Aug. 16, 1960 R. L. PANICCI 2,949,155

MECHANISM FOR LOCKING BACK OF ARTICLE OF FURNITURE IN ADJUSTED POSITION

Filed Dec. 8, 1958 2 Sheets-Sheet 1

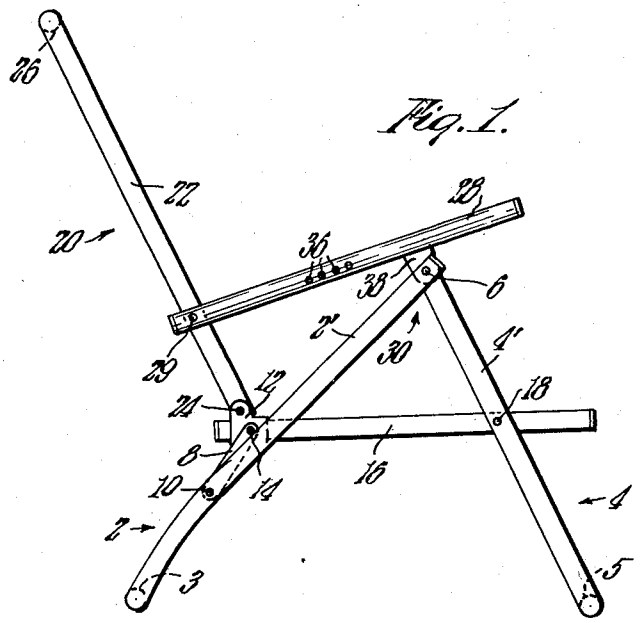


Fig. 1.

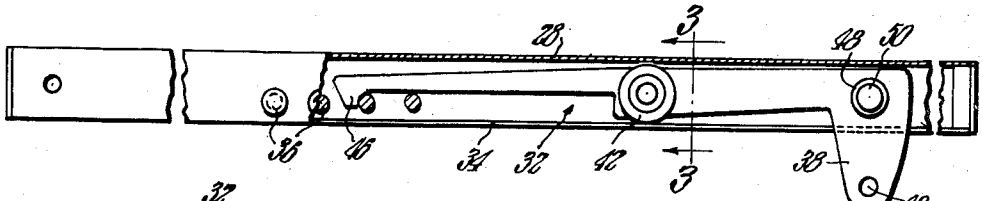


Fig. 2.

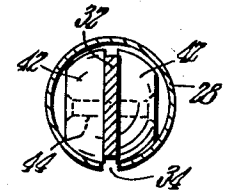


Fig. 3.

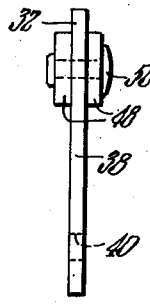


Fig. 4.

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MECHANISM FOR LOCKING BACK OF ARTICLE OF FURNITURE IN ADJUSTED POSITION

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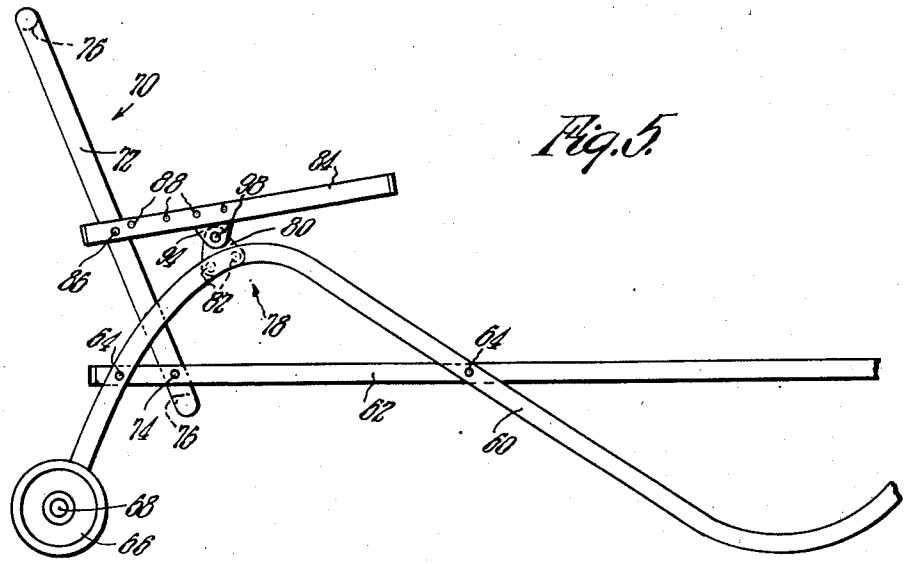


Fig. 5.

