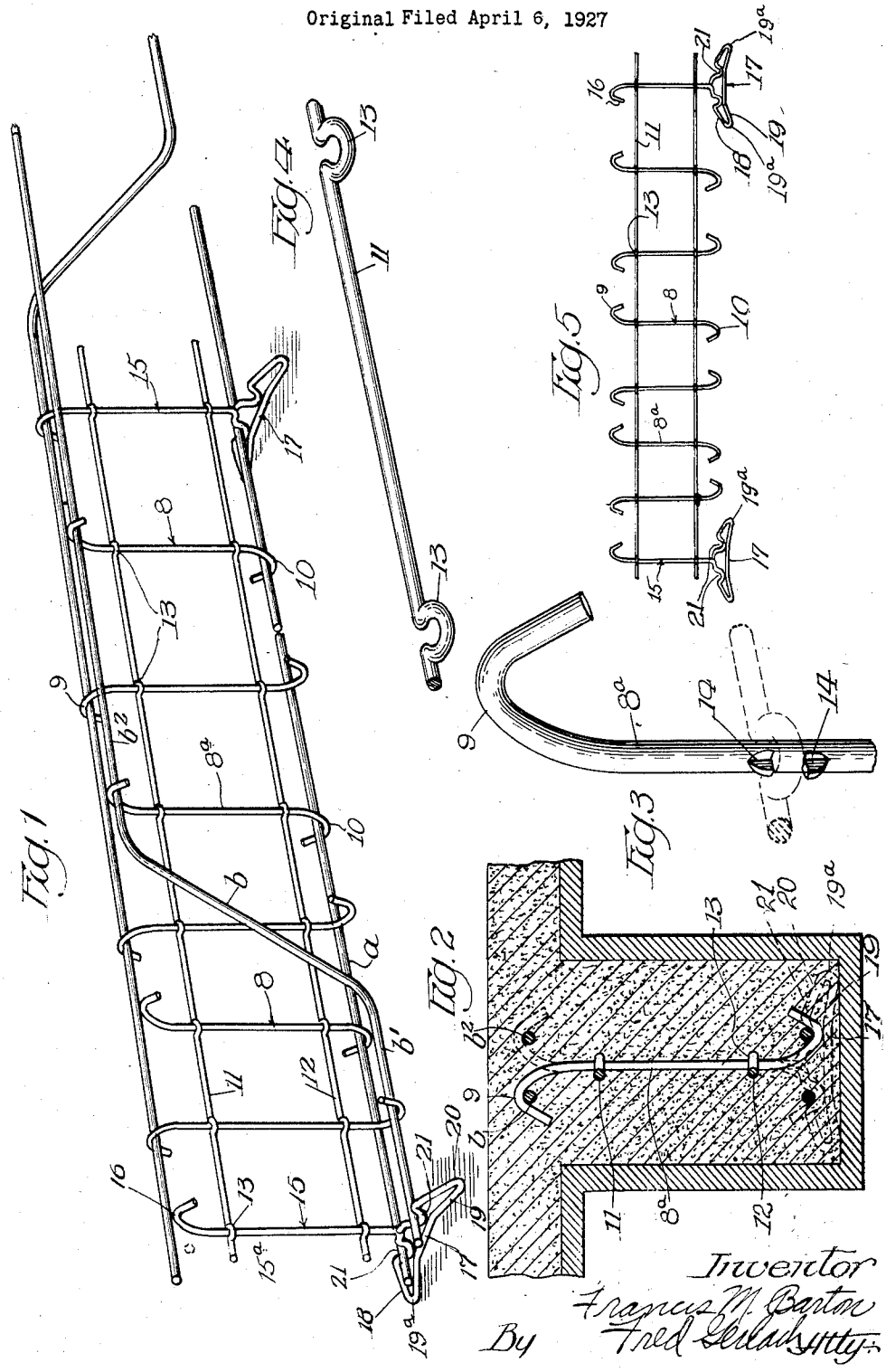
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STIRRUP FOR REENFORCED CONCRETE STRUCTURES

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STIRRUP FOR REENFORCED-CONCRETE STRUCTURES.

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The invention relates to stirrups for reenforced concrete structures.

The object of the invention is to provide a structure comprising a stirrup which may be assembled or fabricated at the factory and which may be collapsed or folded for convenience in shipment and packing. Another object is to provide a collapsible structure comprising stirrups, which is particularly advantageous in the construction of reenforced concrete joists. Other objects of the invention will appear from the specification.

The invention consists in the several novel features hereinafter set forth and more particularly defined by claims at the conclusion hereof.

