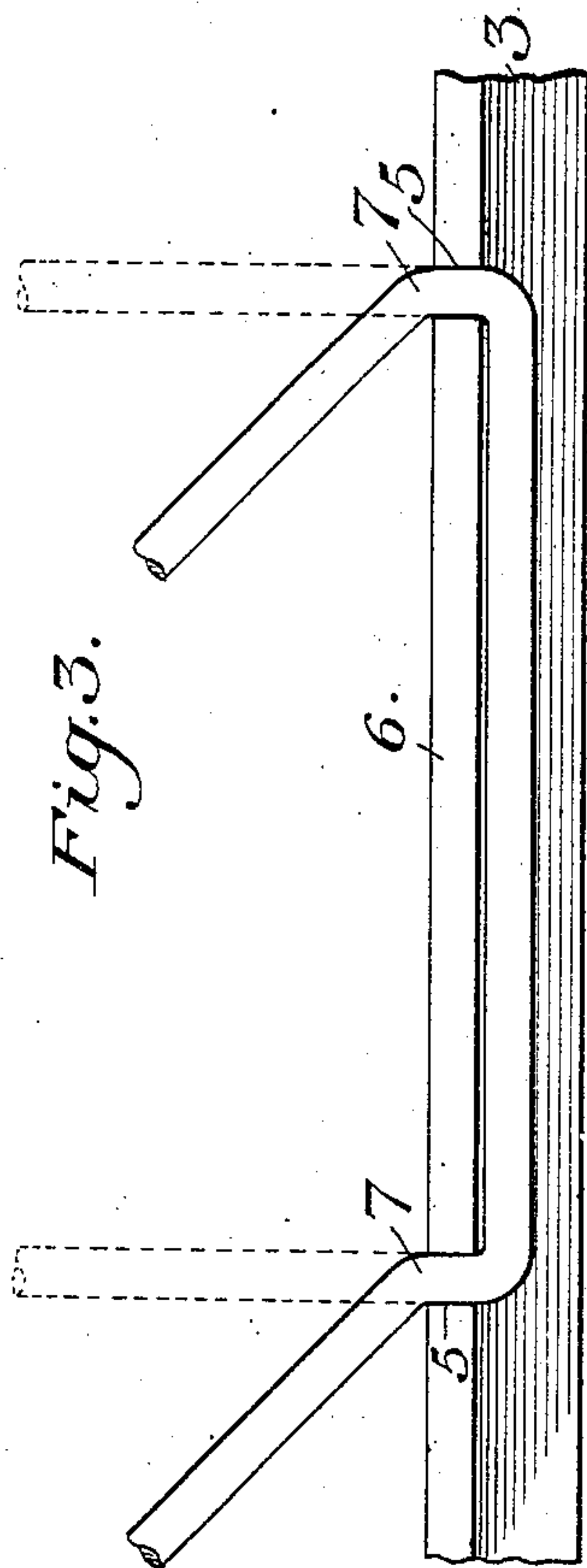


Fig. 3.

WITNESSES

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REINFORCEMENT FOR CONCRETE STRUCTURES.

No. 859,315.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed November 28, 1906. Serial No. 345,508.

To all whom it may concern:

Be it known that I, DAVID MAXWELL, of Detroit, Wayne county, Michigan, have invented a new and useful Reinforcement for Concrete Structures, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of a portion of a metal reinforcement embodying my invention; Fig. 2 is a section on the line II—II of Fig. 1; and Fig. 3 is an enlarged detail view.

My invention has relation to metal reinforcements for concrete structures, and more particularly to a truss reinforcement of the character described in my pending application for patent, Serial No. 320,725, in which the upper and lower members of the truss are connected by one or more systems of lacing consisting of a continuous piece bent into a series of parallel inclined loops, which are engaged with the upper and lower members.

The object of my present invention is more particularly to provide means whereby the bracing is securely locked to one or both of the main truss members, so that any movement thereof relative to said members is prevented.

To this end my invention consists in engaging the loops of the bracing with the flanges of the main truss members in such a manner as to form a lock.

In the accompanying drawings, the numeral 2 designates the upper compression member of the truss, 3 the lower or tension member and 4 the bracing which consists of a continuous piece of metal of small cross-section bent into a series of parallel loops which are engaged with openings or notches 5 in lateral flanges 6 of the members 2 and 3, the transverse portions 6 of said loops lying respectively in contact with the upper and lower surfaces of the flanges. The loops are inclined at an angle to the members 2 and 3, the inclination being in opposite directions upon opposite sides of the center of the truss. The notches or openings 5 in the flanges 6 are cut vertically, and are preferably of just sufficient size to receive the bands of the loops therethrough, said loops being bent at these points to form the short vertical portions 7. It will be readily seen that this matter of engaging the loops with the flanges 6 forms an efficient lock which will prevent any movement of the bracing relatively to the main truss members. As a further locking means, the ends of the bracing may be bent into engagement with the ends of the flanges as shown at 8 in Fig. 1.

In assembling the truss, the loops are first placed through the openings 5 in a vertical direction, as indicated in dotted lines in Fig. 3, and are then bent to inclined position, thereby forming the locking bends 7.

In the drawings, I have shown these locking bends at both the upper and lower main truss members 2 and 3, but they may be used at one of such members only. I have also shown the truss as provided with two series of the loops, one series engaging the flanges at each side of the main truss members.

I do not, however, limit myself to any particular number or arrangement of the bracing loops, since my invention is applicable to all forms of truss reinforcement wherein a looped bracing is threaded through openings in one or more main truss members.

I preferably form the tension members of the truss of a comparatively low-carbon steel in order to enable them to receive sudden shocks, while the bracing which carries the steady load is of a comparatively high-carbon steel.

What I claim is:—

1. A metal reinforcement for concrete structures, comprising a truss having a longitudinal member provided with a plurality of open side slots, and a web or bracing portion consisting of a member formed into a series of upwardly-inclined parallel sided loops whose integral connecting portions extend parallel to the longitudinal axis of the truss, the lower portions of such loops being engaged with the open side slots and locked therein by kinked portions of the lacing; substantially as described.

2. A metal reinforcement for concrete structures comprising a truss having a longitudinal member formed with opposite lateral flanges each of which has therein a plurality of open slots, and a web or bracing composed of continuous members, each of which is formed into a series of parallel sided loops whose connecting portions extend parallel to the longitudinal axis of the truss, the lower portions of said loops being engaged with the open side slots, and formed with locking bends therein; substantially as described.

3. A metal reinforcement for concrete structures comprising a truss having an upper compression member, a lower tension member, each of said members having a plurality of open side slots, and a web or bracing portion consisting of a series of parallel sided loops engaged with the slots and having integral connecting portions extending parallel with the longitudinal axis of the truss, said loops having locking kinks or bends within the slots; substantially as described.

4. A metal reinforcement for concrete structures, comprising a truss having a longitudinal tension member of relatively low carbon steel and formed with a plurality of open side slots, and a web or bracing portion consisting of a continuous piece of relatively high carbon steel bent into a series of parallel sided loops whose connecting portions are parallel to the longitudinal axis of the truss and having kinked or bent portions which engage the open slots; substantially as described.

In testimony whereof, I have hereunto set my hand.

DAVID MAXWELL.

Witnesses:

LOUIS SONDIHEIM,
WALTER S. WHEELER.