

March 9, 1948.

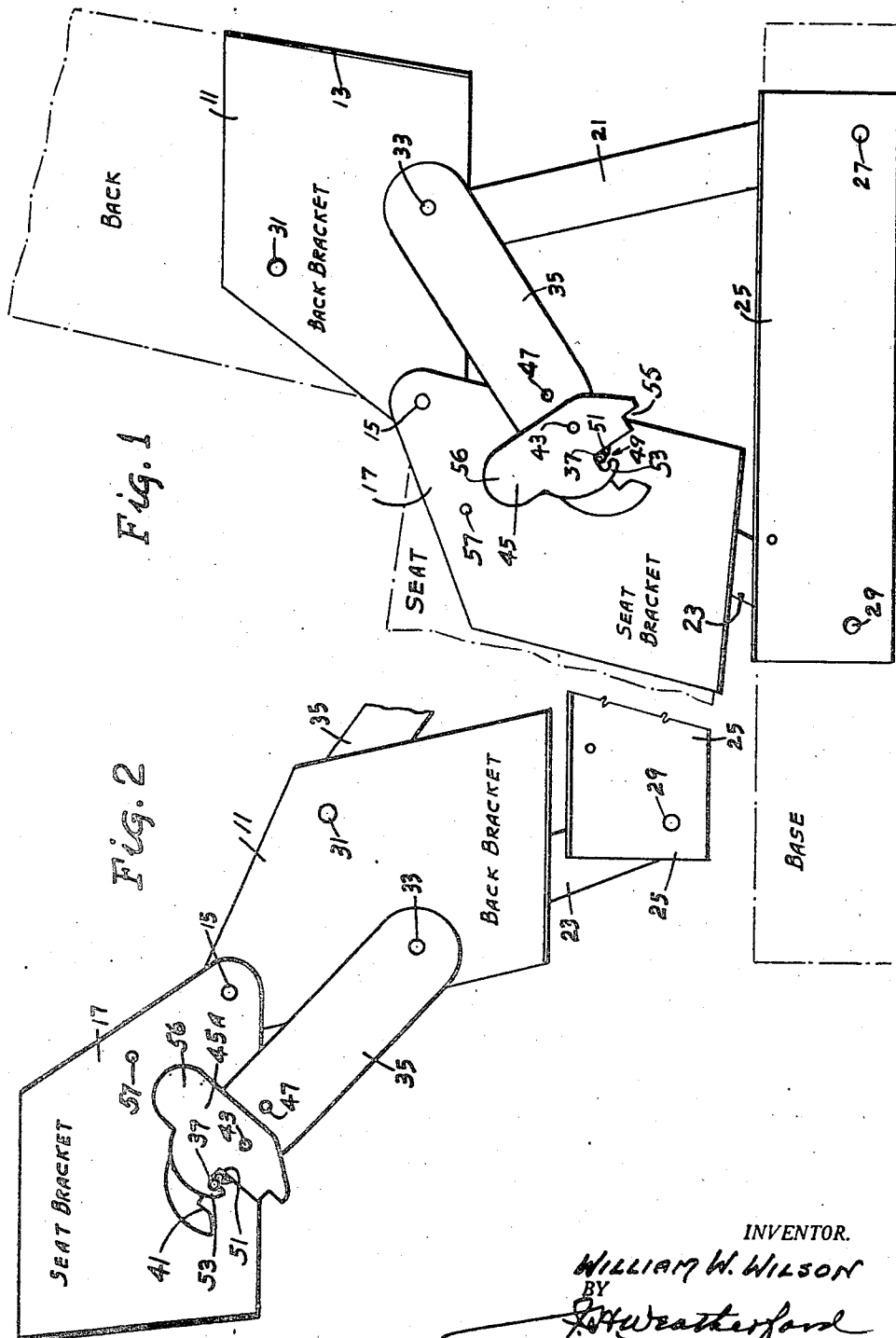
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2,437,580

