March 21, 1933. W. VAN SLYCK 1,902,000

MATTRESS

Filed Nov. 22, 1930

Fig. 1.

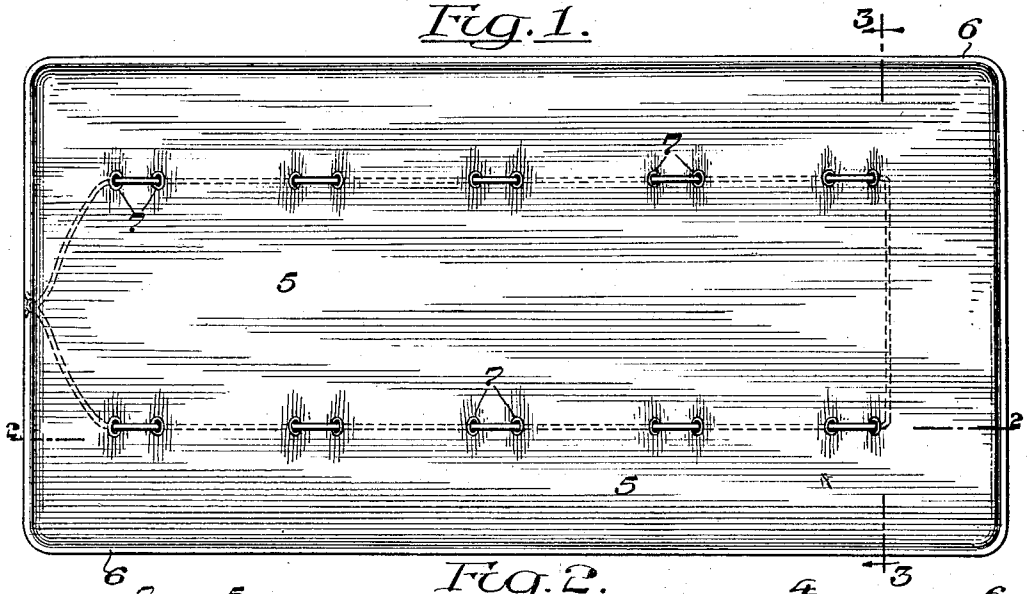



Fig. 2.

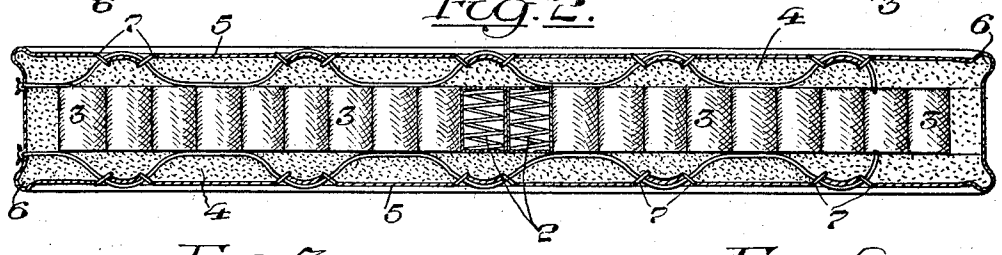



Fig. 3.

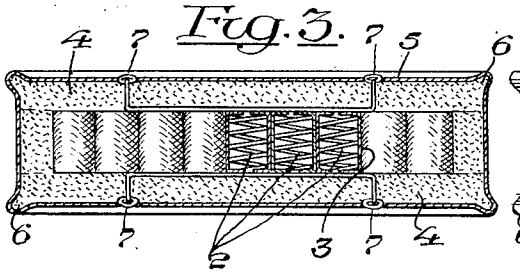



Fig. 4.

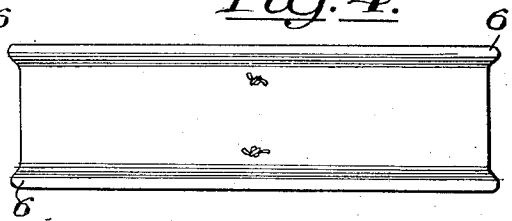
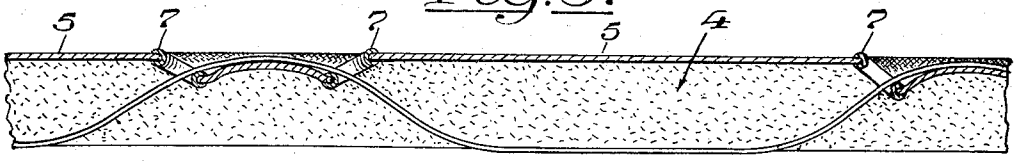



Fig. 5.




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Patented Mar. 21, 1933 1,902,000

# UNITED STATES PATENT OFFICE

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## MATTRESS

Application filed November 22, 1930. Serial No. 497,365.

