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(54) **A piece of furniture with an oblique seat with mechanism for horizontal unfolding of a triple mattress including a headrest**

Möbelstück mit schrägem Sitz mit Mechanismus für horizontales Entfalten einer Dreifachmatratze mit einer Kopfstütze

Meuble avec un siège oblique à mécanisme de déploiement horizontal d'un matelas triple comprenant un appuie-tête

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Description

[0001] This invention relates to a piece of furniture with oblique seat with mechanism for horizontal unfolding of a triple mattress including a headrest, which is used in furniture making industry.

[0002] It is known from Polish description of utility model W.119996 "A piece of furniture with a lever for displacement with raising of a horizontal seat ", which comprises a body with two seats joined with two levers left and right. The lever comprises upper angle bar (2) and lower angle bar (1), which are affixed to upper seat (10) and lower seat (9), upper angle bar (2) is joined hingedly with horizontal slat (3) by means of front lever (8) and back lever (5), which simultaneously are joined hingedly with a lower angular slat (1), horizontal slat (3) is joined with a front lever (8) by a coil spring, left and right levers are joined by a synchronizer.

[0003] It is also known from Polish utility model W. 121965 "Sofa with mechanism for unfolding of triple mattress perpendicularly to adjustable backrest". Sofa comprises a body (1), three part mattress (2), (3), (4) with a support (18), a backrest (5), to the body mechanism for unfolding mattresses and mechanism of adjustable backrest are attached. Mechanism for unfolding mattresses comprises a horizontal slat (6) to which levers (8) and (9) are mounted hingedly to which angular slats (10), (11), (12) with affixed mattresses are mounted hingedly. Horizontal slat (6) is supplied with a lower arm (13) to which assistance spring (14) is mounted with its second end joined with a plate (15), self-alignigly joined with a back lever (8). Another piece of furniture with an oblique seat with mechanism for unfolding of a triple mattress is also known from WO2013162410 A1. The aim of the invention is working out of such a construction of a piece of furniture, which will ensure higher comfort of use while using it for sitting and also for turning it into a bed for lying and longitudinal sleeping. The invention is as claimed in claim 1, so that the piece of furniture comprises a body with mounted three part mattress and adjustable backrest, mechanism for unfolding a triple mattress and mechanism for adjusting a backrest, moreover mechanism for unfolding a triple matress comprises a horizontal slat with upper vertical arm and with three lower arms, upper angular slat, middleangular slat and lower angular slat, which are affixed to upper mattress, middle mattress and mattress of a headrest, to the front end of a horizontal slat a front lever is mounted hingedly, with its second end it is joined with upper angular slat in its middle part, moreover front lever has a shape approximating a letter "F" upside down with a middle protrusion joined hingedly with front end of middle, angular slat. Back lever in a shape aproximating letter "C" with obtuse arms, with its lower end it is joined hingedly with horizontal slat, in middle part it is joined with middle angular slat and its upper end is joined hingedly with the end of a front angular slat. Mattress of a headrest with smaller lenght and thickness affixed to a lower angular slat is driven by a mechanism made up of two levers of a shape of stright, flat bars which the front lever is joined hingedly with its low end with the end of front vertical protrusion of horizontal slat, upper end is joined hingedly with a low angular slat and on 1/3 of lenght it is joined hingedly by a short flat bar with a lever in a shape of a letter "C". Second straight lever, with its one end is joined hingedly with a middle arm of a horizontal slat and with its second end it is joined hingedly with a back, angular slat.

[0004] A piece of furniture according to the invention is shown on the drawings on which fig.1 presents a piece of furniture unfolded in a side view, fig.2 presents a piece of furniture in a transitional position in a side view, fig.3 presents a piece of furniture in a folded position in a side view.

[0005] A furniture according the invention comprises a body 1, a three-part mattress 2, 3, 4, a backrest 20. To the body horizontal slats 8, left and right are affixed.

[0006] Mechanism for unfolding mattresses comprises a horizontal slat 8 affixed to a body 1 to which levers, front 12, back 11 are affixed hingedly, to which angular slats 7, 6 are affixed hignedly, to which mattresses 4, 3 are affixed. A horizontal slat 8 has a shape of a flat bar with arms joined stably, upper, vertical 21 and three first, second and third lower vertical arms 15, 14 and 13 . A backrest 20 is joined with a body 1 by means of an adjustable mechanism of a back rest, which is described, claimed in an application W.129865. Mattress of a headrest 2 with smaller lenght and thickness has an angular slat 5 affixed, to which first and second levers 10 and 9 in a shape of straight flat bars are affixed hingedly, which with second ends are joined hingedly with lower vertical protrusions, 15, and 14, and a lever 10 is joined hingedly by a short flat bar 16 with a back lever 11 on its bend. To a lower arm 13 a spring is attached, with is its second end it is joined with an arm 18 of a lever 12. An arm 18 of a lever 12, right and left are joined by a synchronizer 22.

