

A. McKNIGHT.

EXTENSIBLE BED.

APPLICATION FILED APR. 4, 1910.

1,037,283.

Patented Sept. 3, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

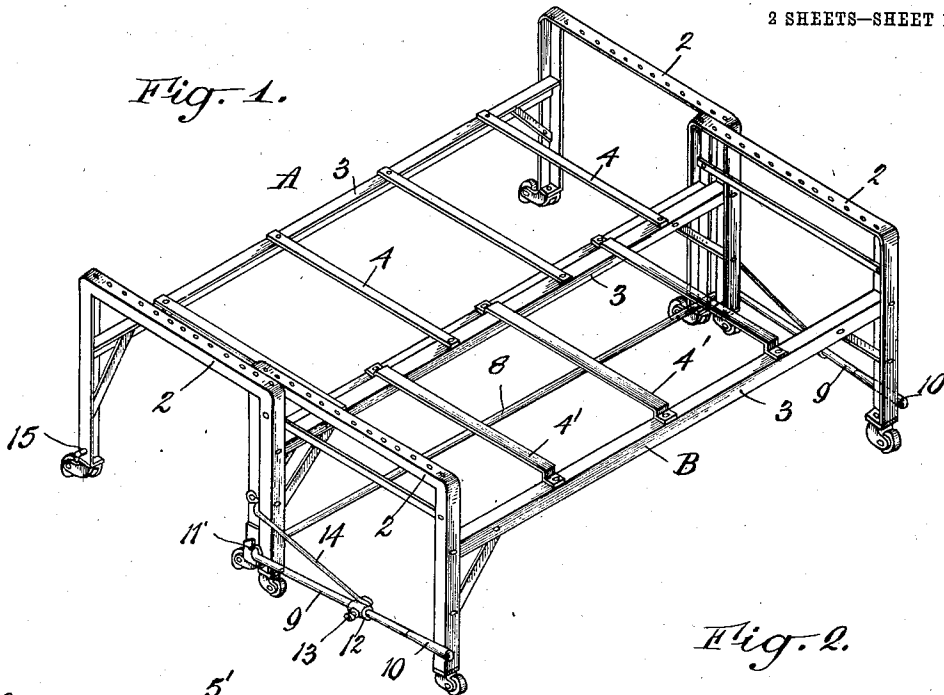
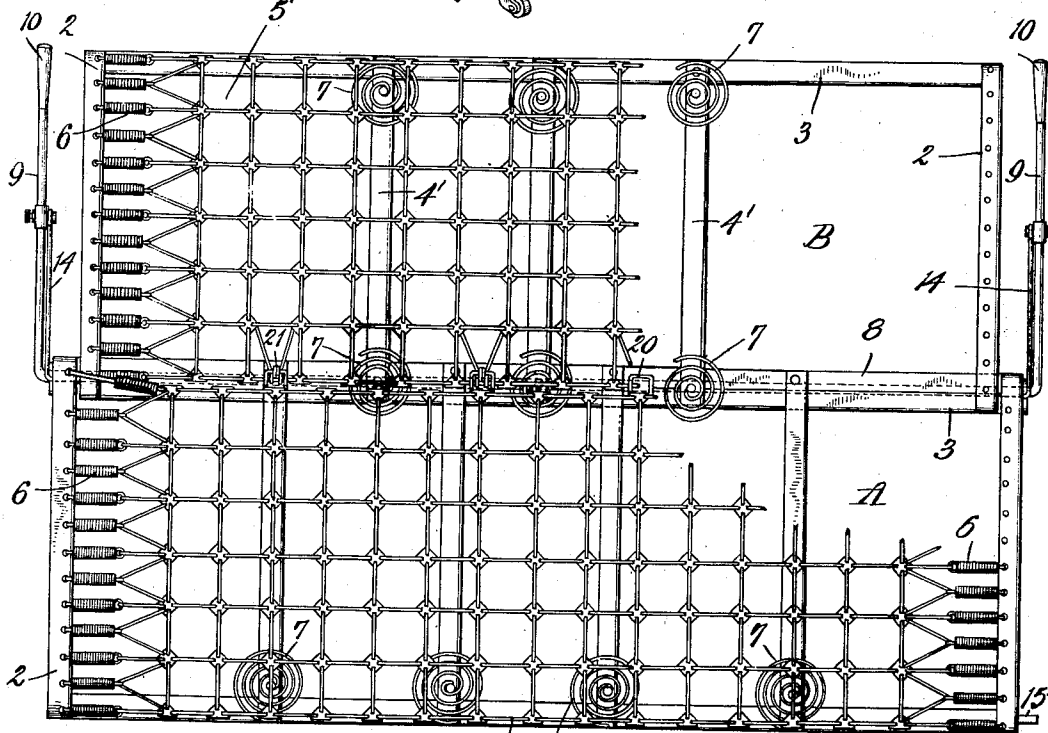