LATCHES FOR SOFA BED HINGES

Filed April 14, 1944

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 5

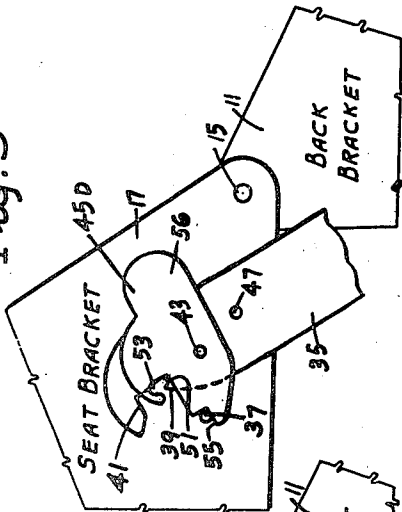


Fig. 4

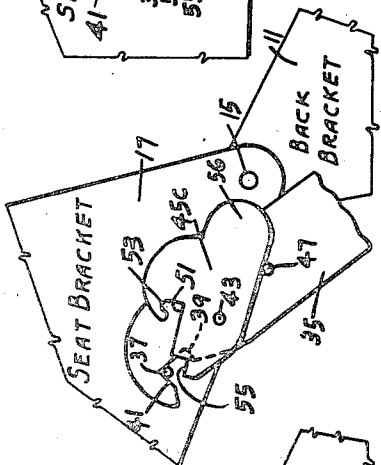


Fig. 3

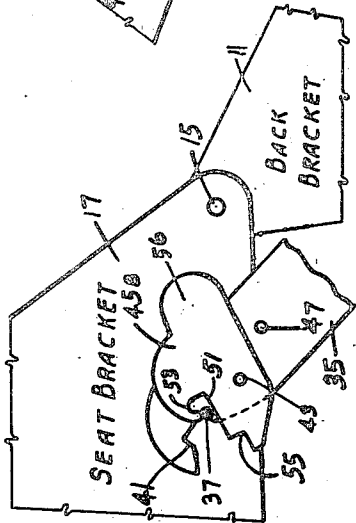
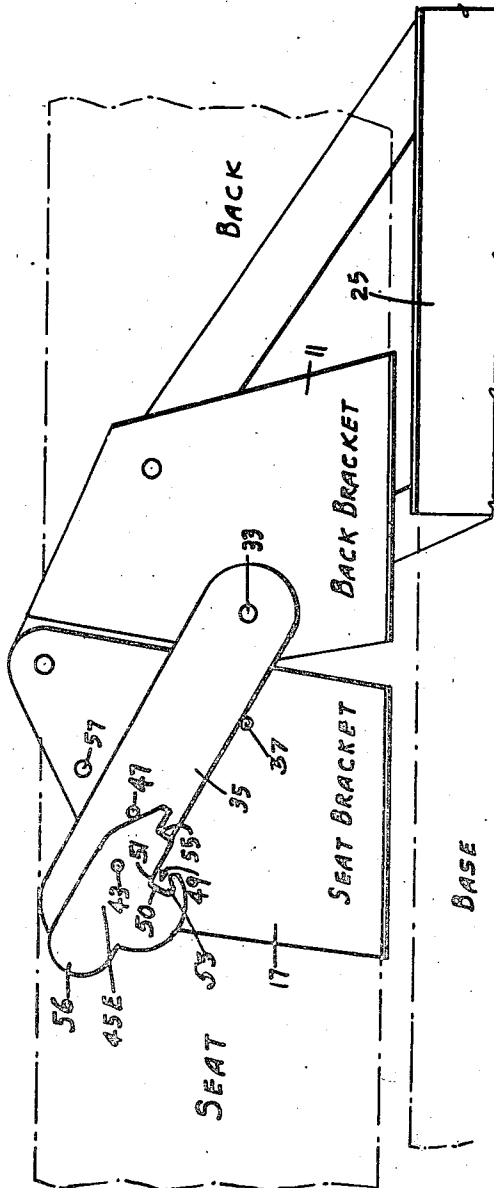


Fig. 6



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2,437,580

LATCH FOR SOFA BED HINGES

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Application April 14, 1944, Serial No. 531,031

17 Claims. (Cl. 5—47)

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This invention relates to studio couches of that well known type which are used at option as sofas or beds, and in which a seat portion and a back portion are hinged together and are shiftably secured to a supporting base or frame for shift to and from horizontal positions, and in which when in sofa position the back is held in upright position by bracing latches, through which also shift of the seat and back relatively to the base is made in changing from sofa to bed, or vice versa.

