G. C. LOCKLIN.

BED SPRING.

APPLICATION FILED NOV. 26, 1911.

1,041,310.

Patented Oct. 15, 1912.

3 SHEETS—SHEET 1.

Fig. 1.

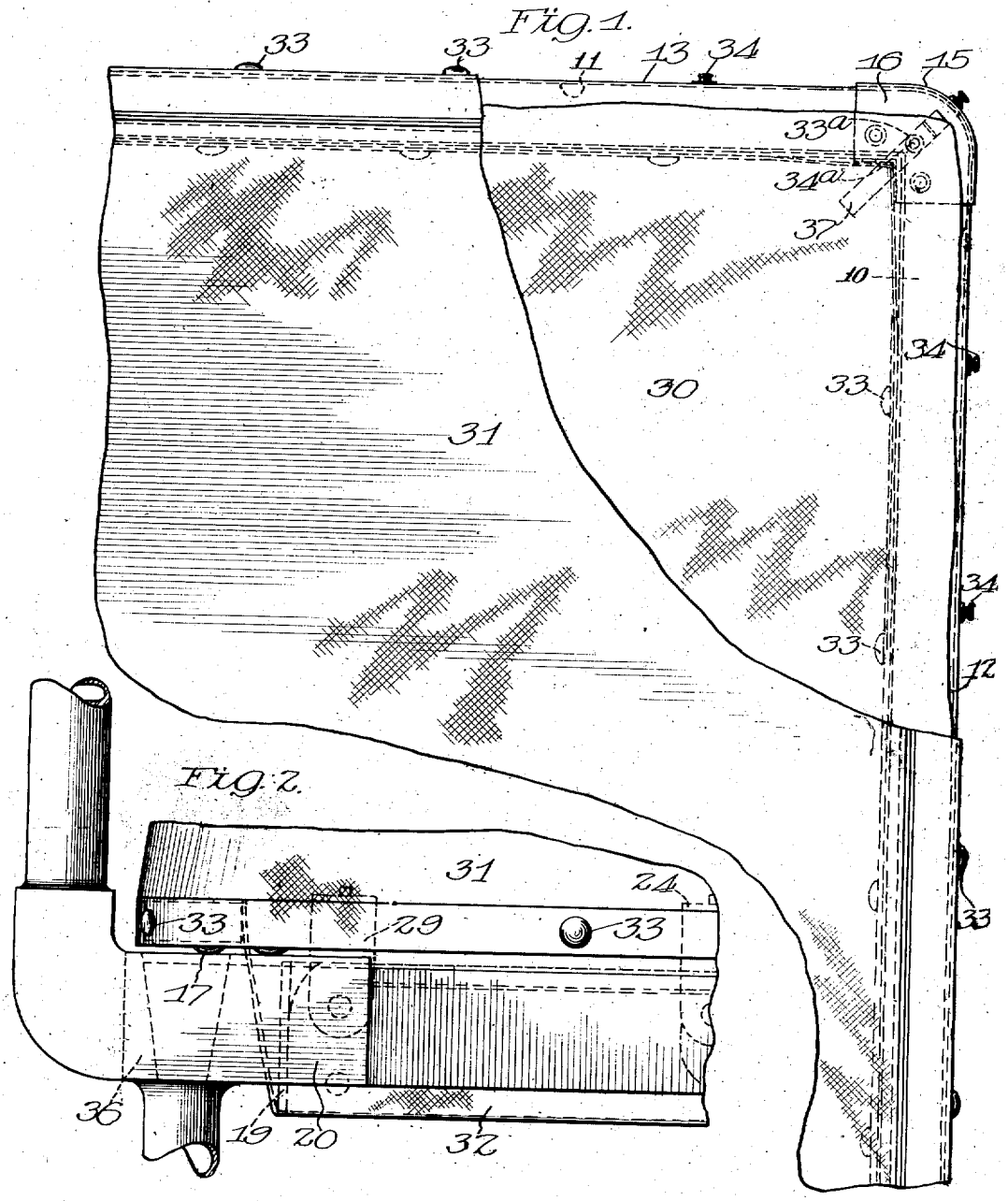

Fig. 2.

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APPLICATION FILED NOV. 25, 1911.

1,041,310.