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

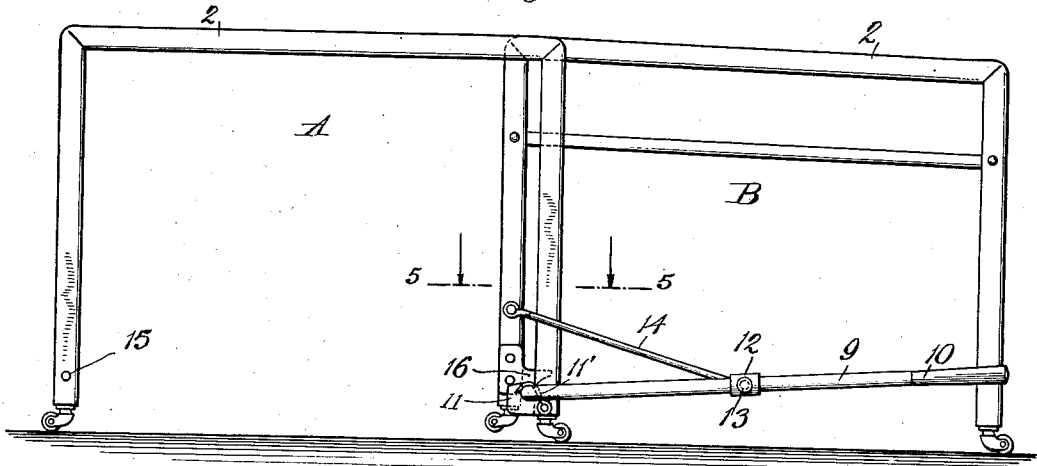


Fig. 4.

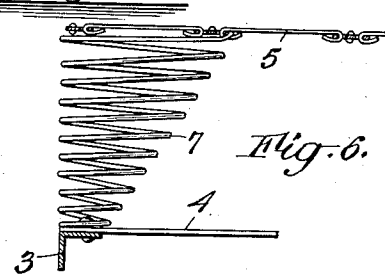
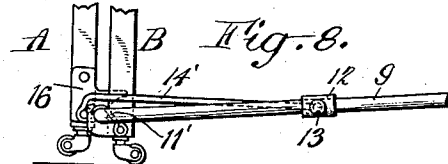
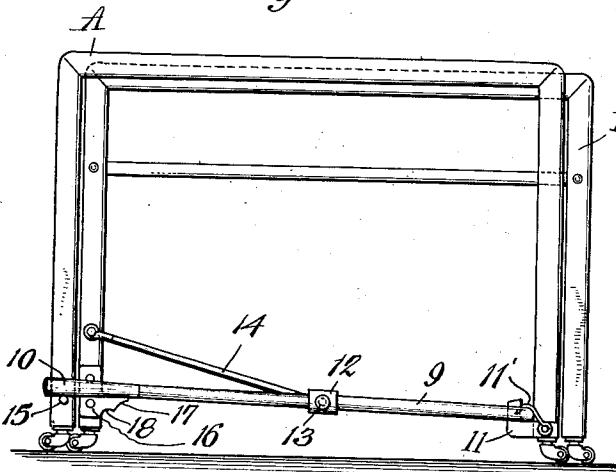


Fig. 7.

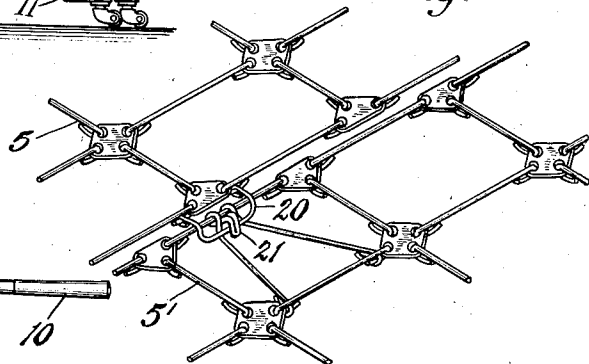
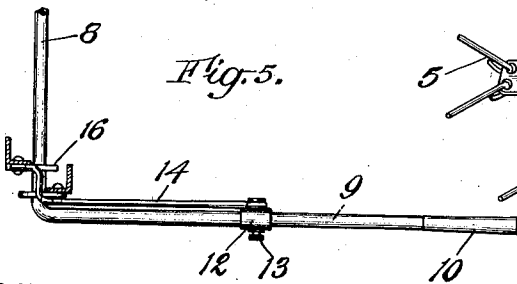


Fig. 5.



