Dec. 31, 1929. J. P. HISE 1,742,035

BEDSPRING

Filed Feb. 28, 1929 2 Sheets-Sheet 1

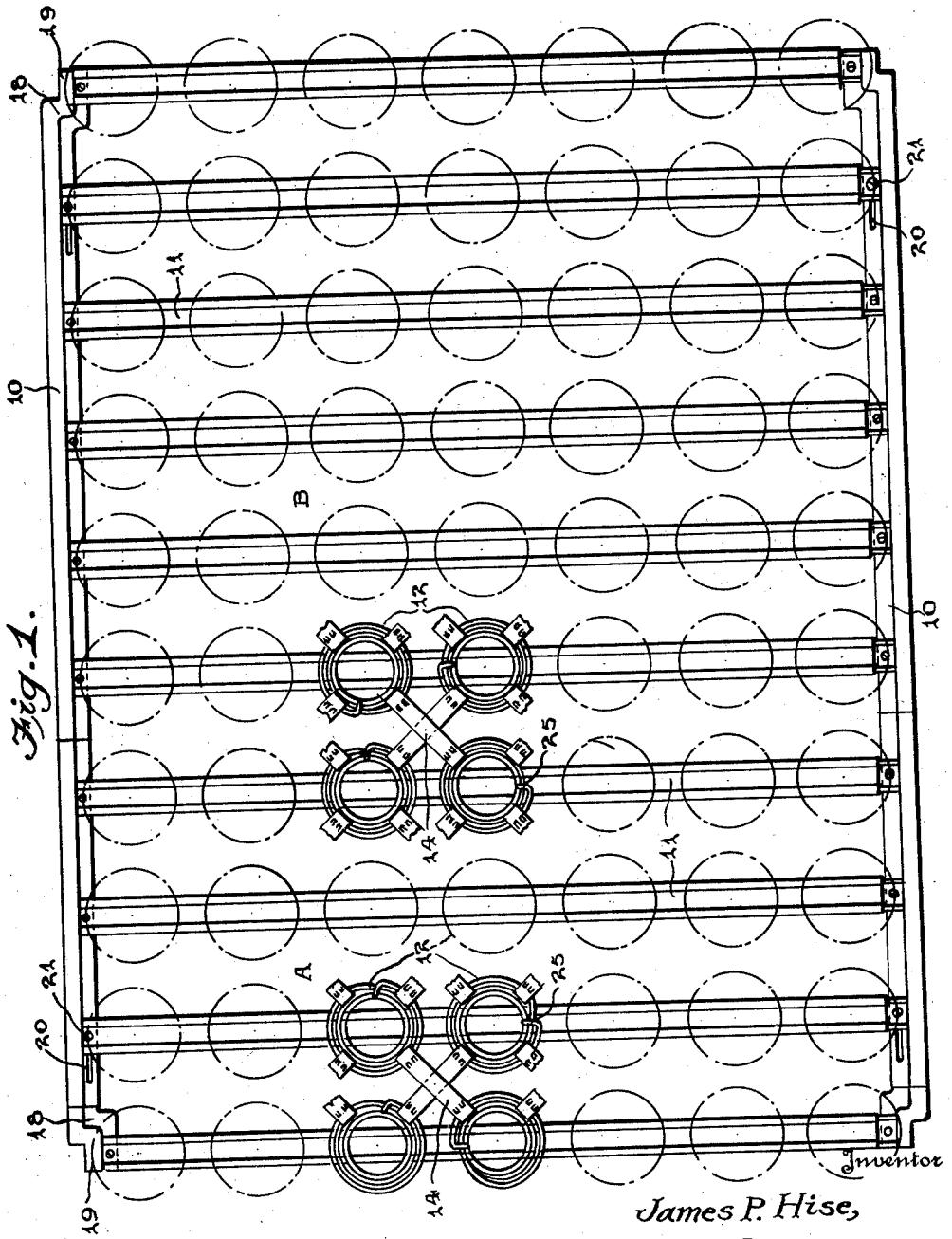


Fig. 1.

Dec. 31, 1929. J. P. HISE 1,742,035

BEDSPRING

Filed Feb. 28, 1929 2 Sheets-Sheet 2

Fig. 3.

