V. S. THIRLWALL.

ADJUSTABLE MATTRESS.

APPLICATION FILED SEPT. 30, 1915.

1,230,446.

Patented June 19, 1917.

Fig. 1.

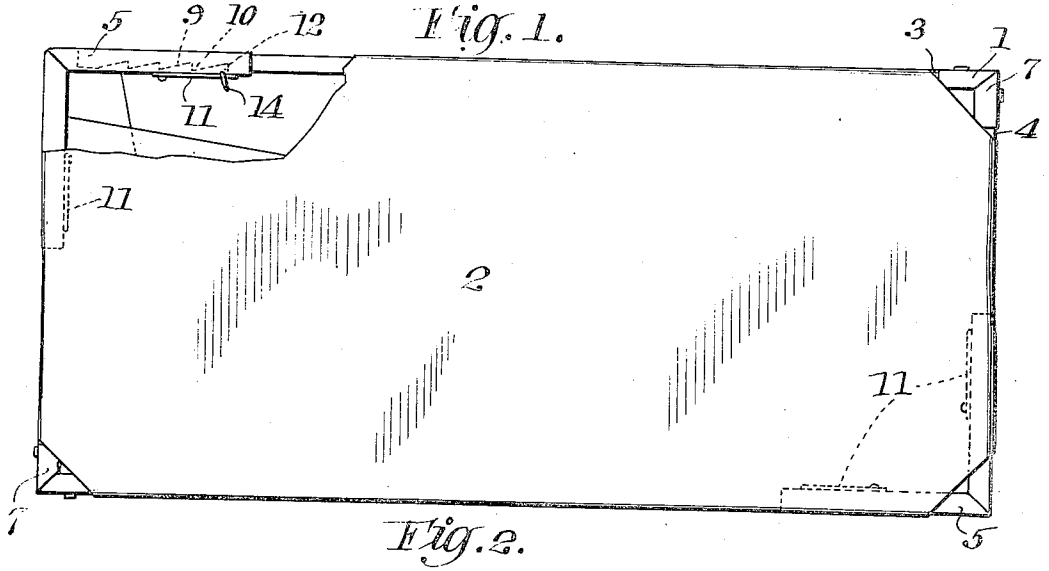


Fig. 2.

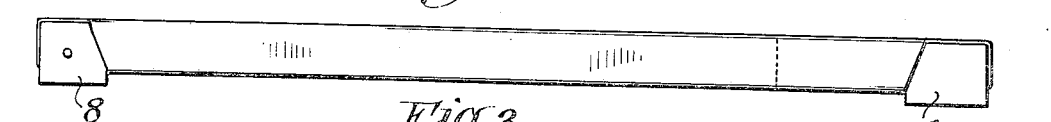


Fig. 3.

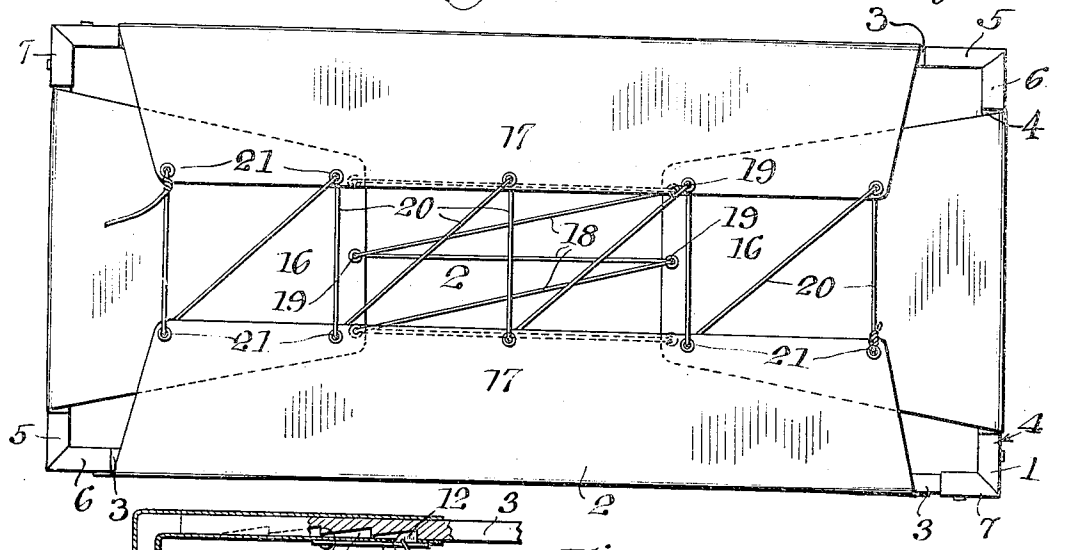


Fig. 4.

