Feb. 24, 1942. J. E. ALLEN 2,274,027

MATTRESS

Filed Jan. 2, 1940

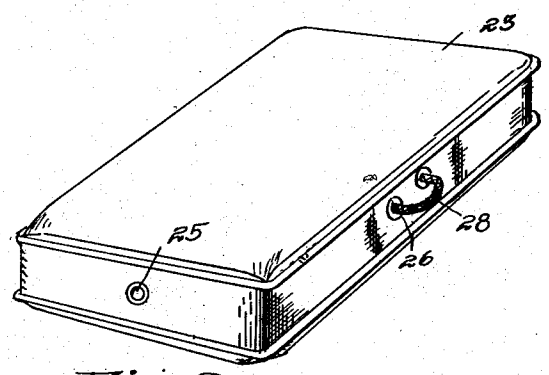


Fig. 2.

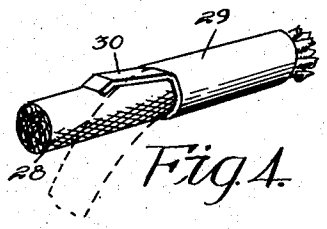


Fig. 4.

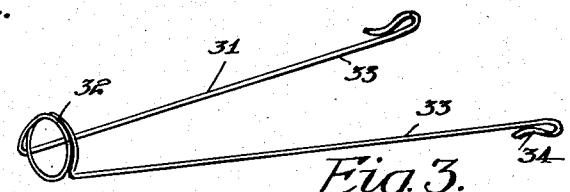


Fig. 3.

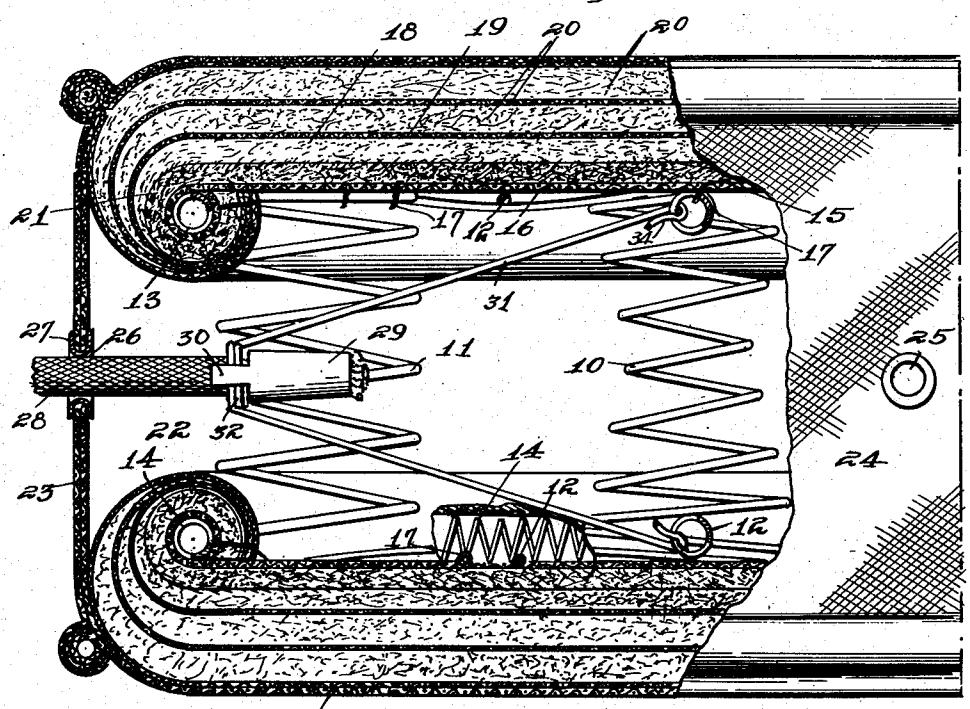


Fig. 1.

