

G. A. STACKHOUSE.
BED.
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1,053,888.

Patented Feb. 18, 1913.

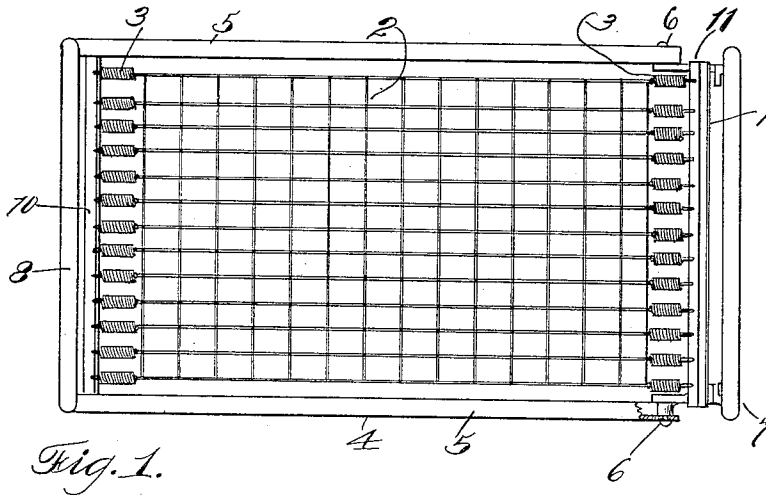


Fig. 1.

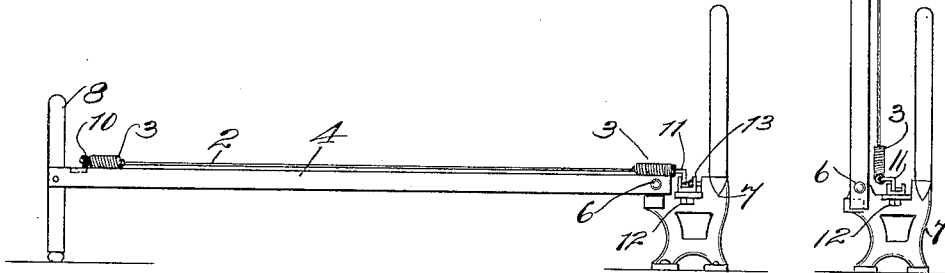


Fig. 2.

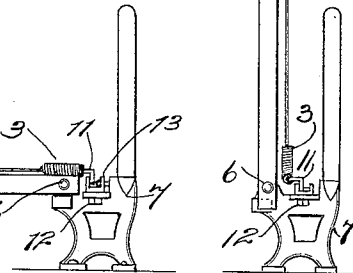


Fig. 3.

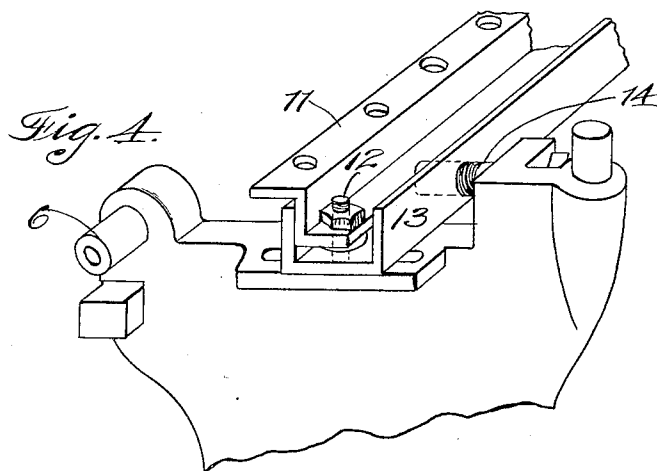


Fig. 4.

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UNITED STATES PATENT OFFICE.

GEORGE A. STACKHOUSE, OF FRUITVALE, CALIFORNIA, ASSIGNOR TO PACIFIC SPRING BED CO., OF WEST BERKELEY, CALIFORNIA, A CORPORATION OF CALIFORNIA.