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3 SHEETS—SHEET 2.

Fig. 3.

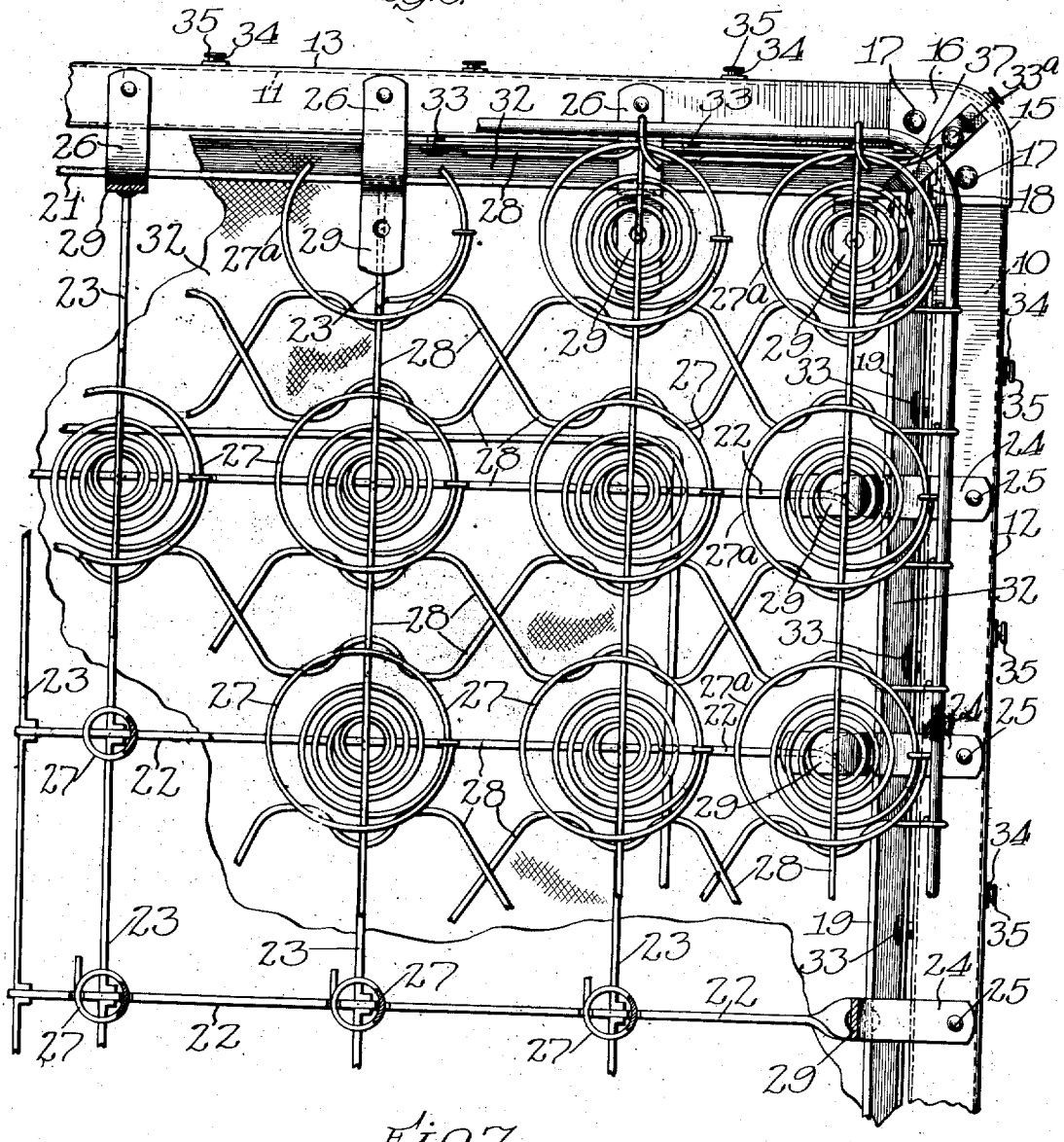
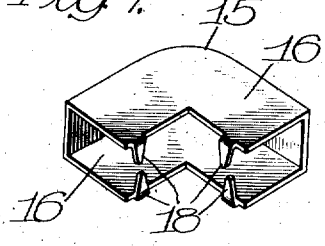


Fig. 7.



