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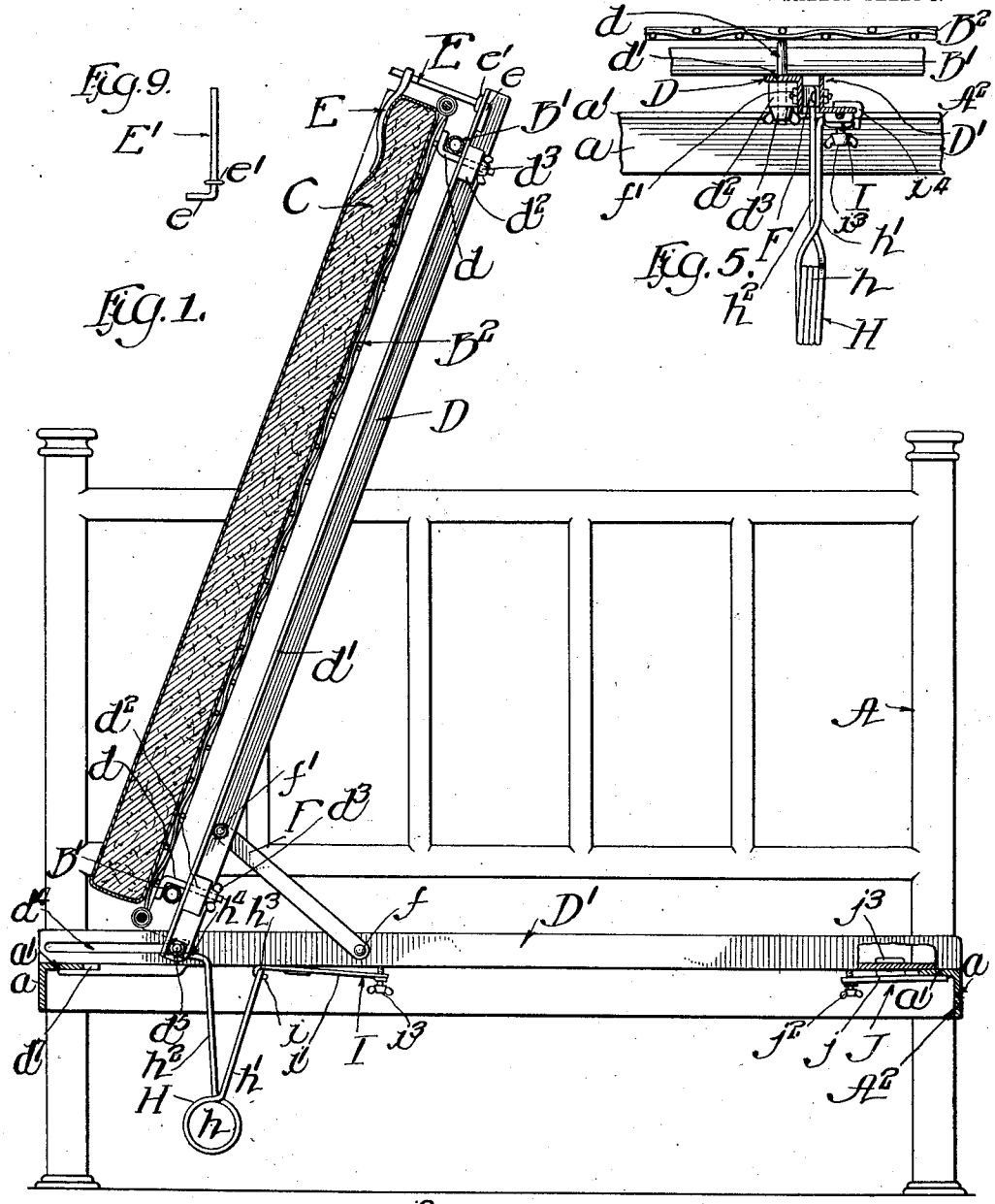
DEVICE FOR TILTING AND HOLDING IN A TILTED POSITION THE MATTRESS SUPPORTING FRAMES OF BEDSTEADS.

APPLICATION FILED JAN. 17, 1908.

1,009,442. Patented Nov. 21, 1911.

