Aug. 19, 1947. T. S. COBB 2,425,728

MATTRESS

Filed Sept. 8, 1944

FIG. 1.

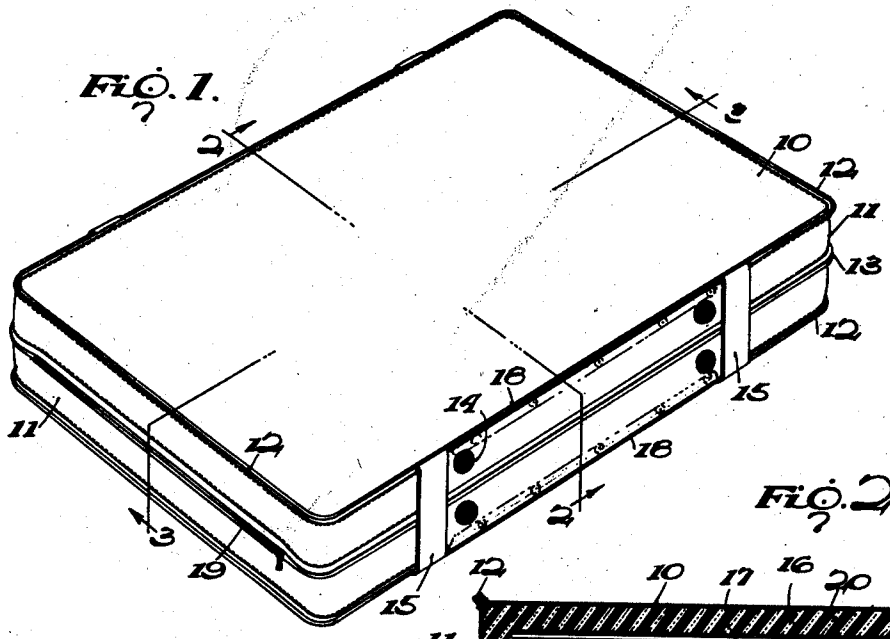


FIG. 2.

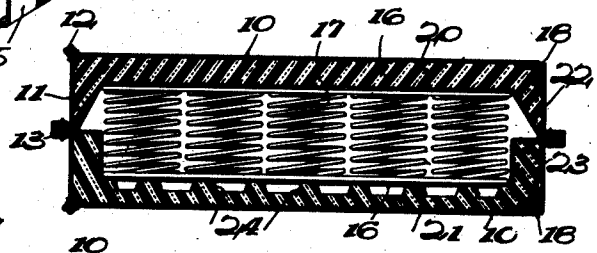


FIG. 3.

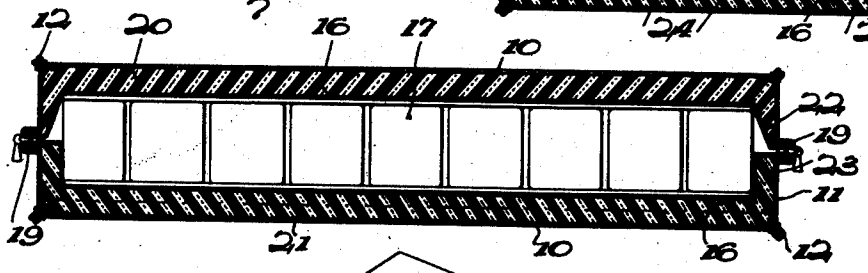
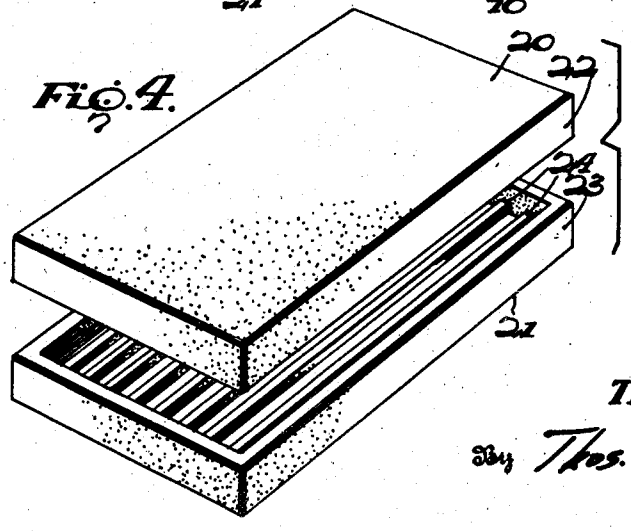


FIG. 4.



Inventor

Thomas S. Cobb

By Thos. H. Johnston

Attorney

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MATTRESS

Thomas S. Cobb, Fort Lauderdale, Fla.

