Jan. 8, 1963 W. H. NEELY 3,072,228

RAIL MEMBER FOR SINUOUS SPRINGS

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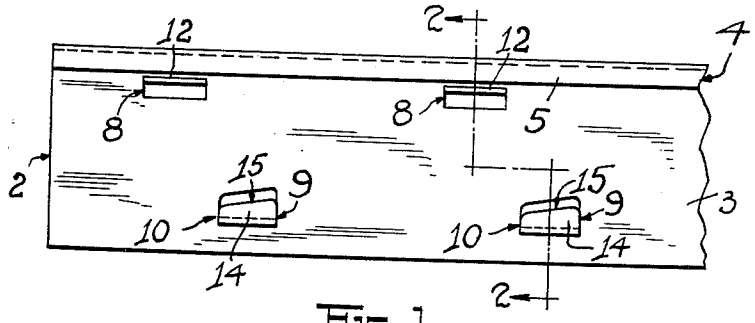


FIG. 1

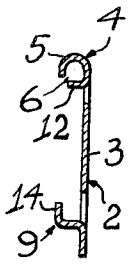


FIG. 2

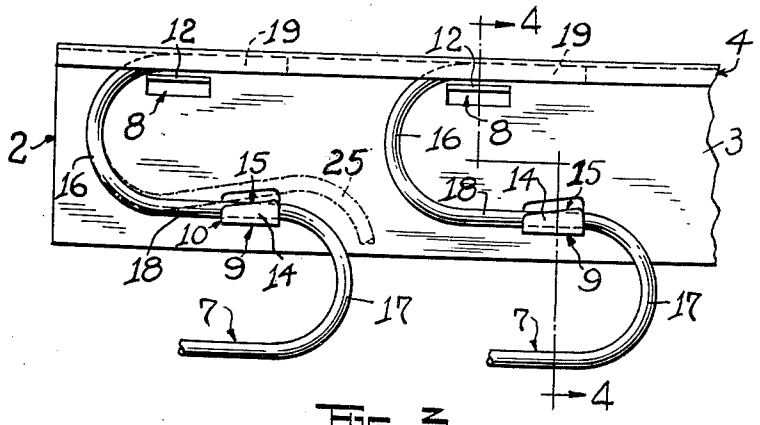


FIG. 3

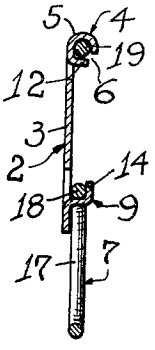


FIG. 4

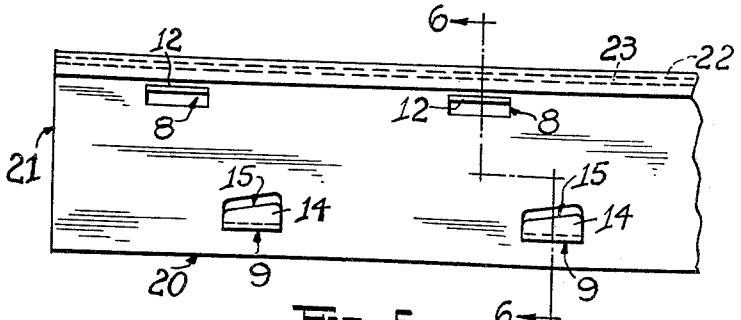


FIG. 5

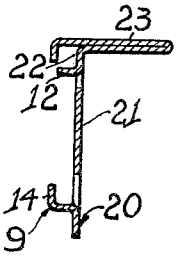


FIG. 6

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RAIL MEMBER FOR SINUOUS SPRINGS

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This invention relates in general to supporting and locating members for springs and spring constructions and, more particularly, to supporting anchoring and locatng rail members for supporting individual springs and spring constructions of zigzag and sinuously corrugated shape.

The primary object of this invention is the provision of a rail member constructed to readily removably and non-shiftably support zigzag-shaped and sinuously corrugated wire springs having left and right-handed loops connected by cross wire members, the rail member being made of elongated strip material folded at one edge to form an elongated channel-like spring seat lengthwise of the strip material and including for each spring to be mounted on the rail member two cooperating locating and holding means, one consisting of a struck-up stop member adjacent the elongated spring seat to prevent a lateral shifting in one direction of springs supported on the rail member and the other one consisting of a struck-up, hook-shaped holding and locating means arranged in predetermined position with respect to the struck-up stop member to prevent lateral shifting of said springs in opposite direction and hold same in contact with the rail member.

Another object of the invention is the provision of a rail member of the type referred to above, in which stop and hook-shaped holding and locating means are located to engage oppositely extended end portions of two spaced cross wire members of a sinuously corrugated wire spring having its end cross wire member seated in the spring seat of the rail member to prevent lateral shifting of the wire spring by said stop and hook-shaped holding and locating means in cooperation with the left and right-handed loops of the wire springs.

A further object of the invention is the provision of a rail member of the type referred to above, which has the channel-like spring seat and the struck-up hook-shaped holding and locating means arranged parallel to each other in laterally spaced reversed position with respect to each other to effect proper seating and gripping of the said two cross wire members at outer sides thereof, when one of the cross wire members is engaged with the spring seat and the other one of the cross wire members is yieldingly and hookingly engaged with the hook-shaped holding and locating means of the rail member.

Still another object of the invention is the provision of a rail member of the type referred to above, in which the struck-up, hook-shaped holding and locating means include a tongue-like upper portion having a slanted edge to facilitate locking engagement of the holding and locating means with one cross wire member, effected by yieldingly deforming the wire spring and springing the respective cross wire member into engagement with the holding and locating means when the other cross wire member is seated in the channel-like spring seat.