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UNITED STATES PATENT OFFICE.

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EXTENSIBLE BED.

1,037,283.

Specification of Letters Patent.

Patented Sept. 3, 1912.

Application filed April 4, 1910. Serial No. 553,375.

To all whom it may concern:

Be it known that I, ALEXANDER MCKNIGHT, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Extensible Bed, of which the following is a specification.

My invention relates to extensible beds comprising two sections or bed-stands which may be either telescoped together to be used as a single bed or couch, or may be extended to form a double bed.

The invention comprises certain improvements on beds of this general type such as shown, for example, in the patent to De Piniec-Mallet 712,718, November 4, 1902.

One of the objects of the present invention is to provide a practical means for bringing the adjacent edges of the two bed sections to the same level when the bed is extended.

A further object of the invention is to provide a simple and efficient device for operating the movable section of the bed.

Still another feature of the invention resides in the use of means for connecting, when the bed is extended, the adjacent edges of the mattresses or wire fabrics covering the two bed sections.

Other objects of the invention and the exact nature thereof will appear hereinafter.

Referring to the accompanying drawings which illustrate a construction embodying the present invention,—Figure 1 is a perspective view of the bed in its extended position, certain parts of the bed being omitted for the sake of clearness of illustration. Fig. 2 is a plan view of the extended bed. Fig. 3 is an end elevation of the same. Fig. 4 is a view similar to Fig. 3 but with the bed sections telescoped. Fig. 5 is a sectional detail view as indicated by the section line 5—5 of Fig. 3. Fig. 6 is a detail view showing one of the supporting springs. Fig. 7 is a fragmentary view showing means for connecting the adjacent edges of the mattresses when the bed is extended. Fig. 8 is a fragmentary view showing a modification of the operating mechanism.

The bed frame consists of a main or stationary section A and an extensible section B. Each section comprises a frame work

consisting of end frames 2 connected by longitudinal side bars 3. Cross strips 4 and 4' connect the side bars 3 of the sections A and B respectively. The strips 4' are preferably slightly raised or offset as shown in Fig. 1 to give clearance for the inner side bar 3 of the section A which is somewhat higher than the side bars of the section B except when the bed is fully extended.

Flexible wire fabrics or mattresses 5 and 5' are provided for the sections A and B respectively. They are connected through springs 6 to the end frames 2, and are supported intermediate their ends by spiral springs 7. It will be observed that there are two rows of springs 7 carried by the extensible section B. The springs of the inner row are in staggered relation to the springs on the main section A so as not to interfere when the sections are telescoped. These springs form a substantial support for the mattresses and prevent undue sagging either at the outer edges of the bed or in the middle. This support is particularly desirable when the bed is folded as a single couch and used as a seat, in which case the edge is prevented from sagging and makes a much more comfortable seat than without such springs. When the bed is extended, each spring 7 in the middle row of springs extends beneath and forms a support for both fabrics. The springs may be positioned as shown in Fig. 6, if desired, so that the outer edges are substantially vertical. This arrangement permits the lower ends of the springs to be connected directly to side bars 3.

The means for moving the section B into and out of extended position comprises a rock-bar or rod 8 extending the length of the bed and bent to form a rock arm 9 at each end of the bed. Each rock arm 9 may be provided with a handle 10. The rod 8 is pivotally connected to the main section A in any convenient manner. As shown, it is supported in brackets 11 secured to the inner legs of the main section A. Hooks 11' pivoted to the brackets 11 hold the rock-bar 8 in position and may be swung back to permit the rock-bar to be removed whenever desired, as for example, in taking the bed

apart for shipment. On each rock-arm 9 is a sleeve 12 adjustable longitudinally of the arm and held in adjusted position by a set screw 13. To each sleeve 12 is pivoted one end of a rod or link 14, the other end of which is pivoted to an inner leg of the extensible section B.