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3 SHEETS—SHEET 3.

Fig. 4.

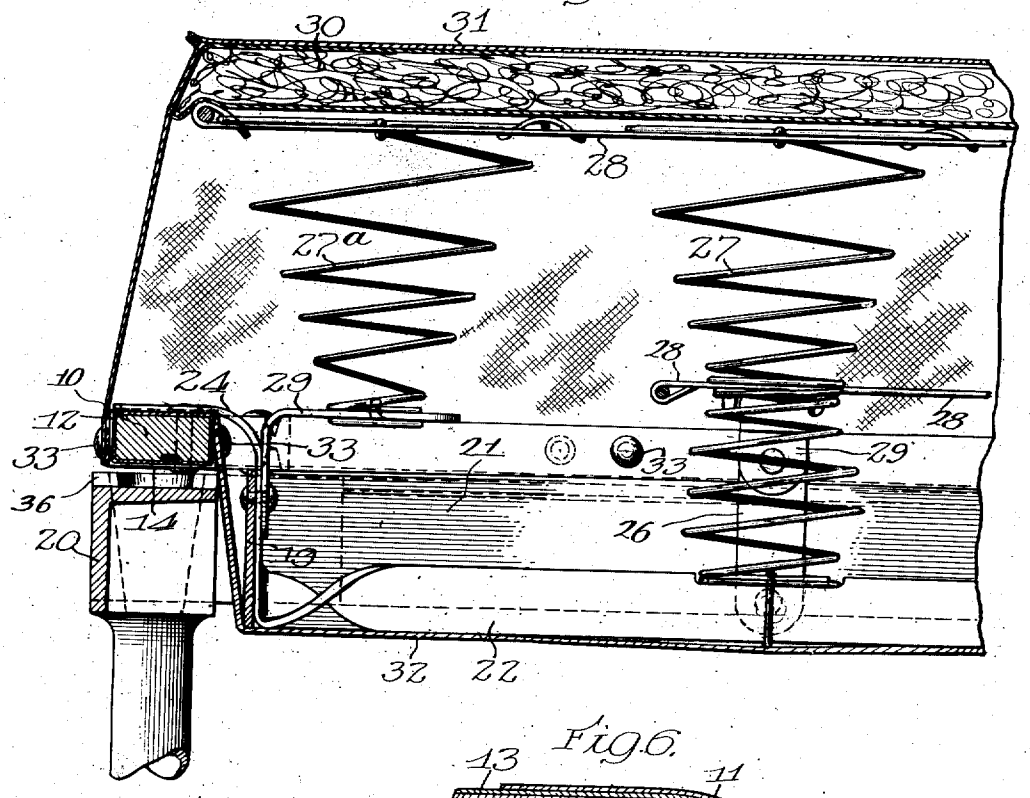


Fig. 5.

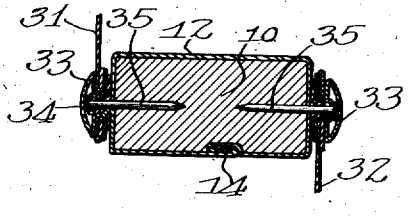
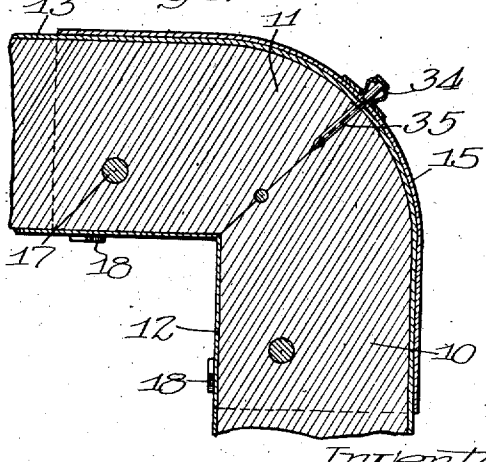


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE C. LOCKLIN, OF HAMMOND, INDIANA.

BED-SPRING.

1,041,310. Specification of Letters Patent. Patented Oct. 15, 1912.

Application filed November 25, 1911. Serial No. 662,428.

