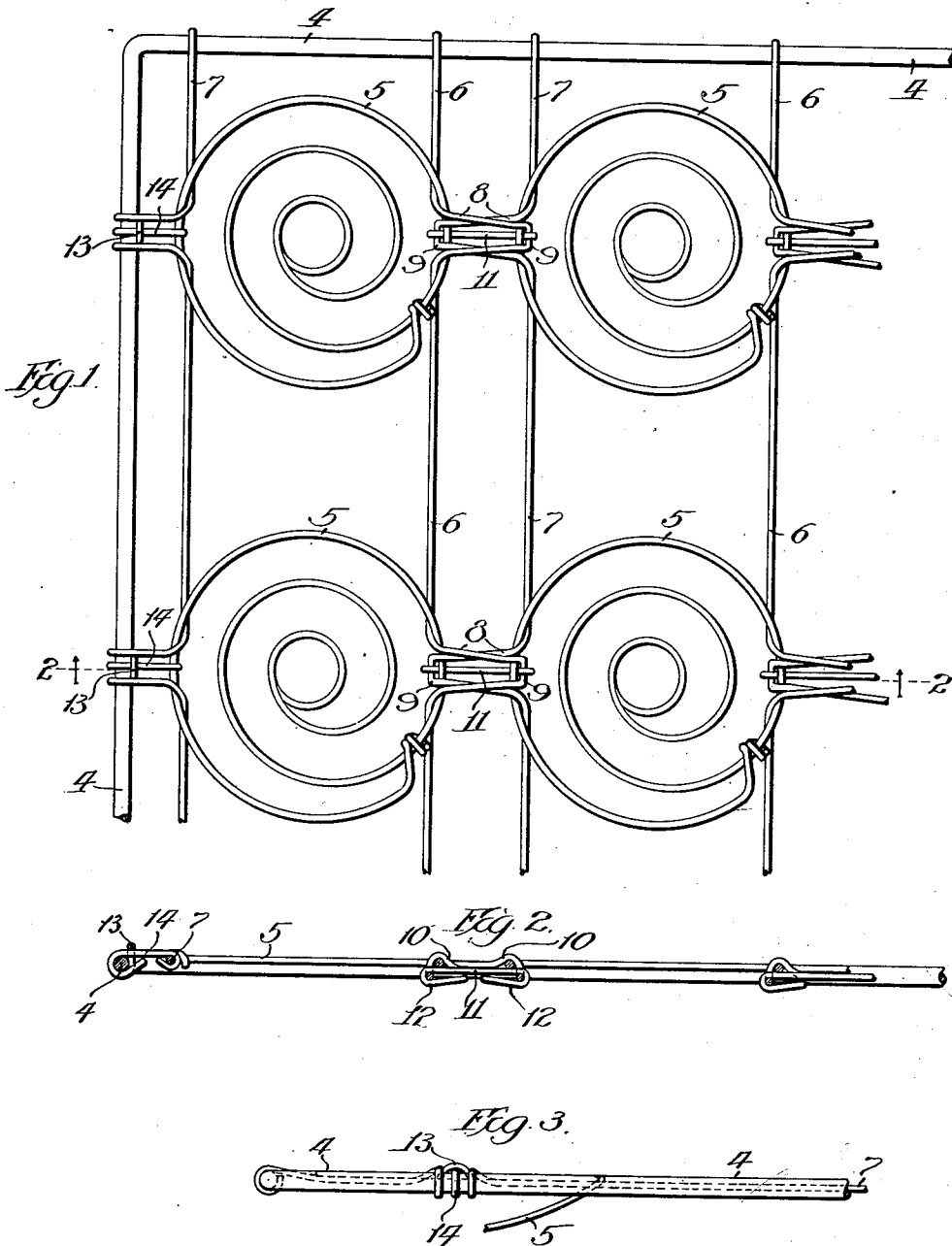


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WIRE MATTRESS.

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UNITED STATES PATENT OFFICE.

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WIRE MATTRESS.

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To all whom it may concern:

Be it known that I, THOMAS KLIPFEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wire Mattresses, of which the following is a specification.

This invention relates to improvements in wire mattresses and aims to provide a spring wire mattress which will be strong and durable and at the same time simple in construction and cheap to manufacture, and which will be noiseless.

In wire mattresses of the type to which this invention relates the springs employed are usually elongated coil springs arranged in parallel rows, and these springs are held in various ways at both ends between suitable supports. Although many different ways of maintaining the coil springs in their proper position have heretofore been devised, the usual way is to connect the individual springs in each row by means of tie rods formed to engage with each spring and to bind the several rows together by means of key rods passed across the frame transversely of the tie rods. One of the objections to wire mattresses of this kind as heretofore constructed is that weight upon the mattress will cause the springs to move slightly longitudinally of the key rods producing a disagreeable creaking or rasping sound.

The present invention is designed to obviate this creaking of the springs and produce a noiseless mattress by eliminating the usual transverse key rods and so connecting the tie rods to the springs that no relative movement between the rods and springs can take place.

A preferred embodiment of my invention is illustrated in the accompanying drawings in which—

Figure 1 is a plan view of a corner of a mattress. Fig. 2 is a transverse section on the line 2—2 of Fig. 1; and Fig. 3 is a fragmentary edge view of the upper left hand corner of Fig. 1.

