Feb. 7, 1939. V. C. DRAKE 2,146,059

MATTRESS

Filed Sept. 18, 1937 3 Sheets-Sheet 1

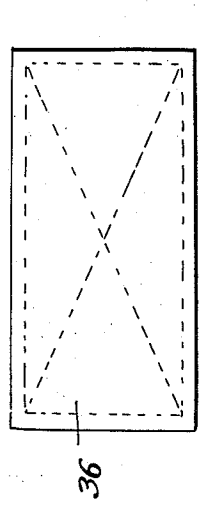


Fig. 6.

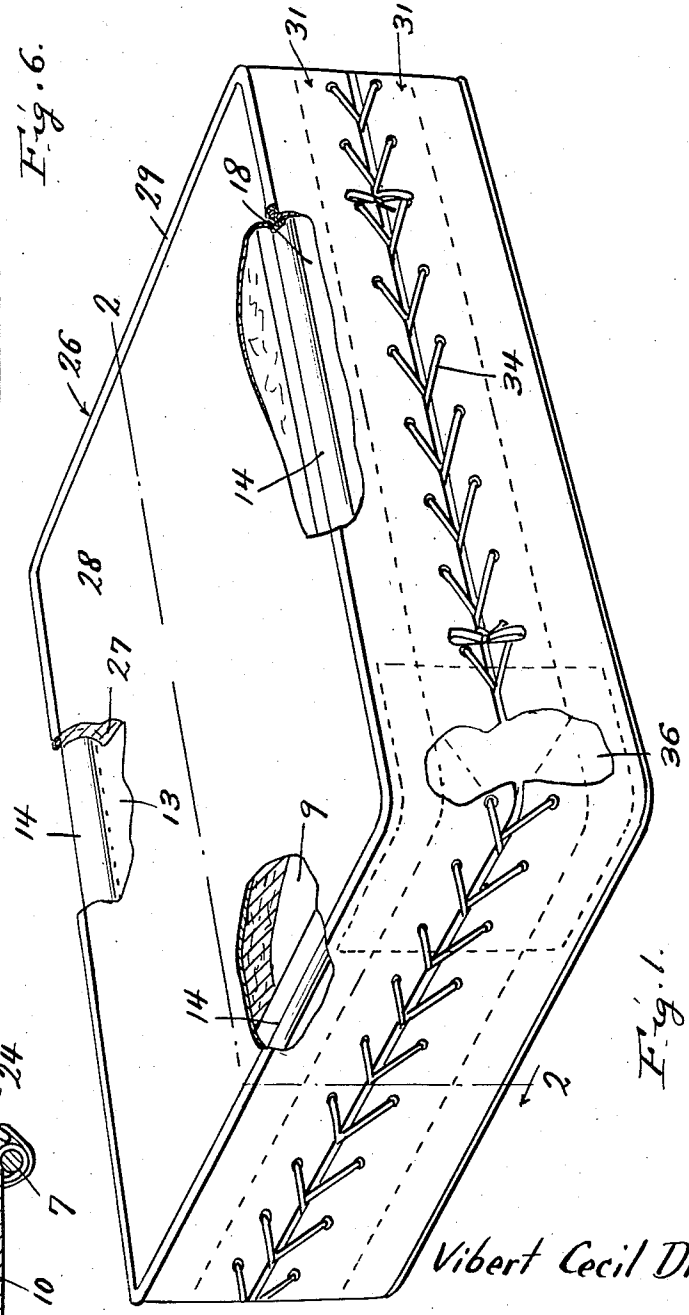


Fig. 1.

