March 9, 1926. 1,575,871

S. B. SKLAR

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Fig. 1.

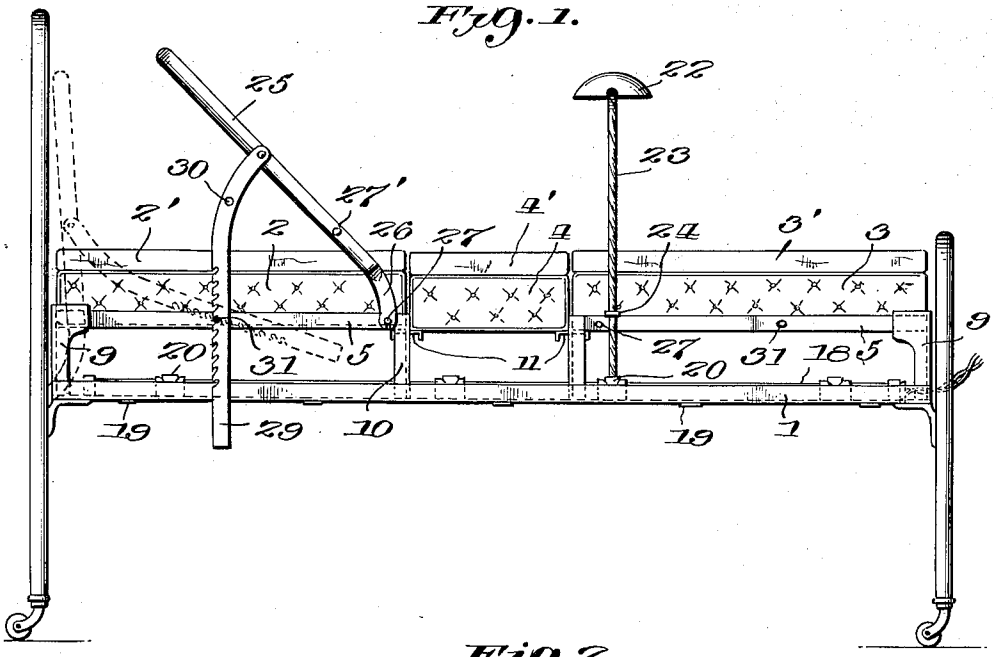
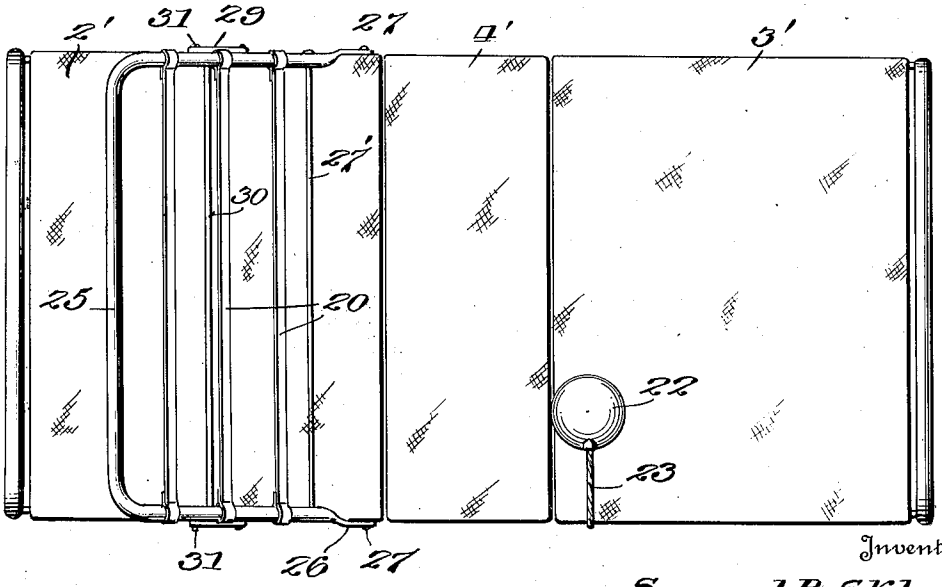


Fig. 2.