In the drawings: Fig. 1 is a perspective of a stirrup embodying the invention. Fig. 2 is a section through a concrete joist and floor with one of the stirrups embedded therein. Fig. 3 is a perspective, showing the manner of deforming the legs to retain the legs and rods against longitudinal movement. Fig. 4 is a perspective of one of the connecting bars or rods. Fig. 5 is a plan view of the stirrup in its collapsed position.

The invention is exemplified in a structure comprising a series of stirrups 8 and 15 which are preferably formed of round rods. Each of the stirrups 8 consists of a single leg 8^a which is provided at its upper and lower ends with integral oppositely extending hooks or bent portions 9 and 10. A pair of longitudinal bars 11 and 12 serve to connect the stirrups and to space them apart. These bars are bent to form integral eyes or loops 13 around the legs 8^a. The latter are indented or deformed, as at 14, after the legs have been assembled with the connecting bars so as to hold the legs against vertical movement through the eyes 13 permitting rotation of the legs. Each of the stirrups 15 consists of a single leg 15^a which extends through eyes 13, bars 11 and 12 and is deformed similarly to legs 8^a to prevent vertical movement through the eyes. Stirrups 15 are formed at their upper ends with downturned hooks 16 and are provided at their lower ends with bases 17 which are adapted to rest on the mould or form for concrete to retain the structure in position during pouring of the concrete. Each base 17 is formed by bending the lower end of the rod which forms the leg 15^a, first to one side and slightly downwardly to form a portion 18; then across to form a central portion 19; and then forwardly and inwardly to form a portion 20. Portions 19 are centrally arched so as to form feet 19^a in the sides of the bases. Portions 18 and 20 are bent to form upwardly opening seats 21. The latter and the lower hooks 10 of the stirrups 8 are adapted to receive and retain the lower horizontal reenforcing bars a and the lower horizontal portions b' of bent bars b. The hooks 9 and 16 of legs 8^a and 15^a are adapted to receive the upper portions b^2 of the bent bars b to hold them so that the upper and lower portions thereof will be disposed vertically of one another.

A characteristic of the structure set forth is that the legs 8^a and 15^a comprise single vertical members which are rotatable in the connecting and spacing bars 11 and 12. The rotatable connections permit the oppositely extending hooks 9 and 10 on the legs 8^a and the feet and hooks 16 on the legs 15^a to be turned into substantial parallelism with the plane of bars 11 and 12 and as a result the entire structure may be compactly packed and loaded for shipment. This makes it practical to fabricate or assemble structures embodying the invention at the factory at a low cost and to ship them as assembled units to the places of installation.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

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

1. In a reenforced concrete construction, the combination of a series of individually formed stirrups, each comprising a single leg provided with integral means at its upper and lower ends for holding reenforcing bars, a plurality of connecting and spacing bars in which the legs are held, and feet on some of the legs.

2. In a reenforced concrete construction, the combination of a series of idividually formed stirrups, each comprising a single leg provided with integral oppositely extending hooks at its upper and lower ends for holding reenforcing bars, a plurality of

connecting and spacing bars in which the legs are held, and integrally formed feet on some of the legs.

3. In a reenforced concrete construction, the combination of a series of individually formed stirrups having a single leg provided with integral means at its upper and lower ends for holding reenforcing bars, a plurality of connecting and spacing bars looped around the legs and held against movement lengthwise of the legs, some of the legs being provided with feet.

4. In a reenforced concrete construction, the combination of a series of stirrups formed of rods bent to form single legs and oppositely extending hooks at their upper and lower ends, spacing and connecting bars formed with loops to fit around the legs, and integral deformations on the legs for holding the loops.

5. In a reenforced concrete construction, the combination of a series of single legs, a plurality of connecting and spacing bars in which the legs are rotatable, integral laterally projecting means at the top and bottom of the legs adapted to hold reenforcing rods, said means being rotatable substantially into the plane of the bars.

6. In a reenforced concrete construction, the combination of a series of single legs, a plurality of connecting and spacing bars in which the legs are rotatable, integral oppositely extending hooks at the top and bottom of the legs adapted to hold reenforcing rods, the hooks being rotatable with the legs substantially into the plane of the bars.

7. In a reenforced concrete construction, the combination of a series of single formed legs, a plurality of connecting and spacing bars in which the legs are rotatable, integral oppositely extending means at the top and bottom of the legs adapted to hold reenforcing rods, and legs rotatably held in the connecting bars and provided with oppositely extending feet, the hooks and feet on the legs being rotatable substantially into the plane of the bars.

Signed at Chicago, Illinois, this 21st day of January, 1927.

FRANCIS M. BARTON.