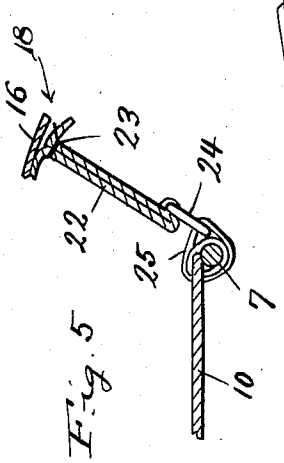


Fig. 5

Inventor

Vibert Cecil Drake

By Clarence A. O'Brien

Hyman Berman

Attorneys

Feb. 7, 1939. V. C. DRAKE 2,146,059

MATTRESS

Filed Sept. 18, 1937 3 Sheets-Sheet 2

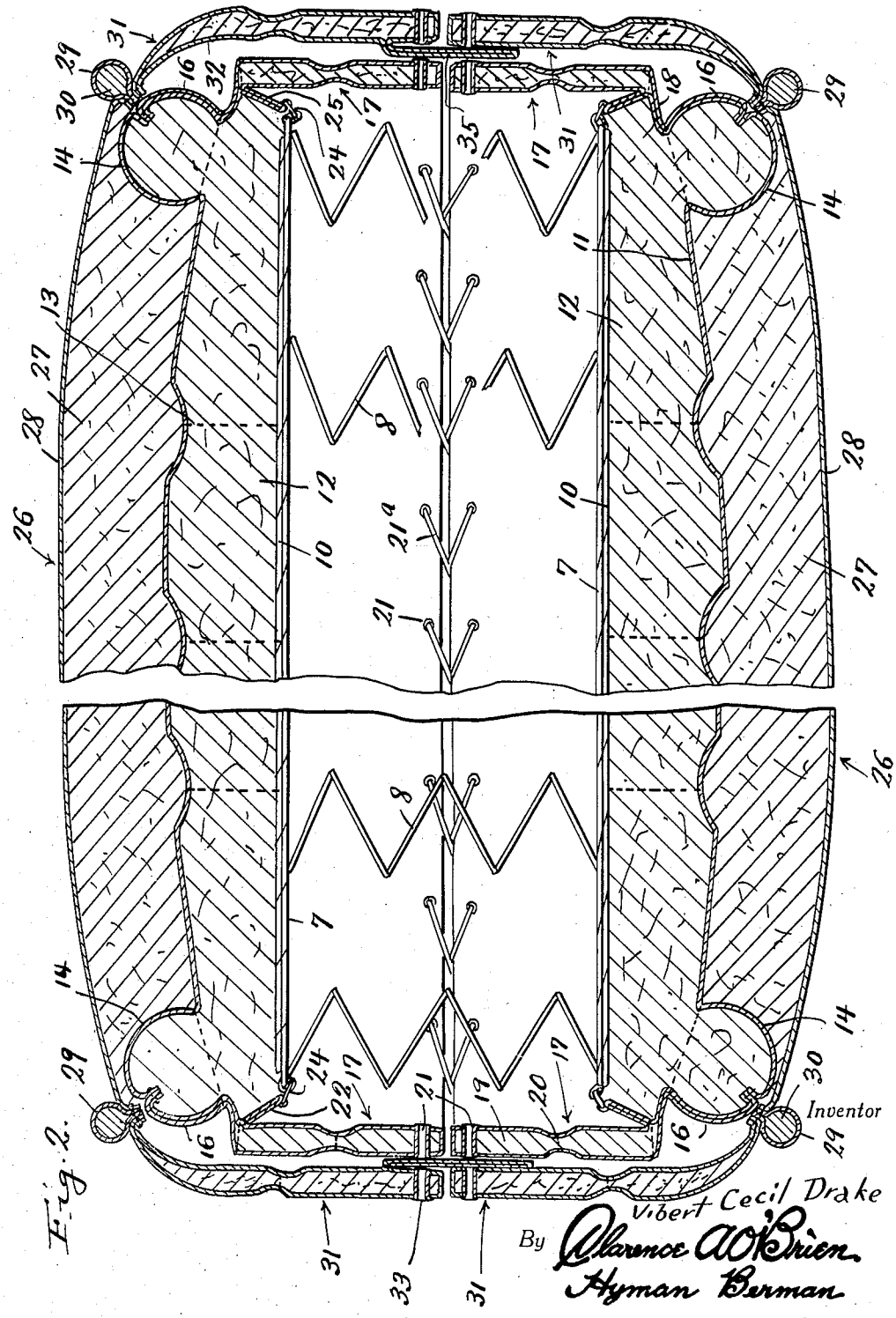


Fig. 2.

