No. 871,871. PATENTED NOV. 26, 1907.

F. H. HIRSCHMAN.

MATTRESS.

APPLICATION FILED SEPT. 9, 1907.

Fig. 1.

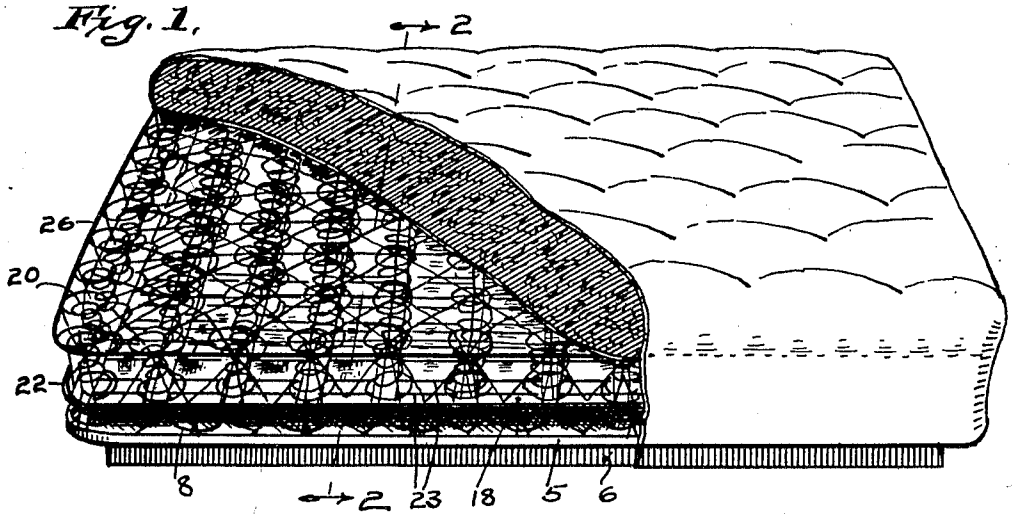


Fig. 2.

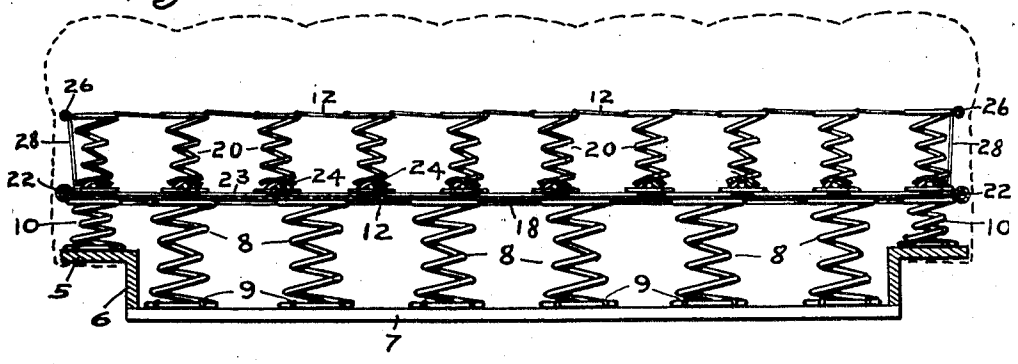


Fig. 3.

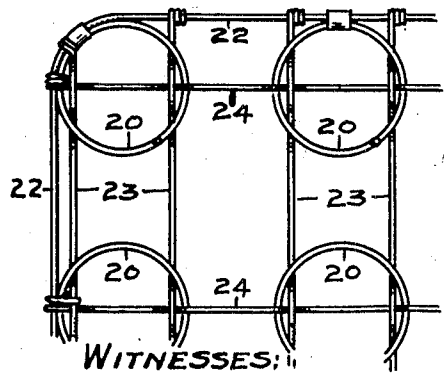
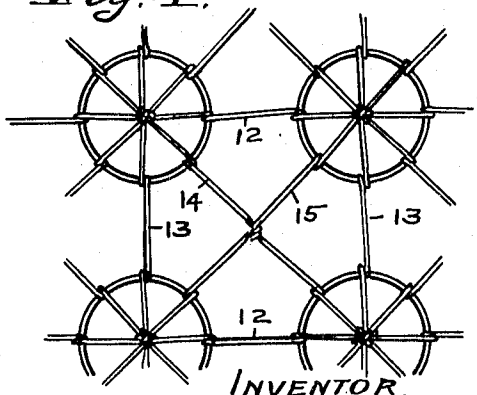


Fig. 4.



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UNITED STATES PATENT OFFICE.

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No. 871,871. Specification of Letters Patent. Patented Nov. 26, 1907.

Application filed September 9, 1907. Serial No. 391,982.

To all whom it may concern:

Be it known that I, FRANK H. HIRSCHMAN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Mattresses, of which the following is a specification.

This invention relates to improvements in double-deck box mattresses, and the object of the invention is to provide means for cheapening the cost of construction and for permitting the use of smaller and more numerous springs in the upper deck than are used in the lower deck, by enabling the two decks to be assembled without requiring the springs in the two decks to be assembled in vertically alined pairs.

The object further is to simplify and cheapen the cost of production of mattresses of this character, and at the same time to render them softer and more elastic, and to increase their durability.

I accomplish the objects of the invention by the means illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my invention with the hair mattress on top broken away in part to expose the underlying springs. Fig. 2 is a vertical transverse section on the line 2—2 of Fig. 1. Fig. 3 is a detail in plan view of the base of the upper deck of springs showing the manner in which the several springs are wired together, and Fig. 4 is a detail in plan view illustrating the manner in which the tops of the springs in both decks are tied together with cords.

