J. R. STARK.

ADJUSTABLE BED SPRING FOR BEDS, DAVENPORTS, COUCHES, AND THE LIKE.

APPLICATION FILED JULY 6, 1915.

1,243,887.

Patented Oct. 23, 1917.

4 SHEETS—SHEET 1.

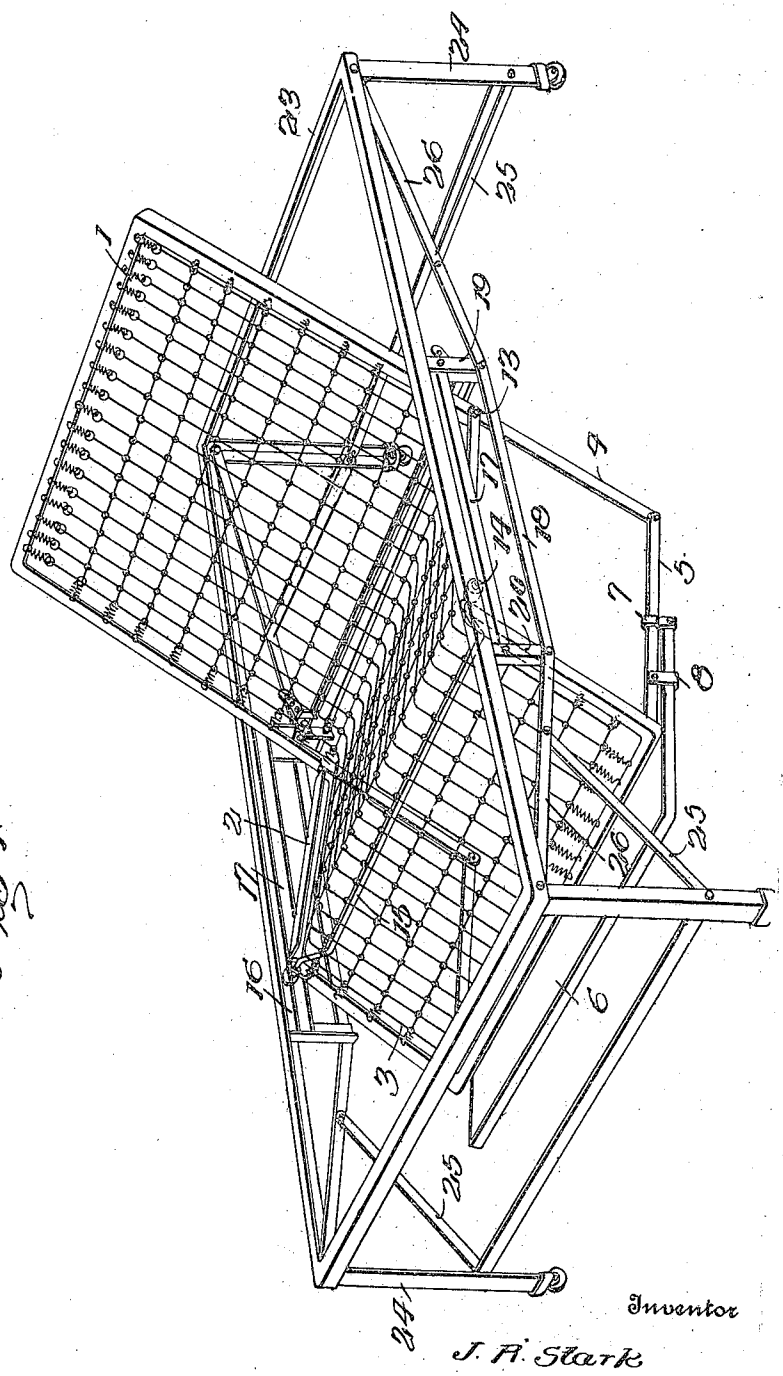


Fig. 1.