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Fig. 3.

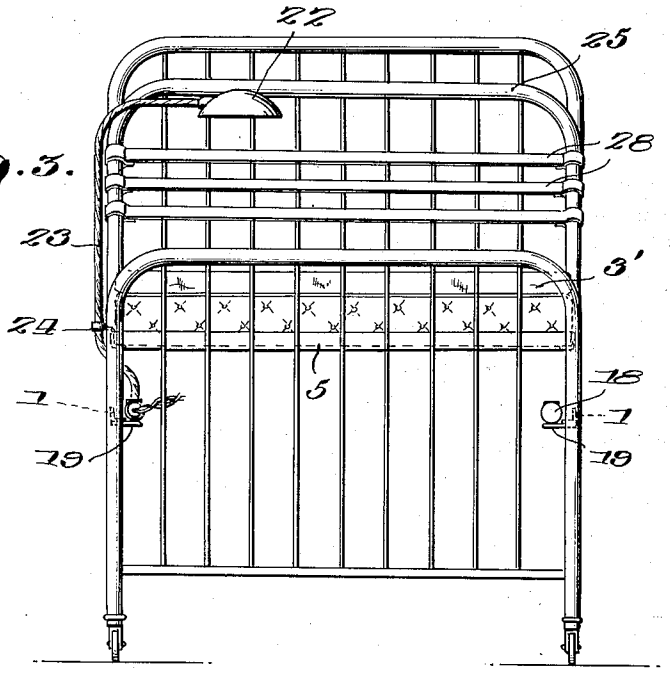
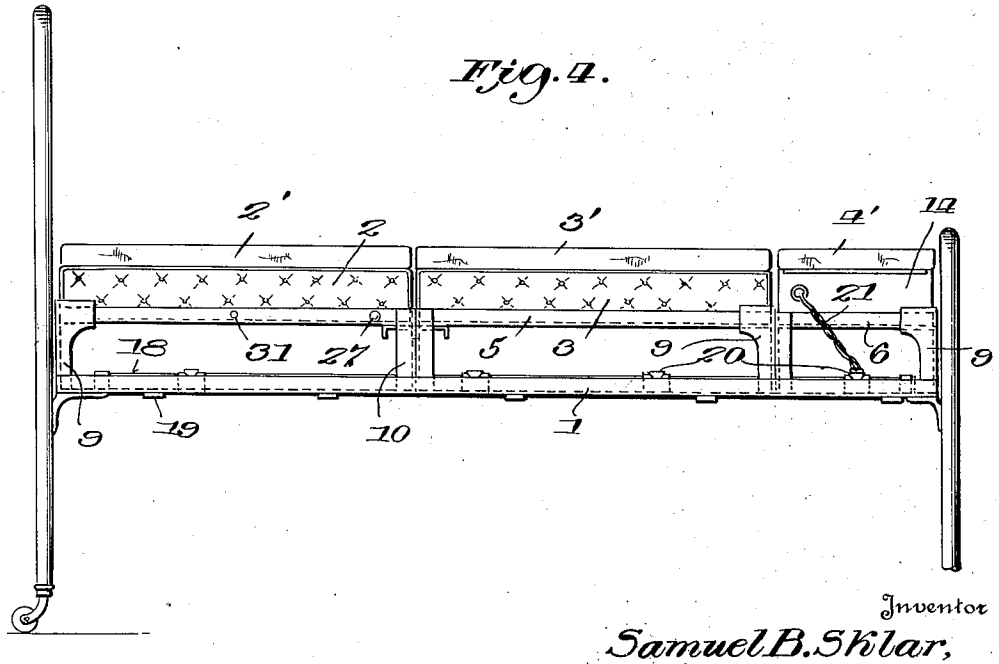


Fig. 4.



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Fig. 5.