It particularly relates to the latches between the back and seat portions which are adapted to effect locking of the portions in a relatively angular position, in which the back is held in upright position when the structure is used as a sofa, and which couple the portions so that movement of the back portion to horizontal or bed position may be accomplished by raising of the seat portion. It further relates to such latches which include in combination means for tripping and releasing the latch during raising of the seat to permit lowering thereof into horizontal or bed position, and it more particularly relates to such latches in which such trips or dogs include portions which substantially prevent latch disengagement when the back portion is in upright position and during such time as it is being shifted from upright to horizontal or bed position, and which locking portions and dogs in combination with said latches prevent accidental release and tripping of the latches in shift of the seat portion from bed position to latch engagement and return of the back to upright position.

In present latch constructions it is possible by a forward shift of the back, when in upright position, to disengage the latch and permit undesirable release of the back. Furthermore, in existing constructions, a great nicety of judgment and precision of shift has been required, in raising the seat from bed position to effect latch engagement for further shift of the portions to sofa position, in order to avoid accidental tripping and release of the latch before shift to sofa position may be accomplished, and in all known latches, it is extremely difficult to effect just the proper amount of seat raising to effect the engagement and often a number of irritating attempts are necessary before the correct combination is solved.

The primary objects of the present invention are:

To provide, in connection with a latch effective for bracing the back in upright position, a dog adapted to operate as locking means which will prevent accidental disengagement of the latch

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while the back is in such upright position, or during movement to bed position and which will cooperate with the latch to limit the extent of travel of the seat when it is raised to effect latch engagement for shift of the back to upright position, so that such engagement may not accidentally be vented;

To provide such a locking dog which will also function as a trip to release the latch and permit movement of the seat to bed position!

To provide a sofa bed including a seat portion which is raised from bed or horizontal position to effect bracing and coupling latch engagement of the seat portion to the back portion and shift of the portions to sofa position in which the seat portion may be thus raised to the full extent of its travel and beyond normal seating angular relation of the portions without effecting accidental tripping or disengagement of the latch.

The means by which the foregoing and other objects are accomplished, and the manner of their accomplishment, will readily be understood from the following specification upon reference to the accompanying drawings, in which:

Fig. 1 is an elevation showing brackets hinged together and such as are ordinarily used, and are secured to the opposite ends of the seat and back to effect hinge action therebetween; the brackets being relatively positioned as they are when the seat and back are in position as a sofa. The view also shows a latch pivotally hinged to one of said brackets and in latch engagement with a latch pin or abutment carried by the other thereof, and a locking member or dog cooperating with the latch in engagement with the latch pin to prevent accidental latch disengagement by any movement whatsoever of the back when in such sofa position.

Fig. 2 shows an elevation of these same brackets, latch, and locking dog with the back in bed position, and the seat raised showing the dog limiting the amount of movement and preventing over-travel of the seat, and the latch in position for engagement with the latching pin on downward movement of the seat.

Figs. 2, 3, 4, 5, and 6 are respectively fragmentary views showing additional positionings of the dog and latch relative the one to the other and to the latch pin;

Fig. 3 showing the seat bracket reversely moved by downward seat movement a minor amount to shift the latching pin against the latching shoulder of the latch, with the locking dog released and swung by gravity to unlocking position;

Fig. 4 showing the seat bracket upwardly moved

from the position shown in Fig. 3 to over-travel position with a latch shoulder against the pin and limiting further movement;

Fig. 5 showing the seat bracket downwardly swung from the position of Fig. 4, with the latching pin in engagement with the trip notch of the locking dog and swung clear of the pin to permit lowering of the seat to bed position; and

Fig. 6 a fragmentary view showing the seat and back in bed position and the positioning of the locking dog relatively to the latch.

Referring now to the drawings in which the various parts are indicated by numerals:

11 is a bracket having a flange 13 against which the back rests, the bracket being secured in desired manner to the back. The bracket 11 is secured by a pivot pin 15 to a second bracket 17 having a similar flange on which the seat rests, this bracket also being secured in any desired manner to the seat, and the pivot pin forming the hinge center of that end of the seat and back.

As in usual and well known construction the two brackets are at one of the ends of the back and seat and there are a similar pair of brackets at the opposite ends of these parts, though there being no need for illustration of the additional parts, they are not here shown.