This invention relates to mattresses, although the improvement can be used with cushions and other upholstered articles, the object of the invention being to provide an improved mattress, particularly inner spring mattresses in which the filling material and the cover therefor will be so connected as to effectively prevent the shifting of the filling material, while permitting the cover to have a smooth and uniform crowned appearance, thus doing away with the tufting in the manner heretofore practiced and, consequently, all the disadvantages thereof, and to accomplish this in a simple, inexpensive and efficient manner.

As is well-known, it has been the usual practice to tuft a mattress by tightly drawing down the cover and the filling at intervals by means of threads or cords, thus forming, as it were, hollows or depressions at intervals along the mattress which were partly filled with a tuft or button, which formed a relatively uncomfortable or hard surface to be slept upon. Furthermore, the formation of the tufts in this manner frequently resulted, in use, in the breakage of the thread or cord and consequently did not efficiently prevent the shifting of the filling material. Furthermore, as this cord or thread passed entirely through the mattress from top to bottom, it necessarily had to pass between or through the spiral or coiled springs that were used between the filling material, collapsing the sides of these springs, that is pulling them together at one side while leaving the other side expanded and so prevented a uniform action of the springs in use. The constant depression and expansion of the springs also abraded or cut the threads or cords.

Therefore, the present improvement avoids these serious disadvantages and also enables the cord, thread or lacing to be tightened at any time by the user, should this be required, without the necessity of sending the mattress for repair.

Therefore, the primary object of the present improvement is to provide an article of manufacture of the character described having the filling material and cover so united as to prevent the shifting of the filling material without interfering with the uniform action of the springs which may be used therewith and without the necessity of passing the lacing through or between the springs.

In the drawing accompanying and forming a part of this specification—

Figure 1 is a top view of this improved mattress;

Fig. 2 is a cross section thereof taken on line 2—2, Fig. 1;

Fig. 3 is a cross sectional end view of this improved mattress taken on line 3—3, Fig. 1;

Fig. 4 is an end view of the mattress; and

Fig. 5 is an enlarged detail sectional view illustrating the cover and a layer of filling material united in the improved manner herein described.

Similar characters of reference indicate corresponding parts in the several views.

Before explaining in detail the present improvement and mode of operation thereof, I desire to have it understood that the invention is not limited to the details of construction and arrangement of parts which are illustrated in the accompanying drawing, since the invention is capable of other embodiments, and that the phraseology which I employ is for the purpose of description and not of limitation.

While the improvement may be applied to various forms of mattresses and to other upholstered articles where it is desired to unite the filling material with the cover to prevent shifting of the former, it is particularly shown herein as applied to what is known as an inner-spring mattress having a series of springs between suitable layers of filling material or pads located in relatively thick layers at the top and bottom of the springs and, in the form of inner-spring mattress shown, the mattress is made up of a layer or series of coiled springs 2, each usually covered by a suitable thin material 3. Located on the top and bottom of this layer of springs is a layer of filling material forming a relatively thick pad 4 usually formed of cotton, hair or other desired material, according to the price at which the mattress is to be sold.

These springs and top and bottom layers of material are enclosed by a suitable cover 5,

shown as having what is known as a rolled edge 6. For facilitating the lacing of the cover and the filling material, the cover is provided with eyelets 7, shown located in pairs, the sets of pairs being suitably spaced apart. Any suitable arrangement of these eyelets may be made according to the ornamental appearance to be given to the top and bottom of the mattress but, in the present instance these eyelets are arranged in rows which provide a very simple way of lacing the cover and filling material together so as to prevent the shifting of the latter. Therefore, in the present instance, the lacing of cord or tape or other suitable material is run through the eyelets and threaded through the filling body adjacent to the cover and the ends of the lacing united at the ends of the mattress instead of, as heretofore, at the tops and bottoms thereof.

This enables the user to draw the lacing tighter at any time if so desired in that the lacing is accessible at the end of the mattress where the ends may be tied or otherwise fastened, and it also eliminates the common practice of having a series of independent tuft threads or cords. It also avoids the use of tufts or buttons heretofore employed.

It will also be seen that the cover and its adjacent layer of filling material is thus united by the lacing without the necessity of this lacing passing through or between any of the springs so that the collapsing or pulling together of adjacent sides of juxtaposed springs, while leaving the opposite sides thereof expanded, is avoided so that the uniform resiliency of the springs is not in any way interfered with. Furthermore, it will be observed that, as the lacing does not pass through or between any of the springs, it is not cut or abraded by the springs during the action thereof, as commonly occurs with the ordinary form of tufting cords, and also, it is not necessary to draw down the top and bottom covers to form the hollow or depressed tufts heretofore commonly required since the tension on the lacing is in the direction of the width or length of the mattress and not transversely thereof. Consequently, also, the mattress can have a crowned appearance instead of a series of hollows or depressions.