BED.

1,053,888.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE A. STACKHOUSE, a citizen of the United States, residing at Fruitvale, in the county of Alameda and State of California, have invented new and useful Improvements in Beds, of which the following is a specification.

This invention relates to improvements in bed structures.

10 The object of the present invention is to provide a bed, the mattress supporting frame of which is adapted to be adjusted in a horizontal or vertical position.

15 The frame of the bed is formed in two parts or sections, one of which forms the mattress frame which is pivotally connected to a stationary head-forming frame, the latter forming the support for the head end of the mattress frame when the latter is
20 moved into horizontal position and entirely supporting the mattress frame when moved into vertical position.

A further object of the present invention is to provide in combination with a folding
25 bed structure a mattress-carrying spring, one part of which is connected to the swinging mattress frame and the other part of the spring is connected to a stationary member; the functions of the spring being first, to
30 yieldably support the mattress and bedding, and second, to serve as a means for swinging the mattress frame after it is lifted to a position slightly above a horizontal plane.

35 It is a further object to provide means whereby the tension of the mattress-supporting and frame-elevating spring can be nicely controlled to compensate for variations in the weight of the bedding attached to the swinging bed frame.

40 A very important object is to provide a tiltable bed structure of such peculiar design and organization that it will be impossible for a person to apply sufficient pressure on the head end of the tiltable frame
45 to cause this to swing upward.

The invention consists of the parts and the construction and combination of parts

as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

50 Figure 1 is a plan view of the improved bed in horizontal position. Fig. 2 is a side elevation of the bed structure in horizontal position. Fig. 3 is a side elevation of the bed structure in vertical position. Fig. 4 is
55 a detail sectional view of the spring tensioning adjustment.

The so-called wire fabric spring for beds has now become a well-known and popular article and many persons insist upon having
60 beds with the wire fabric spring provided. It is very desirable to provide a tiltable or folding bed structure in which a wire fabric spring, as 2, having helical springs 3 at its end, may be so connected in
65 combination with a tiltable bed structure that the fabric spring 2 not only acts as a yieldable support for the mattress and bedding, but also has the function of assisting in the vertical movement of the bed from a
70 horizontal position. To accomplish this especially desirable construction in which the mattress-bearing fabric spring 2 not only yieldably supports a mattress but also assists in the vertical adjustment of the bed, 75 I have provided a mattress-carrying frame 4, the side rails 5 of which are shown as supported at their head ends upon pivots 6 on a bracket or head structure 7; the foot ends of the rails 5 being connected by an
80 appropriate foot rail or frame 8 from which swing automatically movable lugs.

The tiltable frame, comprising the side rails 5 and the foot frame 8, may be moved into a vertical or horizontal position about
85 the pivots 6. Adjacent to the foot frame 8 and on a cross bar 10 attached to the side rails 5 is connected one set of the helical springs 3 which forms one end of the wire fabric spring 2; the helical springs 3 at the
90 head end of the bed instead of being connected to the tiltable frame 4 are connected to a stationary head rail or transverse bar 11, here shown as an angle iron, which is ad-

justable by suitable bolts 12 on a bearing or bar 13, slidably adjustable by bolts 14 on the relatively stationary bracket structure 7.

Preferably the hanger or rail 11 to which the helical springs 3 at the head of the bed are connected is adjustable so as to increase or decrease the tension of the springs 3 at each end of the fabric spring 2, and when properly adjusted as to tension the contractile power of the springs will be sufficient to automatically lift the tiltable frame 4 after it has been manually lifted to a slight angle above the horizontal. After this initial manual movement of the tiltable frame the springs 3 will operate to swing the bed upwardly to a vertical position about the supporting pivots 6.

In order to prevent the springs 3 of the fabric spring 2 from acting too quickly, the spring-carrying bar 11 may be adjusted vertically on its carriage 13 so that the springs 3 at the head end of the bed may be lowered or elevated as to the pivots 6 so that when the springs 3 are lowered by their carrier or bar 11 into a plane approximately even with the axis of the pivots 6, then the tension of the springs 3 will be rendered practically neutral or inoperative in their lifting effect when the bed is in a horizontal position.