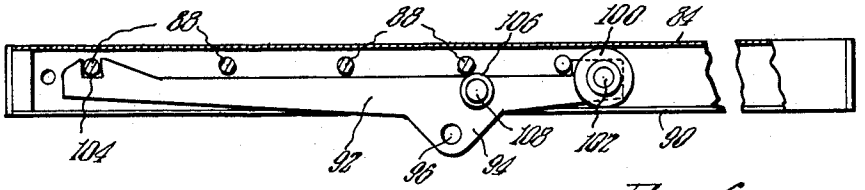


Fig. 6.

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MECHANISM FOR LOCKING BACK OF ARTICLE OF FURNITURE IN ADJUSTED POSITION

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2 Claims. (Cl. 155—139)

This invention relates to new and useful improvements in chairs and is directed more particularly to a type of chair known as a chaise longue, and even more specifically to a means for releasably locking the swingable back of a chaise longue in various adjusted positions relative to the base thereof.

The principal object of the present invention is directed to the provision of an improved chaise longue that may be adjusted by the occupant to any one of a plurality of different reclining positions and to the lock means for releasably locking the back of the article of furniture, which back is mounted for fore and aft swinging in adjusted positions relative thereto.

According to one novel feature of the present invention, improved swingable arm rest organizations are provided which operate to constantly urge the back toward an upright position and to secure the same in any one of a plurality of different reclining positions with extreme facility.

The arm rest members are moved upwardly from normal positions so as to release the back locking means. As the arm rest members are restored to normal arm supporting positions, the locking mechanisms are engaged for locking the back.

Still another feature of the present invention is to provide such a chaise longue wherein the means for urging the back toward an upright position and securing the same in a selected reclining position are concealed within the arm rests so as not to detract from the appearance of the article. At the same time, the danger of the occupant being caught and/or injured thereby is obviated.

Another object hereof is to provide such a chaise longue with a pair of improved side rails respectively underlying and supporting the fore end portions of the arm rest members without interfering with fore and aft vertical angular shifting movement of the arm rest members freely in response to movement of the back.

According to a still further feature of the invention, the lock means is connected to a supporting structure in such a way as to limit the movement of the arm member in unlocking movements when disengaging the respective locking mechanism.

The novel features of the invention are adapted for use with furniture of various types where a back-rest, called a back, is swingable fore and aft relative to a supporting structure, and is to be releasably locked in an adjusted position.

As examples, the invention is adapted for use with such furniture as a chaise longue, which may take various forms. Such generally embodies a supporting structure including a body supporting member and a back swingable relative thereto to various inclined positions. Certain chairs have supporting structures, including a seat and a back, which are swingably mounted thereon.

The back being swingable, the user of the chaise or chair is enabled to adjust the back to various reclining position, as may be desired, and makes for comfort, and usefulness of such furniture.

In general, arms are connected to the back by means of which the back is swung in opposite directions. Lock means, associated with the arms and connected to the supporting structure, is arranged to releasably lock the arms and thereby the back against movement. The lock means is released by swinging the arms relative to the supporting structure. Said lock means limits movement of the arms to the lock releasing position.

Other objects and advantages will be in part obvious or in part pointed out hereinafter. All will become apparent as the detailed description proceeds below, as they reside in features of novelty and details of construction and operation to be pointed out more fully hereinafter and with particularity in the claims annexed to and forming a part hereof.

