April 18, 1950 F. G. FEARON ET AL 2,504,313

REINFORCING ROD HANGER

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Fig. 1.

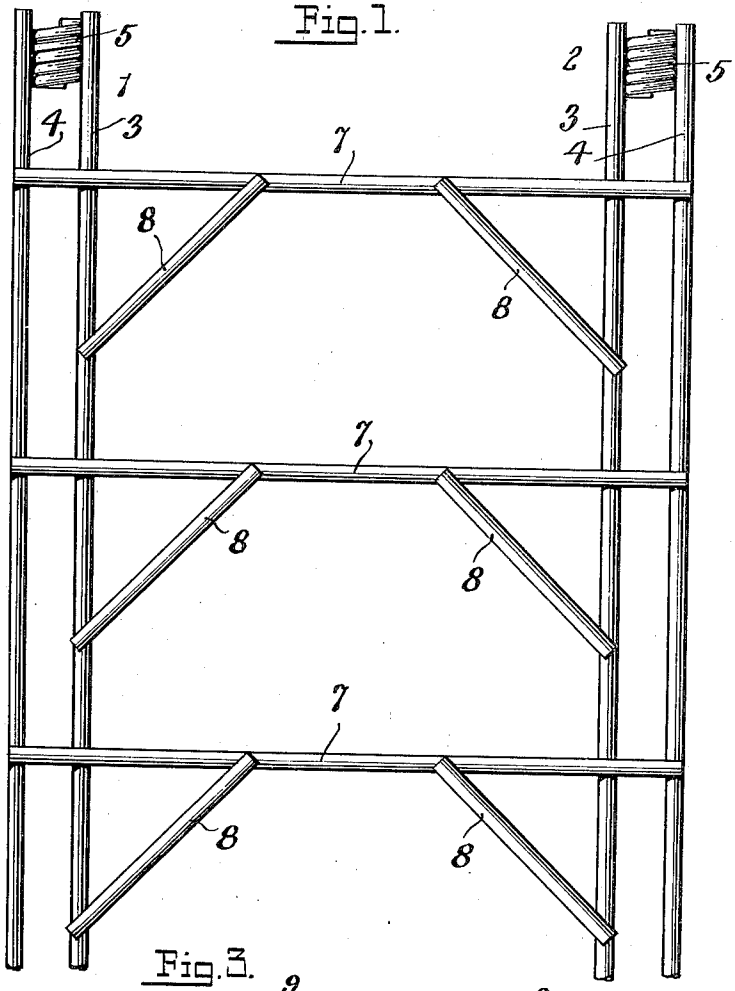

Fig. 2.

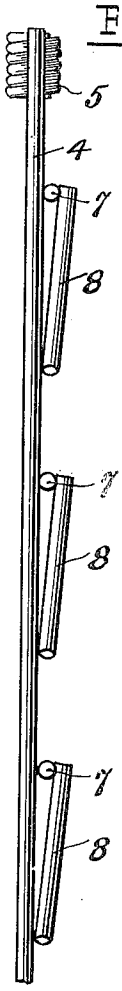

Fig. 3.

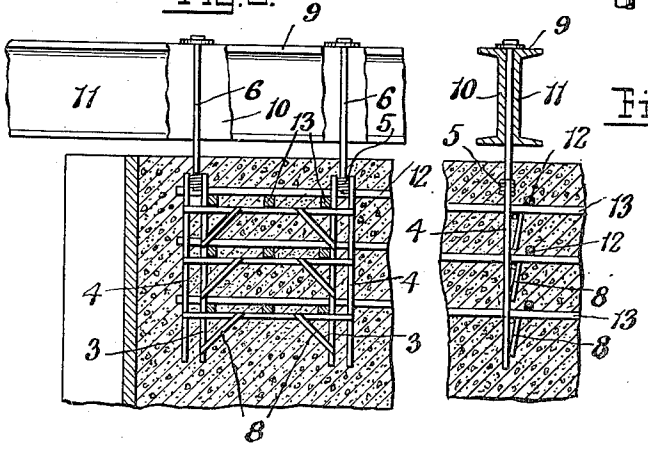

Fig. 4.

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REINFORCING ROD HANGER

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4 Claims. (Cl. 72—122)

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This invention relates to hangers or supports for concrete reinforcements, and has for its primary object, the provision of a device of this character which is light in weight, extremely strong and sturdy, and which will effectively support the reinforcing elements placed upon it and will itself act as a reinforcing means within the concrete in which it is embedded.

