March 11, 1952 H. E. LANG 2,588,854

MATTRESS HOLDER

Filed Dec. 11, 1946

FIG. 1

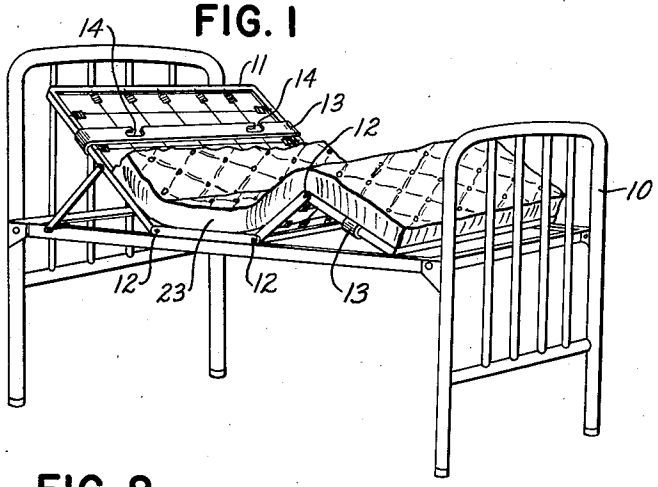


FIG. 2

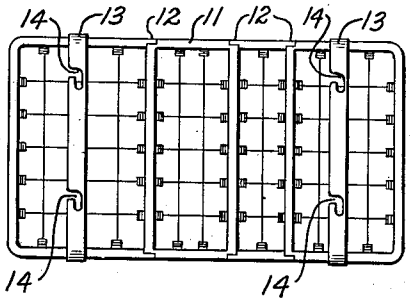


FIG. 3

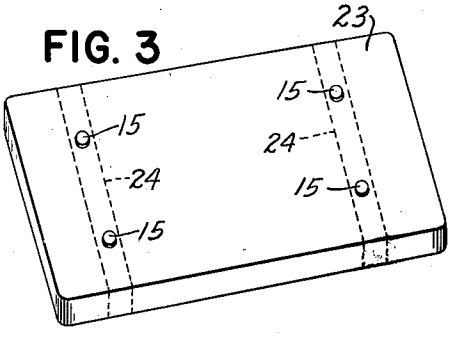


FIG. 4

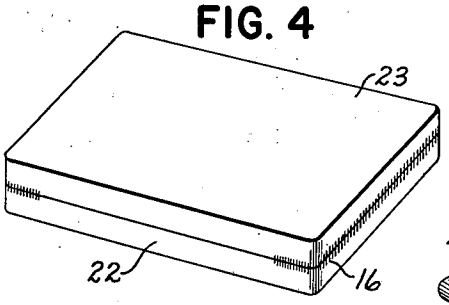


FIG. 5

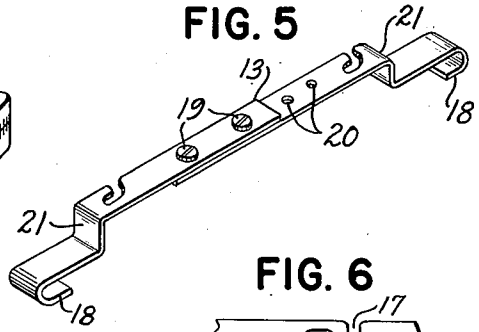


FIG. 6

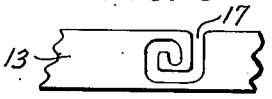
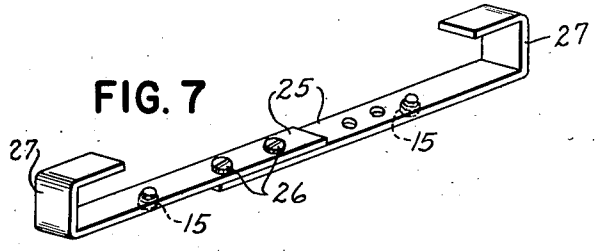


FIG. 7



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Patented Mar. 11, 1952

2,588,854

UNITED STATES PATENT OFFICE

2,588,854

MATTRESS HOLDER

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Application December 11, 1946, Serial No. 715,571

3 Claims. (Cl. 5—322)

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This invention relates to improvements in mattress holders for hospital or sick beds of the type wherein the springs of said beds are constructed of several sections hinged together to enable the patients to be propped up in sitting or partial sitting positions.

