(No Model.)

J. P. HAYES.

FOLDING BED.

No. 590,395. Patented Sept. 21, 1897.

FIG:5.

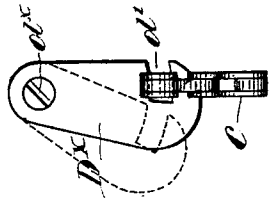


FIG:3.

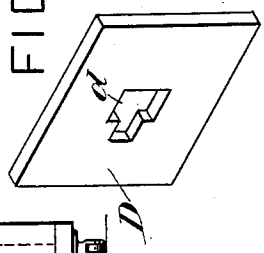


FIG:4.

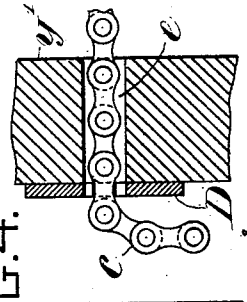


FIG:2.

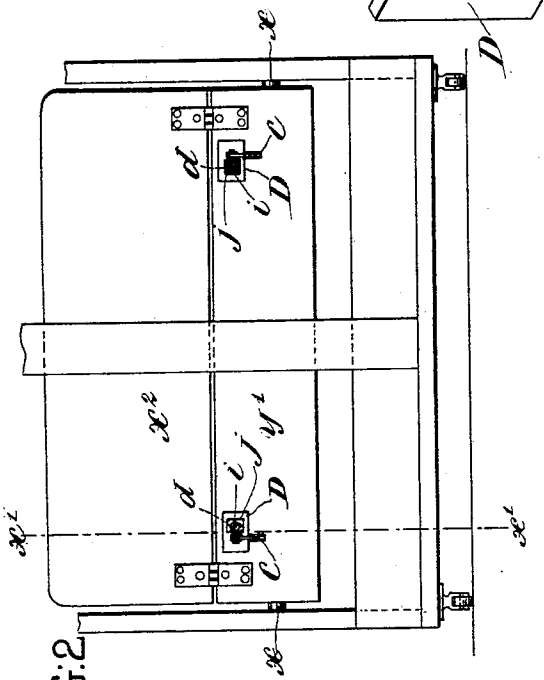
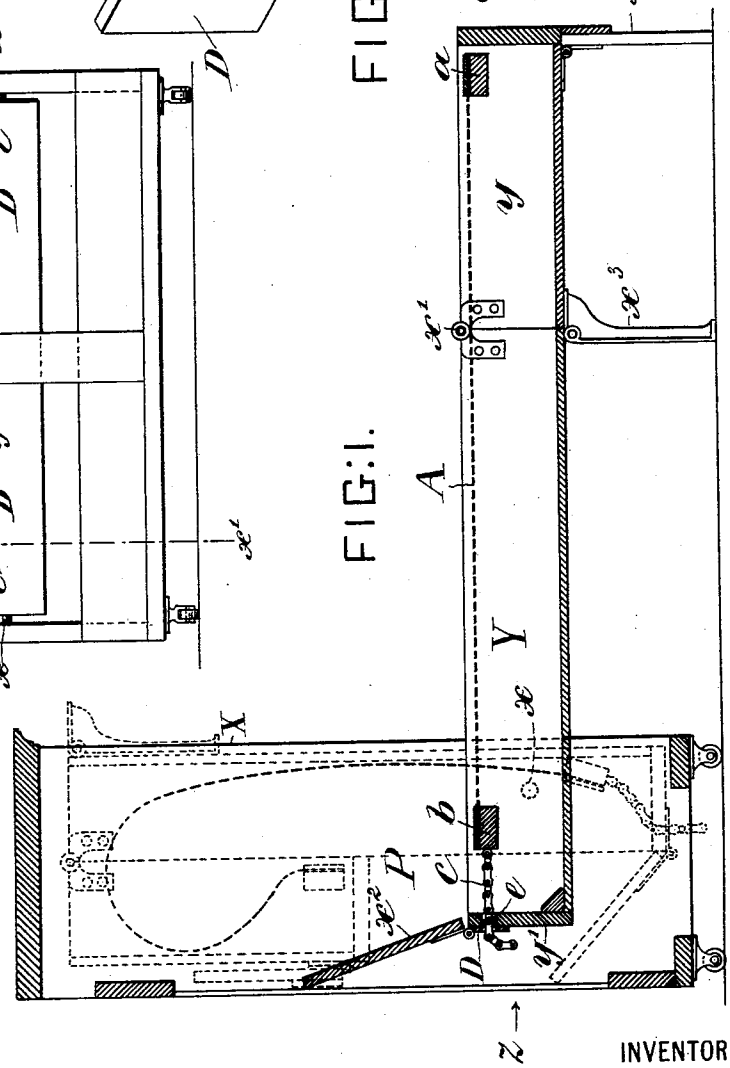