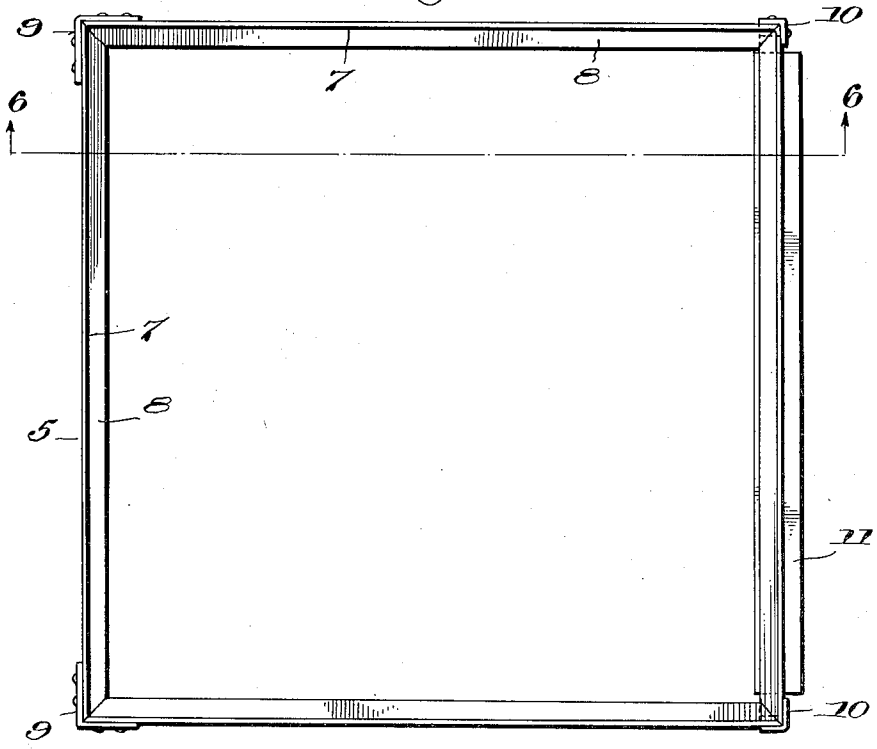


Fig. 6.

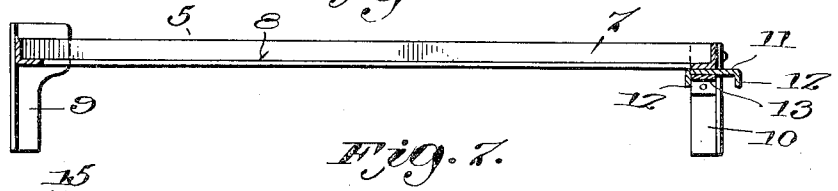
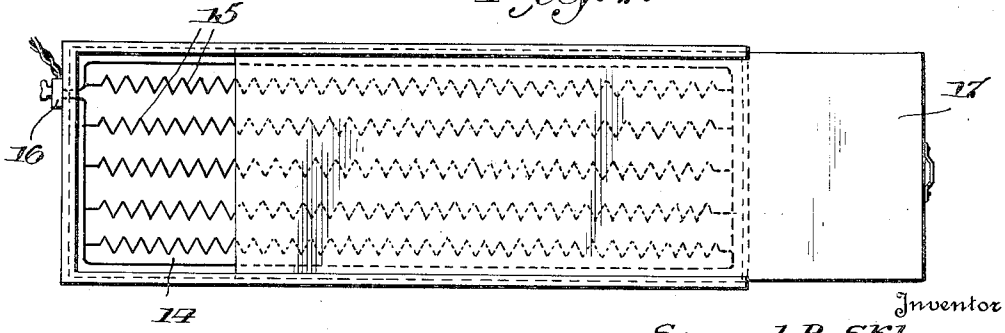


Fig. 7.



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UNITED STATES PATENT OFFICE.

SAMUEL B. SKLAR, OF MEMPHIS, TENNESSEE.

BED.

Application filed April 21, 1924. Serial No. 707,959.

To all whom it may concern:

Be it known that I, SAMUEL B. SKLAR, a citizen of the United States, residing at Memphis, county of Shelby, State of Tennessee, have invented certain new and useful Improvements in Beds; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to beds, and more particularly to beds for invalids and general hospital use.