In beds of the above type, when the patient is propped, the mattress has a tendency to creep or work down into positions in which the patient is left in uncomfortable positions. This makes it necessary to frequently lift the patient to rearrange the mattress, which process requires the services of two or more nurses or attendants.

The primary object of this invention is to provide a means for anchoring the mattress of a hospital, or sick bed in such a way as to prevent accidental shifting of the mattress relative to the bed spring.

Another object of the invention is to provide a means permanently assembled to the spring of a hospital bed to which the mattress may be anchored.

Another object of the invention is to provide fixed members on the spring of a hospital bed and means fixed on the mattress therefor, to provide a means for anchoring the mattress and the spring together in such a manner that accidental relative shifting therebetween is impossible.

A still further object of the invention is to provide interlocking connections between a bed spring and a mattress to prevent accidental shifting therebetween.

A specific object of the invention is to provide an interlocking means between a bed spring and a mattress therefor of a type and construction which either can be assembled in the bed when originally manufactured, or can be readily attached to a bed now in use.

A still more specific object of the invention is to provide a bar or strap with bayonet slots and projections fitting in the bayonet slots to provide an interlocking connection between a bed spring and a mattress therefor to prevent either longitudinal or lateral accidental shifting of the mattress on the spring.

With these and incidental objects in view, the invention includes certain novel features of construction and combinations of parts, the essential elements of which are set forth in appended claims and a preferred form or embodiment of which is hereinafter described with reference to the drawings which accompany and form a part of this specification.

In the drawings:

Fig. 1 is a perspective view of a hospital bed showing the spring in an adjusted position and sections of the mattress broken away to show the novel interlocking member.

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Fig. 2 is a plan view of the bed spring.

Fig. 3 is a view of the bottom of the mattress.

Fig. 4 is a view showing a mattress pad connected to an innerspring mattress.

Fig. 5 is a detail view of a modified form of one of the interlocking members, constructed for attachment to a bed in use.

Fig. 6 is a detail view of a modified form of the connecting slot of the interlocking member.

Fig. 7 is a detail view of a modified form of bar for supporting connecting studs, for attachment to a bed now in use.

General description

One of the principal objections to hospital beds now in general use is that the mattress of such a bed shifts in relation to the spring of the bed when such a bed is adjusted to prop a patient in sitting or semi-sitting position. Hospital beds now in general use provide no means for anchoring the mattress to the spring, the mattress being simply positioned thereon. Certain attempts have been made to overcome this objection. One method has been to use straps, such as those shown in the United States patent issued to Mary E. Leeking, No. 1,842,873, on January 26, 1932. However, such arrangements allow a certain amount of shifting due to the flexible nature of the straps and the method of attaching them to the spring and the mattress. The present construction results in a positive interlock between the spring and the mattress which permits no relative shifting. The construction consists primarily in providing a stable means on one of the two members, shown in illustrative form in the drawings as being attached to the spring, having therein bayonet slots which are of such a size and shape as to allow projections, illustrated in the drawings as buttons, on the other member to snugly fit the slots. This forms an interlocking construction which permits no shifting of one member in relation to the other.

Detailed description

Referring to the drawings, the bed is designated generally by the reference numeral 10 and may be of any well-known construction. In such beds, the spring 11 is made up of sections hinged at a plurality of points 12 for folding and adjusting. A convenient means such as a crank (not shown) is generally provided to adjust the spring into any desired position, as illustrated in Fig. 1.

Fastened to the spring are a plurality of bars

13, two being illustrated herein, having bayonet slots 14. Secured to the mattress 23 are bars 24, located under the mattress cover. Each bar 24 carries a plurality of shouldered studs 15, which may be buttons, so located as to properly position the mattress on the bed when the studs are inserted into the bayonet slots. It is understood that there are as many studs, or buttons, 15 as there are slots 14.