2 SHEETS—SHEET 1.



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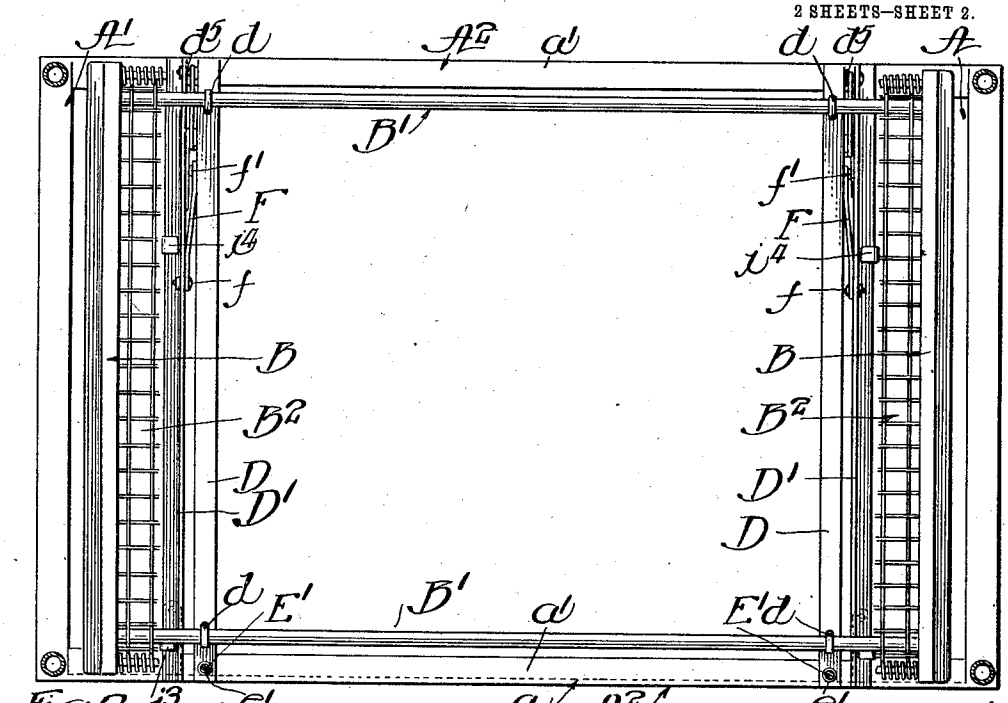

Fig. 2.

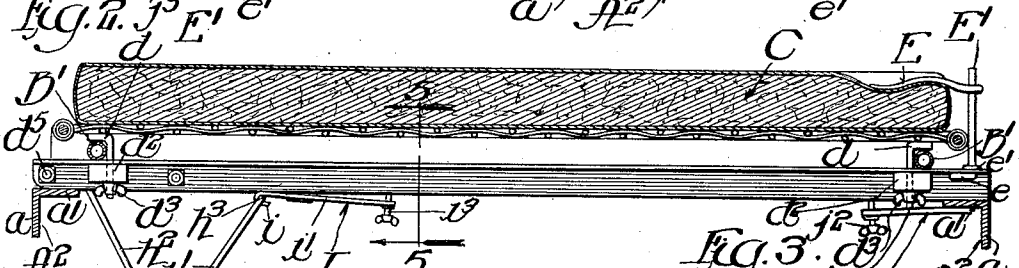

Fig. 3.

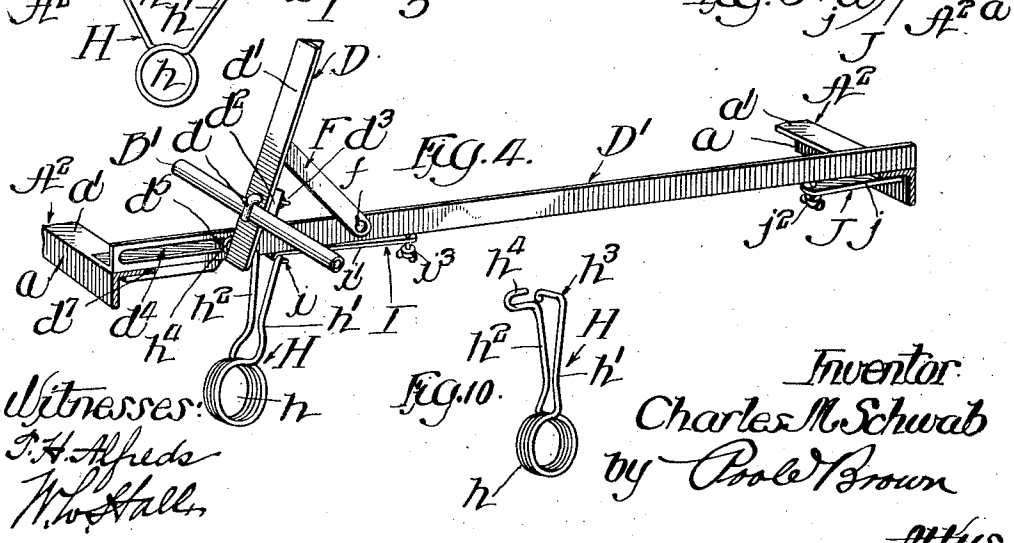

Fig. 4.