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by Craig & Teague. Attys

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2,274,027

MATTRESS

James E. Allen, Ames, Iowa

Application January 2, 1940, Serial No. 311,992

2 Claims. (Cl. 5—351)

This invention relates to an improved mattress. The object of my invention is to provide improved padding construction for the ordinary spring mattress wherein all stitching through the mattress, and the tufts connected therewith, are entirely eliminated, and at the same time provide a mattress so constructed that the padding used on the upper and lower surfaces of the springs will not move or bunch up.

A further object is to provide a mattress in which complete ventilation is established so as to keep the inner layers of the padding perfectly sanitary.

A further object of my invention is to provide an improved handle construction wherein the mattress may be easily grasped when it is desired to turn the mattress over or to carry it from one position to the other, and to provide in the handle construction improved means for anchoring the handle to the spring structure, whereby the handle may be firmly secured, and further to provide in such a handle construction improved means for detachably mounting the handle to the mattress.

A further object is to provide a mattress so constructed that the paddings at the ends of the mattress between the upper and lower paddings are entirely eliminated, to permit freer circulation of air into and between the upper and lower layers of padding, and to eliminate breaking between the end padding and the said upper and lower layers of padding.

A further object is to provide a mattress that may be easily rolled, when so desired, into a compact bundle.

My invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawing, in which:

Figure 1 is a side elevation of a portion of one end of a mattress, a portion of which is shown in section to show the interior construction;

Figure 2 is a perspective view of my improved mattress;

Figure 3 is a perspective view of the anchoring device to which one end of the mattress handle is attached when installed in the mattress; and

Figure 4 is a detail perspective view of the clamping device for detachably attaching the mattress handle to its anchor.

My improved mattress comprises the ordinary coil spring support having the ordinary coil springs 10 forming the central portion of the supporting frame, and an outside row of coil springs 11, all of the coils being of the same diameter and of slightly heavier wire than those occupying the central portion of the support. The upper and lower ends of the coils 10 and 11 are supported in the usual manner by cross wires 12, the said upper and lower ends of the coil spring frame being bound by a frame 13 at the top and a frame 14 at the bottom, said frame being constructed of a wire helix in the usual manner, the said frame members 13 and 14 constituting the foundation for the rolled edges of the upper and lower pads.

My improved mattress is constructed by first providing a layer of sisal 15 above and below the spring support, the inner surface of the sisal being covered by a heavier burlap 16, to serve as a foundation for the sisal, both of which are secured to the spring support by suitable stitches 17, the edges of the strip of sisal and burlap being wound around the helical frames 13 and 14 having their ends stitched to the under side of the strip 16 and to the frame members 13 and 14, thus providing a stiff and yet somewhat pliable foundation on which to build the padding. The inner surface of the strip of sisal is unfinished so that the ends of the comparatively stiff and rough fibres forming said sisal strip will firmly engage the inner surface of an adjoining layer of cotton felt 18 in such a manner that the strip of sisal will firmly hold the felt layer 18 against relative movement between the two layers. A layer of fabric, such as muslin, 19, is then stretched over the layer of felt. Additional layers of felt and muslin 20 are superimposed on the first layer and one on the other in the manner clearly illustrated. The outer edges of all of the layers of cotton are preferably thinned out or tapered and then wound around the rolled portion of the sisal, and the entire layers of the muslin and cotton stitched together and to the sisal to form rolls 21, the layers of muslin being stretched both longitudinally and laterally at the time the edges are rolled under and around the sisal rolls. These layers of cotton felt are comparatively thin so that the layers or sheets of muslin will serve to prevent bunching or lumping of the cotton by movement of the body over the mattress.

By this construction it will be seen that the only method of securing the sheets of muslin and the felt strips is by rolling their edges under and around the rolled portion of the sisal and fixing them to the said sisal layer. By this arrange-

ment all stitching through the various layers of padding and providing tufts therefor is eliminated, so that perfectly smooth upper and lower surfaces are provided.