More particularly, the invention contemplates the provision of a ladder-like frame having its side members each composed of a plurality of spaced rods between which is secured at one end, a spiral or helical element for engagement with the thread on a suspension bolt suspended from overhead trusses or I-beams and thus maintains the support or hanger and the reinforcing elements carried by it. The side members of the support are connected by cross-pieces of rod, the latter being reinforced by diagonal brace members. The entire structure is thus composed of rod sections welded together, resulting in a lightweight but sturdy structure upon which the concrete reinforcing elements are carried in a manner to be hereinafter set forth.

These and other objects are attained by the invention, a more particular description of which will hereinafter appear and be set forth in the claims appended hereto.

In the accompanying drawing, wherein an illustrative embodiment of the invention is disclosed, Fig. 1 is a front elevation of the support or hanger constructed in accordance with the invention; Fig. 2 is a side elevation of the same; Fig. 3 shows the hanger in operation and embedded in the concrete mass, and Fig. 4 is a vertical sectional view taken at right angles to Fig. 3.

Referring to the drawing, and particularly to Figs. 1 and 2 wherein the construction of the improved support or hanger is shown in detail, it will be noted that the two side members of the support, indicated generally at 1 and 2, are each composed of two spaced-apart parallel rods indicated respectively at 3 and 4. Located between each of the rods 3 and 4 at one end thereof, is a spiral or helix 5 preferably, but not necessarily, formed of spirally-wound rod and constituting a socket or nut for the thread formed on suspension bolts 6 from which the hanger is suspended preparatory to being surrounded by the concrete, as will be presently explained.

The two rods 3 and 4 in each of the pairs 1 and 2 are maintained in their spaced relation by means of a plurality of cross-rods 7 welded to the side rods 3 and 4, thus resulting in the formation

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of a ladder-like structure as clearly seen in Fig. 1. The cross-rods 3 and 4 are trussed by means of angular or diagonal brace members 8 and welded at the other end to the cross-rods 7. This results in the production of a very strong and rigid structure, although the same may be produced of relatively small diameter rod. The several rods employed in the structure are welded together at the meeting points or junctions, and the helices or spiral coils 5 are also welded in place between the rods 3 and 4.

The manner in which the device is employed in a concrete structure is disclosed in Figs. 3 and 4, wherein it will be noted that the hanger is suspended from an overhead I-beam composed of two channel beams 10 and 11, by means of the coarse-thread bolts 6 which have the threads at their lower ends threadably engaging in the spirals or coils 5. The reinforcing bars 12 and 13 for the concrete mass are supported on the cross-rods 7 in the manner clearly seen in Figs. 3 and 4. The hanger or support may be made of any reasonable length, and the cross-rods 7 on which the reinforcing elements are supported may be equally spaced apart, or spaced at irregular intervals if desired. After the concrete 14 which is poured about the hanger and the reinforcing elements supported thereby has set sufficiently, the supporting bolts 6 are removed and the holes remaining in the concrete are grout-patched. The hanger, while acting as a support for the rods or other concrete reinforcements, also acts to reinforce the concrete since the spaced rods of which it is composed serve to permit the concrete to readily flow around and between them.

While we have shown one embodiment of our invention, it is obvious that the same is not to be restricted thereto, but is broad enough to cover all structures coming within the scope of the annexed claims.

What we claim is:

1. A hanger of the character described comprising, a ladder-like frame composed of two side members each consisting of a group of spaced rods, a helix located between the spaced rods of each group at one end thereof for the reception of suspension bolts, and spaced-apart braced cross-rods extending between and attached to and connecting the groups of rods in each side member, said cross-rods constituting supports for concrete-reinforcing elements.

2. A hanger of the character described comprising, a frame having side members, each of said side members being composed of a pair of spaced-apart rods, a helical coil secured between the rods

in each pair and intended for the threaded reception of suspension bolts, and reinforcement-supporting rods extending between and being welded to the side members and holding rods in the pairs in spaced relation, and maintaining the side members spaced from one another.

3. A hanger of the character described as provided for in claim 2, wherein the helical coils are welded in place between each pair of rods in each side member adjacent to one end thereof, the cross-rods being welded to all of those rods which constitute the side members, and diagonal braces extending from the side members to the cross-rods.

4. A hanger of the character described comprising a ladder-like frame composed of metallic rod, said frame having two side members, each of which is composed of a pair of spaced-apart rods, a helical coil welded between the rods in each pair at one end thereof, a plurality of spaced cross-rods holding the pairs of side rods spaced from

one another and also holding the rods in each pair in their spaced relation, and diagonal brace rods, each secured at one end to one of the side rods in each pair and secured at their opposite ends to respective cross-rods.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
614,530	Brown	Nov. 22, 1898
2,107,130	Schenk	Feb. 1, 1938

FOREIGN PATENTS

Number	Country	Date
521,826	Great Britain	1940