

(No Model.)

T. T. WOODRUFF, Dec'd.

I. I. GERSON, Administrator.

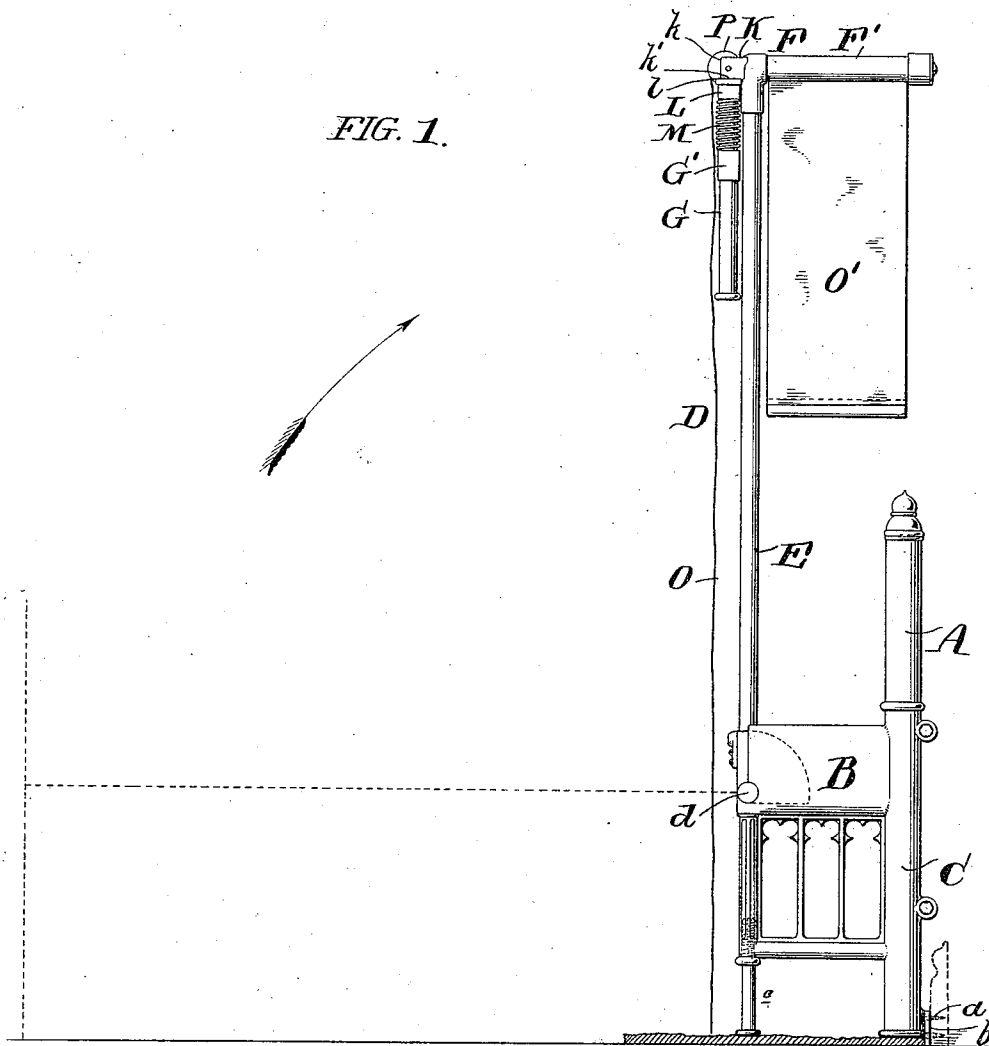
FOLDING BEDSTEAD.

3 Sheets—Sheet 1.

No. 512,184.

Patented Jan. 2, 1894.

FIG. 1.



WITNESSES:

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H. L. Matherell.

INVENTOR

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Administrator of the Estate of
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(No Model.)

