Sept. 16, 1952 J. PILIERO 2,610,334

MATTRESS CONSTRUCTION

Filed July 20, 1949 3 Sheets-Sheet 1

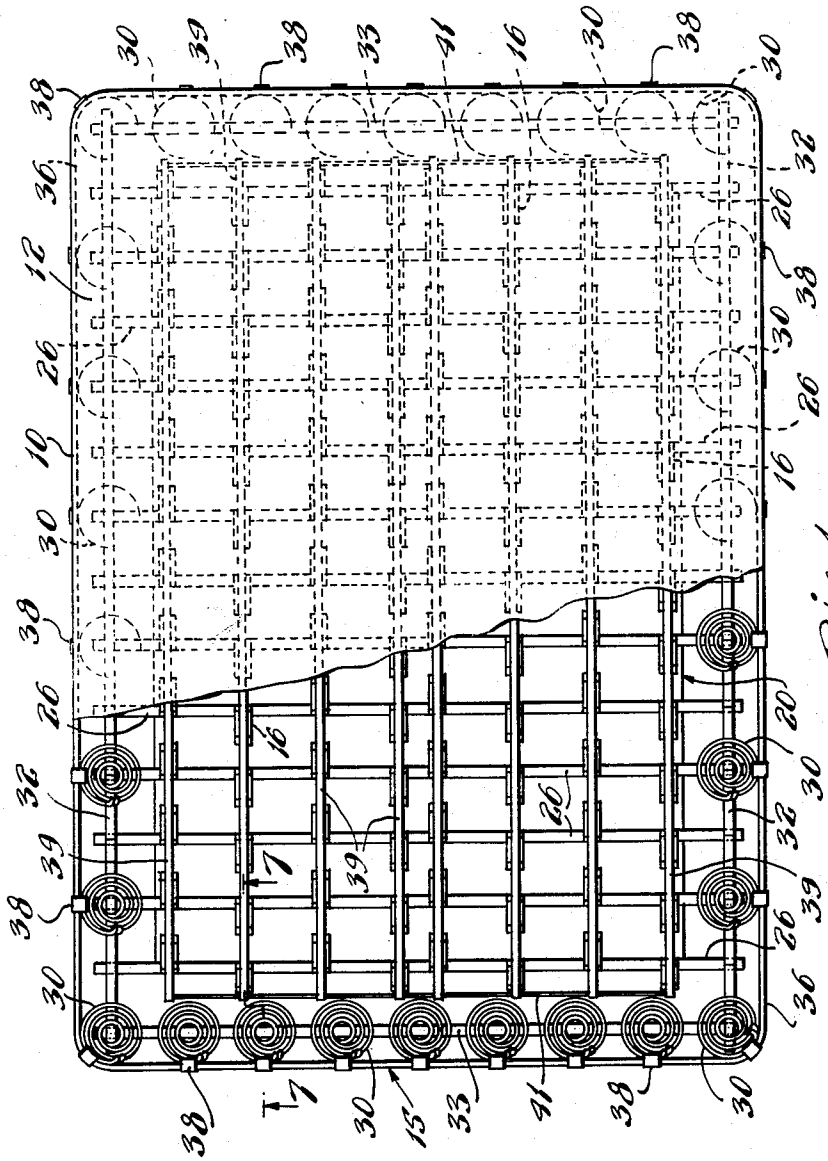


Fig. 1.

