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P. H. PALMER

3,512,331

ROD CHAIR

Filed Feb. 17, 1969

FIG. 1

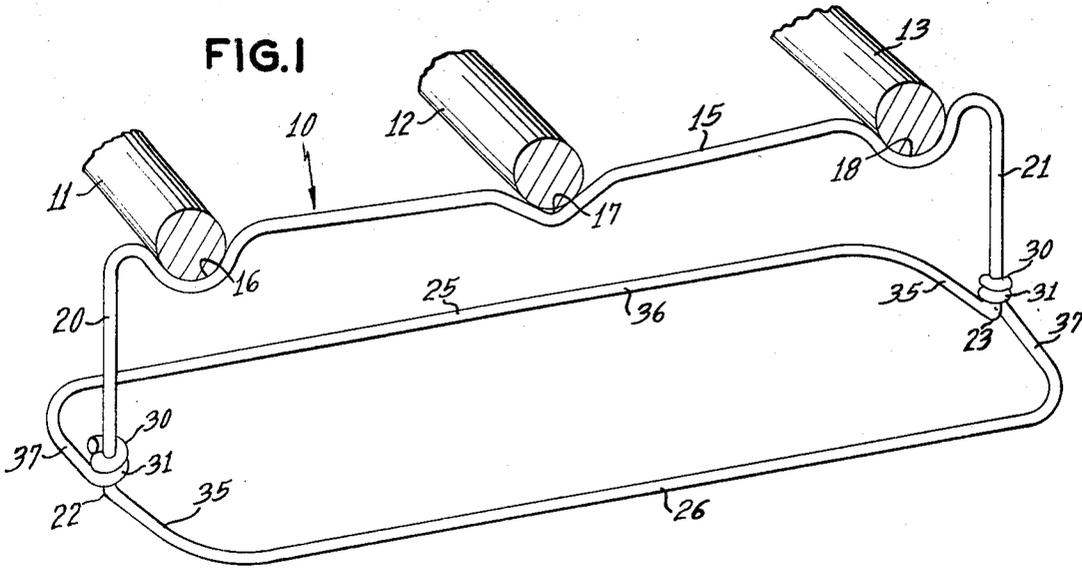


FIG. 2

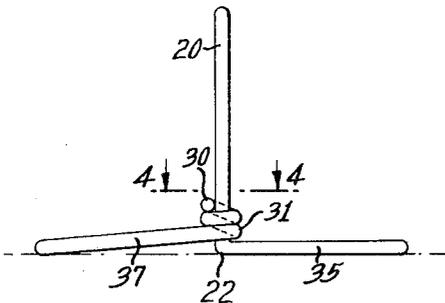


FIG. 3

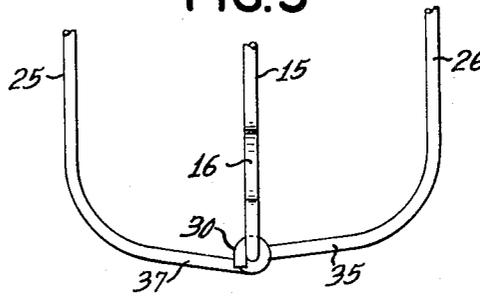


FIG. 4

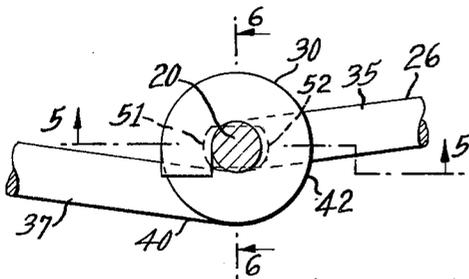


FIG. 5

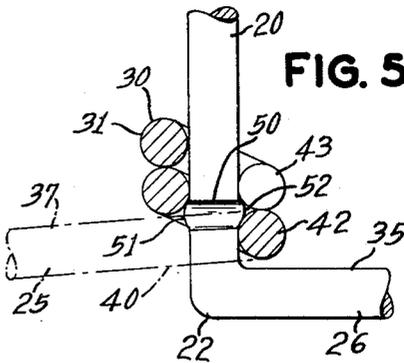
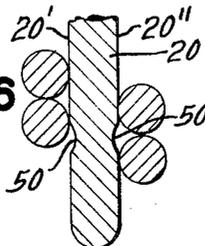