The brackets are supported in usual manner by swinging arms 21 and 23 above a member 25 secured to the base of the couch, both arms being pivotally secured to the member 25, as by hinge pins 27 and 29, the arm 21 supporting the back bracket 11 through a second hinge pin 31 and the arm 23 supporting the seat bracket 17 through the hinge pin 15.

Secured to the bracket 11 by a hinge pin 33, is a latch arm 35 which at its free end is notched for engagement with a latch pin or abutment 37, the notch having at one side a shoulder 39 which engages the pin 37 to provide bracing action, and oppositely a shoulder 41, which under certain conditions, limits over-travel movement, the two shoulders 39 and 41 being spaced apart several diameters of the pin along the slot, and the shoulder 39 preferably being undercut about one-half the diameter of the pin 37 to establish a firm seat for the pin and cooperate with the back to prevent accidental disengagement of the pin.

Secured to the latch 35, as by a pivot pin 43, is a dog 45, having parts which respectively function as a lock, and as a trip for disengagement of the latch from the pin. This dog, in Figs. 2 through 6, has been given the added letters A, B, C, D, and E, for convenience of reference. Movement of the dog about the pin 43 is limited in opposite directions, by a stop 47. The dog is provided with a locking notch which is about double the size of the pin 37, the side 51 of this notch adjacent the pivot pin 43, being closer to the pivot pin than is the under-cut side 39 of the latch notch. The opposite or travel limiting side 53 of the notch in the dog is under-cut preferably radially of pivot pin 43 and preferably somewhat more than one-half the diameter of the latch pin 37 to form a hook and afford secure engagement with the pin 37 during movements of the latch and lock, the hook at its outer end correspondingly approaching the opposite side 51 reducing the entrance throat to the notch formed by such sides. The dog along the side 51 extends downward from the bottom of the notch sufficiently to fully clear the lower side of the latch 35 and the latch shoulder 39 at which this under-side terminates. At its lower end the dog has a

shoulder which forms with the dog an L-shaped trip notch 55 facing downwardly and outwardly toward the free end of the latch and facing the above described hook portion. The trip notch is adapted to engage the latch pin 37 and by swinging movement around the pin 43 to disengage it from latching engagement with the shoulder 39 of the latch. The upper end 56 of the dog is larger, or at least definitely heavier, than the lower end in order that the dog will tend to swing by gravity action around the pin 43 during movements of the latch and dog. Swing of the latch 35 about the pin 33 is preferably limited by a pin 57.

In use as a sofa, the seat and back are positioned with the seat substantially horizontal and the back upright. From this position both seat and back are shifted until the back comes into horizontal position and the seat is then brought to horizontal position to form a bed. With the seat and back in sofa position, Fig. 1, that is the seat substantially horizontal and the back upright, the notch of the shoulder 39 of the latch 35 is engaged with the latching pin 37 relatively bracing the back and seat, and the end of the hook of the side 53 of the locking dog 45 effects a closure which prevents escape of the pin and displacement of the back.

To shift from this position to bed position, the seat is pulled forwardly and upwardly, in usual manner, the latching pin 37 shifting into engagement with the radially undercut notch of the side 53 of the locking dog and pulling the back to substantially horizontal position, as shown in Fig. 2, the notches of dog and latch end, under such pull, preventing disengagement of the dog during such movement, and when the back reaches horizontal position the dog preventing further movement of the seat. At the end of this movement the seat bracket occupies substantially the latch control position shown in Fig. 2, and the locking dog the position 45A. To release the locking dog the seat and seat bracket are slightly lowered, as shown in Fig. 3, this movement seating the pin in the end notch 39 of the latch and releasing pressure of the pin 37 on the dog shoulder 53, allowing the weight of the heavier upper portion 56 of the dog to shift the dog to the position 45B of such figure and release the dog from the pin.

From the position shown in Fig. 3, the seat bracket is then swung upwardly to the position shown in Fig. 4, engagement of the pin 37 with the latch shoulder 41 limiting this upward movement and the movement allowing the locking dog to further swing to the position 45C, shown in such figure, and bringing the tripping notch 55 into the path of the pin 37, this dog movement being limited by the stop 47. The seat is then lowered, the pin 37 sliding along the bottom of the latch notch into engagement with the trip notch 5 and swinging the latch and the shoulder 39 of such latch upward away from the pin 37, as shown in Fig. 5, and allowing unobstructed return of the seat to horizontal position, creating the desired bed relation shown in Fig. 6. As the movement of the pin 37 in this return continues from the position shown in Fig. 6, engagement with the notch 55 continues until the dog is carried past center and drops by gravity to the position 45E, of Fig. 6, with relation to the latch, being stopped in such related position by the stop 47, the pin 37 supporting the latch during the latter part of the movement.