Like characters of reference indicate like parts throughout the several views.

5 represents the horizontal member of the box or frame of my mattress, designed to rest upon the bed-rails at the sides of the mattress and 6 are the vertical members of the box or frame, which are attached to the horizontal members 5 and depend therefrom between the bed-rails in the usual manner.

7 are the bed-slats which are secured to the side members 6. Resting upon the slats 7 are the spirally wound springs 8 which are secured to the slats by means of the staples 9. Resting upon the horizontal members 5 of the box-frame are the springs 10, which are also secured by staples 9. These springs are shorter than the springs 8 so as to make the tops of the springs 8 and 10 all in the same horizontal plane.

The springs 8 and 10, after being assembled and secured by staples as above described, are tied together at their upper ends by means of the cords 12 running transversely of the mattress, the cords 13 running longitudinally of the mattress, at right angles to the cords 12, and the two oppositely oblique cords 14 and 15. At all points where the cords 12, 13, 14, and 15 cross each other and cross the springs the cords are tied to prevent slipping, and also to make the job more permanent and substantial. After the springs are thus corded and tied they are covered as a whole with a burlap or other textile fabric covering 18. Thus far the construction is similar to the method heretofore employed in this line of manufacture. It has also been the practice heretofore to use the same number of springs formed out of the same size of wire, for the upper deck, as for the deck below, and these upper springs have been placed directly upon the lower ones, end to end, and the abutting ends of said springs have been stitched and tied together. This, because of the great number of springs required in a mattress, and because of the long and inconvenient reach in tying together those springs which are located in from the edges of the mattress, is difficult to construct properly and is slow and therefore expensive.

In my invention 20 represents the springs of the upper deck, which will preferably be formed out of smaller wire into somewhat smaller sized spirals than the springs below thereby making the upper deck as a whole softer and more comfortable, and to give the average strength and durability of the lower deck the springs 20 will be placed closer together and a consequent larger number of them will be used. The base ends of the springs 20 in the upper deck will be surrounded as a whole by the larger marginal wire 22 and passing transversely of the mattress are the smaller wires 23, there being a pair of wires 23 for each row of springs passing under the springs in the manner as shown in Fig. 3, and 24 are wires running longitudinally of the mattress under the middles of each longitudinal row of springs 20 and interlocking with the bottom coils of the springs and with the transverse wires 23 in the manner shown in Fig. 3. The ends of the wires 23 and 24 are made fast to the marginal wire 22 as shown. The upper ends of the springs 20 are corded and tied together by means of the cords 12, 13, 14, and 15 as shown in Fig. 4

and as described for the springs 8 of the lower deck, and the outside row of springs around the entire upper deck has each of its individual springs attached to an outside frame-wire 26. In my construction the burlap 18 is fastened at its edges to the frame-wire 22, and the upper frame-wire 26 is tied to the wire 22 by means of the cord-ends 28.

By means of the horizontal wires 23 and 24 a firm base is provided for the support of the springs 20 and the springs are interlocked and fastened to this base so as to be securely supported and held whether directly above and in alinement with the springs 8 of the lower deck or not, and the tedious operation of tying the upper and lower springs together is wholly obviated. Above the upper deck of springs 20 is a mattress of usual construction filled with hair, felt, or the like, with the usual mattress-casing and cover shown in Fig. 1 and in outline by the dotted lines in Fig. 2.

Having thus fully described my invention what I claim as new and wish to secure by Letters Patent of the United States is,—

1. In a double-deck mattress having spirally wound wire springs in both decks, an upper deck having a larger number of springs than the lower deck, said springs of the upper deck being formed out of smaller wire than those of the lower deck, and a plurality of wires running longitudinally and other wires running transversely of the mattress forming a base for the support of the springs of the top deck without requiring a lower spring under each upper spring.

2. In a double-deck mattress, a box-frame, transverse slats supported by said frame, spirally wound springs resting upon and secured to the slats and box-frame, cords connecting the top members of said springs said cords extending longitudinally, transversely, and in a plurality of oblique directions, smaller and weaker but more numerous spirally wound springs for the upper deck, a frame-wire surrounding the bases of the springs of the top deck, longitudinal and transverse wires connecting said top deck springs at their bases with each other and with said frame-wire, a frame-wire surrounding the tops of said top-deck springs and fastened to the outside springs, and cords like those for the lower deck springs connecting the top members of said top-deck springs.

3. In a double-deck mattress, a box-frame, transverse slats supported by said frame, spirally wound springs resting upon and secured to the slats and box-frame, cords connecting the top members of said springs said cords extending longitudinally, transversely, and in two opposite oblique directions, smaller and weaker but more numerous spirally wound springs for the upper deck, a frame-wire surrounding the bases of the springs of the top deck, longitudinal and transverse wires connecting said top-deck springs at their bases with each other and with said frame-wire, a frame-wire surrounding the tops of said top-deck springs and fastened to the outside springs, cords like those for the lower deck springs connecting the top members of said top-deck springs a textile fabric between the springs of the upper and lower deck, and a hair or felt mattress covering the upper deck springs, and a cover for the mattress extending down and closing the sides of the latter.

In witness whereof, I, have hereunto set my hand and seal at Indianapolis, Indiana, this, 29 day of August, A. D. one thousand nine hundred and seven.

FRANK H. HIRSCHMAN [L. S.]

Witnesses:
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