INVENTOR.
JAMES PILIERO
BY
Clarke & Att
ATTORNEYS

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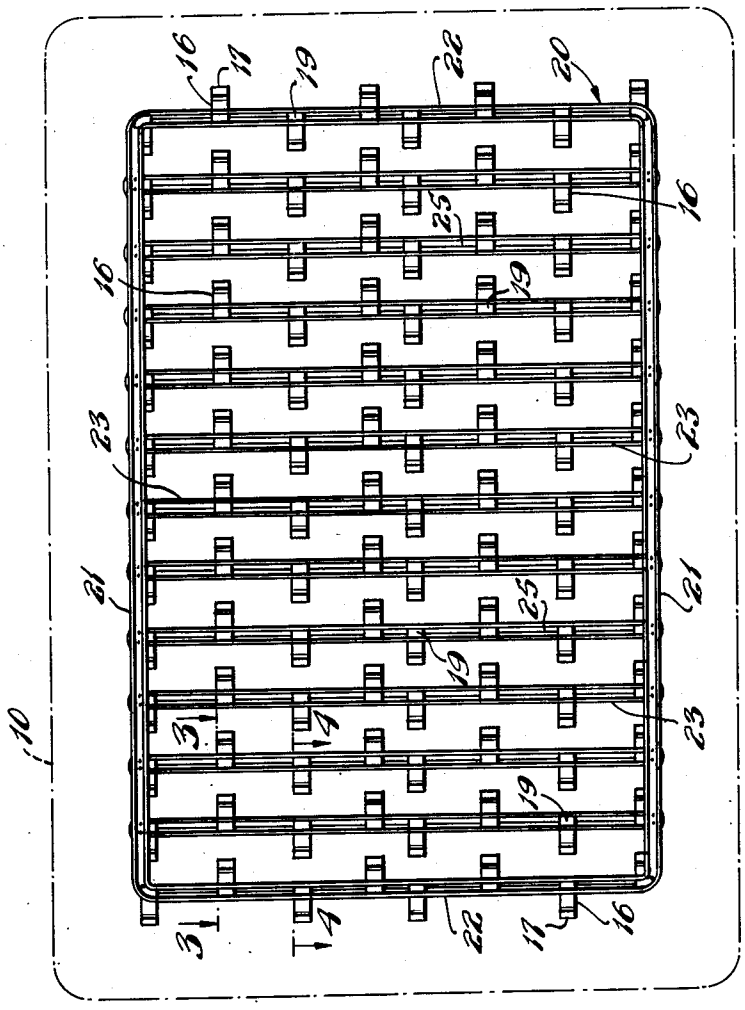


Fig. 2.

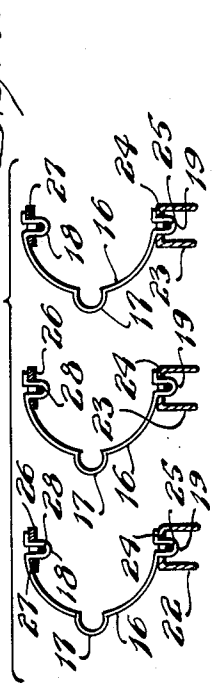


Fig. 4.

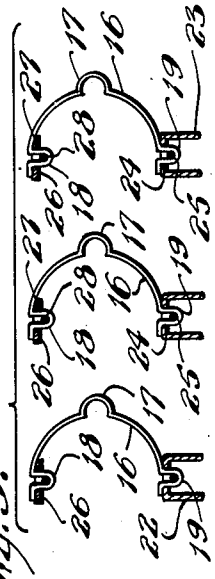


Fig. 3.

INVENTOR.
JAMES PILIERO
BY
Clark & Ott
ATTORNEYS

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MATTRESS CONSTRUCTION

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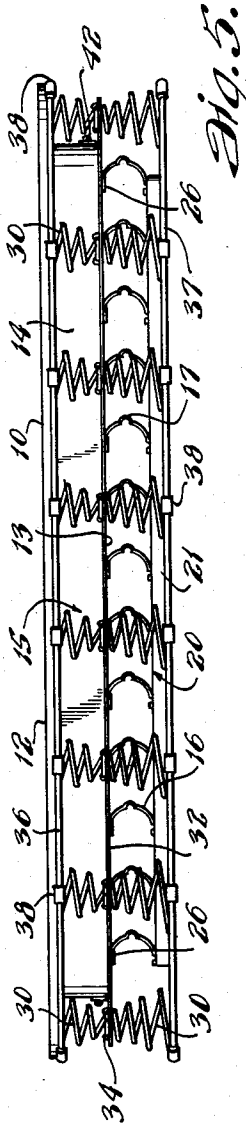


Fig. 5.