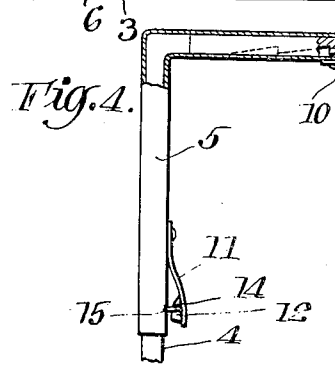
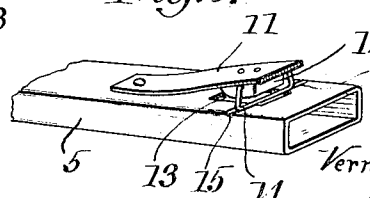


Fig. 5.



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UNITED STATES PATENT OFFICE.

VERNON S. THIRLWALL, OF ANCON, CANAL ZONE, ASSIGNOR OF ONE-HALF TO EGERTON SHAW HUMBER, OF PANAMA, CANAL ZONE.

ADJUSTABLE MATTRESS.

1,230,446. Specification of Letters Patent. Patented June 19, 1917.

Application filed September 30, 1915. Serial No. 53,297.

To all whom it may concern:

Be it known that I, VERNON S. THIRLWALL, a subject of Great Britain, residing at Ancon, Panama, Canal Zone, have invented new and useful Improvements in Adjustable Mattresses, of which the following is a specification.

This invention relates to mattresses for beds and in particular to an adjustable mattress which may be fitted conveniently to beds of different sizes.

The primary purpose of the invention is to provide a mattress of this nature which is light and durable in construction, is sanitary and capable of being cleansed frequently, and which is simple in construction and composed of few parts whereby it is rendered inexpensive in cost of manufacture and easy to adjust.

A further object of the invention is to provide an adjustable mattress consisting of an expansible frame and a covering of pliable sheet material or fabric therefor, means being provided to permit adjustment of the frame in accommodating the device to a bed of a given size without it being necessary to remove the fabric covering completely.

To these ends, the invention consists in the construction and combination of parts fully set forth and described in the following specification and claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a top plan view of a mattress constructed in accordance with the invention, a portion of the fabric covering being broken away to expose more fully one of the angle sleeves;

Fig. 2 is a side elevation of the same;

Fig. 3 is a bottom plan view;

Fig. 4 is a plan view of a corner portion of the frame alone, partly in section, showing in detail the mechanism for locking the side bars of the frame in adjusted position, and,

Fig. 5 is a detail perspective view of one end portion of one of the angle sleeves, showing the locking member in its inoperative position.

Referring to the drawing by numerals, which designate like parts throughout the several figures, it will be seen that the mattress consists primarily of an adjustable frame 1 and a detachable fabric covering 2 therefor. The frame includes side bars 3 and end bars 4, each of which latter is secured fixedly to one of the former at the meeting ends thereof to form an angular frame section. The free meeting ends of contiguous side and end bars of the said sections are slidably engaged within the corresponding arms of the hollow angle sleeves 5, which latter complete the frame and are thus arranged at diagonally opposite corners thereof. These angle sleeves are provided at their corners with depending flanges 6 which form supporting legs for the frame, and angle brackets 7, having similar leg-forming flanges 8, are provided at the other corners of the frame to secure the meeting ends of the side and end bars of the respective frame sections fixedly together.

The free end portion of each frame bar is provided in its inner space with a series of recesses 9 whereby a rack is formed having outwardly raking teeth 10. A locking member is provided upon each arm of each angle sleeve and comprises a spring tongue 11, which is secured at one end exteriorly to the inner wall of the said angle sleeve arm, and an inwardly projecting locking tooth 12 carried by the free end of the tongue but spaced slightly from the said tongue end. This tooth 12 rakes oppositely with respect to the rack piece 10 and is adapted to project through an opening 13 in the said sleeve wall for engagement with the rack piece. (See Figs. 4 and 5.) Each locking member will be deflected by the rack teeth of the corresponding frame bar during expansion of the frame so as to permit free adjustment of the frame parts, but will effectively prevent retrograde movement or contraction of the frame, normally. In order to contract the frame, in any direction, either lengthwise or transversely, the locking members involved must first be withdrawn manually and held in inoperative position. In order that one person may conveniently adjust the frame to contract the same, means are provided for securing the locking members in inoperative position, otherwise it would be practically impossible for one person to hold locking members at diagonally opposite corners of a large frame in inoperative position and at the same time perform the operation of adjusting the frame parts. For this purpose, a supporting ring 14 is pivotally connected to the free end of the locking member and

is adapted to be turned inwardly into operative position for engagement within notches 15 provided in the adjacent wall of the corresponding angle sleeve arm, whereby the locking member will be propped in inoperative position. When the ring is subsequently disengaged with the said notches and is swung outwardly into its inoperative position, the locking member will automatically assume its operative position.