To the accomplishment of these ends, the invention intended to be protected by Letters Patent will be understood to comprise the features set forth in this description and annexed drawing illustrating in detail a certain physical embodiment of the invention and showing parts combined and arranged in accordance with one mode which I have devised for the practical application of the principles hereof.

It will be understood however that this is only indicative of but one of the various ways in which the principles of the invention may be employed and in which the component parts may be combined and arranged. Changes, modifications and alterations are contemplated and may be made and resort had to substitutions within the spirit and scope of the claims hereof. No limitations therefore are to be implied from the following specific descriptions.

In the accompanying drawings, which illustrate a chaise longue constructed in accordance with and embodying the general principles of the present invention:

Fig. 1 is a small scale side elevational view of an article of furniture embodying the novel features of the invention;

Fig. 2 is a side elevational view, partly in section, of an arm of the article of furniture shown in Fig. 1;

Fig. 3 is a sectional view on the line 3—3 of Fig. 2;

Fig. 4 is an end elevational view of the lock mechanism of the invention shown in Fig. 2;

Fig. 5 is a side elevational view of an article of furniture embodying the novel features of the invention; and

Fig. 6 is a view, similar to Fig. 2, showing a modified form of the invention.

In the following description and claims, various details will be identified by specific names for convenience. These names however are intended to be as generic in their application as the art will permit.

Referring now to Fig. 1 of the drawings forming a part of this specification more in detail, and referring more particularly to the preferred form of my invention selected for illustrative purposes, I have shown a chair in order that the general relation and utility of the components may be better understood.

Rear and forward support members **2** and **4** are provided. These members may be formed from tubular stock in the shape of U's and have opposite side portions **2'** and **4'** which are connected at lower ends by transverse members **3** and **5**. Upper portions of the side portions **2'** and **4'** at opposite sides of the structure are connected together at **6**.

Links **8** have lower ends connected at **10** to the opposite side portions **2'**, and upper ends connected at **14** to brackets **12**. Opposite members **16**, forming a body supporting or seat frame, have rear ends fixed in the brackets **12** and forward end portions are connected at **18** to the opposite side portions **4'**. The members **16** may be connected by transverse members, as may be desired.

A back frame **20**, in the form of an inverted U, has

side portions 22 pivoted at 24 to the brackets 12. Upper ends of the side members 22 are connected by a transverse portion 26.

The members described may be formed from tubular stock and the connections 6, 10, 14 and 18 may be arranged for pivotal action of the members for folding up of the structure, should that be desired.

The members 16 forming the seat frame and the back frame may be provided with interlaced strips of webbing, or with a pad construction or with a mattress construction, as may be desired. There may be a leg support connected to forward ends of the members 16, if desired.

For clearness, the members 16 forming the frame will be referred to as a seat. The members forming the back frame will be referred to as a back which is swingable fore and aft on the pivotal connections 24 of the supporting structure.

The supporting structure includes the members 2' and 4' and seat. Upper portions 30 of the members 2' and 4' connected together at 6 provide upper portions of the supporting structure at opposite sides thereof.

Arm members 28 at opposite sides of the back are pivoted at 29 to the members 22 thereof for swinging the back in opposite directions. The arms are swingable up and down relative to upper portions of the supporting structure.

Said arm members 28 are tubular, and arm rest members of various forms may be secured thereto. The members 28 will be referred to as arms.

Locks 32 are disposed in each of the arms 28, and are similar in form.

The arms 28 are provided with slots 34 along a side thereof, and with a series of longitudinally spaced transverse lock pins 36, which may be in the form of rivets.

The locks 32 are in the form of elongated strips and have depending ears 38 provided with apertures 40 for receiving, and pivoting on, the connections 6 at upper portions 30 of the supporting structure.

Semi-spherical members 42 are secured to opposite sides of the locks 32, intermediate the ends thereof, by rivet means indicated by 44. These members 42 permit swinging of the locks in the arms, as well as reciprocation of the arms 28 relative to the locks, which are pivoted to upper portions 30 of the supporting structure.

Rear ends of the locks are provided with means, such as hooks 46, for engaging the pins 36. Stops 48 are secured to opposite sides of the locks by rivet means 50.