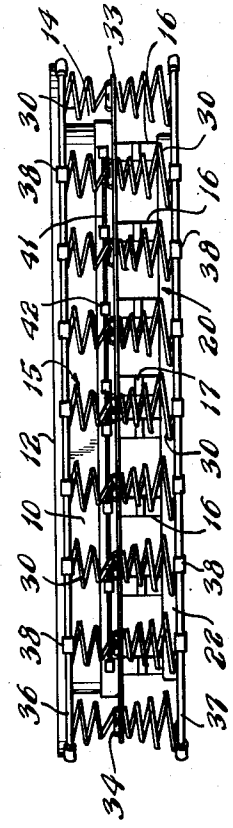


Fig. 6.

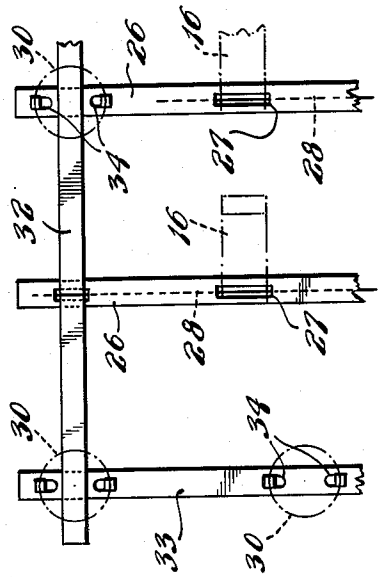


Fig. 8.

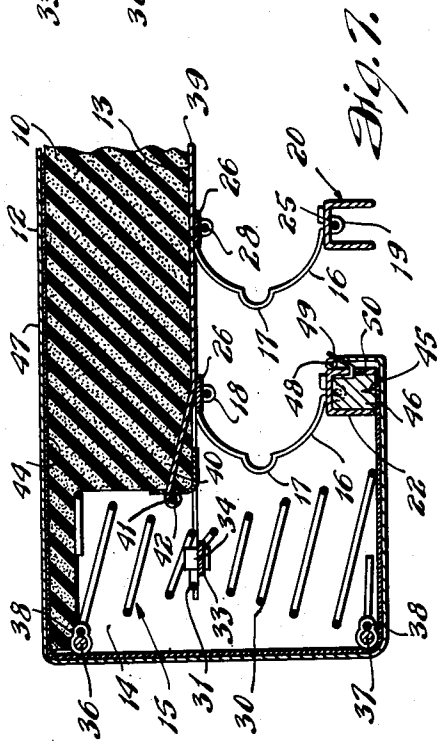


Fig. 7.

INVENTOR.
JAMES PILIERO
BY
Clark & Ott
ATTORNEYS

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UNITED STATES PATENT OFFICE

2,610,334

MATTRESS CONSTRUCTION

James Piliero, Astoria, N. Y., assignor to The Englander Company, Inc., Chicago, Ill., a corporation of Delaware

Application July 20, 1949, Serial No. 105,852

6 Claims. (Cl. 5—351)

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This invention relates to a mattress construction.

The invention has in view a mattress construction including a flexible resilient upper body extending continuously throughout the area of the mattress which affords a comfortable and resilient support and which is resiliently supported by a resilient innerspring unit.

Another object of the invention is to provide a mattress construction which takes the place of and accomplishes the results obtained by the usual combination of innerspring mattress and box spring, bed or open coil springs and the like.

Another object of the invention is to provide a mattress construction composed of an upper body of resilient rubber and a lower innerspring unit including spaced springs connected with a foundation frame.

Still another object of the invention is to provide a mattress construction of said character in which the upper body is formed with a marginal recess extending continuously about the periphery thereof in which is arranged a row of border springs supporting the mattress above the marginal recess.

Still another object of the invention is to provide an innerspring unit including a foundation frame, an upper flexible supporting frame on which the upper rubber body is arranged and a plurality of rows of springs arranged between and secured to said foundation and supporting frames.

With the foregoing and other objects in view, reference is now made to the following specification and accompanying drawings in which the preferred embodiment of the invention is illustrated.

In the drawings:

Fig. 1 is a top plan view of a mattress construction embodying the invention and illustrating the same with the upper portion thereof partly broken away to show the supporting innerspring unit.

Fig. 2 is an under side view of the innerspring unit showing the upper portion of the mattress in outline.

Fig. 3 is an enlarged fragmentary sectional view taken approximately on line 3—3 of Fig. 2.

Fig. 4 is a similar view taken approximately on line 4—4 of Fig. 2.

