April 15, 1952 W. H. NEELY 2,592,944

RAIL MEMBER FOR MOUNTING SINUOUSLY CORRUGATED WIRE SPRINGS

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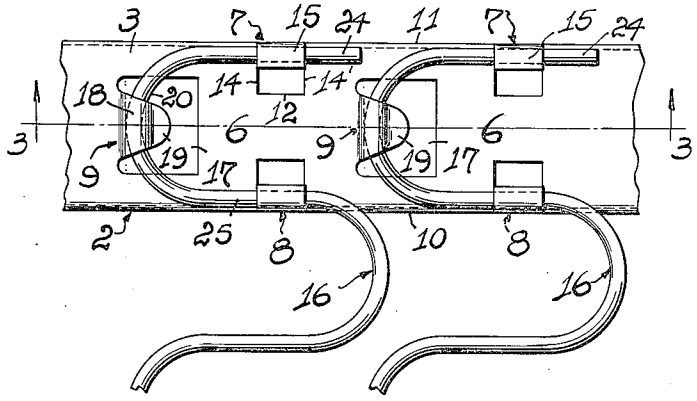


FIG. 1

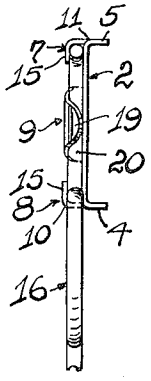


FIG. 2

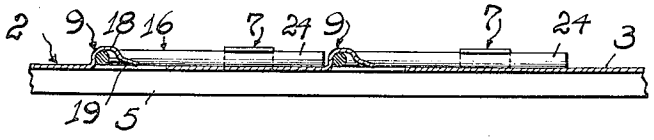


FIG. 3

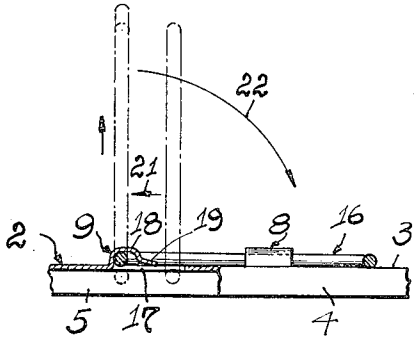


FIG. 4

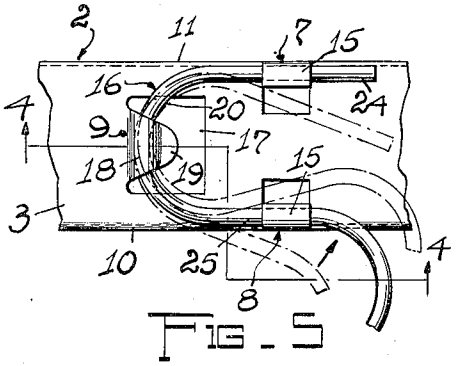


FIG. 5

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RAIL MEMBER FOR MOUNTING SINUOUSLY CORRUGATED WIRE SPRINGS

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4 Claims. (Cl. 155—179)

1

This invention relates in general to supporting members for springs of spring constructions, and, more particularly, to supporting rails for sinuously corrugated wire springs assembled to spring constructions.

The primary object of this invention is the provision of a rail member adapted to readily removably support corrugated wire springs embodying left and right-handed loops connected with each other by cross wires, the rail member including, for each spring to be supported, two oppositely arranged hook-shaped elements constructed to seat and hold a spring when these elements are engaged with two oppositely arranged cross wires of the spring, and a single, triangularly-shaped member positioned in lateral symmetrical relation with respect to said elements and constructed to seat and grip a spring midway between said oppositely arranged cross wires by engaging and yieldingly gripping the wire of the loop positioned between said oppositely arranged cross wires.

Another object of the invention is the provision of a rail member adapted to readily removably and non-shiftably support sinuously corrugated wire springs embodying left and right-handed loops connected with each other by cross wires, the rail member including, for each spring to be supported, two opposed struck-up portions having hook-shaped form and arranged and constructed to seat opposed cross wire of a corrugated wire spring and a single, triangularly-shaped hook portion arranged in laterally offset, symmetrical and rectangular relation to said struck-up portions, the single hook portion constructed to seat and grip the spring midway between said opposed cross wires thereof by engaging the wire of the loop positioned between the opposed cross wires.

A further object of the invention is the provision of a rail member as described above provided with a substantially rectangularly-shaped opening adjacent to the loop supporting triangularly-shaped hook portion, the opening dimensioned to extend beyond the tip and sides of the hook portion for simplified engagement of the triangularly-shaped hook portion with the respective spring loop when the spring is placed edgewise over the opening to extend the spring loop referred to partly through said opening.

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,

2

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, the rail member mounting the end portion of a sinuously corrugated wire member;

Fig. 2 is an end view of Fig. 1;

Fig. 3 is a sectional view on line 3—3 of Fig. 1;

Fig. 4 is a fragmentary sectional view on line 4—4 of Fig. 5 indicating in dash-dotted and dash-dash-dotted lines the edgewise positioning of the spring prior to and after its engagement with the triangularly-shaped hook portion and in full lines the proper resting of the attached spring on the rail member;

Fig. 5 is a fragmentary plan view of a rail member constructed in accordance with the invention, showing in dash-dotted lines the position of a sinuously corrugated spring having one of its loops engaged with one of the hook portions of the rail member, furthermore showing in dash-dash-dotted lines the position of the spring having in addition a cross wire adjacent to said loop engaged with another hook portion of said rail member, and finally showing in full lines the spring fully and properly engaged with all three hook portions of the rail member.