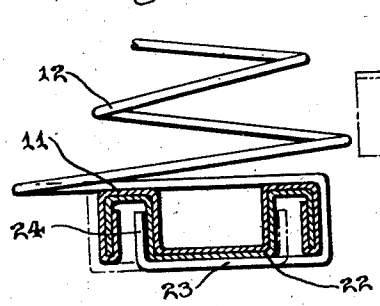


Fig. 4.

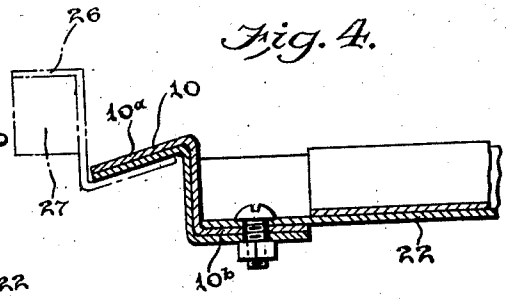


Fig. 2.

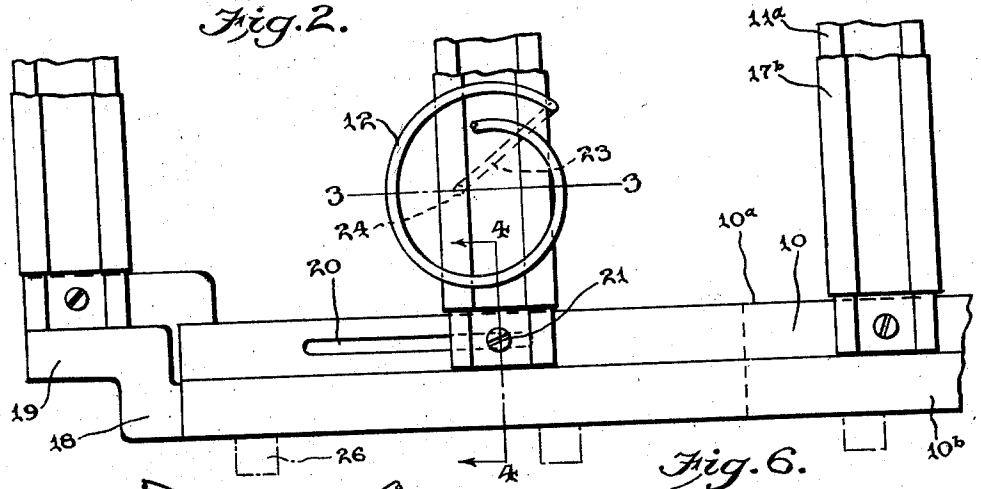


Fig. 5.

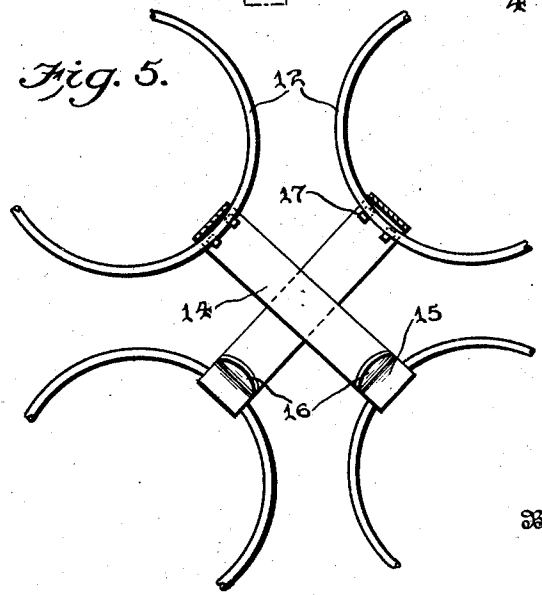
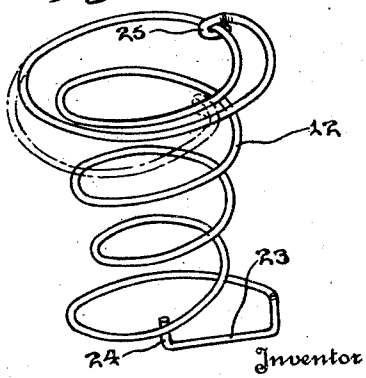


Fig. 6.