3 Sheets—Sheet 2.

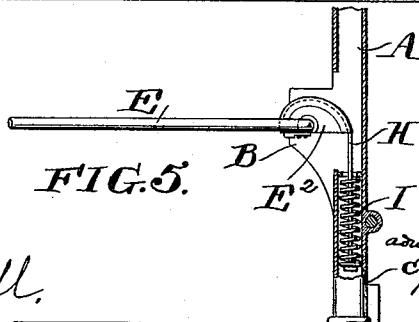
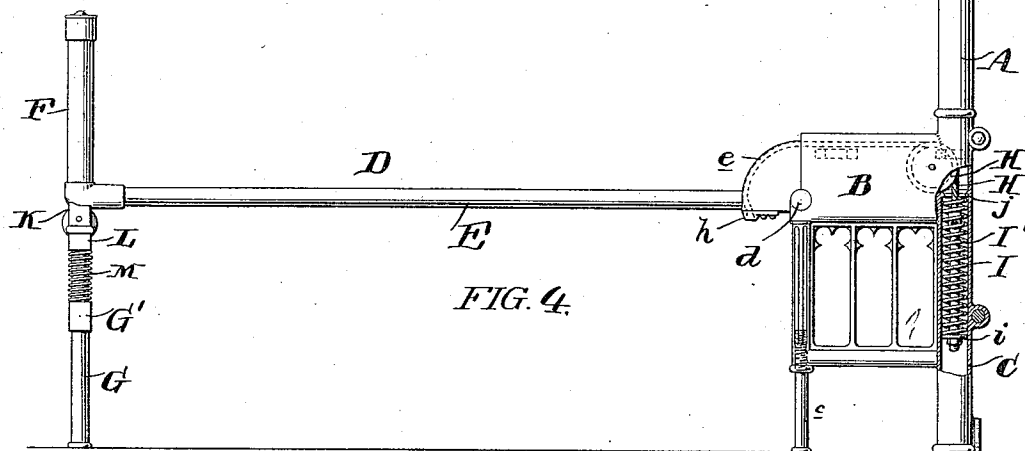
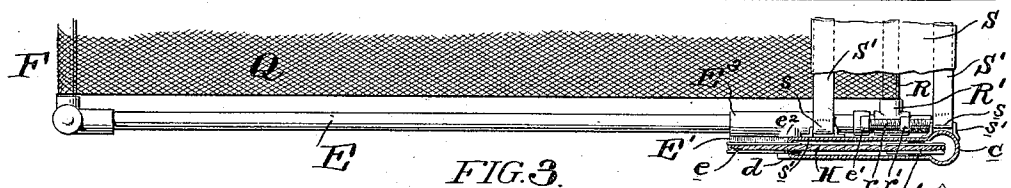