Fig. 10.

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UNITED STATES PATENT OFFICE.

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DEVICE FOR TILTING AND HOLDING IN A TILTED POSITION THE MATTRESS-SUPPORTING FRAMES OF BEDSTEADS.

1,009,442. Specification of Letters Patent. Patented Nov. 21, 1911.

Application filed January 17, 1908. Serial No. 411,210.

To all whom it may concern:

Be it known that I, CHARLES M. SCHWAB, a citizen of the United States, and a resident of Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Devices for Tilting and Holding in a Tilted Position the Mattress-Supporting Frames of Bedsteads; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a novel device for raising and holding in a raised position the mattress frame of a bedstead and the parts supported thereon, as the mattress and bed-clothes, in order to permit a person to sweep or clean the floor beneath the bed without moving the bedstead.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings:—Figure 1 is a transverse section of a bedstead and the mattress frame, showing my improvements applied thereto. Fig. 2 is a plan section thereof, with parts broken away. Fig. 3 is a transverse section of the bedstead frame and the mattress and mattress frame, showing the mattress in its lowermost or normal position. Fig. 4 is a fragmentary perspective view illustrating a portion of the raising device and the manner of attaching the same to the bedstead. Fig. 5 is a fragmentary vertical section, taken on line 5—5 of Fig. 3 looking rearwardly. Fig. 6 is a perspective view of a spring attaching clip constituting part of the device. Fig. 7 is a perspective view of a clamping clip or fitting for attaching the device to the bedstead. Fig. 8 is a perspective view of a clamping fitting for clamping the mattress or mattress and bedclothes to the mattress frame. Fig. 9 is a side elevation of one of the clamping posts on which the clamping bar or fitting shown in Fig. 8 is mounted. Fig. 10 is a perspective view of one of the springs which assists in raising the mattress frame.

As shown in the drawings, A A^1 designate the head and foot portions, respectively, of the bedstead and A^2 A^2 the side rails thereof, the latter composed of angle bars, the webs *a* of which are disposed vertically and the flanges a^1 of which are directed horizontally inwardly. The bed spring or mattress frame comprises end members B B and front and rear side members B^1 B^1, between which is stretched the spring B^2. C designates a mattress supported on the spring or mattress frame. Said parts may be of any usual or preferred construction and constitute in themselves no portion of the present invention. The device for raising and holding in a tilted position the spring or mattress frame and parts supported thereon comprise, as herein shown, two hinged, vertically swinging bars D D extending transversely between and supported on the side rails of the bedstead, one at each end thereof, and said bars are hinged at their rear ends adjacent to the rear rail of the bedstead and are provided with means, such as the hook bolts *d d*, for detachably fixing the spring or mattress frame thereto. As herein shown said swinging bars D are hinged or pivoted to horizontal supporting bars D^1 D^1 which extend between and are detachably fixed to the side rails of the bedstead. The said swinging and supporting bars have the form of angle bars, and the bars of each pair are disposed generally parallel and horizontally separated when the swinging or mattress frame supporting bars are in their lowermost or normal positions. Said hook bolts *d* extend through the horizontal flanges d^1 of the swinging bars and blocks d^2 fastened beneath said flanges in any suitable manner, and the hooks at the upper ends of the bolts engage the longitudinal member B^1 of the spring or mattress frame. The hook bolts are threaded at their lower ends and are provided with nuts d^3 by which they are clamped on said spring frame members. This connection of the bars D with the mattress frame serves to fix said bars relatively to each other and the mattress frame, and to constitute said parts a rigid swinging frame. The mattress C, which is supported on the spring B^2 of said spring or mattress frame, is held on said frame when the latter occupies its upwardly tilted position, as shown in Fig. 1, by means of clamp bars E E which extend inwardly over the mattress, or the mattress

and the bedclothes thereon, and are apertured at their outer ends to fit over posts E^1 E^1 extending upwardly from the forward or free ends of the swinging bars D. The said apertured ends of the clamp bars pass freely over the posts when at right angles thereto, and, when in this relative position, may be slipped downwardly over the posts and pressed into the yielding mattress or bedclothes. The leverage action exerted on the bars, due to the expansion of the mattress, pinches the bars against the posts, which serves to hold the bars in any position on the rods to which they may be adjusted.