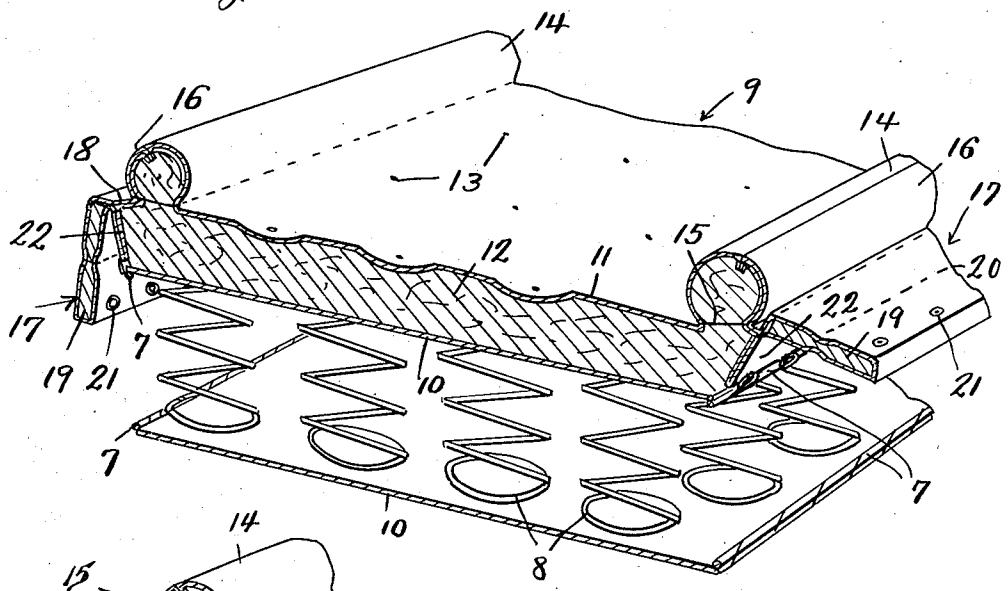
Inventor
Vibert Cecil Drake
By Clarence A. O'Brien
Hyman Berman
Attorneys

Feb. 7, 1939. V. C. DRAKE 2,146,059

MATTRESS

Filed Sept. 18, 1937 3 Sheets-Sheet 3

Fig. 3



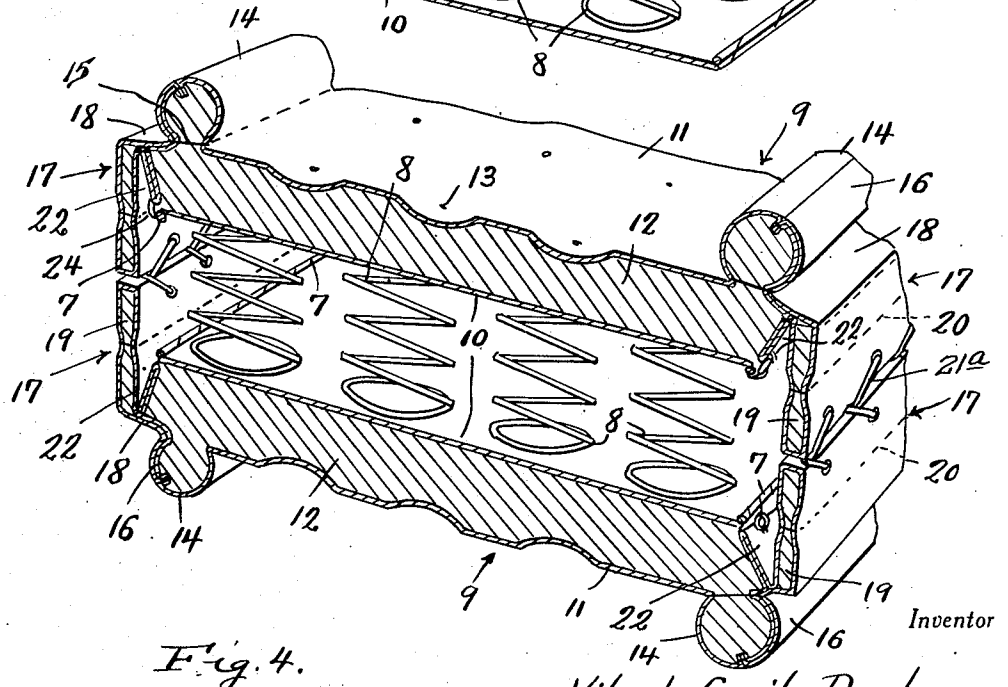


Fig. 4.

Inventor

Vibert Cecil Drake

By Clarence A. O'Brien

Hyman Berman

Attorneys

Patented Feb. 7, 1939

2,146,059

UNITED STATES PATENT OFFICE

2,146,059

MATTRESS

Vibert C. Drake, Oklahoma City, Okla.

Application September 18, 1937, Serial No. 164,595

2 Claims. (Cl. 5—351)

This invention relates to a structurally novel and improved mattress, and has reference in particular to the so-called built-in inner spring variety such as is utilized to combine the resilient and elastic properties of the spring means and cushioning means to promote greater durability and comfort.