Obviously as the bar 11, to which the springs at the head end of the bed 3 are connected, is elevated, the tension of the springs becomes effective to lift the bed frame from a horizontal position. It is for the purpose of avoiding any possibility of the springs 3 not operating to lift the bed frame 4 from a horizontal position that means are provided for lowering the springs or changing their position relative to the pivots 6 when the frame 4 is horizontal.

By moving the transverse bar or carrier 13 forwardly or backwardly on its supporting brackets 7 the tension of the springs 3 may be increased or decreased, as desired, to compensate for the difference in the weight of different materials used for bedding, since in some cases a light mattress and light bedding will be used on the bed frame and spring, and in other cases a heavy mattress and heavy bedding may be used.

When the bed is moved to a vertical position the springs 3 swing pivot fashion about their transverse supporting bar 11; the tension of the springs 3 when the bed is vertical being sufficient to substantially retain it in this position. As the bed frame is lowered by the application of extraneous force and swung downwardly about its pivot 6, the springs 3 are stretched until finally, the bed springs slightly above the horizontal position, the springs will be ineffective to lift the frame 4 because of the relative position of the springs 3 to the pivot 6.

One of the peculiar features and advantages of the present bed structure is that it is impossible to cause the bed to be tilted upwardly by the application of any downward pressure at the head end of the bed. This is a particularly essential feature in tiltable or folding beds because of the fact that at some time there may be applied accidentally a sufficient downward pressure on the head portion of the tiltable frame to cause the mattress-carrying frame to swing suddenly upward at the risk of persons occupying or near the bed. Since the springs 3 at the head of the bed are connected to a part, as 11, which is adjusted and adapted to remain stationary as to the tiltable frame 4, no pressure whatsoever on the transverse members 11-13 can effect an upward swinging movement of the mattress frame.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In a bed structure, the combination of a frame comprising a stationary part and a part pivoted thereto and adapted to be swung to vertical or horizontal position, and a mattress-carrying spring connected at one end to the swinging part of the frame and at the opposite end to the stationary part of said frame, said mattress-carrying spring being adapted to facilitate movement of the swinging part of the frame from a position slightly above the horizontal to a vertical position.

2. A bed structure, comprising a frame having side rails and a foot member, a stationary support having pivots about which the bed frame may be swung to vertical or horizontal position, and a mattress-carrying spring connected to the bed frame adjacent to its foot end and also connected to the said stationary support and adapted to lift the bed frame from a position slightly above a horizontal plane to a vertical position.

3. The combination in a bed, of a head structure, pivots on said structure, a foot and side frame mounted on said pivots and adapted to be moved into horizontal and vertical positions, a mattress-carrying spring connected to said frame adjacent to the swinging end of the bed and also connected to the head structure, said mattress-carrying spring being adapted to swing the tiltable frame from an angular position slightly above the horizontal to a vertical position, and means on the head structure whereby the tension of the mattress-carrying and frame-lifting spring may be controlled.

4. The combination in a bed, of a head structure, pivots on said structure, a foot and side frame mounted on said pivots and adapted to be moved into horizontal and vertical positions, a mattress-carrying spring

connected to said frame adjacent to the foot
end thereof and also connected to the head
structure, said mattress-carrying spring be-
ing adapted to swing the frame from an an-
5 gular position slightly above the horizontal
to a vertical position, means on the head
structure whereby the tension of the mat-
tress-carrying and frame-lifting spring may
be controlled, and a device for changing the

line of pull of said springs with relation to 10
the pivots about which the frame swings.

In testimony whereof I have hereunto set
my hand in the presence of two subscribing
witnesses.

GEORGE A. STACKHOUSE.

Witnesses:

CURTIS WRIGHT, Jr.,
H. LUEDERS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