FIG. 6



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3,512,331
ROD CHAIR

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3 Claims

ABSTRACT OF THE DISCLOSURE

A rod chair for use in concrete structures or the like having a rod receiving portion supported by an upright leg and a base portion spaced from the rod receiving portion and supporting the leg, the improvement including loop means connected to the base portion and wrapped tightly around the lower end portion of the leg, and wherein the lower leg end portion includes means engaged by the loop means for limiting the relative upward movement of the loop means with respect to the leg.

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates to rod chairs for use in supporting reinforcing rods in concrete structures, and more particularly to a preformed rod chair of improved construction.

The present invention is directed to an improved unitary rod chair which is formed from a single piece of elongated material or wire without employing any welding or the like to maintain the rod chair in operation erected condition for use in concrete structures.

DESCRIPTION OF THE PRIOR ART

Rod chairs of various types have been employed to support and space reinforcing rods or the like in concrete structures or the like, such rod chairs being exemplified by Pat. Nos. 824,595; 1,380,332; 1,406,379; 1,410,633; 1,499,984; 1,615,651; 1,620,501; 1,712,801; 1,841,699; 2,634,603; 2,924,091; and 3,132,448. There are many problems presented with various ones of the prior art rod chairs which include employment of two or more pieces of materials to form the rod chair with some requiring welding or the like. Inconvenience in use, instability, and inaccuracy in positioning the rods on the chair are other problems of some of the prior art.

SUMMARY

This invention relates to a reinforcing rod chair for use in supporting reinforcing rods in a concrete structure or the like. Two upright legs having upper and lower end portions with a generally horizontal rod receiving member connecting the upper end portions of the legs are provided in the rod chair. In one aspect the invention means are incorporated for connecting the generally horizontal base portion of the rod chair to the lower end portions of the legs, the means including loop means connected to the base portion for tightly encircling each of the lower leg end portions.

The loop means specifically includes a plurality of loops frictionally engaging and encircling respective upright legs. In another aspect of the invention, the upright legs, rod receiving member, base portion and means for connecting the base portion to the lower leg end portions are unitary and formed from one piece of wire.

An additional aspect of the invention is seen wherein each leg above the lower end thereof includes means engaged by the loop means for limiting the relative upward movement of the loop means with respect to the encircled leg.

A general object of this invention is the provision of an improved rod chair for supporting reinforcing rods.

Particular objects are to provide improved rod chairs which are unitary in construction and which do not require welding or the like to maintain same in the erect operative condition.

Another particular object is the provision of an improved rod chair made from metal wire and having good strength and rigidity, and inherent stability in use.

Other specific objects of this invention are the provision of improved rod chairs which are simple and inexpensive in the manufacture thereof and readily used to support reinforcing rods prior to the pouring and setting of the concrete therearound.

BRIEF DESCRIPTION OF THE DRAWING

The novel features which are believed to be characteristic of this invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and method of operation, together with further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawing in which:

FIG. 1 is a front perspective view of the rod chair in accord with the invention, a plurality of rods being shown seated thereon;

FIG. 2 is an end elevational view of the rod chair of FIG. 1;

FIG. 3 is a plan view of one end of the rod chair of FIG. 1;

FIG. 4 is an enlarged cross-sectional view taken along lines 4—4 of FIG. 2;

FIG. 5 is a cross-sectional view taken along lines 5—5 of FIG. 4; and

FIG. 6 is a transverse cross-sectional view taken along lines 6—6 of FIG. 4.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now more particularly to the drawing, the rod chair is generally depicted at 10 with rods 11, 12 and 13 being supported by rod chair 10. Rod chair 10 is formed from an elongated resilient rod or wire, preformed into the configuration shown in FIG. 1, and includes a rod receiving generally horizontal and elongated portion or member 15 preformed to include a plurality of rod receiving loops 16, 17 and 18 into which respective rods 11, 12 and 13 are seated. A pair of upright legs 20 and 21 depend downwardly from member 15 and are bent at their lower end portions 22 and 23 which are then formed into respective horizontal base portions 25 and 26.