Inventor

James P. Hise,

By

Attorney

Patented Dec. 31, 1929

1,742,035

UNITED STATES PATENT OFFICE

JAMES P. HISE, OF STAUNTON, VIRGINIA, ASSIGNOR TO HISE BED SPRING COMPANY, A CORPORATION OF VIRGINIA

BEDSPRING

Application filed February 28, 1929. Serial No. 343,334.

The object of the invention is to provide a bed spring consisting both of a frame comprising cross slats and helico-spiral springs, which may be readily disassembled so as to permit its being shipped in compact form to be reassembled by the user; to provide a bed spring of this character which is readily adjustable to suit any size bedstead on which it may be employed—that is to provide a frame adjustment to meet any size bed; to provide a construction in which the spring elements which are detachably tied together are readily adjustable to provide for the most satisfactory arrangement or spacing of those elements; and to provide a manufacture of the character mentioned which is of simple form and therefore susceptible of cheap production and low marketing cost.

With this object in view the invention consists in a construction and combination of parts of which a preferred embodiment is illustrated in the accompanying drawings, wherein:

Figure 1 is a plan view of the invention.

Figure 2 is an enlarged detail plan view of a portion of the frame.

Figures 3 and 4 are sectional views on the planes indicated by the lines 3—3 and 4—4 respectively of Figure 2.

Figure 5 is an enlarged detail plan view, partly in section, illustrating the connecting or tying means between the spring elements.

Figure 6 is a perspective view of one of the spring elements.

The invention comprises the side rails 10 and cross rails 11, as well as the spring elements 12 which are spaced uniformly along the cross rails and tied together at their upper ends by crossing links 14 detachably engaging the upper convolutions of the spring elements. By this arrangement, the spring elements are arranged in a plurality of transverse series which are interconnected by the links 14, the particular arrangement of the links providing for the interconnection of alternate elements in adjacent series.

The links 14 are in the form of clips with terminal bent back portions 15 having outturned lips 16, the bent back portions providing loops which engage with the terminal convolutions of the spring elements, the lip 16 facilitating the attachment. Stops 17 are formed in the link elements in the loops to provide abutments for the engaged convolutions of the spring elements and preventing accidental displacement of the same.

The side rails 10 are of cross-sectionally Z-shaped form, of which the flange 10^a is at right angles to the web and the flange 10^b at a slight acute angle to the web. The side rails are divided at an intermediate point in their length, so that the frame is thus composed of the head and foot sections A and B which are hingedly connected together by reason of the links 14 engaging the spring elements on the adjacent cross rails at the connecting ends of the sections. Thus one section of the frame may be raised or lowered and, if desired, the head section A may be folded over on the foot section B to permit cleaning, the folded position of the top section making it possible then to slide the foot or bottom section towards the head board of the bedstead to clean around the foot section of the latter.

The terminal or end portions of the side rails are adjustable to fit the rails to various lengths of bedsteads, these terminal portions 18 being of the same cross-sectional contour as the main portion of the side rails but offset as indicated at 19 to clear the corner blocks in some forms of wooden bedsteads and also the round or curved portions of some forms of iron bedsteads.

The extension sections 18 of the side rails have bolt and slot connections with the main sections, the latter being formed with the slots 20 in the flanges 10^a, certain of the bolts 21 which hold certain of the cross rails to the side rails, passing through these slots and through holes in the corresponding flanges of the extensions. The cross rails are secured to the side rails by bolts 21 and in the adjustment of the frame as to length, those bolts passing through the slots 20 are left loose until the proper adjustment of the extensions 18 is effected, when they are tightened and the length adjustment thus maintained.

The frame is adjustable as to width by reason of the cross rails 11 consisting of telescopically connected channel-shaped sections 11^a and 11^b the sliding engagement of which permits the proper spacing of the side rails to suit the particular width of bed to which the frame is being adapted. The sections of the cross rails are depressed at the centers as indicated at 22 to leave the lower faces of the sections A in the plane of the lower edges of the flanges of the section B. This construction not only provides a strengthening means to prevent bending of the cross rails but also provides a form of rail particularly adapted to retain the spring elements 11 thereon.