When it is desired to change from the bed back to a sofa, the seat is raised from the bed

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position of Fig. 6 to the latch control position shown in Fig. 2, the pin 37 moving along the underside of the latch 35 into engagement with the bottom 50 of the notch in the dog, swinging the dog about the pin 43, until the hook side 53 of the dog is contacted by the pin, limiting the upward movement of the seat, and the swinging movement of the dog at this time holding the trip shoulder 55 remote from the pin and moving the pin around the point of the notch 51 in the latch and into alignment with the notch, as shown in Fig. 2, making it certain that on lowering movement of the seat the end of the latch will be engaged, and accidental tripping avoided, so that through the latch the back will be moved to the position of Fig. 1.

I claim:

1. In a sofa bed including seat and back members shiftable to and from seating to bed positions; means each including a pivot at opposite ends of said seat and back members, hinging said members together, a hinge pin and a latch pin carried by said members respectively, one said pin being spaced backward from its related said pivot and the other thereof downward from said pivot, a latch hinged at its inner end by said hinge pin and extending outward beyond and slidably overlying said latch pin, the outer end of said latch being upwardly notched to establish an inner shoulder and an outer shoulder spaced apart for respective bracing and movement limiting engagement with said latch pin; and a dog pivotally attached to said latch in adjacency to the bracing shoulder of said notch, said dog having a major portion of its weight disposed above and forwardly of said pivot, and forwardly thereof being recessed to form a downwardly extending locking part spaced outward from said pivot and said bracing shoulder, said dog also being cut away to form an outwardly facing trip notch on its lower end, and means to limit turning movement of said dog when said locking means is shifted downwardly and rearwardly to a position below said latch, and oppositely when said trip notch is shifted forwardly and upwardly into overlying relation with said latch notch, under shifting movement of said seat and back.

2. In a sofa bed including a seat and back, manually shiftable to and from seating and bed positions, hinge and latch means, including brackets secured respectively to said seat and back, a pivot pin hinging said brackets together, a hinge pin and a latch pin carried by said brackets respectively, one said pin being spaced backward from said pivot pin and the other thereof downward therefrom, a latch hinged at its inner end to said hinge pin and extending outward and slidably overlying said latch pin, said overlying end being upwardly notched to establish shoulders spaced apart respectively for bracing and movement limiting engagement with said latch pin, a locking and tripping dog, pivot means securing said dog to said latch adjacent the bracing side of said notch, said dog having a major portion of its weight above and outward from said pivot means, below said pivot being cut away to form an outwardly facing trip notch and outwardly of said pivot being recessed to form a locking part, said locking part being spaced from said pivot means with the inner side of said recess a less distance than the inner side of said latch notch therefrom and the outer side of said recess in excess of latch pin diameter from the bracing shoulder of said latch,

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said trip notch being further from said pivot means than are said bracing shoulder and under edge of said latch therefrom, and means carried by said latch engaging said dog, to stop downward and rearward turning movement with said recess below the lower edge of said latch, and oppositely, means carried by said latch to stop forward and upward turning movement of said dog with said trip notch in overlying relation to said latch notch, under shifting movements of said seat and back.

3. In a convertible sofa bed, including seat and back portions shiftable to and from seating and bed positions, brackets secured respectively to said seat and back, a pivot pin hinging said brackets together, a hinge pin carried by one said bracket and a latch pin carried by the other thereof, said hinge pin and said latch pin being spaced away from said pivot pin, and a latch pivotally hinged at its inner end on said hinge pin and extending outward therefrom into overlying relation to said latch pin, said latch being notched on its underside adjacent its outer end to provide a bracing shoulder, a dog pivotally attached to said latch in adjacency to said bracing shoulder, the major portion of said dog lying above and outwardly from its pivot, said dog outwardly from said pivot being recessed to form a locking part spaced from said bracing shoulder and facing the inner end of said latch, said dog being cut away below its pivot to form an outwardly facing trip shoulder spaced from said dog pivot a distance in excess of the distance of said bracing shoulder therefrom, and means to limit turning movement of said dog in opposite directions under shifting movement of said seat and back, to alternatively position said locking part below said latch, and pivot for said dog, and said trip shoulder in overlying relation to said latch shoulder.