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3 Claims. (Cl. 5—351)

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This invention relates to an improved mattress and seeks, among other objects, to provide a mattress which will avoid the high cost of the usual inner spring mattress of quality and yet will also avoid the inferior construction of the usual cheap inner spring mattress while, at the same time, the mattress will possess all of the characteristics contributing to ease and comfort equal or superior to conventional mattresses of high price.

A further object of the invention is to provide a mattress embodying an inner spring unit, caps of rubber fitting said unit at opposite sides thereof, an outer cover enclosing said caps, and an inner cover for said unit composed of tie sheets disposed to exert an inward pull on the boxing of the outer cover and prevent bulging thereof.

Another object of the invention is to provide a mattress wherein, by providing the caps with both side and end walls, the caps cannot slip either sidewise or endwise on the inner spring unit.

A further object of the invention is to provide a mattress which may be reversed side for side, and wherein, by providing the caps with structural characteristics individual to each cap, one side of the mattress will be rendered more rigid than the other side while at the latter side of the mattress, softness and pliability will be accentuated so that the user will be afforded a choice as may best conform to comfort.

And the invention seeks, as a still further object, to provide a mattress wherein tension exerted on the tie sheets, as occasioned by a person lying on the mattress, will tend to flex the free margins of the side and end walls of the caps inwardly apart and dispose their confronting edges out of register so that air may freely circulate through the mattress.

Other and incidental objects of the invention will appear during the following description thereof, and in the drawings:

Figure 1 is a perspective view of my improved mattress.

Figure 2 is a transverse section on the line 2—2 of Figure 1.

Figure 3 is a longitudinal section on the line 3—3 of Figure 1.

Figure 4 is a detail perspective view of the caps employed.

In carrying the invention into effect, I employ a fabric outer cover 10, the boxing of which is formed of like strips 11 stitched to the body sheets of the cover to form seams 12, as well as stitched to each other at their meeting margins to form

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a seam 13 extending around the mattress centrally of the thickness thereof. The seams 12 and 13 may be of any approved character. Suitable ventilators 14 are preferably provided in the boxing, and, at each longitudinal edge of the mattress, a pair of straps 15 is also preferably provided.

Secured at their side and end margins within the seam 13 by the stitching thereof are companion fabric tie sheets 16 which form an inner cover for a coil spring unit 17 of approved character. Thus, as will be seen, the outer cover 10 is divided by the sheets 16 into like compartments having plackets 18 at the seams 12, while similar plackets 19 are provided for the inner cover at the seam 13. The plackets 18 and 19 may be of any desired length such as will render the assembling of the mattress easy and convenient, and, as suggested in the drawings, may be closed by buttons, snaps or zippers.

While either side of the mattress may be considered as the top and either side the bottom thereof still, for convenience of description, the unit 17 may be said to have top and bottom sides. Removably disposed within one of the compartments of the outer cover 10 to fit over said unit at the top side thereof is a top cap 20, and removably disposed within the other compartment of said cover to fit over the unit 17 at its lower side is a bottom cap 21, the tie sheets 16 extending between the caps and said unit. These caps are formed of soft rubber or, if preferred, rubber latex, or so-called foam rubber.

The top cap 20 is provided with side and end walls 22 which are feathered toward their free edges, being straight at their outer surfaces and inclined at their inner surfaces, while the inner surface of the body wall of the cap is flat to lie flat against the upper side of the unit 17. The bottom cap 21, however, is provided with side and end walls 23 of uniform thickness and the inner surface of the body wall of the cap is formed with spaced longitudinal ribs 24 which rest against the lower side of the unit 17. As will be observed, the free edges of the walls 22 and 23 of both caps rest against the tie sheets 16 by which they are separated to normally provide for the ingress of air within the caps as well as the egress of air therefrom. Thus, by providing the caps 20 and 21 with both side and end walls, I forestall both side and endwise slippage of said caps while the problem of interior ventilation of the caps is solved by the presence of the tie sheets 16 between the confronting edges of said walls.

Attention is now directed to the fact that, due

to the feathering of the side and end walls 22 of the top cap 20, said walls will be more flexible than the side and end walls 23 of the bottom cap 21. Consequently, the top cap 20 will be more flexible and pliable as a whole than the bottom cap 21 to afford a soft pad at the upper side of the mattress. Similarly, the side and end walls 23 of the bottom cap 21 will be more rigid than the side and end walls 22 of the top cap while the ribs 24 will add stiffness to the body wall of the bottom cap. Consequently the bottom cap, as a whole, will be more stiff and rigid than the top cap to afford a pad at the bottom of the mattress somewhat harder than the pad at the top of the mattress. By simply turning the mattress over, side for side, selection may be made. If preferred, both caps may be like the cap 20, or both caps like the cap 21, or, if found desirable, the ribs 24 may be employed in conjunction with the feathered side walls 22 on either or both caps.