The spring elements are of helico-spiral form, the terminal bottom convolutions being extended to provide a hook member 23 which extends around the cross rail with the terminal or nose 24 lying against one side edge of the depressed portion 22. The spring elements may be placed to have the hook extend around the rail from either side, the terminal 24 lying against the side of the depressed portion, irrespective of whether the spring is disposed to have the hook extend around one side or the other of the cross rail.

The upper terminal convolutions of the spring elements are adjustable to vary the diameter of these convolutions, this adjustment being provided by having the extremity of the wire strands formed with an eye 25 bent at right angles to the strand and embracing the strand of the next adjacent convolution. The eye snugly engages the connected strand of wire and when held in a plane at right angles to the plane of the axis of the wire may be readily slid along the latter to increase or decrease the diameter of the terminal convolutions. The effected adjustment is maintained, however, by reason of the tendency of the spring to swing the eye 25 out of the normal plane which it is necessary that it assume to provide relative movement.

The improved spring is designed particularly for shipment in knocked down form to the place of use, the cross rails then being detached from the side rails and the spring elements nested in groups which may be done by inserting the convolutions of one spring in between the corresponding convolutions of another and so on up to a limited number. At the point of use, the side elements are adjusted to suit the length of the bedstead to be equipped, after which the cross rails are attached, having been adjusted by reason of their telescopic sections to the proper width of the bedstead. The bolts 21 serve as a means for attaching the cross rails to the side rails, those bolts passing through the slots 20 maintaining the longitudinal adjustment of the side rails. Thereafter the spring elements 11 are disposed on the cross rails, as previously described and as indicated in Figure 3, and the upper terminal convolutions adjusted, so that when the links 14 are attached there will be approximately a slight tension applied to these links. The structure then as a whole is ready for reception of the mattress.

Ordinarily the flanges 10^b of the side rails will constitute the means for supporting the spring structure in a bedstead by engagement with the slat beads of a wooden bedstead or the side rails of an iron bedstead. In some cases, preferences may require that the spring structure be slung lower than this, in which case the hanger 26 indicated in dotted lines in Figures 2 and 4 will be employed. These hangers 26 are Z-shaped elements capable of being hooked over the side rails or slat bead 27 of a bedstead and under the flanges 10^b of the side rails, as clearly shown in Figure 4.

The invention having been described what is claimed as new and useful is:

1. A bed spring comprising a longitudinally and laterally adjustable frame, spring elements mounted on said frame, and links connecting the upper terminal convolutions of said spring elements, said upper terminal convolutions having means to vary their diameters, to accord with the spacing of the spring elements on the frame.

2. A bed spring embodying a longitudinally and laterally adjustable frame comprising cross rails, spring elements seated upon and having detachable connections with said cross rails to permit uniform positioning of them according to the adjustment of the frame, and links interconnecting the upper terminal convolutions of said spring elements, said upper terminal convolutions having means to vary their diameters to accord with the spacing of the spring elements on the frame.

3. A bed spring embodying a longitudinally and laterally adjustable frame comprising cross rails, spring elements seated upon and having detachable connections with said cross rails to permit uniform positioning of them according to the adjustment of the frame, and links interconnecting the upper terminal convolutions of said spring elements, each of said upper terminal convolutions having the strand of which it is formed provided with an eye bent at right angles to the strand and snugly embracing the strand of the next adjacent convolution to bind on the latter when normally deflected out of a plane at right angles to the axis of the strand but to slide along the strand when deflected into a plane at right angles to the axis thereof.

4. A bed spring comprising a frame consisting of side rails composed of slidably connected sections and cross rails spanning the side rails and composed of telescopically connected sections, the extremities of the cross rails resting on the side rails and bolts extending through the extremities of the sec-

tions of the cross rails and through the side rails, one of the sections of the side rails having a slot and the other a bolt hole, the bolts of one of the cross rails extending through said slots and the holes of the side rails to maintain the setting of the sections of the side rails as well as to retain said cross rail in position.

In tesimony whereof he affixes his signature.

JAMES P. HISE.