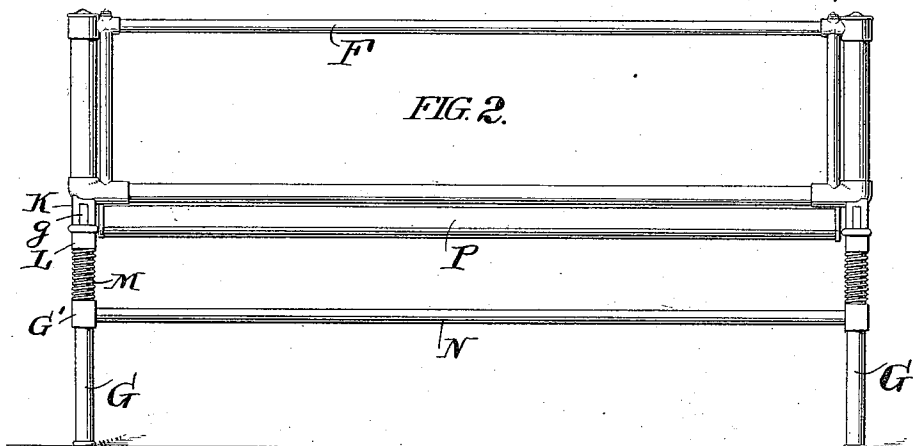
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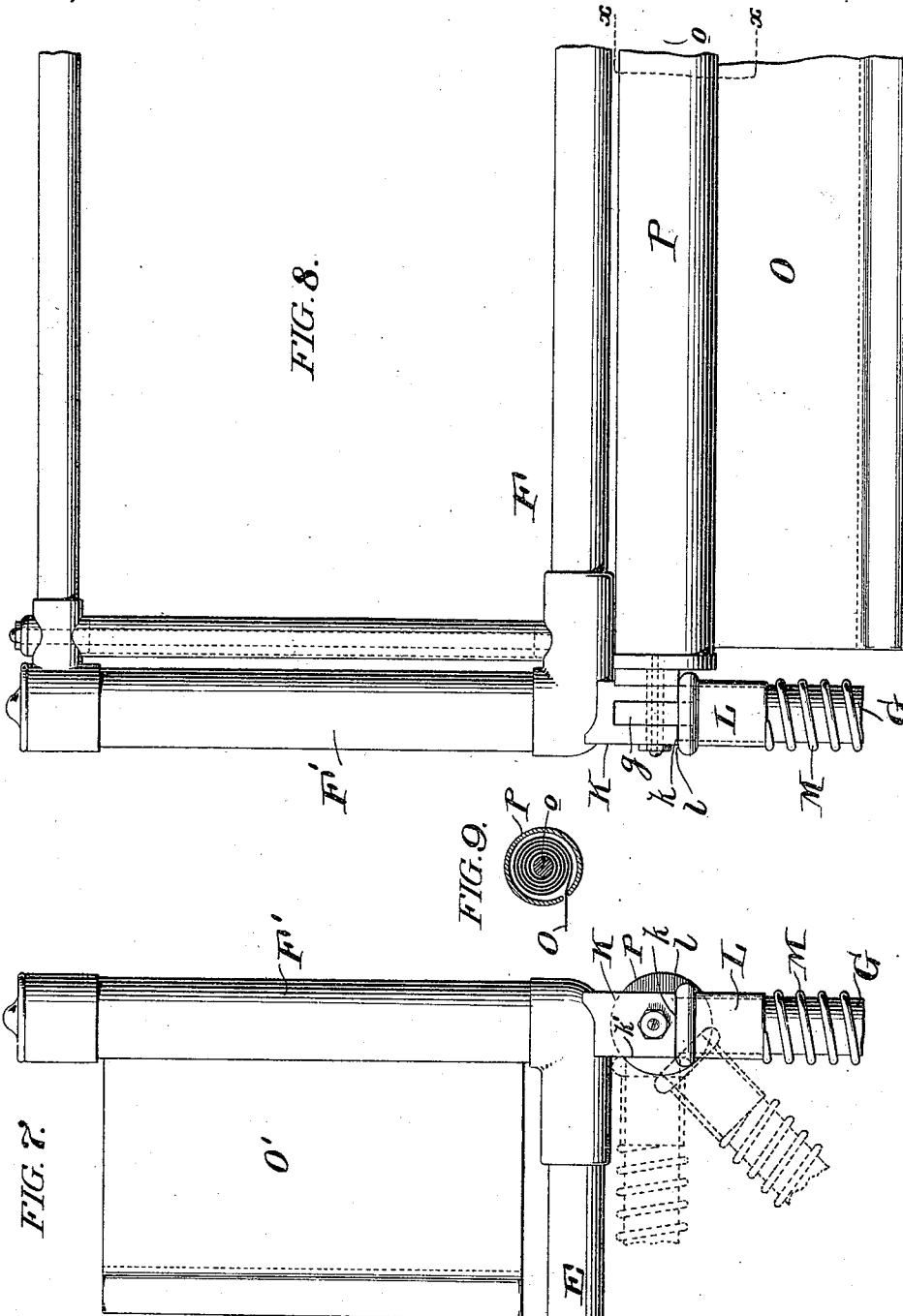
3 Sheets—Sheet 3.