A general object of my invention is to provide a bed of the character referred to enabling ready removal or changing, with a minimum disturbance of the patient, of pad and mattress parts of the bed, and the substitution for certain pad or mattress parts of heating or cooling elements in position best suited to the welfare of the patient.

Another general object of my invention is to provide such a bed having a minimum of structural parts requiring movement or adjustment in effecting the changes and substitution referred to, and which in consequence can be manufactured economically and will be easy to operate.

In carrying out these objects and other objects of general utility, I have designed a bed in which the mattress and its superposed pads are divided into a plurality of independent sections, with supporting frames therefor mounting the mattress and pad sections upon a bedstead of the ordinary type, the supporting frames being movable along the bedstead and removable therefrom to enable the desired interchange of position of the mattress sections or the substitution for certain of such sections of a cooling or a heating element.

Preferably, two major sections of equal length, and a single shorter section, with correspondingly dimensioned separate supporting frames, are provided. Preferably also, additional supports are provided, on one end of each of the major supporting frames, so as to support the shorter mattress section between them without requiring the use of that section's own supporting frame, the additional supports being formed for the more ready insertion and removal of the shorter mattress section to and from its intermediate position by a sliding movement of that section along the supports, and the additional supports being movable to retracted position to enable the two major supporting frames with their mattress sections to be brought into end to end contact, that is, without the shorter mattress section between them.

In one arrangement contemplated by my invention, the shorter mattress section is placed between the two major sections in the manner stated above, to provide a continuous body support, the remvoal of the shorter mattress section by sliding it outwardly on its supports beneath the patient, then enabling the attendant to reach the body of the patient for bathing or treatment with a minimum of disturbance and while the patient is comfortably supported upon the bed.

My invention also contemplates the substitution for the shorter mattress section referred to, of a heating or cooling element, the substitution being made in the simple manner referred to above, by an outward lateral sliding movement upon the additional supports of the part to be removed beneath the body of the patient and the insertion, by a like inward sliding movement, of the part to be substituted.

In another arrangement of parts contemplated by my invention, the two major supporting frames with their mattresses and pads are brought into end-to-end contact, in the manner stated above, and the shorter supporting frame is utilized to support the shorter mattress section or the heating or cooling element at the head or foot of the bed, as desired.

The objects and principles of my invention, including the foregoing objects and principles, will more fully appear from a concrete embodiment thereof hereinafter described and illustrated in the accompanying drawings forming a part hereof. It is to be understood, however, that the concrete embodiment referred to is merely illustrative of my invention and that various other specific embodiments may be made within the broad scope of the invention and as defined in the appended claims.

In the drawings:

Fig. 1 is a side elevational view of an ordinary bedstead, such as used in hospitals, with my improvements, shown in one arrangement of parts, applied thereto;

Fig. 2 is a top plan view of the same;

Fig. 3 is an end elevational view of the same looking toward the foot of the bed;

Fig. 4 is a side elevational view, similar to Fig. 1, but showing my improvements in a different arrangement of parts;

Fig. 5 is a top plan view, on an enlarged scale, of the supporting frame for one of the two long or major mattress sections;

Fig. 6 is a longitudinal vertical sectional view of the supporting frame on the line 6—6 of Fig. 5, looking in the direction of the arrows; and

Fig. 7 is a top plan view, on an enlarged scale, of the box containing the electric heating element employed, the cover of the box being shown partially open to show the heating element.

In Figs. 1 and 4, my invention is shown as applied to an ordinary bedstead such as is customarily used in hospitals, the side rails 1 of which are disposed at a greater height above the floor than is customary in bedsteads of general household use. However, it is to be understood that my invention is equally applicable to bedsteads of ordinary height in general household use.

In the particular embodiment of my invention here chosen to illustrate its principles, three mattress sections 2, 3 and 4, are employed, together with the pads 2′, 3′ and 4′ usually employed therewith, the mattress sections 2 and 3 being preferably of the same length and relatively long to constitute the major mattress sections and the mattress section 4 being a relatively short section for ease of handling in arranging the same in the various positions desired with respect to the major mattress sections.