More specifically, I have evolved and structurally perfected an externally non-tufted construction wherein the preferred embodiment is of a laminated or multiple sectional type, the individual units being of a predetermined character and aptly assembled to facilitate manufacture, to render the structure readily reparable, and to otherwise fulfill the expected requirements of a structure of this class.

In reducing to practice the principles of the inventive concept, I have found it expedient and practicable to encase the inner spring in a double unit padded casing so designed as to effectively coordinate with the spring means in providing a sturdy and reliable foundation for the reparable finishing or outer enveloping cushion means.

As will be hereinafter appreciated, novelty is predicated upon the particular construction and association of the foundation sections, these having coacting quilted side walls interlaced or otherwise separably joined together to permit access to be had to the spring means.

Furthermore, novelty is reflected from the adoption and use of properly padded foundation sections each having a marginal oversize welting which in effect provides a pan-like receptacle for padding felt such as is used in the exterior reparable enveloping inclosure.

An outstanding objective of the invention is to so fashion and coordinate the inner spring and foundation cushioning units as to effectively distribute stress and strain in order to provide desired compensating properties affording such factors of tolerance as allow self-accommodating action designed to promote longevity and to effectively maintain the inner spring in adequate bondage while still permitting requisite freedom of relative motion between parts.

An equally important feature and advantage is predicated upon what may be called a padded core, this being characterized by the inner spring and the casing which envelopes it, said core serving as an adequate mounting for the completely detachable outer casing, whereby to facilitate making repairs and removing the ticking and padding for washing or exchange, such as conditions may require.

Other features and advantages will become more readily apparent from the following description and drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a perspective view of the complete mattress as perfected in accordance with the principles of this invention, portions being broken away to expose otherwise concealed features, whereby to adequately illustrate the general assembly.

Figure 2 is a longitudinal sectional view through the complete mattress seen in Figure 1, the section being approximately on the plane of the line 2—2 of Figure 1.

Figure 3 is a fragmentary perspective view showing the coordination of what may be called the top pad of the foundation means attached to the inner spring unit, in readiness to facilitate accommodation of the remaining pad units.

Figure 4 is a fragmentary perspective view of the so-called foundation core, including the spring unit, both pads being laced in place.

Figure 5 is a fragmentary sectional view showing the hinging flap connection between the spring and associated pad units.

Figure 6 is a detail view of a flexible cornice shaper and protector such as is sometimes used to promote effective corner formation.

Reference is had first to the so-called composite or sectional core illustrated to advantage in the fragmentary perspective view designated in Figure 4. The inner spring comprises suitable frames 7 having coiled springs 8 of appropriate type interposed and assembled therebetween. The springs may be of spiral design or any other configuration, and their tension will of course vary according to the demands in the particular mattress under construction. Thus, we are concerned here with an inner spring forming the filler between the superimposed insulating pad units 9. These units are of duplicate construction, and are in effect substantially puncture-proof, felt-filled pads. In order to adapt the inner spring for attachment to the pads, it is desirable to place webbing in the form of pieces or sheets of burlap 10 on the top and bottom of the framing members. Then the so-called upper pad 9 is in readiness for attachment as illustrated to advantage in Figure 3. The part comprises ticking 11 of suitable texture, this being drawn tautly over and around the felt or other cushioning material 12. The material 12 is placed upon the burlap spring covering 10 and is stitched or otherwise fastened thereto as at the points 13.

A slight tufting principle may be employed here to prevent lumping and shifting of the filling material 12. Particular attention comes to the marginal formation of this unit 9, since it is surrounded by an oversize bead or welt 14 maintained in shape by twine or the like 15 stitched in place. The welting forms a sort of a receptacle comparatively deep and sufficient to function as a receiver for the outer casing means to be hereinafter described. Side members or walls 17 are provided for closing the spring and each member 17 includes a sheet of fabric folded upon itself with its edge portions forming the cover of the outer part of the bead or welt 14, as shown at 16, the two edges of this fabric being sewn to the ticking 11. This material is connected with the ticking at the inner portion of the bead 14 by the stitching 15 and then the material extends outwardly to form the web 18. From this web 18 the two parts of the fabric are separated to form a casing for receiving the padding 19 and this padded casing forms the side member or wall for enclosing the springs. A central line of stitching 20 passes through the padded casing as shown. The free swingable edges of the side walls are provided with suitable eyelets 21 to accommodate lacing 21*a*, as brought out to advantage in Figure 2 of the drawings. Furthermore, as illustrated to advantage in Figure 5, the numerals 22 designate endless flaps which may be said to be hingedly attached at the points 23 to the webs 18. These flaps provide requisite joining elements between the spring unit and cushion units 9. Each flap is provided with a series of connecting rings 24 tied or otherwise fastened as at 25 to the frame members of the spring means. Thus, the flaps 22 serve as inclosures for maintaining the packing or filling 12 in place on the burlap facing 10. Moreover, by having the double hinging action between the spring means and the pads as a unit, it is evident that the desired compensating properties exist to insure proper maintenance in the assemblage of parts, while at the same time promoting the equably desirable relative shifting action designed to distribute stress and strain and to thus avoid displacement or breakage due to this tolerance.