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FOLDING BEDSTEAD.

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UNITED STATES PATENT OFFICE.

ISIDOR I. GERSON, OF PHILADELPHIA, PENNSYLVANIA, ADMINISTRATOR OF
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FOLDING BEDSTEAD.

SPECIFICATION forming part of Letters Patent No. 512,184, dated January 2, 1894.

Application filed November 15, 1892. Serial No. 452,099. (No model.)

To all whom it may concern:

Be it known that THEODORE T. WOODRUFF, deceased, formerly of the city and county of Philadelphia, State of Pennsylvania, had invented an Improvement in Folding Bedsteads, of which the following is a specification.

This invention relates to folding bedsteads and consists of certain improvements which are fully set forth in the following specification and are shown in the accompanying drawings which form a part thereof.

The present improvements are especially adapted to use in connection with a metallic folding bedstead, though they are not necessarily limited thereto.

The invention relates to certain improvements in the devices for counterbalancing the weight of the folding section or member, whereby an effective compensative may be obtained for the variation of the load in the act of raising or lowering the folding member. This is especially necessary in metallic bedsteads, in which the folding section or member is necessarily of considerable weight. By the construction employed, however, this weight may be nicely counterbalanced so that little effort is required to raise or lower the folding section.

The invention relates to improvements in the construction of the legs of the folding member, whereby they may be easily turned from a vertical to a horizontal position or vice versa when the bedstead is opened or closed and may be automatically locked to foot frame in either extreme position. This is accomplished by the employment of a spring pressed or yielding lock carried by the leg and pressed into locking relation with parts carried by the foot frame.

The invention also relates to the employment of curtains for the purpose of concealing the bottom or side of the bedstead, to hide the bedding, when the bedstead is closed.

The invention also relates to the combination of the folding frame of a bed bottom and means for adjusting the tension of the same; to the employment of a support for the pillows, and to other improvements of construction and combinations of parts which are hereinafter more fully described and claimed.

In the drawings: Figure 1 is a side elevation of a folding bedstead embodying the in-

vention and showing the folding frame folded up. Fig. 2 is an end elevation of the foot of the bedstead when the same is folded down. Fig. 3 is a plan view of part of the bedstead with part in horizontal section. Fig. 4 is a side elevation of the bedstead with part in section, showing the folding frame lowered. Fig. 5 is a partly sectional view of a portion of the bedstead illustrating a modification of the invention. Fig. 6 is an end elevation of one of the detached frames of the counterbalancing devices. Fig. 7 is a side elevation of a part of the folding frame. Fig. 8 is an end elevation of the same; and Fig. 9 is a cross sectional view on the line $x-x$ of Fig. 8.

A is the stationary frame or portion of the bedstead constituting the head thereof, and having the side frames B and the legs C.

D is the folding frame or portion, pivotally connected as at d with the side frames B, of the stationary frame, and consisting of the side rails E, E, the foot frame F and the pivoted legs G, G.

The stationary frame A may be secured, if desired, to the wall or frame work of the room in any convenient manner as by screws a passed through plates b on the legs C into the surbase.

Carried by the side rails E, E, adjacent to their pivot points with the frames B are frames E' , E' , having curved faces e . For convenience of construction it is preferable to form these frames E' integral with a tubular sleeve E^3 which may be slipped upon the rails E, as shown in Figs. 3 and 6, and the tubular sleeves E^3 may be provided with transverse journals e^2 through which the pivot pins d may be passed into the side frames B, thus pivoting the section D to the section A. Connected with each of these frames E' as at h is a cord H. Each cord H passes over the curved face e of the frame E' to which it is attached, is guided over an idler H' at the inner end of the frame B, and then passes vertically down into the leg C and is connected with a spring I therein. This construction is particularly shown in Figs. 3 and 4. In these views the cord H is shown connected with a rod I' carrying a plate or washer i at one end with the lower end of the spring supported upon the plate or washer and the upper end bearing against a projecting rim j in the up-

per portion of the leg. It is apparent from this construction, that as the folding member or section is unfolded or moved from a vertical to a horizontal position, the pull upon the cords H increases and the tension upon the spring I correspondingly increases, and vice versa when the folding section is folded up or closed. The springs thus compensate for the variation of the load as the bed is raised or lowered. By employing the idlers H' for guiding the cords H from the frames E' to the springs I in the legs C, the wider side frames B, B, may be employed and the pivot points *d* are farther removed from the head of the folding frame so that the frame when folded up does not extend to such a great height as it would if pivoted nearer the head. By the employment of proper springs I the weight of the movable or folding frame D may be entirely compensated for in all positions.