In placing the mattress on the spring, the studs, or buttons 15 are brought into registry with the open ends of the slots 14, then the mattress is shifted to force the shouldered studs or buttons into the bottom of the slots, and then it is shifted sidewise to locate the buttons in the horizontal section of the slots 14.

When the studs 15 are located in the horizontal portion of the slots 14, the mattress is effectively locked to the spring 11, and any adjustment of the spring to prop the patient will not cause the slightest shift of the mattress relative to the spring.

If an innerspring mattress 22 (Fig. 4) is used on the bed, the studs, or buttons, 15 are fastened directly thereto by any well-known means, such as sewing them thereon. In this case, if a pad or felt mattress is used therewith, it may be secured to the innerspring mattress. A slide fastener 16 at each end of the two mattresses illustrates one way in which this can be accomplished.

A modified form of slot 17, shown in Fig. 6, illustrates another form of interlocking slot 14 which may be used in bar 13, if desired.

Modified form

A modified form of bar 13 is illustrated in Fig. 5. This form of the bar 13 is for adapting the invention for use on hospital beds now in use, as distinguished from those manufactured with the invention installed. In this form, the bar is made of two sections, and each section has one end formed as at 18 to fit the frame of the bed spring. A plurality of bolts 19 are provided for securing the two sections together after being installed. Holes 20 are provided at convenient intervals to permit the bars being installed on springs of various widths.

Also, when the invention is adapted to beds now in use, the studs 15 are secured to adjustable sections of bars 25 (Fig. 7). These bars are clamped onto the mattress at the desired positions. Bolts 26 provide means for securing the sections of the bars in proper position. The ends 27 of bars 25 are formed to conform to the thickness of the mattress, as shown in Fig. 7.

The bars 13 may also be formed with an offset 21 to provide space for tucking in blankets and sheets when the bed is made up.

While the forms of mechanism shown and described herein are admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the forms or embodiments disclosed herein, for it is susceptible of embodiment in various forms all coming within the scope of the claims which follow.

What is claimed is:

1. In combination with a bed having a foldable and adjustable bed spring, said spring comprising a plurality of separate sections hinged together for providing a variable reclining support for an occupant of a bed; a mattress supported upon said spring, a plurality of straps secured to said mattress, a plurality of shouldered projections on said straps, a plurality of bars arranged laterally on said spring and having the ends thereof secured to the frame of said spring, each bar being secured to a separate section of said spring, and laterally formed slots in said bars to receive said projections to lock the mattress to the separate sections of said spring to prevent lengthwise shifting of the mattress on the spring after the spring has been adjusted to form a reclining support for the occupant of said bed.

2. In combination with a bed having a foldable and adjustable bed spring, said spring comprising a plurality of separate sections hinged together and adjustable to form a reclining support for the back of an occupant of the bed by adjusting one of said sections into a position at an angle to the horizontal plane of the bed; a mattress supported upon said spring, a plurality of straps secured to said mattress, a plurality of buttons secured to said straps, a plurality of bars extending across the spring and immovably secured to the sides of said spring, each bar secured to a separate section of said spring, and a plurality of laterally formed slots in said bars to receive said buttons when the mattress is placed on said spring to lock the mattress against lengthwise shifting when said one section of the spring is adjusted into a position at an angle to the horizontal plane of the bed.

3. In combination with a bed having a foldable and adjustable spring member and a mattress member, said spring comprising a plurality of separate sections hinged together for providing a variable reclining support for the occupant of the bed, a plurality of bars secured to one of said members, said bars having a plurality of laterally extending slots, a plurality of straps on the other one of said members and a plurality of shouldered projections on the other one of said members located to be inserted into said slots in such relation thereto as to lock the two members together to avoid accidental lengthwise shifting of one member on the other member when the two members have been adjusted to provide a reclining support for the occupant of the bed.

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