Inventor

J. R. Stark

By

Attorneys

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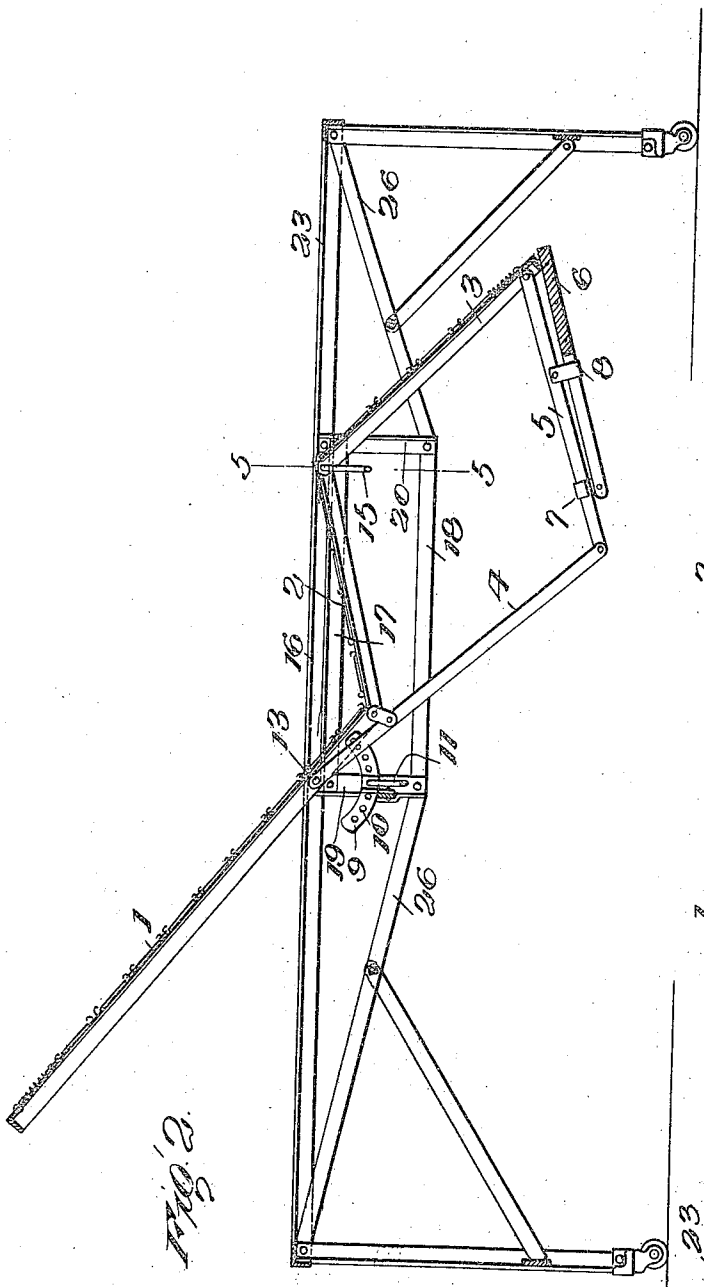


Fig. 2.

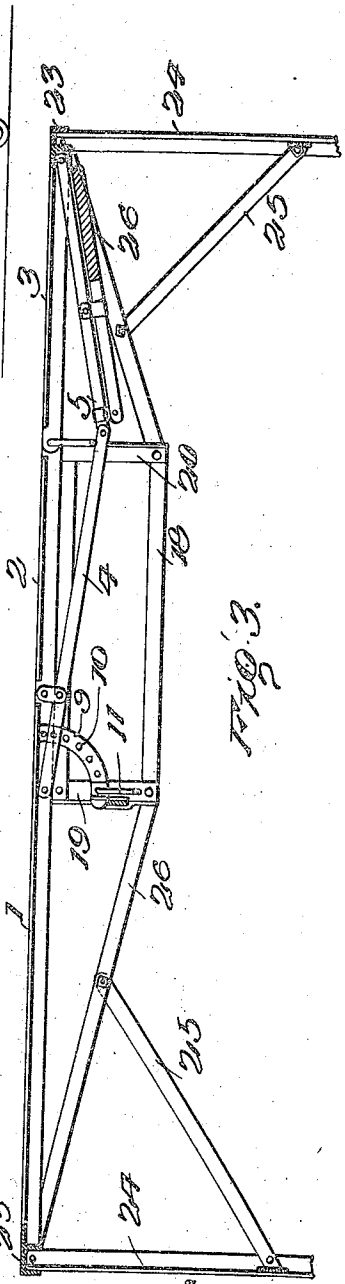


Fig. 3.

Inventor

J. R. Stark

By

Attorneys

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4 SHEETS—SHEET 3.