Separate and independently movable supporting frames are provided for all three of the mattress sections or units referred to, although in certain arrangements of the parts, as already stated, the separate supporting frame for the short mattress section is not employed. The supporting frames for the two major mattress sections, indicated as a whole by the numeral 5 on Figs. 1 and 4, are identical in construction and dimensions, while the supporting frame for the short mattress section, indicated as a whole by the numeral 6 on Fig. 4, is a shorter frame to correspond to the short mattress section and lacks the additional supports, later to be more fully described, with which the first mentioned supporting frames are equipped.

Referring now more particularly to the supporting frames 5 for the major mattress section, as shown in detail in Figs. 5 and 6, each comprises a horizontally disposed, rectangular top frame, the rails or bars of which are right-angular in cross-section to form an upstanding outer wall 7 and a horizontal ledge 8 about the entire frame, the horizontal ledge forming a support for the mattress section or unit thereon and the upright boundary wall confining the mattress unit to its supported position. A leg at each of the corners of the top frame serves to support the same upon the opposite side rails 1 of the bedstead. A pair of legs 9 at one end of each top frame is projected slightly above the upper edge of the top frame to provide more extended end abutments for the frames against the head and foot of the bedstead when these frames are positioned as shown in Fig. 1, which is the position of more general use of these frames upon the bedstead. The opposite pair of legs 10 preferably have their top surfaces flush with the upper edge of the top frame. The legs are preferably of angle iron to engage about the corners of the top frame as shown, their lower ends, when the supporting frame is positioned on the bedstead as shown in Figs. 1 and 4, resting upon the horizontal ledge of the right-angled side rails 1 of the bedstead and with the outer side faces of the legs engaging the inner faces of the upstanding wall of the side rails. The supporting frames are thus positioned upon the bedstead, restrained from lateral movement therefrom, until intentionally lifted for their removal, while at the same time they may be moved longitudinally of the bedstead.

The short supporting frame 6 for the short mattress section or unit is identical with the construction of the longer supporting frames, thus far referred to.

As already stated, in one arrangement of the parts, the short mattress section or unit is designed to be supported between the two longer or major mattress sections or units and to be removed to enable the attendant to reach the body of the patient for bathing and treatment or for the substitution of a heating or cooling element. In this arrangement of the parts, the two major supporting frames are positioned against the head and foot of the bed as shown in Fig. 1. The short supporting frame 6 may, if desired, be positioned upon the side rails of the bedstead between the major supporting frames, to support the short mattress unit and its pad in the intermediate position referred to. This does not, however, permit of the desired ready and easy removal of the short mattress unit due to the necessity of lifting that unit sufficiently to clear the upstanding edges of the supporting frame, and moreover the supporting frame in its intermediate position offers a substantial obstruction to the attendant's reaching the body of the patient for bathing or treatment. Preferably, therefore, additional supporting elements for the short mattress unit are provided on the opposed or inner ends of the major supporting frames, these additional supporting elements being designed to avoid the objections to the use of the short sup-

porting frame in the intermediate position referred to. In the illustrative embodiment of the invention, these additional supporting elements comprise bars 11 having depending side flanges 12, one bar for the inner end of each of the major supporting frames 5, slidably mounted between the under face of the end rail of the top frame 5 and the upper face of a cross rail 13 extending between the legs 10, as shown in Fig. 6. The opposite depending flanges 12 of the bar 11 by contact alternately with the opposite side edges of the cross rail 13, respectively, limit the outward or projecting movement and the inward or retracting movement of the bars 11, the cross-rail 13 being set inwardly sufficiently, as shown in Figs. 4 and 6, to enable the supporting frames 5 to be brought into actual end-to-end contact. When the bars 11 are projected outwardly, as shown in Figs. 1 and 6, they afford opposite ledges for the support of the short mattress unit 4, which may be inserted into supported position by sliding it along the bars 11 laterally of the bed from either side thereof, and may be withdrawn in like manner. When it is desired to position the two major supporting frames with their mattress units and pads in end-to-end contact, the short mattress unit is withdrawn and one or the other or both of the major supporting frames are slid along the bed rails to effect the contact, such movement retracting the supporting bars 11 upon contact of a supporting frame therewith.