With the top pads applied to the spring means, as seen in Figure 3, it is obvious that the same may then be inverted and the bottom pad is then applied. As both pads are the same, and as the method of attachment is the same, it is evident that when the two pads are in place their respective side walls 17 are laced or otherwise separably joined together so that we then have a twin pad inner spring assembly which forms a well padded core around which the remainder of the mattress is successfully and adequately built.

The outer laminations or sections forming the cushion unit are of duplicate construction and identified by the numerals 26. The felt or padding 27 is simply laid in the natural receiver provided by the depressed foundation units 9. The surrounding marginal beads or welts 14 serve to maintain the filler in place. Then a non-tufted sheet of ticking 28 is stretched over the padding and stitched in place. The marginal edges of the ticking 28 connect with somewhat smaller ornamental welts 29 surrounding the perimeter, and these welts include welting cords 30 and are sufficiently stronger and accommodating to facilitate attachment thereto of the outer quilted wall or apron members 31. Here, again, the apron members 31 are of hollow or tubular form and properly filled as at 32. They are provided with suitable eyelets 33 to accommodate the outer lacing 34. It will be observed that the auxiliary or smaller welts 29 are slightly outward of the major or main welt 14. This allows the desired assembling and provides the desired pull-down or take-up action to facilitate lacing of the quilted aprons or walls 32 together. Incidentally, the numeral 35 merely designates a guard flap such as bridges the joints between the respective members 32 and conceals the internal spring-equipped core means described.

With this arrangement it is obvious that the outer envelope or casing, as a unit, is completely removable to facilitate repair of the parts individually, or replacement of the padding 27.

I shall not attempt to scientifically describe the hinge action between the flaps 22 and the spring means, since it is variable. The description is being limited to an explanation of the catalogue of parts, as they are each constructed and as they are effectively brought together in the final combination providing what is in effect a non-tuft, reparable inner spring mattress.

Attention is called to the numeral 36 in Figure 6, this designating what may be called a cornice reinforcing supplementary pad. It is of any appropriate or flexible construction, and may be filled with cardboard or equivalent means. That is to say, it may be a flexible textile envelope with a cardboard or equivalent filling. This renders it adaptable to ready insertion in the corner construction, as brought out to advantage in Figure 1. It is properly shaped and reinforces the corner, but is of course an optional and incidental feature of the arrangement.

It is thought that the description taken in connection with the drawings will enable a clear understanding of the invention to be had. Therefore, a more lengthy description is thought unnecessary.

While the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the field of invention claimed may be resorted to if desired.

I claim:

1. In a mattress construction, a spring structure, a pad attached thereto, said pad including a filling and ticking maintaining the filling in place, a rim forming welt extending around the marginal portion of the pad, a web extending outwardly from the base portion of the welt, a casing connected with the outer portion of the web, filling material in the casing, said casing with its filling material forming side walls for the mattress, a flap having one edge connected with the web, inwardly of the point of connection of the casing with said web, and means for connecting the other edge of the flap to the spring structure, said flap forming side walls for the filling of the pad.

2. In a device of the class described, a spring structure, a pad seated thereon and including a filling and covering material for the filling, a rim forming welt at the marginal portions of the pad formed by portions of the filling with the covering material extending over the inner portion of said filling material, a folded sheet of material having its edge portions covering the outer part of the filling material of the welt, stitching connecting the folded sheet at the top part of the welt with portions of the first-mentioned covering material, stitching connecting the folded sheet with the first-mentioned covering material

at the base of the welt, said folded sheet extending outwardly from the base of the welt to form a web and then the sheet forming a casing which is connected with the outer portion of the web, a filling for the casing, said casing and its filling forming side walls for closing portions of the spring structure, a flap having one end connected with the web inwardly of the point of connection of the casing with said web and means for connecting the other edge of the flap to the spring structure, said flap forming side walls for the filling of the pad.

VIBERT C. DRAKE.