It will, of course, be understood that, although I have shown the lacing located in two parallel rows for a narrow mattress, that a wider mattress would require additional rows of lacing, the lacing on the top and bottom being either in the form of a continuous lacing or each pair of rows having its lacing united at the ends of the mattress in the manner shown, as may be found desirable in practice.

The provision of eyelets facilitates the lacing and enables it to be drawn through the cover and filling material without tearing the edges of the cover or in any way abrading the lacing which may be used.

It will thus be observed that the filling material on the top of the springs is united to its cover independently of the connection of the filling material and cover on the bottom of the springs. In other words, the filling material on the top of the springs is united to its cover independently and separately of the connection between the filling material and its cover on the bottom of the springs so that the lacing in no way interferes with the proper and uniform resilience of the springs as it does not pass therethrough so that it is not abraded or cut thereby, leaving the springs free to have their normal action without any interference therewith by the lacing, while the lacing is just as effective to prevent the shifting of the filling material relatively to the cover and, at the same time permits that cover to have a smooth, uniform crowned appearance without any hollows or depressions therein and without the necessity of using the common tufts or buttons providing a hard and uncomfortable surface to the mattress.

The present improvement also avoids the frequent breakage of the cords or threads when passed transversely through the mattress, as is very common in practice, with the old style of tufting due, in part, to the great tension that has to be placed upon the thread or cord in order to draw the top and bottom of the mattress together and also due in part to the constant use of the mattress.

Furthermore, the present improvement avoids the use of tufts or buttons which frequently come off due to the breakage of the threads and facilitates the use of a tape instead of a thread or cord, thus providing a stronger connection between the filling material and the cover while enabling a constant and uniform tension on the filling to be maintained, which has heretofore been impossible with the ordinary tufting due to the fact that the threads or cords which passed transversely through the mattress at frequent intervals were constantly shifting vertically due to the compression and expansion of the springs when in use.

Thus, by the improvement shown and described, I have provided a very simple, improved mattress and similar cushioned articles, having a crowned smooth and neat appearance on the top and bottom thereof in which, the uniform resilient action of the springs is not interfered with and in which if desired, the lacing may at any time be drawn tighter without the necessity of sending the mattress for repairs.

By means of the present improvement, the mattress can be made up in its entirety before it is necessary to apply the lacings. That is to say, the filling 4 can be applied to the tops and bottoms of the springs and the whole

completely covered and then properly laced, the lacings being applied by means of a curved needle which suitably threads it through the cover and its juxtaposed filling during which, such lacing is also passed through the tops of the covers enclosing the coiled springs, thus uniting the spring covers with the mattress cover. This, of course, avoids the use of an inner cover and also facilitates the manufacture of the mattress since the whole mattress may be made and completed before it is laced. In other words, the tufting takes place after the filling pads 4 have been applied to the springs and the whole enclosed in its cover, which very much simplifies the manufacture of the mattress and enables it to be made at much less cost.

It is to be understood that by describing in detail herein any particular form, structure or arrangement, it is not intended to limit the invention beyond the terms of the several claims or the requirements of the prior art.

Having thus described the nature of my said invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made, or all of the modes of its use, I claim:

1. A mattress comprising a plurality of layers of filling material spaced apart, a series of coiled springs inserted between the layers of filling material, a cover completely enclosing the same, and lacings uniting each layer to the cover without the lacing passing through or between the springs, each such lacing comprising a continuous lacing exposed at the edge of the mattress, the lacings connecting the pad and its juxtaposed cover being located in longitudinal rows and connected at both ends and placed and maintained under tension to form a crowned mattress, the rows being spaced farther apart than the distance between the exposed portions of the lacing of each row.

2. The method of making a mattress which consists in providing a series of coiled springs, then completely covering the springs with a layer of filling material, then applying a cover around the filling material, the springs separating the filling material into a pair of layers, then lacing the cover to its juxtaposed layer of filling material by rows of longitudinally extending lacings subsequent to the application of the filling material and cover to the springs, with the ends of the lacing exposed at the edge of the mattress with the exposed portions of the lacing in each row closer together than are the rows of lacings.

3. The method of making a mattress which consists in assembling a series of coiled springs, then completely covering the springs with a layer of filling material, then applying a cover around the filling material, the springs separating the filling material into a pair of layers, then lacing the cover to its juxtaposed layer of filling material by rows of longitudinal lacings, with the ends of the lacing of each layer connected under tension thereby to give the mattress a crowned effect.

Signed at New York, county and State of New York, this 20th day of November, 1930.

WILLIAM VAN SLYCK.