Fig. 5 is a view in side elevation of the mattress construction.

Fig. 6 is a view in elevation of one end thereof.

Fig. 7 is an enlarged fragmentary sectional view taken approximately on line 7—7 of Fig. 1.

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Fig. 8 is an enlarged top plan of a portion of the innerspring unit.

Referring to the drawings by characters of reference, the mattress construction includes an upper resilient body 10 preferably fashioned of foam rubber and which is of rectangular formation in plan extending throughout the upper portion of the mattress having plane upper and lower faces 12 and 13 and formed with a marginal recess 14 extending continuously about the periphery thereof.

The resilient body 10 is supported upon an innerspring unit 15 which includes longitudinally and transversely extending rows of bowed or semi-circular springs 16 which are preferably fashioned from flat spring stock and have outwardly extending U-shaped bends 17 formed therein intermediate of the height thereof and upper and lower depending U-shaped bends 18 and 19 formed in the ends thereof. The innerspring unit also includes a foundation frame indicated generally by the reference character 20 which is of rectangular formation and is located centrally below the upper body 10 inwardly of the marginal recess 14 with the opposite sides 21 and opposite ends 22 being located below the outer longitudinal and transverse rows of springs 16. The sides and ends 21 and 22 are of inverted U-shaped formation in cross-sectional configuration and the frame is provided with transversely extending bars 23 secured at their ends to the opposite sides 21 thereof and which are also of inverted U-shaped formation in cross-sectional configuration. The ends 22 together with the bars 23 of the frame correspond in number to the number of transverse rows of springs 16 and said ends and bars are formed with longitudinally extending spaced slots 24 in the top wall thereof through which protrude the lower U-shaped bends 19 with the lower ends of the springs disposed upon the top walls and the U-shaped bends 19 forming loops below the top walls through which extend wires 25 for securing the springs to the foundation frame. Disposed above the ends 22 of said frame and the transversely extending bars 23 thereof are transversely extending spring strips 26 which underlie the upper ends of the springs 16 in the transverse rows thereof and have longitudinally extending spaced slots 27 through which protrude the upper U-shaped bends 18 with the lower portions thereof forming loops through which protrude longitudinally extending wires 28 for securing the rows of springs to

said spring strips with the springs in adjacent longitudinal rows being arranged in oppositely disposed relation.

Surrounding the several rows of springs 16 is a marginal row of border or peripheral springs 30 which are of coil formation having their convolutions decreasing in size from their upper and lower convolutions toward the intermediate convolutions 31 respectively and which coils are arranged with their axes disposed vertically and with the upper portions thereof located in the marginal recess 14 and resiliently supporting the marginal portion of the body 10 above said recess. The said springs are connected together by longitudinally extending spring strips 32 arranged centrally beneath the intermediate convolutions 31 of the springs in the two longitudinal rows and by transversely extending spring strips 33 arranged centrally beneath the intermediate convolutions 31 of the springs in the two transverse rows. The said strips have spaced tongues 34 struck up from the body thereof which are bent downwardly over opposite portions of the intermediate convolutions 31 for securing the coil springs to said strips. Upper and lower wire members 36 and 37 surround the rows of border or peripheral springs 30 and are secured to the outermost convolutions thereof by clips 38 to thereby reinforce the upper and lower peripheral edges of the innerspring unit and connect the border or peripheral springs together at the upper and lower ends. The transversely extending strips 26 are secured at their opposite ends to the longitudinally extending strips 32 and the longitudinally extending strips 32 are secured at their ends to the ends of the transversely extending strips 33 so that the border springs 30 together with the bowed springs 16 and the foundation frame 20 and the strips 26, 32 and 33 are connected together to comprise the innerspring unit 15.

In order to reinforce the under side of the resilient body 10 longitudinally extending spring strips 39 are arranged in transversely spaced relation against the lower face 13 of said body with the opposite end portions 40 of said spring strips extending angularly through the body and secured in position by wires 41 extending through looped ends 42 protruding into the recesses 14. Any preferred number of spring strips 39 may be utilized and as illustrated the strips are arranged to cross over and engage with the transversely extending strips 26 centrally above the semi-circular springs 16.