Means designated at 30 connect base portions 25 and 26 to respective lower end portions 22 and 23 of legs 20 and 21. Means 30 is seen to include loop means 31 each consisting of a plurality of loops tightly encircling and frictionally engaging each of the upright legs 20 and 21 to limit the relative upward movement of the loop means with respect to the legs.

Each base portion 25 and 26 includes a first element 35 extending outwardly from its connected leg generally in the same vertical plane with such connected leg, a second element 36 which extends generally parallel to and spaced from the rod portion or member 15 and which extends generally perpendicularly with respect to the vertical plane formed by the first element 35 and its connected leg, and a third element 37 which extends toward the other non-integral leg generally parallel to the first element 35 and generally in the same vertical plane with such other leg.

In the enlarged views of FIGS. 4, 5 and 6 the loop means 30 is more clearly depicted. The end portion 40

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of element 37 is wound tightly around the upright leg 20 adjacent its lower end portion 22 and closely adjacently above element 35 with a plurality of loops 42 and 43 which frictionally engage upright 20 to inhibit relative movement therebetween. It is preferable, as indicated at 50, to provide means on leg 20 which further limits the relative upward movement of the loop means 30 with respect to the leg. Means 50 is herein shown as being a flattened portion of the wire leg 20 on each of the faces 20' and 20'' with the flattened portions 50 extending generally in the vertical plane formed by leg 20 and elements 35 and 37. Such an arrangement of the flattened portions 50 does not substantially weaken the legs 20 and 21 or render same more susceptible to bending as would otherwise occur if the flattened portions 50 were formed on the wire leg 20 in the vertical plane of member 15 and legs 20 and 21, particularly since member 15 between the upper ends of legs 20 and 21 forms a rigid spacer between the legs which tends to inhibit bending of the legs 20 and 21 along the flattened portions 50 caused by external forces being applied thereto. The flattening of the wire leg 20 causes a pair of outwardly extending shoulders 51 and 52 to be formed which limits or stops the relative movement of the loops on the legs.

While only a certain preferred embodiment of this invention has been shown and described by way of illustration, many modifications within the true spirit and scope of this invention and within the following claims will occur to those skilled in the art.

What is claimed as new and what it is desired to secure by Letters Patent of the United States is:

1. A unitary one piece reinforcing rod chair for use in concrete structures or the like comprising a continuous wire member including a generally horizontal rod portion for supporting a reinforcing rod thereon, each end of said rod portion being bent downwardly and forming an uninterrupted attachment, a leg portion being connected to and extending downwardly from respective said uninterrupted attachment, the lower end of each said leg portion being bent laterally and forming an uninterrupted con-

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nection, a pair of generally horizontal base portions spaced below said rod portion, each said base portion being attached to and extending from respective said uninterrupted connection toward the other said leg portion, each said base portion having a free end wrapped around and frictionally engaging said other leg portion adjacently above its said uninterrupted connection.

2. In the rod chair as defined in claim 1 wherein each said base portion includes a first element extending outwardly from respective said uninterrupted connection generally in the same vertical plane with said leg portion, a second element extending generally parallel to and spaced from said rod portion and generally perpendicularly with respect to said vertical plane, a third element extending toward said other leg portion generally parallel to said first element and generally in the same vertical plane with said other leg portion, and said free end being the terminus of said third element.

3. In the rod chair as defined in claim 1 wherein each said leg portion adjacently above said uninterrupted connection includes shoulder means engaged by said free end wrapped around said other leg portion for limiting the relative upward movement of said free end with respect to said other leg portion.

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U.S. Cl. X.R.

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