To all whom it may concern:

Be it known that I, GEORGE C. LOCKLIN, a citizen of the United States, residing at Hammond, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Bed-Springs, of which the following is a specification.

My invention relates to bed springs.

A primary object of my invention is to provide a bed spring of the "box spring" type which shall have all the desirable features of a box spring without any of its objectionable features. To that end I have produced a spring fully inclosed in suitable covers which, however, are readily removable and replaceable, not only for the purpose of cleaning the covers but also for making all parts of the spring readily accessible for purposes of repair.

Another object of the invention is to provide a bed spring in which the frame is at once light and very strong and rigid, and in which all of the exposed parts are of metal. The rigidity which my improved construction of frame supplies is needed particularly to prevent the sagging of the frame when, as often happens, the supporting frame does not rest upon the rails of the bedstead but is supported only at its ends or corners. If the frame is not very rigid it will bend or sag under these circumstances, which, of course, causes the spring structure to sag also.

The invention has for further objects the several novel and improved arrangements and devices in bed springs hereinafter described and claimed.

The invention is illustrated, in a preferred embodiment, in the accompanying drawings wherein—

Figure 1 is a fragmentary plan view of a bed spring constructed in accordance with the invention; Fig. 2, a side elevation; Fig. 3, a plan view showing the pad and covering removed; Fig. 4, a vertical sectional view looking toward one end of the bed; Figs. 5 and 6, detail vertical and plan sections, respectively, illustrating the preferred construction of what is termed the outer frame of the bed spring, and Fig. 7, a view, in perspective, of one of the corner pieces of the outer frame.

Like characters of reference indicate the same parts in the several figures of the drawings.

The framework of the bed spring consists of an outer frame which rests upon the bedstead and to which the covering is detachably secured, and an inner frame which carries the springs and is supported from the outer frame, while at the same time reinforcing the outer frame.

Referring to the drawings, the outer frame consists of side strips 10 and end strips 11, both of wood and covered with sheet metal sheathings 12 and 13, these sheathings being stretched around the wood with their opposite edges seamed together as indicated at 14 in Fig. 5. The corners of the frame are rounded, the abutting side and end pieces 10, 11 being secured together by means of corner pieces 15 (Fig. 7). The corner pieces have rounded backs and angular flanges 16 and are slipped over the frame members 10, 11 and secured thereto by the rivets 17. The flanges 16 are preferably formed with lugs 18 which are bent over against the frame members (Fig. 6). By this construction I obtain several desirable results: First, the outer frame, being of wood and sheet metal, is light. Second, by sheathing the outer frame, as indicated, I obtain all of the sanitary qualities of a metal frame. Third, I provide a support of such a character that the attaching studs for the cover can be simply and effectively secured thereto with the same facility as if the outer frame were simply of wood, while retaining the desirable advantages of a metal frame.

The inner frame consists of metal side strips 19 arranged edgewise within the side rails 20 of the bedstead (Fig. 4), end strips 21 of similar character, and cross strips 22, 22 connecting the side strips. The inner frame may be further reinforced by the struts 23 (Fig. 3). The side and end strips of the inner frame are sustained from the outer frame by rigid hangers formed, in the preferred construction shown, by integral extensions 24 of the cross strips 22 which overlap and are secured by rivets 25 to the top of the outer frame, the strips being given a half twist (Fig. 4) so that the extensions 24 lie flat on the outer frame. The end strips 21 of the inner frame are secured to angular hangers 26 riveted to the end members of the outer frame. By this construction I produce a composite frame consisting of the outer frame which supports the springs upon the bedstead while allowing a part of the spring body to ex-

tend below the side bars of the bedstead, thus providing for a desired depth of spring as in the familiar box spring construction. The inner frame which directly supports the springs and which, being band steel placed edgewise, combines strength with lightness, and the rigid strips which, being rigidly connected to the inner and outer frames so unite the two frames that the inner frame reinforces and supports the outer frame along its entire length, thus making it possible to use light weight material for the outer frame which in turn permits me to use wood or metal sheathed wood for the outer frame to which the cover studs can be quickly and cheaply attached by nailing the same to the outer frame. By fastening the connecting strips between the outer frame and the inner frame to the former at a point above its under face the strips being preferably fastened to its upper face, I am enabled to secure covering attaching studs to the inner edge of the outer frame so that a removable cover may be secured thereto in such a manner as to wholly inclose the frame and the lower half of the spring structure without interposing this cover between the outer frame and the bedstead structure.