The arms are held against rearward reciprocation, and thereby the back is held against rearward swinging by the hooks 46 of the locks in engagement with pins 36 of the arms.

To swing the back in one direction or the other from a releasably locked position, the arms are swung upwardly. The ears 38 of the locks being pivotally connected at 6 to upper portions of the supporting structure, upward swinging of the arms causes the locks to be swung clockwise to disengage the hooks and pins 36.

As the arms are swung upwardly, lower portions thereof act on the semi-spherical members with an upward force to bring about clockwise swinging of the locks.

The overall width of the stops 48 is greater than the width of the slot 34. Thereby upward movement of arms is limited.

With the arms held in elevated position, the arms may be reciprocated relative to the locks in opposite directions to swing the back. In the desired position of the back, the arms are released for engagement of the hooks of the locks with pins 36 which releasably lock the arms and back against rearward movement.

A modified form of the invention will be described in connection with Figs. 5 and 6.

The chaise longue of the invention comprises a pair of transversely spaced side members 60 and 60 which support at 64 a pair of horizontally extending main cushion supporting frame or body support members 62.

Forward ends of the members 60 and 62 may be formed in various ways and connected together as may be desired such as by laterally spaced bars. For instance, the members 60 and 62 may be U-shaped and disposed with the closed end at the foot or front and the open end at the head or rear of the lounge.

For supporting the horizontally extending member 62 at a suitable height from the floor, the side members 60 and 60 sweep from a point approximately and upwardly beyond the member 62 to arm rest height and then rearwardly and downwardly again to a point approximately beyond the member 62 to a pair of conventionally mounted floor engaging wheels 66, same being journalled at 68 to rear ends respectively of the members 60.

A back frame of the chaise longue, designated generally by the numeral 70, includes a cushion-supporting member comprising opposite side members 72 which are pivotally mounted as by pivot bolts 74 respectively to the members 62 for vertical swinging fore and aft to positions of adjustment thereof.

The members 72 are connected at upper and lower ends by transverse members 76.

The back frame 70 and supporting frame formed by the members 60 and 62 may be formed from tubular material and may be provided with interlaced webbing, padding, or upholstery, all as is conventional.

On each side of the chaise longue is a unitary arm rest assembly 84 which extends forwardly from the back rest 72 for support upon a bracket 80 secured by rivets 82 to the inner side of the uppermost portion 78 of the number 60.

Each assembly includes an elongated rigid member 84 in the form of a tube which is pivotally mounted at 86 to a side member 72 of the back for permitting up and down movements.

Said arm is provided with a set of longitudinally spaced transverse pins 88, forming a series of notches therebetween, and with a longitudinally extending elongated slot 90 in a side thereof.

The back is swung in opposite directions by hte arms of the pair thereof, which arms are pivotally connected thereto, as aforesaid.

An elongated lock 92 is provided in the arms 84, as shown in Fig. 6.

An ear 94 of said lock extends through the slot 90 and is provided with an aperture 96. The ear of the lock, by means of the aperture, is swingable on the pivot 98 of the respective bracket 80.

The lock has a half spherical member 100 riveted thereto at 102, which member is similar to the member 42 of Fig. 3.

A notch 104 is provided in the lock 92 to releasably engage one of the pins 88 of the arms. A stop 106, similar to the previously described stop 48, is riveted at 108 to opposite sides of said lock 92.

To adjust the back frame, the arms 84 are elevated. The locks 92, being pivoted at 98 to the supporting structure, are swung counterclockwise by contact of the arms with members 100. Such brings about unlocking of the pins and locks. The swinging of the arms upwardly is arrested by the stops 100 engaging the sides of the interior of the arms.

With the arms in elevated position, the back is swung in opposite directions by movements of the arms in opposite directions. When the arms are released, the locks engage the pins for releasably locking the back in position.

In order to change the position of the back rest, from the upright position to one of the reclining positions, the chaise longue occupant first raises the members 84 and 84 of the arm rest assemblies.