Owing to the fact that the tooth 12 of each locking member is spaced to a slight extent from the end of the spring tongue, and also to the fact that the tooth is narrower than the tongue, the surrounding edge portions of the tongue will engage the adjacent sleeve arm wall marginally with respect to the opening 13 so as to effectively seal the opening when the locking member is in its operative position. Owing to this feature of the construction and also to the fact that the hollow angle sleeves are closed at the ends thereof by the frame bars which fit within the same, the said sleeves will not afford retreats for bed bugs or other insects.

The fabric covering for the mattress frame is in the form of a substantially rectangular sheet adapted to cover the top of the frame and having end flaps 16 and side flaps 17 which are adapted to extend around the frame bars and under the same, where they overlap and are laced together. The end flaps are laced by means of the cords 18 which pass through eyelets 19 in the said flaps. The side flaps 17 are laced in like manner by the cords 20 which are threaded through eyelets 21. Any tendency of the frame to contract is resisted by the locking members, so the covering 2 may be placed under any desired tension by tightening the lacing.

When it is desired to expand the mattress lengthwise, for instance, to accommodate the same to a bed of a given size, it is merely necessary to loosen the lacing of the end flaps 16 to a sufficient extent, whereupon the frame may be extended in this direction by pulling in opposite directions upon the ends thereof. The locking members involved in this operation will permit expansion of the same until the desired limit has been reached, whereupon contraction will be prevented thereby. After this has been done, the end flaps may be laced tightly to re-supply the necessary longitudinal tension to the body portion of the cover 2. The mattress may be widened in a like manner without disturbing the lacing of the end flaps, by loosening the side flaps and expanding the frame laterally in the obvious manner. To contract the mattress in either direction, the necessary locking members are moved into inoperative position and secured therein by the supporting rings provided for that purpose, whereupon the frame may be collapsed in the desired direction to the degree necessary. Then, the side or end flaps, as the case may be, are laced tightly to take up the slack in the cover sheet.

It is to be noted that the fabric covering for the mattress frame may be removed readily for the purpose of renewing, repairing, or cleansing the same. The provision of the supporting legs 6 and 8 elevates the frame bars above the supporting surfaces of the bed, so as to prevent wear upon the flaps of the covering where they pass under the said bars. A further notable feature of the construction is the proximity of the locking members to the corners of the same, whereby they may be reached conveniently through the spaces between the edges of the flaps of the covering without its being necessary to unfasten or adjust the covering during manipulation of the locking members to effect contraction of the frame. It is to be understood, however, that, instead of providing angle sleeves as shown having locking members associated therewith, the adjusting joints of the same may be otherwise situated, but the present arrangement appears to be the most practical.

Having thus described the invention, what it is desired to claim and to secure by Letters Patent is:

1. A mattress comprising a frame including side bars and end bars united to form relatively adjustable sections, capable of lengthwise and sidewise expansion and contraction, a flexible covering for the frame having opposed side and end flaps adapted to project inwardly beneath the corresponding frame bars, and independent adjustable means for securing the corresponding flaps together.

2. A mattress comprising a frame including side bars and end bars united to form relatively adjustable sections, means for permitting extension of said sections but adapted to prevent retrograde movement thereof, a flexible covering for the frame having opposed side and end flaps adapted to project inwardly beneath the corresponding frame bars, and independent adjustable means for securing the corresponding flaps together.

3. A mattress comprising a frame including side bars and end bars united to form relatively adjustable sections, means for permitting extension of said sections but adapted normally to prevent retrograde movement thereof, a flexible covering for the frame having opposed side and end flaps adapted to project inwardly beneath the corresponding frame bars, independent adjustable means for securing the corresponding flaps together, and means by which the first-named means may be rendered inoperative to permit contraction of the frame.

4. A mattress comprising a frame including side bars and end bars united to

form relatively adjustable sections, a tubular sleeve secured fixedly to the end of one frame bar at each joint for the slidable reception of the adjacent bar end, rack teeth provided upon the said bar end, a spring-pressed pawl provided upon the sleeve for engagement with the said teeth to permit expansion of the same alone normally, a supporting device carried by the pawl and adapted to be interposed between the latter and the sleeve to secure the pawl in inoperative position out of engagement with the rack teeth and to permit contraction of the frame, said supporting device being accessible from the interior of the frame, and an adjustable covering of flexible material for the frame which extends around the outer sides of the frame bars.

5. A mattress comprising a frame including side bars and end bars, each side bar being united fixedly with an adjacent end bar to form an angular frame section including one corner of the frame, tubular angle sleeves forming the other diagonally opposite corners of the frame and adapted to slidably receive the adjacent bar ends in their corresponding arms, releasable means for normally permitting extension adjustment of each bar end in the corresponding sleeve arm, a flexible covering for the frame having side and end flaps extending inwardly beneath the side and end bars of the frame, and independent means for securing co-acting flaps adjustably together.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

VERNON S. THIRLWALL.

Witnesses:
THEO. MCGINNIS,
ARTHUR RICHARDSON.