The spring structure consists, in the form shown, of a plurality of spiral springs 27, 27ª connected by wire work 28. The inner spirals 27ª are sustained on the cross strips 22. The outer spirals 27 rest on brackets 29 riveted to the hangers 24, 26.

30 designates a pad which rests on the spring structure.

The entire bed spring is covered and inclosed by a two-part covering consisting of an upper cover 31 and a lower cover 32 made of ticking, or the like. The upper cover 31 is removably attached to the outer face of the outer frame 10, 11. The lower cover is in like manner secured to the inner face of this frame. The entire bed spring structure is therefore covered and inclosed except the lower face of the outer frame which is designed to rest upon the bedstead. It would not be desirable to inclose this surface because if this were done the cloth covering would soon be worn out between the frame and the bedstead.

I preferably employ snap fasteners for securing the covers to the frame. Other fasteners could be used. The covers are provided with sockets 33. Studs for the sockets are secured to the frame 10, 11. By making the body of this frame of wood it is possible to fasten the studs to the frame by ordinary nails 35 which are driven through the tops of the studs and the sheet metal sheathing into the wood of the frame. In order to get a better fit at the corners the lower cover may be provided at the corners with straps 37 which have the snap fastener sockets 33ª engaging with studs 34ª on the upper surface of the frame.

It will be seen that by the above described arrangement a covering is provided which completely incloses the bed spring structure, top, bottom and sides, except at the under face of the outer frame, and which can be easily removed when necessary. Both upper and lower covering can be removed without lifting the bed spring from the bedstead. It will be noted that by this arrangement no part of the covering is interposed between two wearing surfaces, and here also an objectionable feature of the ordinary box spring is avoided.

The ordinary dove-tailed corner castings of metal beds are not always made to fit closely and accurately one into the other. This may occur even where the same manufacturer makes the end pieces and side pieces of a bedstead, and it frequently happens that in the commercial handling of bedsteads side bars made by one manufacturer are shipped out with head and foot bars made by another. For these and similar reasons sometimes the tops of the side bars in the assembled bedstead are at a level considerably higher than the castings for receiving the ends of the side bars, in which event the end pieces of the spring frame will be supported only at their ends, while in other cases the tops of the side bars will be lower than the end castings, in which event the sides of the spring frame would only be supported at their ends. Thus in Figs. 3 and 4 the top of side bar 20 is below the upper surface of the casting 36 into which it is fitted. Either of these conditions subjects the frame to objectionable strains which tend to sag and weaken the frame and to disarrange the spring structure. In my improved bed spring the metal strips 19 and 21 so continuously support the outer frame that such sagging cannot occur.

I thus provide a bed spring which has the depth and resilient qualities of the box spring type and which may be inclosed by a cover as in the case of a box spring, but in which the cover is nowhere subject to wear between coengaging surfaces, a spring, moreover, which can be constructed of lighter materials than is usual without loss of strength and rigidity, the outer frame being largely of wood, one in which the covers can be readily changed, one which though partly made of wood has all the sanitary qualities of an all metal spring, and one which combines with all desirable features of a box spring a ready accessibility for purposes of cleaning and repair.

While I have described my invention as embodied in certain preferred constructions, it will be obvious to those skilled in the art that this structure might be modified in certain respects without departing from my in-

vention. Therefore I do not limit myself to the precise constructions and arrangements shown and described except so far as the same are made limitations on certain of the claims herein, my purpose being to claim both broadly and narrowly whatever patentable novelty the bed spring disclosed may have in view of the prior art.

I claim:

1. In a bed spring, the combination with a rigid outer rectangular frame adapted to rest upon a bedstead, of a rigid rectangular frame within and spaced from the outer frame and rigidly connected therewith comprising strips of metal lying edgewise within the side rails of the bedstead, and a spring structure sustained on said inner frame.

2. In a bed spring, the combination with a rigid rectangular outer frame adapted to rest upon the bedstead, of a rigid rectangular frame within and spaced from the outer frame and rigidly connected therewith comprising strips of metal lying edgewise within the side rails of the bedstead, and end strips and intermediate cross strips connecting the same; and a spring structure sustained on said inner frame.