One of the features of my invention is embraced in the hinged connection between the swinging bars and the supporting bars, or the equivalents of the latter, whereby the said swinging bars and the parts supported thereon are adapted to move a distance forwardly toward the front of the bedstead at the same time the parts are swung or tilted upwardly, thus preventing the mattress or the bedclothes supported thereon being swung upwardly against a wall adjacent to which the bedstead stands in such a manner as to limit the tilting movement of the parts, and avoiding the necessity of moving the bed outwardly from the wall. The hinge connection herein shown by which this result is effected is made as follows: The supporting bars D^1 are provided near their rear ends with horizontal slots d^4 through which extend the hinge bolts d^5 by which the swinging bars are hinged to the supporting bars, thus permitting the swinging bars and their pivot bolts to slide longitudinally of the supporting bars. F F designate short links which are pivoted at their forward ends by pins or bolts f to the vertical webs of the supporting bars D^1 in front of the slots d^4 and are pivoted at their rear ends by pins or bolts f^1 to the vertical webs of the swinging bars in front of the pivot bolts d^5 of said swinging bars. H H designate springs associated one with each pair of bars D D^1, which are so constructed and arranged as to assist in lifting the swinging bars and the load carried thereby, and also to assist in holding said swinging bars and the load carried thereby in the tilted position shown in Fig. 1 and the lowermost or normal position thereof. Said springs each comprise, in the present instance, a central coil h and two arms h^1 h^2. The forward arm h^1 is formed with a laterally turned hook h^3 adapted to engage a hook i formed on the rear end of a clip I that is adjustably attached to the supporting bar D in front of the hinge. The rear arm h^2 of each spring is formed with a forwardly opening hook h^4 adapted to engage the hinge pin d^5 of the swinging bar at a point between the swinging and stationary or supporting bars. This general arrangement and operation of the springs H constitutes another feature of my invention. The utility and advantage of this arrangement lies in the ease with which the springs may be applied to and detached from the bars and the facility with which they may be adjusted to varying loads supported on the swinging bars, as will hereinafter more fully appear.

The form of the spring attaching clips I is shown in detail in Fig. 6. The clip comprises a flat bar i^1 on the rear end of which is formed the hook i, and in the forward end of which is provided a screw-threaded opening i^2 to receive a clamping screw i^3. Said bar is provided at one side margin with a hook i^4 which extends above and laterally across the bar and is adapted to extend in overlapping engagement with the horizontal flange of the stationary bar D^1 to which it is attached. In fastening the clip to the bar the hook i^4 is first engaged with the horizontal flange thereof and thereafter the clamping screw i^3 is inserted through the screw-threaded opening i^2 and is turned upwardly into contact with the bottom face of said flange of the bar in a manner to spring the forward end of the clip away from said flange and thus frictionally lock the clip to the bar. This construction and arrangement renders it possible to vary the tension of the spring as desired, it being obvious that by moving the attaching clip forwardly the tension of the spring will be increased, and that by moving said clip rearwardly the tension will be decreased. When it is desired to detach the spring, the spring attaching clip is released and moved backwardly, after which the spring may be detached by first swinging the forward arm of the spring laterally from the clip hook i, and thereafter shifting the hook of the rear arm of the spring rearwardly from the hinge or pivot bolt d^5. It will be observed that when the spring is in place it is held in position and against accidental detachment by its own elasticity.

The supporting bars may constitute fixed parts of the bedstead frame, but are shown as detachably fixed thereto. As herein shown they are provided at their rear ends with rearwardly opening slotted portions d^7 which fit over the inwardly directed, horizontal flanges of the rear rail of the bedstead, and are attached at their front ends to the front rail by clamping clips J, said front ends of the bars resting on said front rail. Said clips J each comprises a straight bar j (Fig. 7) provided at its rear end with a screw-threaded opening j^1 through which a clamping screw j^2 is adapted to extend. The forward end of said clip bar extends beneath the horizontal flange of the front rail of the bedstead. Said clip bar is provided at one of its lateral margins with a hook j^3 which is located above and extends