Referring now more in detail to the exemplified form of the invention shown in the drawing, reference numeral 2 denotes a U-shaped rail member embodying a seating or resting portion 3 having downwardly extended side flanges 4 and 5. Seating or resting portion 3 is formed with a series of groups 6 of hook elements, each group including two opposed hook elements 7 and 8, and a laterally offset hook element 9 arranged symmetrically with respect to elements 7 and 8 in rectangular, laterally offset relation with respect thereto. The hook elements 7 and 8, are arranged opposite to each other adjacent to the respective opposite side edges 10 and 11 of resting portion 3 and are formed by slitting portion 3 on lines 12, 14 and 14', and bending the formed tongue member upwardly and inwardly. Hook elements 7 and 8 have their upper portions 15 spaced from the surface of resting portion 3 a distance approximately equal to the gage of the sinuously corrugated wire springs 16 to be mounted on the rail member. The hook element 9, arranged in laterally offset position midway between hook elements 7 and 8 and extended at a

right angle to said hook elements, is of substantial triangular outline. Hook element 9 extends above a substantially rectangular opening 17 in resting portion 3, which opening is greater in length and width than the tongue portion 18 of hook element 9 integrally extended from one edge of said opening. This tongue portion has its front tip 19 bent downwardly to partly encircle the wire of the sinuously corrugated wire spring having its loop engaged with hook element 9.

The described groups of hook elements cooperate in properly seating, holding and gripping sinuously corrugated wire springs on rail member 2 and permit quick and efficient mounting and demounting of the springs. The steps to be taken in mounting the springs are clearly disclosed in Figs. 4 and 5, which steps, taken in reverse, effect quick and efficient demounting of a spring.

Mounting of the sinuously corrugated wire spring 16 on rail member 2 is effected by placing the spring (see dash-dotted lines in Fig. 4) in edge-wise position on resting portion 3 so that the loop 20 of the spring extends partly through opening 17, shifting the spring from its dash-dotted position, in the direction indicated by arrow 21, to the dash-dash-dotted position, so that the hook element 9 extends through the loop 20 and tilting the spring in the direction indicated by arrow 22 so as to rest on resting portion 3. In this position spring 16 is held by hook element 9 which, as previously stated, has its front tip 19 bent downwardly to partly encircle the wire of loop 20. At this time spring 16 is shifted in the direction of arrow 23 to seat its cross wire 24 in hook element 7, then yieldingly bent (see dash-dash-dotted line) to force cross wire 25 over hook element 8 and finally shifted downwardly and released to effect springing of cross wire 25 into hook element 8 when spring 16 is allowed to snap back to its original shape.

Rail members of the type described are particularly well suited for sinuously corrugated wire springs made of wire with gages ranging from 10 to 14, which wires can readily be handled in the manner described without special tools and danger of deformation.

Having thus described my invention, what I claim is:

1. A rail member adapted to readily, removably mount sinuously corrugated wire springs comprising a flanged metal strip having two spaced, hook-shaped, struck-up portions on said strip forming open-ended hooks faced toward each other, and a third hook-shaped, struck-up portion on said strip arranged in laterally offset relation between the said two hook-shaped, struck-up portions, said third hook-shaped, struck-up portion including a tongue-like end portion bent downwardly toward the top face of said metal strip, and said third struck-up portion being extended above an opening dimensioned to extend substantially beyond the confines of said tongue.

2. A rail member for mounting sinuously corrugated wire springs comprising a metal strip, having a plurality of openings and a series of groups of hook-shaped portions extended upwardly from said metal strip in associated relation with respect to said openings, each group including three hook-shaped portions arranged to outline the corners of a triangle, two of said hook-shaped portions including open hooks facing each other and the third one of said hook-shaped portions including a tongue extended from one edge of the respective opening in symmetrical relation with respect thereto, said tongue having an end portion bent downwardly to extend into the face of said strip opposite the said respective opening, and said respective opening being substantially larger than said tongue.

3. A rail member adapted to readily, removably mount sinuously corrugated wire springs, comprising a metal strip having two spaced, open-ended, hook-shaped portions extended upwardly from said strip so that their open ends face each other, and a third hook-shaped portion extended upwardly from said strip above an opening therein and in laterally offset relation with respect to said two hook-shaped portions, said third hook-shaped portion having a hook including a downwardly bent tongue-like end portion extended into the plane of the strip and substantially smaller than the said opening therein to permit coupling engagement of the third hook-shaped portion with the end loop of a sinuously corrugated wire by tilting the wire on its side edge and sliding the end loop of such corrugated wire under the tongue-like end portion of the third hook-shaped portion.

4. A rail member adapted to readily, removably mount sinuously corrugated wire springs comprising a metal strip having two spaced, hook-shaped portions extended upwardly from said strips so that their open ends face each other, and a third hook-shaped portion extended upwardly from said strip above an opening therein, said third hook-shaped portion arranged in laterally offset relation with respect to said two hook-shaped portions and formed with a tongue-like end portion bent downwardly into the said opening of the metal strip, said third hook-shaped portion having its tongue-like end portion extended into said opening and said tongue-like portion being substantially smaller than the said opening to extend said tongue-like portion fully within the confines of said opening.

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