3. In a bed spring, the combination with a rigid outer rectangular frame adapted to rest upon a bedstead, of a rigid rectangular frame within and spaced from the outer frame comprising strips of metal lying edgewise within the side rails of the bedstead, and end strips and intermediate cross strips connecting said side strips; angular hangers which support the inner frame from the outer frame; and a spring structure sustained on said inner frame.

4. In a bed spring, the combination with rigid outer rectangular frame adapted to rest upon a bedstead, comprising side and end members of wood covered with sheet metal, of a rigid rectangular frame within and spaced from the outer frame and rigidly connected therewith comprising strips of metal lying edgewise within the side rails of the bedstead; and a spring structure sustained on said inner frame.

5. In a bed spring, the combination with an outer frame adapted to rest upon a bedstead comprising side and end members of wood covered with sheet metal, and sheet metal corner pieces having rounded backs and angular flanges overlapping and secured to the abutting ends of the side and end pieces; an inner frame rigidly connected with and supported from the outer frame comprising strips of metal lying edgewise within the side rails of the bedstead, and a spring structure sustained on said inner frame.

6. In a bed spring, the combination of an outer frame adapted to rest upon a bedstead; an inner frame comprising strips of metal lying edgewise within the side rails of the bedstead, and end strips and intermediate cross strips connecting the side strips; angular hangers supporting the inner frame from the outer frame, angular brackets secured to the inner frame; and a plurality of spiral springs, the inner springs being secured to said intermediate cross strips and the marginal springs around the edges thereof being secured to said angular brackets.

7. The combination with a bed spring comprising a frame adapted to rest upon a bedstead, and a spring structure, of a two-piece covering for said bed spring consisting of upper and lower covers separately and detachably secured to the outer and inner faces, respectively, of said frame, so as to completely cover and inclose all of said bed spring except the under surface of the frame.

8. The combination with a bed spring comprising an outer frame adapted to rest upon a bedstead, an inner frame lying within the side rails of the bedstead, and a spring structure, of a two-part covering for said bed spring consisting of upper and lower covers secured to the inner and outer faces respectively of said outer frame, so as to completely cover and inclose all of said bed spring except the under surface of said outer frame.

9. In a bed spring, the combination with an outer rigid rectangular frame adapted to rest upon the bedstead, of a rigid rectangular frame within and spaced from the outer frame and rigidly connected therewith, and a spring structure sustained on said inner frame.

10. In a bed spring, the combination with a rigid outer rectangular frame of wood adapted to rest upon a bedstead, of a rigid rectangular metal frame within and spaced from the outer frame and rigidly connected therewith so as to be supported within and to extend below the top of the side rails of the bedstead, and a spring structure supported on said inner frame.

11. In a bed spring, the combination with a rigid rectangular frame adapted to rest upon a bedstead, of a rigid rectangular frame within and spaced from the outer frame, rigid connections between the inner and outer frames which are secured to the upper face of said outer frame, and a spring structure supported on the inner frame.

12. In a bed spring, the combination with an outer rectangular frame adapted to rest upon the bedstead, of a rigid rectangular frame within and spaced from the outer frame and rigidly connected therewith, a spring structure supported upon the inner frame, an upper cover extending over the top of said spring structure and detachably secured to the outer face of said outer frame,

and a lower cover extending under and around said inner frame and spring structure and detachably secured to the inner face of said outer frame.

13. In a bed spring, the combination with a rigid outer frame adapted to rest upon a bedstead, of a rigid inner frame comprising strips of metal set on edge which extend down below the outer frame so as to be within the bedstead, means for rigidly securing the inner frame to the ends and sides of the outer frame, and a spring structure on said inner frame.

GEORGE C. LOCKLIN.

Witnesses:
G. Y. SKINNER,
L. A. FALKENBERG.

Correction in Letters Patent No. 1,041,310.

It is hereby certified that in Letters Patent No. 1,041,310, granted October 15, 1912, upon the application of George C. Locklin, of Hammond, Indiana, for an improvement in "Bed-Springs," an error appears in the printed specification requiring correction as follows: Page 2, line 100, for the numeral "3" read *2;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 29th day of October, A. D., 1912.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.

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