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# UNITED STATES PATENT OFFICE.

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## FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 493,711, dated March 21, 1893.

Application filed March 4, 1892. Serial No. 423,763. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP J. HARRAH, of Bloomfield, in the county of Greene and State of Indiana, have invented certain new and useful Improvements in Folding 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 certain new and useful improvements in folding beds, and has for its object the production of a bed of this kind which shall be simple in construction; inexpensive and durable; and one that can be readily and easily operated, and which will present a neat appearance and occupy but minimum space when not in use.

The invention comprises a folding bed having a stationary frame to which two vertical rods are secured, two springs of different tension on said rods, a pivoted bedstead section and a sliding head section connected with said springs.

The invention also comprises the detail construction, combination and arrangement of parts, substantially as hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings:—Figure 1 is a vertical longitudinal sectional view of my improved folding bed, the parts being closed or folded. Fig. 2 is a rear elevation with the bedstead section partly opened. Fig. 3 is a similar view, the bed being opened.

Referring to the drawings, A designates a stationary frame, which is composed of a base-board *a*, and two corresponding uprights *a'*, which are connected together near their upper ends by a cross-bar *a<sup>2</sup>* secured to the rear edges thereof.

B is the bedstead section which may in general outline be of any preferred form, and in its front is placed a mirror *b*. This bedstead section is pivotally mounted by short studs or brackets *b'* secured to uprights *a'* and having their angular ends projected into holes or openings in the side-boards of the bedstead section. The rear or inner cross-board *b<sup>2</sup>* of this bedstead section is beveled on its upper edge, as shown.

In the outer corners of bedstead section B are the legs *b<sup>3</sup>*. These legs are movable in corresponding openings in the bottom and within an inclosing casing *b<sup>4</sup>*. A pin *b<sup>5</sup>* projecting from each leg limits the outward movement thereof, while a pin *b<sup>6</sup>* extending from the side of the bed-section limits its inward movement. A pivoted L-shaped hook *b<sup>7</sup>* swings into its proper position when the bedstead section is lowered and its outer angular end projects over the inner end of the adjacent leg, which bears against said hook, the latter serving to hold the leg extended. Upon raising the bedstead-section the hooks will swing back out of the way, permitting the legs to be moved inward.

C is the sliding head section formed in one piece, or composed of a series of boards rigidly united together so as to make one continuous piece. This head section is located between front and back lugs or guides *d* attached to the inner sides of the uprights *a'*.

To the lower edge of the head section is secured by means of hinges *d'* a board D, which at its lower beveled edge is likewise connected by hinges *d<sup>2</sup>* to the beveled edge of the inner cross-board *b<sup>2</sup>* of the bedstead section B. When this latter section is lowered the hinging board D will occupy an inclined position and serves as a lock upon the sliding head-section and pivoted bedstead section holding the same in their proper relative positions. When the bedstead-section is lowered the hinging board D will have passed beyond a perpendicular line, and all additional pressure on the bedstead section serves to force said board even to a greater inclination, and hence lower the head-section and prevent the raising of the bedstead section, the beveled edges causing the parts to firmly and snugly fit.

To the inner sides of the uprights *a'* are attached upper and lower right angular plates or brackets E in apertures in which are inserted the upper and lower ends of rods *e*, *e'*. These rods have screw threads *e<sup>2</sup>* extending over a portion of their upper ends whereon are adjustable nuts *e<sup>3</sup>* having milled edges to permit of their easy adjustment.

Upon rod *e* is a coil or spiral spring F which bears at its lower end upon a right angular

plate or bracket *f* attached to the rear side of head-section C and through an aperture in which rod *e* is projected, while the upper end of said spring is in contact with the nut on said rod. This nut is adjusted according to the tension it is desired to give said spring. The spring F is designed to receive the primary or initial weight of the bedstead section when the same is first turned on its pivot bearings. On rod *e'* is a second, but heavier coil spring F', which likewise bears at its lower end upon a right angular plate or bracket *f'* of head section C, and through an aperture in which rod *e'* is projected. This spring is shorter than the spring F and is not designed to be brought into play until the bedstead section has reached an angle of about forty-five degrees. This secondary spring is acted upon when the weight of the bedstead section becomes too great for the initial or primary spring. Hence it will be seen that the weight of the bedstead at the commencement of the lowering thereof is entirely upon one spring, and that the tension of the second spring is utilized as soon as the weight of the bedstead section is too great for the capacity of the spring first brought into play.

The advantages of my invention are apparent. It will be especially observed that a folding bed so constructed can be readily and easily opened and that there is uniformity in the movement of the bedstead-section in the lowering thereof, and that the parts will be held in their proper relative positions by reason of the hinging board connection between the sliding head-board and the bedstead. It will also be observed that when the bed is folded

the head-section is lowered and hence there is ample room for the foot-board of the bedstead-section.

I claim as my invention—

1. The herein-described improved folding bed, comprising the stationary frame, the rods secured thereto, the two springs of different tension on said rods, the pivoted bedstead section and the sliding head-section connected with said springs, substantially as set forth.

2. The herein-described improved folding bed, comprising the stationary frame, the rods secured thereto having adjustable nuts thereon, the coil springs on said rods of different tensions, the pivoted or swinging bedstead section, and the sliding head-section having plates or brackets with which said springs are in contact, substantially as set forth.

3. The herein-described improved folding bed, comprising the combination with the stationary frame, of the pivoted bedstead-section, the sliding section, the hinging board connected at its longitudinal edges to the lower edge of said sliding section and inner end of said bedstead-section, the threaded rods, the angular plates secured to said stationary frame supporting said rods, the nuts on said rods, the springs on said rods, and the plates attached to said sliding section in contact with said springs, substantially as set forth.

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

PHILIP J. HARRAH.

Witnesses:

J. E. BULL,

E. H. C. CAIRNS.