To conceal and protect the cord H and idler H' the side frames B of the frame A may be made in the form of hollow boxes with the frames E' pivoted in line with them so as to move through an opening in the end of the box when the member D is folded up.

In Fig. 5 a modified construction of the compensating devices for the folding member or section D is shown. In this construction the idlers H' may be omitted, and in place of the curved frames E', cams E² are employed. The cams E² are carried by the frame D adjacent to the pivot point in the same manner as the frame E' and extend a distance beyond the pivot point toward the leg C. The cord H is connected with the front end of the cam and passes over its cam surface and connects with the spring I in the leg C. It will be seen that in this modified construction, the tension upon the spring increases as the frame D is lowered from a vertical and horizontal position and vice versa. With the cams E², however, in addition to the variation in the pull of the cord H upon the spring I due to the movement of the point of position connection of the cord with the cam, there is an additional effect produced by the variation of the leverage through which the cam acts upon the cord. This variation of leverage is due to the cam shape of the parts E² and varies directly as the load, *i. e.*, increases as the section or portion D is lowered from a vertical to a horizontal position. The cams E² may be used with the idlers H' in the construction shown in Fig. 4.

Reference will now be made to the construction of the legs G, G, of the folding frame and to the devices for locking and unlocking the legs in either of their extreme positions. The upper portions *g* of the legs G are hinged to the blocks K at the corners of the foot frame F. The blocks K have flattened sides *k, k'*. On each leg is a sliding sleeve L having a flat face *l*. M are the springs carried by the legs and bearing against the sleeves L so as to force their flat faces *l*

against either of the faces *k* or *k'*. The springs may be supported at their lower ends by supports G' on the legs.

In Fig. 7 is illustrated the action of the sleeve L in locking the leg G in its two positions, when the section D is folded and when it is unfolded. In full lines in that figure, the leg is shown in the position it occupies when the section D is unfolded; the sleeve L is pressed up by the spring M, so that its flat face *l* rests against the flat face *k* of the block K, and thus locks the leg in a vertical position. When the section D is folded, or during the act of folding, the legs G may be turned down into the plane of the section D. This is permitted by the spring M which allows the sleeve L to be pushed down upon the leg G by the corner of the block K between the faces *k* and *k'* until the leg has been fully turned, when the spring M presses the sleeve L forward with its flat face *l* against the flat face *k'*. These movements are shown in the dotted lines in Fig. 7. The sleeve L thus constitutes a spring pressed locking piece carried by the leg and pressed into locking relation with the foot frame of the folding section. The legs G, G may be united by a cross bar N so that they will be operated together.

For the purpose of concealing from view the bottom of the bedstead when the section D is folded up, a curtain O is employed carried by a roller *o* within a tubular cross-piece P carried by the foot frame F, so that the curtain may be drawn down over the bottom of the bedstead as shown in Fig. 1 when the section D is folded up. The curtain roller *o* may be operated by an automatic spring device such as is well known in window shades for rolling the curtain.

Additional curtains O' may be used for the sides of the bedstead. These curtains being carried in the upright rods F', F', of the foot frame, upon rollers operated in the same manner as roller of the curtain O. When the section D is folded up, these curtains O' may be drawn upon the sides as is shown in Fig. 1.

The bed bottom is carried by the section D and may be supported thereon in any convenient manner. In Fig. 3 however, I have shown the bedstead provided with a woven wire bed bottom Q connected at one end with the foot frame F, and at the other end with a cross bar R carried by the inner ends of the side rails E, E. This inner bar R may be made adjustable so as to stretch the bed Q to the extent desired. For this purpose the cross bar R may be connected with each rail E, by a sliding T R' which may be adjusted upon the rail E by an adjusting screw *r* carried by a lug *r'* on the T R' and bearing against a lug *e'* carried by the rail E.

S (Fig. 3) is a pillow support consisting of a strip of suitable material adapted to be stretched across the head of the bed. This pillow support may be provided on its ends

with hooks *s* adapted to catch into eyess' upon the inner side of the frames B, B. The pillow support serves to support the pillows and to prevent them from falling to the floor when the folding section D is folded up. The pillow supports S may be constructed of a piece of textile material carried by two bands S' S' to which the hooks *s* may be attached.