transversely across the bar, and is adapted for overlapping engagement with the bottom horizontal flange of the supporting bar D^1 in the manner clearly shown in Fig. 1. Thus when the bar D rests on the horizontal flange of the front rail of the bedstead and the clip is applied to said bar with its outer end beneath the flange of said rail, the screw j^2 is inserted through the screw-threaded opening at the rear end of the clip bar and turned upwardly against the under side of the horizontal flange of the supporting bar, thus exerting a clamping pressure of the supporting bar and clip against the flange of said rail which fixes said supporting bar to said rail. When said swinging bars and the parts supported thereby are in the lowermost or normal position of the parts, said swinging bars are generally parallel with the supporting bars, and the hinge bolts d^5 of the swinging bars occupy the rear ends of the slots d^4 of the supporting bars and the links F are located horizontally between the webs of the supporting and swinging bars, as indicated in Fig. 2. When the parts are in this position the springs are under tension and exert a force tending to hold the forward ends of the bars pressed against the front rail of the bedstead. When the outer or front side of the connected spring and mattress frame and swinging bars are lifted or swung upwardly, the fulcrums of said bars are moved or shifted forwardly through the slots d^4, by reason of the connection of the supporting and swinging bars by the links F, thus pulling the said spring or mattress frame and connected swinging bars horizontally forwardly and preventing the mattress or bedclothes thereover from being swung against a wall closely adjacent to which the bedstead may stand. After the bars D have been swung upwardly a distance from the front rail of the bedstead by manual power and the rear ends of the links are raised above the level of the supporting bars D^1, the springs act to force the pivot pins or bolts d^5 of the swinging bars forwardly and coöperate with the links to automatically swing the bars and the load carried thereby to the position shown in Fig. 1, said parts being arrested in this position by contact of said hinge pins or bolts with the forward walls of the slots d^4. When said parts are raised to the position shown in Fig. 1, they are held in this position by the combined action of the links F and the springs H, the said links serving as braces to hold or sustain the bars and the springs preventing the hinged ends of the bars from shifting rearwardly. The said parts are swung downwardly with exertion of sufficient manual power to overcome the force of the springs until the links F approach a horizontal position, whereupon the force of the spring acts, in conjunction with the weight of the swinging parts, to press the same to their lowermost position or normal position and hold them there.

The posts E^1 on which are mounted the clamping bars E are provided at their lower ends with right angle bends or hooks *e* which fit beneath the horizontal flanges of the bars D, upwardly through which the posts extend. The said posts are inserted into place by inserting the hook portions *e* downwardly through the openings in said flanges, and the posts are provided with stop collars e^1 which rest on the upper sides of the flanges and limit the downward movement of the posts with respect to said flanges. The said hooks *e* are turned inwardly when the clamp-bars E are in use to support the posts from tilting outwardly, as shown in Figs. 1 and 3. When the clamping device is not in use the posts may be turned to bring the hook portions at right angles to the flanges of the bars D, after which the hooks permit the posts to be turned downwardly in a horizontal position at right angles to the bars D with the clamping bars E extending inwardly beneath the mattress, in which position said posts and bars will be out of the way.

I claim as my invention:—

1. A device for tilting and holding in a tilted position the mattress supporting frame of a bedstead comprising a stationary bar provided with a horizontal slot, a vertically swinging bar arranged to lie, when in its lowermost position, substantially in the plane of said stationary bar, means carried by the swinging bar for fastening thereon a mattress supporting frame, a hinge connection between the swinging and stationary bars comprising a hinge pin or bolt attached to the rear end of the swinging bar and engaging said slot of the stationary bar, a link pivotally connected at its ends with said stationary and swinging bars in front of said hinge and adapted to lie between said bars when the swinging bar is in its lowermost position, and a spring fastened at one end to said stationary bar and at its other end to the hinged part of the swinging bar.

2. A device for tilting and holding in a tilted position the mattress supporting frame of a bedstead comprising a stationary bar, a swinging bar, means carried by the swinging bar for fastening a mattress supporting frame thereto, a hinge connection between the swinging and stationary bars comprising a hinge pin or bolt carried by the swinging bar and engaging a horizontal slot in the rear end of the stationary bar, a link pivotally connected at its ends with said stationary and swinging bars at points in front of said hinge, a spring arranged to assist in raising the swinging bar comprising a central loop portion and two arm portions, one of said arm portions being pro-

vided with a forwardly opening hook adapted to detachably engage the hinge pin, a spring attaching clip adjustably connected to the stationary bar, and a hook formed on the other arm of said spring adapted to detachably engage said clip.

In testimony, that I claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 11th day of January A. D. 1908.

CHARLES M. SCHWAB.

Witnesses:

WILLIAM L. HALL,

GEORGE R. WILKINS.