A heating or a cooling unit or both may be provided, either of which may be substituted for the short mattress unit in the intermediate position between the two major mattress units as those major units are shown spaced in Fig. 1 or in an end position at the head or the foot of the bed, the two major units then being arranged in end-to-end contact as shown in Fig. 4. In the illustrative embodiment of the invention, a container or box 14 is shown, of substantially the same dimensions as the short mattress unit 4, and having an electric heating element 15 therein, with terminals connected to the switch 16. A slidable cover 17 is provided for the box so as to enable access to the box for repairs or replacement of the heating element.

The same box may also be used as a cooling unit when the cooling medium employed is such as not to injuriously affect the material of the electric heating element, or another box, with the heating element omitted may be provided. The heating or cooling unit may be employed with or without the pad 4′ superposed thereon. The box, employed as a heating unit, is shown in Fig. 4 installed at the foot of the bed with the pad 4′ superposed thereon, the short supporting frame 6 being positioned upon the side rails of the bedstead to support the heating unit and pad. Should the treatment of the patient necessitate the use of the heating unit at the intermediate position hereinbefore referred to, the short supporting frame together with the heating unit and pad are removed from the position shown in Fig. 4, the major supporting frame nearest the foot of the bed is slid along the bed rails to the position shown in Fig. 1, the supporting bars 11 are pulled outwardly and the heating unit, with the pad 4′ superposed thereon, if desired, slid along the bars 11 into the position shown in Fig. 1 as occupied by the short mattress section 4, and the pad 4′. Should the heating unit be required in position at the head of the bed, both major supporting frames with their mattress units and pads are moved in end to end contact as far as they will go toward the foot of the bed and the short supporting frame with the heating unit and pad mounted upon the side rails of the bedstead in position at its head corresponding to the position shown in Fig. 4 as occupied by those parts at its foot.

My invention further contemplates a convenient electrical equipment upon the bedstead inself both for the current supply to the box when employed as a heating unit and for illumination for convenence of the patient in reading or of the attendant in treatment. The electrical equipment comprises two tubular conduits 18, one running at each side longitudinally of the bedstead on brackets 19 extending inwardly from the side-rails 1. The line wires are extended through the tubular conduits, outlet sockets 20 being provided spaced along the bedstead as shown in Figs. 1 and 4. A connection 21 is shown in Fig. 4 as inserted between the rearmost outlet socket and the switch 16 of the box 14 so as to employ that box as a heater unit, and an electric lamp 22 is shown in Fig. 1 as connected with an intermediate outlet socket, the stem 23 of the lamp being provided with a clip 24 engaging the side rail of one of the mattress supporting frames 5, to more securely sustain the lamp in position.

An adjustable head and back rest is also preferably provided, comprising a U-shaped round bar 25 having flattened and perforated terminal portions 26, outwardly curved and reduced in thickness to snap over holding pins 27, projecting from the mattress supporting frame 5. A rigid cross rod 27′ between the arms of the bar 25, just above the terminal portions referred to, serves to impart rigidity to the structure, while straps 28 of leather, canvas or the like extending between the arms of the bar above the cross rod 27, provide the head and back rest with a flexible body portion within the confines of its rigid framework. An adjustable sup-

porting brace for the head and back rest is provided, comprising two notched side bars 29 united by a cross rod 30, holding pins 31, one projecting from each side rail of the mattress-supporting frame 5, being provided to engage in the notches of the side bars 29 to support the head and back-rest and permit its adjustment to the differing inclinations desired.

The head and back rest may be rotated, about the pivotal connection of the side bars 29 therewith, to the position, shown in dotted lines in Fig. 1, against the head frame of the bedstead, to provide a clear space enabling the patient to lie flat upon the bed.

As will be seen from Fig. 1, each of the major supporting frames 5 are provided with the holding pins 27 and 31, so that the adjustable body rest referred to may be transferred from the head to the foot of the bed, in case the treatment requires elevation of the patient's feet.