4. Seat and back bracing means in accordance with claim 3, in which the pivot attaching said dog to said latch is closer to the bottom edge of said latch than to said bracing shoulder, and the bottom edge of said latch curves arcuately outwardly and upwardly to said bracing shoulder.

5. In a shiftable sofa bed, including seat and back portions shiftable to and from seating and bed positions, brackets secured respectively to said seat and back, pivot pins hinging said brackets together, a hinge pin carried by one said bracket, and a latch pin carried by the other thereof, said hinge pin and said latch pin being spaced away from said pivot pin and the latch pivotally hinged at its inner end on said hinge pin and extending outward therefrom into overlying relation to said latch pin, said latch being notched on its underside adjacent its outer end to provide an outwardly facing shoulder, a dog having a locking notch on its outer side facing downwardly, a trip notch on its lower end and an upper end of greater weight than said lower end, pivot means securing said dog to said latch in adjacency to the lower edge thereof and to said shoulder, the proximate sides of said locking and trip notches being respectively closer to, and further from, said pivot means, than said latch shoulder and the lower edge of said latch are thereto, and means to limit turning movement of said dog in opposite directions under shifting movement of said seat and back.

6. In a convertible sofa bed having a seat member and a back member hingedly connect-

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ed, and means supporting said members for shifting movement, seat and back bracing means including an arm pivoted at one end to one of said members and a cooperating abutment carried by the other of said members, said arm having adjacent its free end an abutment engaging shoulder, a dog including an upper weighted portion, a lower trip portion and a laterally outward locking portion, pivot means securing said dog to said arm adjacent said shoulder and projecting said locking portion and said trip portion alternatively operatively beyond said shoulder and below said arm, and means carried by said arm limiting turning movement of said dog in opposite directions under shifting movement of said seat and back.

7. A combination hinge and brace means adapted to be used for connecting the seat and back of a sofa bed combination, said means consisting of a pair of hinge elements connected to the seat and back respectively, a hinge pin connecting said hinge elements, means supporting said hinge elements for movement of the seat and back to and from horizontal positions, a latch having one end pivotally connected to one of said hinge elements, and adjacent its opposite end having an elongated notch on its underside forming bracing and movement limiting shoulders, an abutment pin on the other hinge element underlying said latch and engageable in said latch notch, and a dog pivotally mounted on said latch adjacent said notch, with the major portion of said dog overlying said notch and eccentric to said pivot to weight said dog for turning movement about said pivot during movement of said seat and back; said dog having a notch engaged by said abutment pin and lying alongside said latch notch when said latch notch is engaged by said abutment pin, said dog notch having a restricted opening and remote from said opening being enlarged in a direction substantially radially of the pivotal point of said dog, the bracing shoulder of said latch notch facing away from the pivotal point of said dog and said latch notch extending away from the pivotal point of said dog for substantially registering alignment of said latch notch with said radially enlarged portion of said dog notch during concurrent engagement of said notches by said abutment, said alignment permitting limited movement of said abutment pin in said notches radially of the pivotal point of said dog during movement of said seat and back, said dog having a trip shoulder facing away from said pivotal point of said dog and spaced therefrom a distance in excess of the distance of said bracing shoulder therefrom, said eccentric weighting as the seat is raised from normal position during conversion to bed position urging said dog to turn and position said trip shoulder in overlying relation to said bracing shoulder for engagement by said abutment pin, to direct said abutment pin out of said latch notch as said seat is lowered, said dog being restrained from turning movement during said concurrent engagement of said notches in said latch and said dog by said abutment pin, said restraint being released by movement of said abutment pin in said notches during raising of said seat.