FIG:1.



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FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 590,395, dated September 21, 1897.

Application filed March 24, 1897. Serial No. 628,965. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. HAYES, a citizen of the United States, residing at Mount Vernon, Westchester county, New York, have invented certain new and useful Improvements in Folding Beds, of which the following is a specification.

This invention relates to the class of folding beds which employ a woven-wire support for the bedding and in which the said support is strained when the bed-frame is pulled down and slackened when it is folded up, and it is especially well adapted to the class of mantel-beds wherein the bed-frame is in two sections connected by hinges and adapted to be folded, the shorter foot-section over onto the longer head-section, as a preliminary to folding the bed-frame into the standard. The invention is herein represented as embodied in a mantel-bed of this kind.

The purpose and object of the invention are to provide more room for the pillows and bedding than is afforded in ordinary beds of this kind and also to provide a convenient means for regulating the tension of the woven-wire support for the bedding.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of the bed on line x' in Fig. 2, showing it in full lines as pulled down and ready for use, the dotted lines showing the foot-section of the bed-frame folded over on the head-section and the two sections of the bed-frame folded into the standard. Fig. 2 is a rear end elevation of the lower part of the bed as seen from the arrow z in Fig. 1. Fig. 3 is a perspective view of one of the lock-plates for the chains which support the floating head-bar, and Fig. 4 is a fragmentary sectional view showing one of the supporting-chains and the lock-plate. These views are on a much larger scale than the principal views. Fig. 5 is a view showing another form of the locking-plate.

In Figs. 1 and 2, X represents the standard of an ordinary mantel-bed, and Y y the head and foot sections of the folding bed-frame. The section Y is pivotally mounted in the standard at x and the two bed-frame sections are hinged together at x'. The pillow-board x^2 is hinged to the head-section Y, and the sections of the bed-frame are supported, when down, on legs x^3. All of the above features are common in this class of beds.

A represents the woven-wire support for the bedding. This fabric is secured at one end to the fixed foot-bar a and at the other end to a head-bar b. The foot-bar a may be secured in position in the usual way, but the head-bar is a floating bar, and my invention lies in the means employed for supporting it in its position in the bed-frame.

It is difficult in this class of beds as usually constructed—that is, with the head-bar to which the woven-wire support is secured fixed in position in the bed-frame near the level of the top of the side rails—to get room for the bedding and pillows when the bed is folded up, and it is desirable to increase the available space for the bedding as much as possible. To effect this object in the present bed, the bar b is attached to chains c, two or more, which are secured in the head-rail y' of the bed-frame. The chains c being flexible permit the bar b to drop back (see dotted lines) when the fabric A is slackened in the folding or closing of the bed, and this enlarges the space (at P in Fig. 1) occupied by the pillows and bedding to about the extent of the depth of the bed-frame.