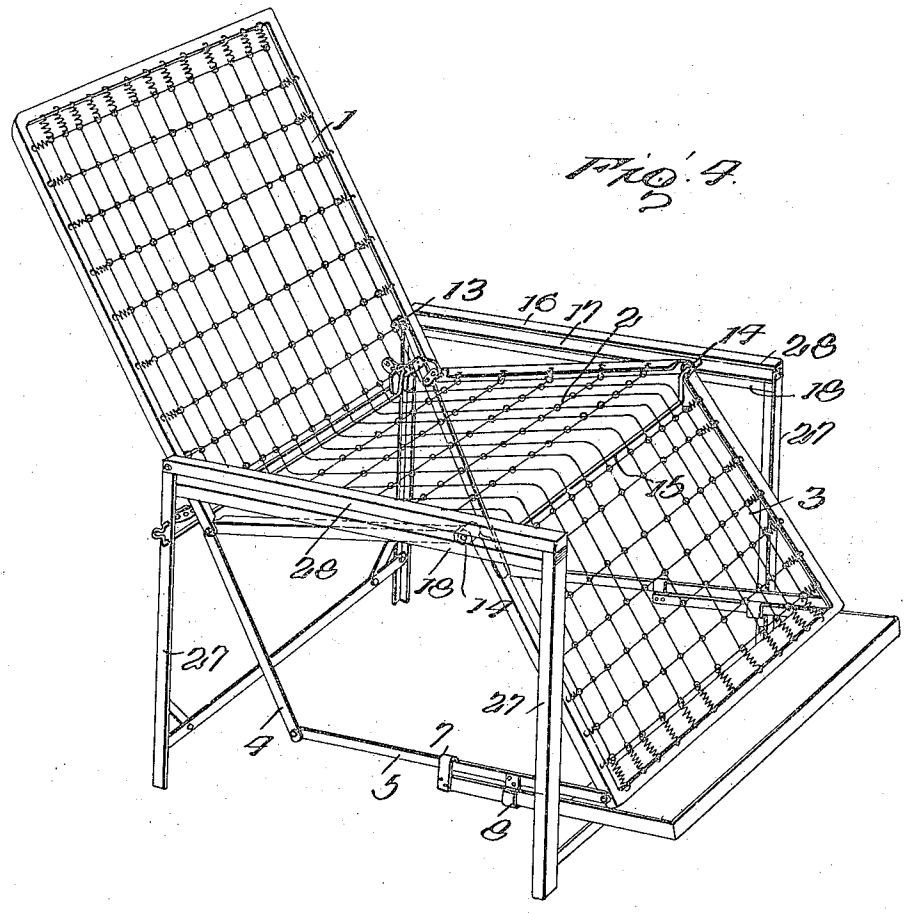


FIG. 4.

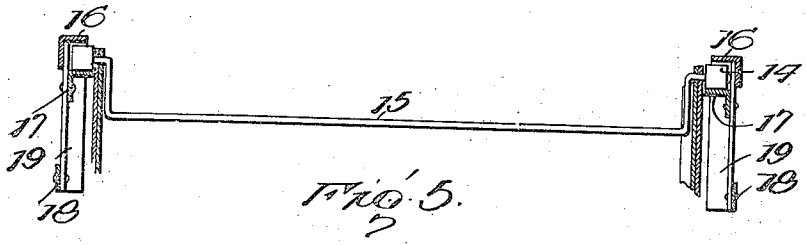


FIG. 5.

Inventor

J. R. Stark

By

Attorneys

J. R. STARK.

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4 SHEETS—SHEET 4.

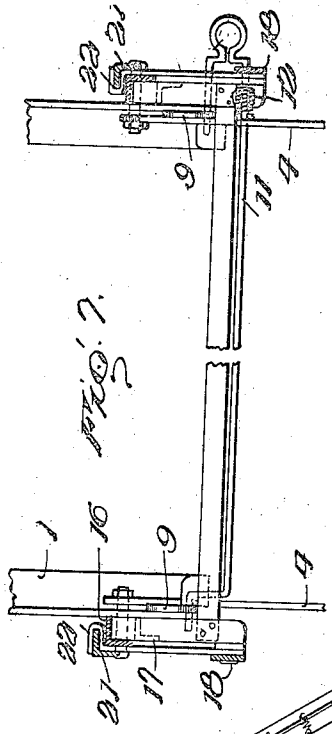


Fig. 7.

Fig. 6.

Inventor

J. R. Stark

By

Attorneys

UNITED STATES PATENT OFFICE.

JOHN R. STARK, OF NASHVILLE, TENNESSEE, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE OWENS-STARK MANUFACTURING COMPANY, A CORPORATION OF TENNESSEE.

ADJUSTABLE BED-SPRING FOR BEDS, DAVENPORTS, COUCHES, AND THE LIKE.