For the purpose of imparting a better effect to the bedstead and also to give greater rigidity to the stationary frame A, this frame may be provided with additional legs *c* arranged in front of the legs C, and in order that a carpet may be fitted under the bedstead after it has been attached to the wall, it is preferable to make the legs *c* adjustable by screw threads in their sockets so that they may be raised to pass the carpet under them. These legs *c* may then be screwed down upon the carpet so that the main weight comes upon them. This adjustment enables them to be adjusted to the floor or upon any covering so that they positively support the head frame B.

In securing the frame A to the wall or frame work, the bases of the legs C may be elevated a slight distance from the floor so that the edge of the carpet may be passed under them. This is shown in Fig. 1.

To accomplish the elevation of the legs C without putting undue strain upon the connection of the frame A with the wall or frame work, small supports may be inserted under the bases of the legs C, which may be subsequently removed when the carpet is introduced. By this means the carpet may be removed or relaid without lifting the bedstead or disconnecting it from the wall or frame work to which it is attached.

The bedstead may be constructed of tubular metal pieces united by suitable T and elbow sockets.

While the minor details of construction that have been shown are preferable, they are not to be taken as limitations of the invention, since it is apparent that they may be varied without departing from the invention.

What is claimed as new is—

1. In a folding bedstead, the combination of a stationary portion, of a folding portion, folding legs carried by the folding portion, and spring pressed locking pieces carried by the legs and pressed into locking relation with the folding portion when the same is in its extreme raised or lowered positions.

2. In a folding bedstead, the combination of a stationary portion, a folding portion pivotally connected therewith, and having at its foot two flattened parts, legs pivotally connected with the foot of said folding portion adjacent to the flattened parts, and spring pressed pieces carried by the legs and pressed in contact with flattened parts of the folding frame.

3. In a folding bedstead, the combination of a stationary portion, a folding portion pivotally connected therewith, carrying the

pieces K provided with the flat faces *k* and *k'*, the legs pivoted to the folding portion adjacent to the pieces K, sleeves L having flat faces *l*, and springs M carried by the legs and bearing on the sleeves L to force the face *l* thereof against either the face *k* or *k'*.

4. In a folding bedstead, the combination of a stationary portion, a folding portion pivotally connected therewith, folding legs carried by the folding portion, spring pressed locking pieces carried by the legs and pressed into locking relation with the folding portion, when the same is in its extreme raised or lowered positions, and a connection between the two legs whereby they move together.

5. In a folding bedstead the combination of a stationary portion, a folding portion pivotally connected therewith, a tubular rod carried by the foot of the folding portion, and a roller curtain O carried by the tubular rod P.

6. In a folding bedstead, the combination of a stationary portion a folding portion pivotally connected therewith and having a foot frame provided with hollow upright rods F', F' and roller curtains O' O' carried in the hollow rods F', F'.

7. In a folding bedstead, the combination of a stationary portion, a folding portion pivotally connected therewith, and a flexible strip S detachably connected with the side frames of the stationary portion and extending transversely across the head of the folding portion.

8. A folding bedstead consisting of a stationary portion A adapted for attachment to the wall or frame work of a room, provided with side frames B, the fixed legs C, and the vertically adjustable legs *c*, and a folding portion pivotally connected with the side frame B, B, of the stationary portion A.

9. In a folding bedstead, the combination with a stationary portion, of a folding portion having side rails E, E, tubular pieces E³ carried by the side rails E and provided with curved frames E' and with transverse journals e², journal pins passing through the journals e², and the side of the stationary portion, springs carried by the stationary portion and cords connecting the curved frame E' with the springs.

10. A folding bedstead consisting of the combination of a stationary head frame having two vertically adjustable legs at a distance from the rear end of the head frame, and a pivoted portion pivoted to the head frame at a point substantially above the adjustable legs, so that a large portion of the weight is thrown upon said legs.

In testimony of which invention I have hereunto set my hand.

ISIDOR I. GERSON,

Admr. of the estate of Theodore T. Woodruff, deceased.

Witnesses:

LOUIS J. GERSON,

ERNEST HOWARD HUNTER.