The resilient body 10 together with the innerspring unit 15 are arranged within an inner fabric casing 44 which extends inwardly beneath the innerspring unit 15 and is secured by tacks or equivalent fastening means 45 to wooden inserts 46 extending longitudinally of and fitted in the U-shaped recesses in the sides and ends 21 and 22 of the foundation frame 20. An outer casing or ticking 47 covers the inner casing 44 and said outer casing extends beneath the innerspring unit 15 with the inner peripheral edge secured to a wire 48 extending continuously about the inner side faces of the sides and ends 21 and 22 of the foundation frame 20. In order to stretch or tighten the outer casing or ticking 47 metallic members 49 extend through openings 50 in the inner legs of the sides and ends of the foundation frame and said members have sharpened outer ends which pierce through the casing or ticking and are bent inwardly to tighten and hold the same in stretched or taut condition. The opposite ends of said members 48 are held in position between the wooden inserts 46 and the inner legs of said sides and ends of the foundation frame.

The spring strips 26, 32 and 33 preferably consist of flat spring metal which will flex and bend with the weight imposed upon the mattress construction whereby any portion of the innerspring construction will flex and bend without distorting the surrounding or other portions thereof.

What is claimed is:

1. In a mattress construction, an upper body of resilient cellular material having a marginal recess extending continuously about the sides and ends thereof, an inner spring structure including a series of springs supporting the upper body inwardly of the recess, a border row of coil springs surrounding said series of springs and disposed with their upper ends located in said marginal recess and supporting the outer portions of the upper body above said marginal recess, and frame means connecting said series of springs and said coil springs together.

2. In a mattress construction, an upper body of resilient cellular material having a marginal recess extending continuously about the sides and ends thereof, an innerspring structure including a series of springs supporting the upper body inwardly of the recess, a border row of coil springs surrounding said series of springs and disposed with their upper ends located in said marginal recess and supporting the outer portions of the upper body above said marginal recess, peripheral members extending continuously about the border row of coil springs and connected with the upper and lower convolutions thereof, and frame means connecting said series of springs and said coil springs together.

3. In a mattress construction, an upper body of resilient cellular material having a marginal recess extending continuously along each of the opposite sides thereof, an innerspring structure including a series of springs supporting the upper body inwardly of said recesses, a border row of coil springs arranged outwardly of said series of springs and disposed with their upper ends located in said recesses and supporting the outer portions of the upper body above said marginal recesses, and frame means connecting said series of springs and said coil springs together.

4. In a mattress construction, an upper body of resilient cellular material extending throughout the area of the mattress construction having a plane upper face constituting the upper surface thereof and formed with a marginal recess extending continuously about the sides and ends thereof, an innerspring structure including a series of springs arranged with their axes disposed horizontal and supporting the central area of the upper body, a row of coil springs surrounding said series of springs and disposed with their upper ends located in said marginal recess and arranged with their axes disposed vertical and supporting the outer portions of the upper body above said marginal recess, a rigid frame structure secured to the lower ends of said series of springs, and resilient strips secured to the upper ends of said series of springs and to intermediate convolutions of said coil springs respectively.

5. In a mattress construction, an upper body of resilient cellular material extending throughout the area of the mattress construction having a plane upper face constituting the supporting surface thereof, an innerspring structure includ-

ing a series of springs arranged with their axes disposed horizontal and supporting the central area of the upper body, a row of coil springs surrounding said series of springs and arranged with their axes disposed vertical and supporting the outer peripheral portion of the upper body, a rigid frame structure secured to the lower ends of said series of springs, and resilient strips secured to the upper ends of said series of springs and to intermediate convolutions of said coil springs respectively.

6. In a mattress construction, an upper resilient solid body extending throughout the area of the mattress construction, an innerspring structure including a series of springs supporting the central area of said body, a border row of coil springs arranged outwardly of said series of springs and supporting the outer peripheral portion of the upper body, a rigid frame structure arranged below said series of springs and including cross members secured to and supporting the lower ends thereof, resilient metallic strips secured to the upper ends of said series of springs and secured to intermediate convolutions of said coil springs for holding the upper ends of said springs in unit formation, and a plurality of resilient metallic strips underlying the upper body and secured thereto for engagement with the resilient metallic strips secured to the upper ends of said series of springs.

JAMES PILIERO.

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