1,243,887. Specification of Letters Patent. Patented Oct. 23, 1917.

Application filed July 6, 1915. Serial No. 38,125.

To all whom it may concern:

Be it known that I, JOHN R. STARK, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Adjustable Bed-Springs for Beds, Davenports, Couches, and the like, of which the following is a specification.

The invention has relation to bed bottoms and has for its object the provision of a bed bottom which may be readily adjusted to admit of the occupant assuming a recumbent position or a sitting posture so that in the event of a convalescing patient it is not necessary to make a shift from the bed to a chair in the event of it being required to admit of the patient assuming a sitting position.

The invention provides an adjustable bottom of the character hereinbefore mentioned which may be adapted to beds, couches, davenports or the like and which may be quickly shifted and secured in the adjusted position to admit of the patient lying prone or sitting in any desired position to secure ease and comfort.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly claimed.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention as claimed may be resorted to when desired.

Referring to the drawings,—

Figure 1 is a perspective view of a couch or like article of furniture provided with an adjustable bottom embodying the invention, such bottom being shown adjusted to a reclining position;

Fig. 2 is a vertical longitudinal sectional view;

Fig. 3 is a view similar to Fig. 2, the bottom being adjusted to occupy a horizontal position;

Fig. 4 is a perspective view showing the invention adapted to a chair;

Fig. 5 is a transverse section on the line 5—5 of Fig. 2;

Fig. 6 is a perspective view of the invention applied to a bed;

Fig. 7 is a transverse section on the line 7—7 of Fig. 6 looking in the direction of the arrows, portions of the bed frame and bottom being broken away.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Within the purview of the invention the character of the supporting frame for the adjustable bed bottom is unimportant since it is contemplated to apply the invention to various articles of furniture, hence the nature of the supporting frame is dependent largely upon the adaptation of the invention.

The bed bottom comprises essentially three sections designated by the numerals 1, 2 and 3. The end sections 1 and 3 are pivoted with reference to the middle section 2 and are adapted to extend in opposite directions when the bed bottom is adjusted from a horizontal position. The bed bottom may be of any construction and comprises a substantial frame and a filling, the latter being of any nature according to the finish and cost of the article. The longitudinal members of the frame are pivotally or hingedly connected so as to provide the several adjustable sections 1, 2 and 3. When the person is desirous of lying prone the several sections comprising the bed bottom are adjusted to lie in substantially the same horizontal plane, as indicated in Fig. 3. When the person is desirous of occupying a sitting position the sections are adjusted substantially as indicated in Figs. 1, 2, 4 and 6, it being understood that the inclination of the sections may be adjusted to the convenience and desire of the person so that the sitting posture may be more or less upright as may be required. When the bottom is adjusted so that the person may occupy a sitting position the middle section 2 constitutes a bottom, the end section 1 a back and the end section 3 a rest for the lower limbs. Side bars 4 and 5 cooperate

with the side bars of the sections 2 and 3 and are pivoted to each other. The outer ends of the side bars 5 are pivoted to the outer ends of the side bars of the section 3, thereby admitting of the bars 4 and 5 moving with the side bars of the sections 2 and 3 and bracing the same. The side bars 5 also form supporting means for a foot rest 6 which is slidable on the side bars 5 so as to be projected into operative position or moved inward so as to be out of the way when not required for use. Hooks 7 attached to the inner or rear ends of the side bars of the foot rest have sliding engagement with the side bars 5. Other hooks 8 attached to the side bars 5 have sliding engagement with the side bars of the foot rest. The hooks 7 and 8 slidingly support the foot rest and direct the same in its movements. The side bars 4 are connected to the side bars of the section 1 so as to move therewith.

To hold the several sections of the bed bottom in the required adjusted position it is necessary to provide securing means and, as shown, the same comprise curved bars 9 formed with a plurality of openings 10 in transverse alinement. A latch 11 is adapted to coöperate with the curved bars 9 to hold the same in the adjusted position. The latch 11 is mounted in a relatively stationary part and is provided at opposite ends with portions adapted to pass through the openings 10 of the bars 9. The latch 11 consists preferably of a rod having its opposite end portions offset to provide engaging terminals to pass through the openings 10 of the bars 9. The latch is movable longitudinally and is normally acted upon by means of a spring 12 which holds the engaging terminals of the latch in the openings 10 of the bars 9. The bars 9 are attached to the end section 1 and move therewith. When it is required to adjust the bottom to or from a horizontal position the latch is moved so as to clear the bars 9 after which the bottom may be adjusted to the required position and is held in such position by reëngagement of the offset latch terminals with the bars 9 in the manner hereinbefore stated.