It will further be seen that a space 22 is provided between the upper and lower rolls 21, so that the upper padding may be moved longitudinally or laterally relative to the lower padding without injury to either the upper or lower pads; and inasmuch as no padding is provided between the upper and lower rolls 21, of course, no breaking or injury would result to said rolls as is often the case when end paddings are provided.

It will further be seen that the mattress may be quite readily rolled up in view of the fact that one of the pads is free to move laterally or longitudinally relative to the other to accommodate the difference in circumference between the inner and the outer pads when rolled.

The mattress thus formed may be placed in the usual tick 23. The edges 24 of the tick 23 are provided with ventilation openings 25. The said edges are also provided with openings 26 in which suitable eyelets 27 are mounted for receiving the ends of a flexible handle member 28, the inner ends of the handle member 28 being provided with a metallic band 29 which is firmly fixed to the handle, the inner end of which is provided with a lip 30.

For securing the handles in position I have provided a wire frame 30 having a looped portion 32 and leg members 33 having their ends terminating in hook portions 34. The hooks 34 are designed to be placed over coils of the cross frame members 12 of the spring support, after which the member 29 may be introduced through the loop 32, together with the member 30, after which the handle 28 may be bent near the member 29, as illustrated in dotted lines in Figure 4, permitting the loop 32 to be introduced under the member 30 by pulling the handle 28 outwardly, thus providing means for locking the handles to the spring support. These handles are placed in position at the time the tick is being placed on the mattress.

Thus, it will be seen I have provided an improved mattress so constructed that the cross stitching and tufts are entirely eliminated and so constructed that the edges of the paddings are provided with firmly formed rolls which are firmly anchored to the spring support.

It will further be seen that I have provided a mattress wherein the rolls of the upper and lower pads may be pushed together by a person sitting on the edge of mattress without in any way damaging the mattress, and at the same time provide a mattress that may be easily rolled and in which the interior of the mattress may be thoroughly ventilated, inasmuch as the air currents are caused to move into and out of the space between the pads due to the flexing of the upper and lower pads toward and from each other as weight is applied to or removed from the mattress.

Another advantage of my improved mattress lies in the provision of suitable handles by means of which the mattress may be handled and the manner in which the handles are attached to the spring support to provide means whereby the attachment of the handle is not carried by any of the fabric constituting the padding and wherein the mattress might be roughly handled without injury.

I claim as my invention:

1. A mattress, comprising a coil spring support having top and bottom faces, each bound by a frame member, a foundation layer of heavy and rough fibrous material supported on the top and bottom of said spring support and firmly secured thereto, having its edges formed over and around said frame members, a series of alternate and superimposed layers of thin sheets of woven material and comparatively thin layers of soft untufted felt stretched over each foundation layer, each inner layer of soft fibrous felt being in direct contact with the protruding fibers of said foundation layer to prevent slippage of the layer of soft fibrous felt relative to the foundation layer, the felt and sheets being stretched longitudinally and transversely over said foundation layer with their edges formed over and around the rolled edges of said foundation layer and firmly secured thereto, the sheets of muslin over the thin felt layers serving to prevent bunching and matting of the soft fibrous material without the usual ties and tufts.

2. A mattress, comprising a coil spring support having its upper and lower edges bound by helical frames, a foundation layer formed of sisal felt covering the upper and lower surfaces of said spring support, having its edges rolled over and around said helical frame and secured thereto, alternate layers of muslin and untufted cotton felt stretched over each layer of sisal felt, each inner layer of cotton felt being in direct contact with the fibers of the foundation layer to prevent slipping, the outer edges of the layers of cotton felt and muslin being stretched longitudinally and transversely with all of the muslin strips parallel and then rolled over and around the rolled edges of said foundation layer, said rolled edges being normally spaced apart with no padding between them, and a tick containing said spring frame, and upper and lower paddings under tension tending to separate them, the sides of said tick having ventilation openings.

JAMES E. ALLEN.