The fabric A will be stretched somewhat in use and become slack, and to provide means for tightening it or regulating its tension the device illustrated in Figs. 3 and 4 will, by preference, be employed. The chain c will be of the Vaucauson pattern, with links of "dumb-bell" form, and a locking-plate D will be secured to the outer face of the head-rail y'. This plate has in it a keyhole-aperture d, the wider portion of which will allow the chain c to pass freely while the narrower portion fits snugly about the contracted body of the chain-link. The chain passes through a hole (e in Fig. 4) in the head-rail, and it is also passed through the wider part of the aperture d in the plate until enough slack is taken up, when the narrower part of said aperture d is made to engage the link by a lateral movement of the plate. The plate is now secured to the head-rail by a screw or screws, one being sufficient. This device makes it easy for the user of the bed to regulate the

tension of the fabric A. If it is too slack, for example, he folds over the foot-section *y* to remove the tension, then removes the screw which holds the plate D, disengages said plate from the chain, and sets it in a manner to shorten the chain—say to the extent of one link—and then screws it fast again, the screw entering the same hole it formerly occupied.

It is not absolutely essential that the supports for the floating bar *b* shall be chains. Any strong flexible connector will serve; but chains are preferred, as they are strong, flexible, and comparatively inexpensive, and they afford a convenient means for regulating the tension of the fabric A, as has been explained.

By the descriptive phrase "floating bar," as herein used to describe the bar *b*, is meant a bar which is supported solely by the chains *c* and connected to the bed-frame solely by said chains, the chains being connected to the bed-frame on the same level with the floating bar *b* when the latter is in its elevated position. By this arrangement the chains *c* and fabric A are in the same or parallel planes when both are strained taut.

Fig. 5 shows a modified form of the locking-plate. In this construction the plate $D^{\times}$ is mounted on the head-rail to turn about a screw $d^{\times}$ as a pivot, and it has in its edge a notch or recess *d'* to engage the contracted body of the chain-link. By simply loosening the screw $d^{\times}$ the plate may be disengaged from the chain and the latter drawn through to the extent desired, after which the plate will be again moved into engagement and the screw set tight. The screw by which the plate D is secured to the wood may be passed through the wider part of the aperture *d*, or a special hole may be made for it in the plate. This is not a matter of consequence. In Fig. 2 the screw *i* is represented as passed through a washer-plate *j*, which bridges the wider part of the aperture *d*, then through said aperture, and then into the wood of the head-rail.

Having thus described my invention, I claim—

1. In a folding bed, the combination with the pivoted bed-frame and standard, and the flexible fabric for supporting the bedding secured at its foot end to the bed-frame, of the floating head-bar secured to the other, or head end of the said fabric, and the flexible connectors secured at one end to the said floating bar and at the other end to the head-rail, said connectors forming the sole means of connecting the floating bar to the standard and being of such length, substantially, as to permit the floating bar to fall to the bottom of the bed-frame when the flexible fabric is slackened, substantially as and for the purposes set forth.

2. In a folding bed, the combination with the pivoted bed-frame and standard, and the flexible fabric for supporting the bedding secured at its foot end to the bed-frame, of the floating head-bar secured to the other, or head end of the said fabric, and the flexible connectors secured at one end to the said floating bar and connected adjustably at the other end to the head-rail, whereby they may be shortened slightly for taking up slack in the fabric, said connectors being secured to the standard at a point substantially at the level of the distended flexible fabric and of such length as to allow the floating bar to fall to the bottom of the bed-frame when the fabric is slackened, substantially as set forth.

3. In a folding bed, the combination with the bed-frame, the standard in which it is pivotally mounted, the flexible supporting fabric for the bedding, the fixed foot-bar to which the said fabric is secured, at one end, the floating head-bar to which the other end of said fabric is secured, and the connectors *c*, of locking devices, one for each connector, mounted on the head-rail of the bed-frame and adapted to lock the said connectors detachably and adjustably to said head-rail, substantially as set forth.

4. In a folding bed, the combination with the bed-frame, the foot-bar *a*, fixed therein, the floating head-bar *b*, the flexible supporting fabric A, secured at its respective ends to said bars *a* and *b*, and the connecting-chains *c*, secured at one end to the bar *b*, and extending out through apertures in the head-rail of the bed-frame, of the locking-plates secured to the outer face of the said head-rail and having keyhole-apertures which engage the contracted bodies of the links of the respective chains, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JAMES P. HAYES.

Witnesses:
PETER A. ROSS,
HENRY CONNETT.