The bottom is supported essentially on two lines, which correspond approximately with opposite edge portions of the middle section. One of these lines of support is designated by the numeral 13 and the other by the numeral 14. The section 1 turns on the line 13 and is pivotally connected to a supporting frame. The sections 2 and 3 turn on the line 14 and such line is movable toward and away from the line 13 to admit of the several sections alining horizontally or assuming a position to admit of the person occupying a sitting position more or less upright. In order that the middle section 2 may incline to the horizontal when the bottom is adjusted into a sitting position, such middle section is pivoted to the inner or lower end of the head section 1. When the head section is moved to elevate the upper portion the lower portion is correspondingly depressed, thereby lowering the end of the middle section 2, which is pivotally connected therewith. As the head section 1 is elevated the lower, or foot, section 3 is correspondingly lowered by the action of the side bars 4 and 5. A rod 15 pivotally connects the sections 2 and 3 and its end portions are offset and pass through the overlapping ends of the side bars of the sections 2 and 3, as indicated at 14. These offset ends are extended and receive rollers which travel in ways formed between upper and lower parallel bars designated by the numerals 16 and 17. Other bars 18 are located some distance below the parallel bars 16 and 17 and are connected by vertically disposed end bars 19 and 20. These several bars 16, 17, 18, 19 and 20 constitute side frames which support the bottom and the parts associated therewith.

In the arrangement illustrated in Figs. 6 and 7 the invention is adapted for application to the frame of an ordinary bedstead. This is accomplished by attaching the side frames of the bed bottom to the side rails 21 of the bedstead. For this purpose the upper ends of the bars 19 and 20 are formed into hooks, as illustrated at 22 and engage the side rails 21. The bedstead may be of any design and when provided with a bed bottom embodying the invention is adapted to support a sick person in a recumbent position or in a sitting posture, the inclination being adjustable to best suit the requirements of the patient.

In the adaptation of the invention illustrated in Figs. 1, 2 and 3, a frame 23 is provided and receives the side frames of the bed bottom, such side frames being attached in any manner to the side bars of the frame 23. The legs 24 are adapted to fold and are held extended by means of braces 25. The lower bars 18 of the side frames have extensions 26 which are oppositely inclined and form with the bars 18, truss braces.

In the adaptation illustrated in Fig. 4 the invention assumes the form of a chair, the frame of the latter comprising four uprights 27 and side pieces 28 which connect the upper ends of the uprights 27 upon the same side, such side pieces 28 comprising companion bars which form ways to receive the projecting ends of the pivot connections between the side bars of the sections 2 and 3.

It will be understood from the foregoing, taken in connection with the accompanying drawings that the invention may be readily adapted to any article of furniture so as to adapt the same for supporting a person

either in a reclining or in a sitting position, thereby rendering it unnecessary to remove a patient from a bed, pallet or couch to a chair when it is required to brace such patient in a sitting position. The change from one position to another may be quickly and easily effected and without causing any discomfort or inconvenience to the patient or without requiring the change or adjusting of bed covering or apparel. It will of course be understood that the device may be used for Pullman car beds, chairs for chair cars, Morris chairs or wherever the invention is found desirable or applicable.

Having thus described the invention, what is claimed as new is:—

1. A device of the class described including pivoted head, seat and foot sections, the side portions of the head section being extended beyond the lower end of the said section, bars pivotally connected to the said extended side portions of the head section and to the lower side of the foot section, a foot rest provided at its ends with rearwardly extending arms, and clips carried by the said bars and arms and respectively engaging the arms and bars.

2. In a bed bottom structure, a main supporting frame, a bed bottom section pivotally mounted adjacent one end within the frame, arcuate arms extending from the side portions of the said section and provided each with a series of openings concentric to the pivot for the said section, a rod slidably mounted transversely within the main frame and having one end bent upwardly and thence laterally to provide a pawl engageable in the openings in one of said arms, the opposite end of the rod being extended beyond the corresponding side of the main frame and being provided with a finger piece and beyond the finger piece with a terminal portion extending inwardly above the main portion of the rod to provide a pawl engageable in the openings in the other arm, and a spring upon the said rod normally holding the same shifted to position with its said pawls simultaneously engaging the openings in the said arms.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN R. STARK. [L. S.]

Witnesses:
W. R. PARKES,
JAS. D. OWENS.

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