It is important to note, in connection with the caps 20 and 21, the action of the tie sheets 16 thereon when the mattress is in use. Assuming a person be lying on the mattress, it will be seen that the weight of the person will depress the top cap 20 longitudinally at the middle portion thereof while also, a like depressing action will be communicated through the spring unit 17 to bulge the bottom cap 21 downwardly somewhat to correspond more or less with the outline of the depressed portion of the top cap. Consequently, the longitudinal middle portions of the tie sheets will be bowed downwardly with the result that the longitudinal side edges of each sheet will be pulled toward each other while also, the transverse end edges of each sheet will be pulled toward each other to exert a corresponding inward pull on the boxing of the outer cover and on the free edge portions of the side and end walls 22 and 23 of said caps. Moreover, since the springs at the extreme lateral and end margins of the unit 17 will be less depressed by the weight of the person that the springs medially of said unit, the former springs will provide fulcrums for the tie sheets lying at the upper and lower peripheral edges of said unit above and below the free edges of the side and end walls of the top and bottom caps in more or less close spaced relation to the peripheral edges of the sheets. Accordingly, as the middle portions of the sheets are sagged, the edge portions of the tie sheet beneath the top cap 20 will be caused to pull inwardly and upwardly on the free edge portions of the side and end walls of the top cap while the edge portions of the tie sheet beneath the bottom cap 21 will be caused to pull inwardly and downwardly on the free edge portions of the side and end walls of the bottom cap. The edge margins of said walls will thus be curled inwardly so that air may freely flow through said gaps under the impulse of the person shifting position on the mattress. Cooling of the interior of the mattress as well as accelerated ventilation thereof will thus be effected.

In connection with the plackets 18 and 19, it will, of course, be understood that while I have shown the placket 18 at one longitudinal edge of the mattress only, still, if so desired, a like placket may be provided at the opposite longitudinal edge of the mattress. The plackets 19 are preferably provided at both ends of the mattress so that by opening these plackets more or less, in the practical use of the mattress, air may be permitted to circulate around and through the spring unit 17.

Having thus described my invention, what I claim is:

1. A mattress including an outer cover having like body sheets provided with angularly disposed side and end strips secured together at their meeting margins by a hem disposed midway between the body sheets to form a boxing connecting said sheets with each other, tie sheets secured to the boxing at said hem and defining compartments lying between said tie sheets and said body sheets, an inner spring unit rectangular in cross section disposed between the tie sheets, and unitary soft rubber caps within said compartments shaped externally to impart a rectangular cross sectional contour to the mattress and shaped internally to fit over said unit at opposite sides thereof and enclose said unit, said caps being each provided with side and end walls aligning with the side and end walls of the other of said caps and having flat outer faces abutting said boxing and registering free edges abutting the edge margins of said tie sheets at said hem, the tie sheets extending between the caps in flat contact with the upper and lower faces of said unit and being supported by the upper and lower peripheral edges of the unit above and below the free edges of the side and end walls of said caps in close spaced relation thereto.

2. A mattress including an outer cover comprising like body sheets, strips secured by seams to said sheets, a hem securing said strips together midway between the body sheets to form a boxing connecting the body sheets with each other, tie sheets secured in said hem and defining compartments lying between the tie sheets and said body sheets, an inner spring unit rectangular in cross section disposed between the tie sheets, a placket in said hem adapted to permit the removal of said unit, unitary soft rubber caps within said compartments shaped externally to impart a rectangular cross sectional contour to the mattress and shaped internally to fit over said unit at opposite sides thereof and enclose said unit, said caps being each provided with side and end walls aligning with the side and end walls of the other of said caps and having flat outer faces abutting said boxing and registering free edges abutting the edge margins of said tie sheets at said hem, and plackets in said seams adapted to permit the removal of said caps from said compartments, the tie sheets extending between the caps in flat contact with the upper and lower faces of said unit and being supported by the upper and lower peripheral edges of the unit above and below the free edges of the side and end walls of said caps in close spaced relation thereto.

3. In a mattress, the combination of an inner spring unit, soft rubber caps fitting over said unit at opposite sides thereof to enclose said unit and each provided with side and end walls aligning with the side and end walls of the other of said caps and having their free edges closely confronting each other in registering relation around the unit substantially midway of the thickness thereof, an outer cover enclosing the caps and said unit and provided with side and end walls, and tie sheets extending between the unit and said caps at opposite sides of said unit to emerge between the free edges of the side and end walls of the caps and secured to the side and end walls of said cover on a line registering with said edges, the tie sheets being adapted when sagged by

weight on the mattress medially thereof to flex the side and end walls of the cover inwardly and curl the free edge margins of the side and end walls of each cap inwardly away from the free edges of the side and end walls of the other of said caps out of register therewith to afford ventilation interiorly of the mattress.

THOMAS S. COBB.

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