With the above and other incidental objects in view, the invention has other marked improvements and superiorities which radically distinguish same from presently known structures. These improvements and superior characteristics, embodying certain novel features of construction, are clearly set forth in the appended claims and the preferred embodiment of the invention hereinafter shown with reference to the accompanying drawing forming part of the specification.

In the drawing:

FIG. 1 is a plan view of a rail member constructed in accordance with the invention.

FIG. 2 is a sectional view taken on line 2—2 of FIG. 1.

FIG. 3 is a plan view similar to FIG. 1, having attached thereto and removably mounted thereon a fragmentarily shown sinously corrugated wire spring.

FIG. 4 is a sectional view taken on line 4—4 of FIG. 3.

FIG. 5 is a plan view of a somewhat modified form of the rail member shown in FIG. 1; and

FIG. 6 is a sectional view taken on line 6—6 of FIG. 5.

Referring now more in detail to the examplified form of the invention shown in FIGURES 1 through 4 of the drawing, reference numeral 2 denotes a rail member of elongated strip-like material, which has its body 3 at one longitudinal edge portion thereof folded upon itself in parallelly spaced relation with respect to body 3 to provide a U-shaped channel 5 with a longitudinal opening 6 rectangularly related to the top surface of body 3.

Channel 5, which forms an elongated spring seat for sinuously corrugated wire springs 7 later to be described, cooperates with pairs of locating and holding means 8 and 9 to readily removably and non-shiftably support sinuously corrugated wire springs 7 on rail member 2. Locating means 8 of each pair of locating and holding means are struck up from body 3 in areas adjacent and parallel to U-shaped channel 5 by slitting and upsetting said areas to provide tongues 12 extended angularly to body 3. Holding means 9 of each pair of locating and holding means consist of hook-shaped members 10 which are struck up from predeterminted areas of body 3 and extend with their open ends toward longitudinal opening 6 of U-shaped channel 5 in parallel relation with respect thereto. Preferably, holding means 9 have tongues 14 of hook-shaped members 10 provided with slanted edges 15 to facilitate springing of sinuously corrugated wire springs 7 into engagement with hook-shaped members, as will be later described.

Locating and holding means 8 and 9 are arranged in predetermined position with respect to each other and prevent lateral shifting of sinuously corrugated wire springs 7 by their engagement with left and right-handed open loops 16 and 17 of the springs, which loops are connected with each other by straight cross wire members 18. Wire springs 7 include straight end cross wire members 19 dimensioned to be seated in U-shaped channel 5 of body 3.

Mounting of sinuously corrugated wire springs 7 on rail member 2 is effected by placing springs 7 with their straight end cross wire members 19 into U-shaped channel 5 and shifting the springs laterally to engage with left-handed open loops 16 tongues 12 of locating means 8. At this time, cross wire members 18 of wire springs 7 are resting upon tongues 14 and springs 7 are yieldingly compressed (see dash-dotted line 25) to permit snapping of cross wire members 18 into hook-shaped members 10 for securely, releasably mounting the springs on rail member 2. Springs 7 are held against lateral shifting by engagement of locating and holding means 8 and 9 with left and right-handed open loops 16 and 17, and channel 5 and hook-shaped members 10 hold springs 7 in contact with body 3 of rail member 2.

The modified form of the invention shown in FIGS. 5 and 6 embodies a wire spring supporting rail member 20 which is similar in construction to supporting rail member 2 shown in FIGS. 1 through 4, with the exception that body 21 of rail member 20, adjacent to its U-shaped channel 22, includes an angular offset 23 which provides body 21 with a flange and gives said body angular cross section. Angular offset 23 is formed integral with body 21 and includes superposed layers of material folded tightly upon each other.

It will be understood that wire springs **7** may assume a wide variety of body shapes, and it is necessary for performing the present invention only that such springs be characterized by a free end portion providing a lateral hook or loop having a transverse section, such as cross wire member **18**, and a longitudinal spacing section terminating in another and generally parallel transverse section, such as end cross wire member **19**.

While there has been shown and described a particular embodiment of this invention, it will be obvious to those skilled in the art that various changes and modifications may be made therein without departing from the invention, therefore, it is intended in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

Having thus described my invention;

What I claim is:

1. A spring construction including a longitudinally extending supporting rail member having a side and a pair of edges, one of said edges being of a substantially channel shape and having an open side facing generally in the direction of the opposite edge, a longitudinally extending sinuously corrugated wire spring having a free end portion provided with a transversely extending terminal cross wire member which is substantially straight and is disposed in said channel shape edge and an adjacent cross wire member substantially parallel to said terminal cross wire member and positioned adjacent said rail side between the edges thereof, a locating abutment struck up from said rail member adjacent said channel shape edge at the open side thereof for retaining said terminal cross wire member therein, a spring holder struck up from said rail side at a position between the edges thereof, said spring holder being offset a predetermined distance longitudinally of said rail member relative to said abutment and being positioned relative to said abutment so that said spring having its terminal cross wire member retained by said abutment has its adjacent cross wire member retained by said holder.

2. A spring construction according to claim 1 in which said spring holder has a tongue arranged in an overlying relation with a cross wire member retained therein and said spring has an open loop connected to and extending between the terminal cross wire member and the cross wire member adjacent thereto, said tongue having a terminal edge which is inclined toward said channel shape edge in a direction away from said open loop.

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