On the drawings 4 represents a border frame of the usual type inclosing a series of springs 5 which are arranged in parallel rows and connected to the frame and to each other by the tie rods 6 and 7 which are held in place by the locking members 11.

The tie rods 6 and 7 are connected at

either end with the frame in any desired manner. For light mattresses, however, it is usually sufficient to simply loop the ends of the tie rods around the frame pieces. The tie rods may be disposed either longitudinally or transversely of the frame, and in either event they are preferably placed substantially parallel with the frame. Each tie rod is passed beneath the upper coil of the springs in a row and adjacent one side thereof, and a portion of the rod is passed upwardly through the coil in the form of a loop 8 which is bent laterally above the coil and extends over the adjacent side of the spring in the adjoining row and is then bent downwardly at 9 so that the downturned end of the loop projects slightly below the upper coil of the spring.

That portion of the loop which extends between the adjacent springs is depressed at 10 below the tops of the upper coils of the springs to prevent the coils from moving toward each other, and to maintain them the proper distance apart. It will be evident from Fig. 2 that the loop being bent downwardly inside the coils and depressed between the coils, forms sockets or shoulders which tightly clasp the sides of the coils and thereby prevent any relative movement of the coils but permitting them to move up and down together with the tie rods.

In order to maintain the loops in position and to securely lock the springs together, I have provided a locking member 11 which in the present instance is shown as a short piece of wire extending between and beneath the upper coils of the springs and inserted through the downwardly bent ends of the loops and having each end thereof bent back upon itself at 12 to tightly clasp the ends of the loops and hold them in the proper relative position. These locking members being securely fastened to the loops hold the loops in proper relation on the coils and firmly lock the coils together and retain the tie rods in proper relation. It will be obvious that the locking members will move upwardly and downwardly with the coils and that they will absolutely prevent separation of the coils and that the shoulders on the clamps engaging the coils prevent any movement of the coils toward each other. Since all relative movement between the coils, the tie rods and the locking members are obviated, creaking of the mattress which

is usually caused by movement between two or more of the members, is prevented.

The outer row of springs is held in place and secured to the border frame by the tie rod 7, the loops of which are bent around the border frame, the ends thereof being brought upwardly at 13. Locking members 14, consisting each of a short piece of wire, are looped around the side of the coil, passed beneath the upturned end 13 of the loop and bent downwardly around the side of the frame, as best shown in Figs. 2 and 3. The row of springs on the opposite side of the mattress is secured to the border frame in a similar manner by locking members 14 employed in connection with the usual tie rod 6. This construction permits all the tie rods to be constructed alike, since they may be used as either tie rods 6 or 7 shown in the drawings by simply turning them end for end so that the loops will project beyond the coils to the right or left as desired.

The elimination of the usual key rods permits a greater and freer range of movement of the individual springs than is possible in the ordinary constructions and the increased flexibility thereby produced results in a very yielding, easy and comfortable mattress.

Only two rows of two springs each are shown in the drawings but the method of connecting the springs is uniform throughout, and the number of springs employed may be varied by making the tie rods with longer or shorter loops as the exigencies of the particular mattress require.

While I have shown and described one preferred embodiment of my invention, it will be obvious that various minor mechanical changes in the form and proportion of the various parts may be resorted to without departing from the spirit of the invention or sacrificing any of the material advantages thereof.

What I desire to claim is:

1. In a wire mattress the combination of a series of springs arranged in parallel rows, a border frame surrounding said springs, tie rods attached at either end to said frame, said tie rods being provided with loops bent upwardly through the upper coil of each spring and bent downwardly over the upper coil of an adjacent spring, and an independent locking member for each spring engaged with the downwardly bent ends of adjacent loops beneath the upper coils.

2. In a wire mattress the combination of a series of springs arranged in parallel rows, a border frame surrounding said springs, tie rods attached at either end to said frame, said tie rods being provided with loops bent upwardly through the upper coil of each spring and bent downwardly over the upper coil of an adjacent spring, the loops of adjacent tie rods crossing each other between said adjacent springs and having a depressed portion between the springs, and a locking member engaged with said downwardly bent ends of such crossed loops to lock the springs and tie rods together.

3. In a wire mattress the combination of a series of springs arranged in parallel rows, a border frame surrounding said springs, tie rods attached at either end to said frame, said tie rods being provided with loops bent upwardly through the upper coil of each spring and bent downwardly over the upper coil of an adjacent spring, the loops of adjacent tie rods crossing each other between said adjacent springs and having a depressed portion between the springs, and individual locking members connecting the downwardly bent ends of each pair of adjacent loops whereby to securely loop said tie rods and springs together.

4. In a wire mattress, the combination of a series of springs arranged in parallel rows, a border frame surrounding said springs, tie rods attached at either end to said frame, said tie rods being provided with loops bent upwardly through the upper coil of each spring and bent downwardly through the upper coil of an adjacent spring, and means engaged with the loops of adjacent tie rods only for locking the adjacent springs and tie rods together.

5. In a wire mattress, the combination of a series of springs arranged in parallel rows, a border frame surrounding said springs, tie rods attached at either end of said frame, each tie rod being provided with loops extending upwardly through the upper coil of one spring and downwardly over the upper coil of an adjacent spring, and a locking member disposed between adjacent springs but not extended across the springs for locking the springs and tie rods together.

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Witnesses:

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