What is claimed is:

1. In an invalid bed, the combination of a mattress formed of separate sections or units, and one of said units being relatively short measured in the direction of the length of said bed, separate-supporting frames, one for each unit, adapted to support said units by the unattached disposal of said units thereon, said supporting frames being separately mountable upon and removable from the side rails of the bed and slidable along said side rails, and a heater unit of dimensions adapted for its substitution for said relatively short mattress unit upon the supporting frame for said mattress unit in making up said bed.

2. In an invalid bed, the combination set forth in claim 1 in which the heater unit includes an electric heating element, and line-wire conduits mounted upon the side rails of said bed and outlet sockets spaced along said line-wire conduits.

3. In an invalid bed, the combination of a mattress formed of separate sections or units, and one of said units being relatively short measured in the direction of the length of said bed, separate supporting frames, one for each unit, adapted to support said units by the unattached disposal of said units thereon, said supporting frames being separately mountable upon and removable from the side rails of said bed and slidable along said side rails, and a container for a cooling medium of dimensions adapted for its substitution for said relatively short mattress unit upon the supporting frame for said relatively short mattress unit in making up said bed.

4. In an invalid bed, the combination of a mattress formed of separate sections or units, a heater unit of dimensions adapted for its substitution for one of said mattress units in making up said bed, an electric heating element in said heater unit, line-wire conduits mounted upon the side rails of said bed and outlet sockets spaced along said line-wire conduits.

5. In an invalid bed, the combination of a mattress formed of three separate sections or units each of a width to extend across the bed, one of said units being shorter than the other two measured in the direction of the length of said bed, supporting frames for said other two mattress units adapted to be mounted in end-spaced relation on said bed and each having a horizontal supporting surface and an upstanding flange encompassing the sides of the supported mattress unit, and means for removably mounting said shorter mattress unit between said other two units, said means comprising supporting elements mounted on the adjacent ends of said supporting frames and having surfaces along which said shorter mattress unit may be slid transversely of said bed in the mounting and removal of said unit.

6. In an invalid bed, the combination of a mattress formed of three separate sections or units, each of a width to extend across the bed and two of said units being relatively long and one relatively short measured in the direction of the length of said bed, supporting frames for said relatively long mattress units arranged on said bed to support said relatively long units in end-spaced relation, and means adapted to removably mount said relatively short mattress unit between said relatively long units, said means comprising flat-topped bars mounted on the adjacent end portions of said supporting frames and extending transversely of said bed.

7. In an invalid bed, the combination set forth in claim 6, and a heater unit of substantially the dimensions of said relatively short mattress unit and adapted to be mounted in place of said relatively short mattress unit in making up said bed.

8. An equipment for beds of the type having side rails, right-angled in cross-section to provide a horizontal ledge and an upstanding outer side-wall for each side rail, said equipment comprising two relatively long mattress-supporting frames and one relatively short mattress-supporting frame, the over-all length of said frames when in end to end contact substantially spanning the distance between the head and foot of the bed to be equipped and each supporting frame being of substantially the width of the bed, each said supporting frame being provided with legs adapted to mount said frame upon the side-rails of said bed with the legs between the opposite upstanding walls of said side rails and slidable along said rails, separate mattress sections or units, two relatively long and one relatively short, to fit said supporting frames, and a container or box of substan-

tially the dimensions of said relatively short mattress unit and adapted to be substituted upon said relatively short supporting frame for said mattress unit.

9. An equipment for beds comprising the combination set forth in claim 8, and in which the container or box is equipped with an electric heating element.

10. An equipment for beds, comprising the combination set forth in claim 8, and in which one end of each of said relatively long mattress-supporting frames is provided with means adapted to support said relatively short mattress unit between said ends when said supporting frames with said ends adjacent are spaced apart a distance equal to the length of said mattress unit, said means comprising flat-topped bars, one movably mounted on each of said supporting frames for projection outwardly of said ends to support said mattress unit and for retraction to permit end-to-end contact of said supporting frames.

In testimony whereof I hereunto affix my signature.

SAMUEL B. SKLAR.