8. In a sofa bed which includes a seat member and a back member hingedly connected, means supporting said members for movement from seat position to bed position and return, an abutment carried by one of said members and a

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latch pivotally connected at one end to the other of said members, said latch having a shoulder adjacent its opposite end adapted to engage with said abutment to bracingly couple said members, and a dog pivotally attached to said latch adjacent said latch shoulder with the major portion of said dog eccentric to its said pivot, said dog having a trip shoulder facing away from said dog pivot and spaced from said dog pivot in excess of the distance of said latch shoulder therefrom engageable by said abutment for disengaging said coupling for return to bed position, and a hook portion facing the attached end of said latch and spaced from said trip shoulder, said hook portion being spaced from said dog pivot in excess of the distance of said latch shoulder therefrom, said dog being weighted by said eccentric attachment to turn said dog under shifting movement of said members to alternatively position said trip shoulder in overlying relation to said latch shoulder for abutment engagement, and said hook portion below said latch for prior engagement with said abutment during movement of said seat from bed position to prevent positioning of said trip shoulder prior to said coupling and accomplish latch-abutment engagement for return to seat position.

9. In a convertible sofa bed including back and seat members hinged together and means supporting said members for shifting movement; an abutment carried by one of said members; a latch and a pin pivotally attaching said latch at one end to the other of said members, said latch extending into overlying relation with said abutment and having a downwardly opening notch formed in its lower edge adjacent its other end and extending upwardly from said lower edge to provide a bracing shoulder to receive said abutment; a cooperative dog and a pivot attaching said dog to said latch in overlying adjacency to said notch, with the major portion of said dog eccentric to its said pivot, said dog being thus weighted eccentrically of its said pivot to turn about said pivot under shifting movement of said seat and back; said dog being indented away from said dog pivot to form a hook portion spaced from said bracing shoulder and facing the pivoted end of said latch, said hook portion being spaced from said dog pivot a distance greater than the distance of said bracing shoulder and said latch edge from said dog pivot, said dog having a shoulder portion spaced from said hook portion and facing away from said dog pivot, the shoulder portion of said dog being spaced from the pivot of said dog to extend beyond said bracing shoulder; and means carried by said latch limiting turning movement of said dog in opposite directions during shifting movement of said seat and back.

10. A sofa bed including back and seat members hinged together, and means supporting said members for shift from sofa position, in which said seat member is substantially horizontal and said back member is substantially vertical, to bed position, in which position both said members are horizontal, and return shift to said sofa position, said shifts each including shift to a latch control position in which said seat member is substantially vertical and said back member is substantially horizontal; latching means, including an abutment carried by one said member, and a cooperative member-bracing latch pivotally attached at one end to the other said mem-

ber and extending into overlying relation to said abutment; and a latch carried dog; said latch remote from its attached end having a recess adapted to receive said abutment during shift from said bed position to said latch control position, said recess including a shoulder facing away from the attached end of said latch, said dog being pivotally attached to said latch in overlying adjacency to said recess, with the major portion of the mass of said dog eccentric to its said pivot, said dog having a recess complementary to said latch recess and a trip shoulder, said trip shoulder facing away from said dog pivot and being spaced from said dog pivot in excess of the distance of said latch shoulder therefrom, said dog recess being indented away from said dog pivot to form a hook portion, said trip shoulder and said hook portion being spaced apart, said hook portion facing the attached end of said latch and spaced from said dog pivot in excess of the distance of said latch shoulder therefrom, the said major portion of the mass of said dog being positioned beyond said dog pivot toward the free end of said latch in bed position of said sofa bed, said dog being thus biased to position said hook portion below said latch for engagement by said abutment during shift from bed position to said latch control position.

11. A device in accordance with claim 10 in which the major portion of the mass of said dog is positioned beyond said dog pivot toward said free end of said latch in sofa position of said sofa bed, said dog being thus biased to position said hook portion in proximity to said latch shoulder in said sofa position.

12. In a sofa bed which includes a seat member and a back member hinged together, and means supporting said members for shift from sofa position to bed position and return, said seat member being substantially horizontal in both said positions, said shifts each including shift of said seat member from said substantially horizontal position to an inclined intermediate position and return to horizontal position, an abutment carried by one of said members, a latch, a pivot connecting said latch to the other of said members, said latch extending from said pivot into overlying relation to said abutment and being notched to establish a shoulder facing away from said pivot for bracing engagement with said abutment to maintain relative positioning of said members in sofa position and in shift away from and shift toward said position, a dog, a pivot attaching said dog to said latch in overlying adjacency to said latch notch and shoulder between said shoulder and said latch pivot, said dog having an abutment trip shoulder and being cut out to form an abutment, engaging hook portion, said trip shoulder being spaced from said hook portion and faced away from said dog pivot and being spaced from said dog pivot in excess of the spacing of said latch shoulder from said dog pivot, said hook portion facing the pivoted end of said latch and being spaced from said dog pivot in excess of the spacing of the underside of said latch from said dog pivot, said dog being weighted eccentrically of its said pivot to shift said trip shoulder into alignment with said abutment in inclined position of said seat member, said dog weight in bed position of said member being disposed beyond said pivot toward the free end of said latch to position said hook portion below said latch in alignment with said abutment for engagement