To telescope the bed, either handle 10 is grasped by the operator and swung over from the position shown in Figs. 1, 2, and 3, to that of Fig. 4. A stop pin 15 may be provided to limit the movement of the handle 10. It will be observed by reference to Fig. 4 that the handle 10 is carried below the rod 14, thereby locking the section B against accidental outward movement. By adjusting the collars 12 to points nearer the outer ends of the arms 9, the arc through which said arms move in opening and closing the bed, will be reduced so that the handles 10 will not be carried so low.

As shown in Fig. 4, the extensible section B is somewhat lower than the main section A, as is necessary to permit the fabric 5' of the section B to slide under the fabric 5 on the main section when the sections are telescoped. In order to bring the adjacent edges of the fabrics to the same level when the bed is extended, cam plates 16 are secured to the inner legs of the section B in position to engage the rod 8 and lift the inner side of the frame B to a level with the frame A. These cam plates have inclined cam faces 17 which ride up on the rod 8 as the section B approaches its outward limit of travel, and horizontally disposed surfaces 18 which engage the rod 8 when the section B is fully extended. The surfaces 18 may be concaved as shown to fit the rod 8 and prevent accidental displacement. By bringing the bed fabrics to the same level in this way, the stuffed mattresses which are used on the completed bed will be the same height without making one thicker than the other as is necessary with the beds of this type in use.

In order to connect the adjacent edges of the fabrics 5 and 5' when the bed is extended, the following means is provided. Connected to the fabric 5 along its inner edge are a number of substantially U-shaped bails or eyes 20 which are adapted to interlock with hooks 21 carried by the fabric 5'. The eyes 20 are pivoted and may swing downward when the bed is not extended. The hooks 21 are made rigid with the fabric 5', preferably by extending the ends of the wire which forms the hook and connecting them to two of the wires forming the fabric. When the section B is being extended the hooks 21 are brought beneath the eyes 20, and as the cams 16 lift the fabric 5', the hooks 21 and eyes 20 are interlocked. The two fabrics 5 and 5' are thus connected to

form practically a single fabric, and any sagging of one below the other is prevented.

In Fig. 8 is shown a modification in which the point at which the link 14' is pivoted to the frame A is brought down so as to be substantially in line with the lever 9 both when the bed is extended and when the frames are telescoped. With this arrangement, the extensible section B is locked against accidental movement when in extended position as well as when in its inner position.

Various changes in the details of construction and arrangements of parts might be made within the spirit and scope of my invention, and I wish therefore not to be limited to the particular features of construction herein disclosed.

What I claim as new and desire to secure by Letters Patent of the United States is:—

1. In an extensible bed, the combination of relatively movable bed frames, superposed bed fabrics carried thereby and relatively slidable in a substantially horizontal direction into and out of an extended position, interlocking devices comprising depending members pivotally connected to the upper fabric, and cooperating members connected to the lower fabric and adapted to automatically interlock with said depending members as the fabrics are moved to said extended position.

2. In combination, telescoping bed frames, bed fabrics carried thereby and relatively movable substantially horizontally into and out of an extended position, and hooks and pivoted eyes carried by the fabrics and automatically engaged to connect the adjacent edges of the fabrics when the latter are extended.

3. In an extensible bed, the combination of bed frames, bed fabrics carried thereby and one of which is movable relatively to the other horizontally from a position in which the fabrics are superposed to a non-superposed position, hooks carried by one fabric, and pivoted depending eyes carried by the other fabric in position to be automatically engaged by the hooks when the fabrics are moved to said non-superposed position.

4. In an extensible bed or couch, the combination with frames, of fabrics carried by the frames, said frames being movable into and out of a position in which the fabrics are in substantially the same horizontal plane and with their inner edges adjacent each other, and springs carried by one of the frames in position to extend beneath both fabrics and form a support therefor.

5. In an extensible bed or couch, the combination with telescoping frames, of fabrics secured to the frames and located one over the other when the frames are telescoped,

a manually operable device comprising a link and lever for sliding one of the frames outward from the telescoped position, cams for lifting the inner edge of said sliding
5 frame to bring the adjacent edges of the fabrics to the same level when the bed is extended, and hooks and eyes carried by the

fabrics in positions to automatically engage each other and connect said adjacent edges of the fabrics when the bed is extended.

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Witnesses:

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