Upon the upward swinging movement of the members 84 and 84, disengagement of the notches 104 from the pins 88 in which they were seated is thereby effected.

The occupant next leans back against the back and

causes the back to swing rearwardly and downwardly against the force of tension springs (not shown).

Simultaneously, the members **84** and **84** conjointly shift rearwardly relative to the member **62** and to the locks **92**, during which operation, the pins of the arms **84** move freely past the notches from which one of the pins have been disengaged.

When the next set of pins **88** assume a position over the notches **104**, the members **84** are swung downwardly under the biasing influence of the tension springs to effect re-engagement of the notches with their newly aligned pins.

The procedure may be repeated until the back rest is in the desired reclining position.

Alternately, instead of adjusting the back rest by stages, the occupant may keep the arm rest assemblies fully raised until the back is in the desired reclining position, whereupon he releases the same, thus allowing the arm members to swing downwardly for engagement of the notches with any selected pair of pins.

In order to again raise the back rest to its initial upright position, the procedures just outlined are reversed.

In this connection, it will be noted that when the back rest is released, it automatically follows the occupant's back as it inclines forwardly.

Without further analysis, the foregoing is intended to so fully reveal the gist of my invention and the construction and operation of the device thereof that others can, by applying current knowledge, readily adapt it for various applications without omitting features which, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention. Therefore, such adaptations should and are intended to be comprehended within the meaning range of equivalence of the claims below. The substitution of equivalents and other modifications are contemplated, as circumstances may suggest or render expedient, since the invention is susceptible of various changes and modifications without departing from the real spirit of the invention and since they will readily occur to those skilled in the art. In other words, it is not desired to limit the invention to the exact construction shown and described as the object of the invention may be attained by the use of constructions different in certain respects from that disclosed without departing from the underlying principles of the invention.

The following claims are desired to include within the scope of the invention all such suitable variations, modifications and equivalents by which substantially the results of the invention may be obtained through the use of substantially the same or equivalent devices or means.

I claim:

1. In an article of furniture including a body supporting frame with upper portions extending upwardly at opposite sides thereof intermediate forward and rear ends thereof and a back frame swingably connected to the body supporting frame for movement between adjusted positions and elongated arms pivoted at their rear ends to the back frame and having forward portions

swingable and reciprocable adjacent the upper portions of the body supporting frame in lock-releasing and lock-engaging positions, the improvement in means for releasably locking the back frame in adjusted positions comprising, each elongated arm being tubular in configuration and provided with an elongated slot on a side thereof and having a series of longitudinally spaced transverse pins extending diametrically therethrough, locks reciprocable and swingable in the elongated arms and having ear portions extending through the slots thereof, pivotal connections between the ear portions and upper portions of the supporting structure for the swinging of said locks between locking and non-locking positions said locks being provided with means for engaging and releasing said pins in locking and non-locking positions thereof, and means carried by said locks oscillatably engaging the interior of said arms operable as the arms are swung in opposite directions to swing said locks for disengaging and engaging said pins and pin engaging means.

2. In an article of furniture including a body supporting frame having upper portions extending upwardly at opposite sides thereof intermediate forward and rear ends thereof and a back frame swingably connected at lower ends thereof to the body supporting frame for to and fro movements to adjusted positions and elongated arms pivoted at rear ends to opposite sides of the back frame having forward portions swingable and reciprocable adjacent the upper portions in lock releasing and lock engaging positions, the improvement in means for releasably locking the back in adjusted positions comprising, the arms being in the form of tubes provided with longitudinally extending slots in a side wall thereof and with sets of pins longitudinally spaced and disposed transverse to the slots, locks disposed wholly within said arms having ears extending through the slots, means carried by said locks movably engaging the interior of said arms for relative swinging and reciprocation of said locks and arms, said locks provided with means for releasably engaging pins of the sets thereof, all adapted and arranged whereby as said arms are swung in one direction said locks are swung to disengage the means thereof and pins for reciprocation of said arms and swinging of the back and when said arms are swung in an opposite direction said locks are swung to engage the means thereof with pins.

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