thereby during shift of said seat from horizontal bed position to inclined position, said latter engagement holding said trip shoulder out of alignment with said abutment.

13. A device in accordance with claim 12, which includes means carried by said latch engaging said dog to respectively limit opposite shifts of said dog.

14. In a convertible sofa bed including a seat member, a back member, a hinge connecting said members, and means supporting said members for shift from seat position to bed position and return, a brace for said members, including an abutment pin, carried by one of said members, a latch, pivoted at one end to the other said member and extending therefrom into overlying relation to said pin and having an edge resting on said pin, said latch having adjacent its free end a pin receiving notch, a dog, and a pivot securing said dog to said latch in overlying adjacency to said notch and said edge of said latch; said dog being weighted eccentrically of its said pivot to turn thereabout under shift of said members, said dog being indented to form an elongated pin receiving recess having a closed end and an entrance opening spaced from said end, said opening being faced to receive said abutment pin and being spaced from said pivot a distance in excess of the distance of said latch edge therefrom, and said dog having a trip portion spaced from said entrance, said portion facing away from said dog pivot and being spaced from said dog pivot in excess of the distance of said latch notch therefrom, said eccentric weighting in bed position of said sofa bed being disposed beyond said dog pivot toward the free end of said latch to move said dog to a position with said entrance below said latch edge; and latch-carried means limiting said movement.

15. In a convertible sofa bed having a seat member and a back member hingedly connected and means supporting said members for shifting movement, seat and back bracing means including an arm pivoted at one end to one of said members and a cooperating abutment carried by the other member, said arm having adjacent its free end an abutment engaging shoulder, a dog, a pivot securing said dog to said arm in adjacency to said shoulder, said dog being weighted eccentrically of said pivot and including a trip portion and a hook portion spaced from said trip portion, said portions being respectively spaced from said pivot in excess of the distance of said shoulder and the lower edge of said arm from said pivot and projecting alternately operatively beyond said shoulder and below the edge of said arm, and means carried by said arm limiting turning movement of said dog in opposite directions during shifting movement of said seat and back.

16. In a convertible sofa bed including back and seat members hinged together and means supporting said members for shifting movement; an abutment carried by one of said members; a latch and a pin pivotally attaching said latch at one end to the other of said members, said latch extending into overlying relation with said abutment and having a downwardly opening notch formed in its lower edge adjacent its other end and extending upwardly from said lower edge to provide a bracing shoulder to receive said abutment; a cooperative dog and a pivot attaching said dog to said latch in overlying adjacency to said notch, with the major portion of said dog eccentric to its said pivot, said dog being thus weighted

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eccentrically of its said pivot to turn about said pivot under shifting movement of said seat and back; said dog being indented away from said dog pivot to form a hook portion spaced from said bracing shoulder and facing the pivoted end of said latch, said hook portion being spaced from said dog pivot a distance greater than the distance of said bracing shoulder and said latch edge from said dog pivot, said dog having a shoulder portion spaced from said hook portion and facing away from said dog pivot, the shoulder portion of said dog being spaced from the pivot of said dog to extend beyond said bracing shoulder.

17. In a convertible sofa bed having a seat member and a back member hingedly connected and means supporting said members for shifting movement, seat and back bracing means including an arm pivoted at one end to one of said members and a cooperating abutment carried by the other member, said arm having adjacent its free end an abutment engaging shoulder, a dog, a pivot securing said dog to said arm in adjacency to said shoulder, said dog being weighted eccen-

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trically of said pivot and including a trip portion and a hook portion spaced from said trip portion, said portions being respectively spaced from said pivot in excess of the distance of said shoulder and the lower edge of said arm from said pivot.

WILLIAM W. WILSON.

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