Claims

1. A piece of furniture with an oblique seat with mechanism for horizontal unfolding of a triple mattress, having a body, a triple mattress, adjustable backrest with a mechanism, mechanism for unfolding mattresses, **characterised in that** a mechanism for unfolding a triple mattress comprises a horizontal slat (8) equiped with an upper arm (21) and three first, second and third lower arms (13, 14, 15), to said horizontal slat (8), a front lever (12), and back lever (11) are fastened hingedly, to which angular slats, an upper one (7) and middle one (6) are fixed hingedly, to which mattresses (4, 3) are fastened, mechanism being aided with a coil spring fastened to said first arm (13) of the horizontal slat (8) and an arm (18) of said front lever (12), and a mattress of a headrest (2) is fastened to a lower angular slat (5), which is joined hingedly with said second arm (14) by a first

lever (9) and by a second lever (10) with said third arm (15) of said horizontal slat (8), and said second lever (10) is joined hingedly by means of a short flat bar (16) with a back lever (11).

2. A piece of furniture according to claim 1, **characterised in that** the front lever (12) has a shape of a flat bar approximating a letter (F) upside - down.

3. A piece of furniture according to claim 1, **characterised in that** the back lever (11) has a shape of a flat bar aproximating to a clamp with obtuse arms with lower arm with doubble bend .

4. A piece of furniture according to claim 1, **characterised in that** to the first arm (13) of said horizontal slat (8), a coil aiding spring is attached, with its second ending joined with a pin attached to an arm (18) of the front lever (12).

5. A piece of furniture according to claim 1, **characterised in that** the mattress of the headrest (2) has a thickness smaller than half of the thickness of the rest of mattresses .

6. A piece of furniture according to claim 1, **characterised in that** in the folded position, the seat is situated obliquely .

7. A piece of furniture according to claim 1, **characterised in that** in the unfolded position mattresses are placed horizontally.

Patentansprüche

1. Ein Möbelstück mit einem geneigten Sitz und mit einem Mechanismus zum Ausklappen von einer horizontalen dreiteiligen Matratze, beinhaltend ein Gestell, eine dreiteilige Matratze, eine verstellbare Rückenlehne samt einem Verstellmechanismus und einen Mechanismus zum ausklappen von der Matratze, **dadurch gekennzeichnet, dass** der Mechanismus zum Ausklappen von der dreiteiligen Matratze eine mit einem Oberarm (21) und drei Unterarmen (13), (14), (15) ausgerüstete horizontale Leiste (8) beinhaltet, wobei an der horizontalen Leiste (8) ein Vorderhebel (12) und ein hinterer Hebel (11) gelenkig befestigt sind, mit welcher Winkelleisten, obere (7) und mittlere (6), verbunden sind, an welche Matratzen (4) und (3) befestigt sind, wobei der Mechanismus mit einer am Arm (13) der horizontaler Leiste (8) und am Arm (18) des Vorderhebels (12) befestigten Schraubenfeder zusammenwirkt, wobei die Kopfteilmatratze (2) an der unteren Winkelleiste (5) befestigt ist, die gelenkig mittels des Hebels (9) mit dem Arm (14) und mittels des Hebels (10) mit dem Arm (15) der horizontalen Leiste (8) verbunden ist, und der Hebel (10) gelenkig mittels einer kurzen Flachstange (16) mit dem hinteren Hebel (11) verbunden ist.

2. Ein Möbelstück nach Anspruch 1, **dadurch gekennzeichnet, dass** der Vorderhebel (12) aus einer Flachstange in annähernden Form der umgedrehter Buchstabe (F) gefertigt ist.

3. Ein Möbelstück nach Anspruch 1, **dadurch gekennzeichnet, dass** der hintere Hebel (11) aus einer Flachstange in annähernden Form einer Klammer mit ausgebreiteten Schenkeln gefertigt ist, wobei der untere Schenkel doppelte Biegung aufweist.

4. Ein Möbelstück nach Anspruch 1, **dadurch gekennzeichnet, dass** auf dem Arm (13) der horizontalen Leiste (8) eine Hilfsschraubenfeder befestigt ist, die an dem anderen Ende mit einem am Arm (18) des Vorderhebels (12) befestigten Bolzen verbunden ist.

5. Ein Möbelstück nach Anspruch 1, **dadurch gekennzeichnet, dass** die Kopfstückmatratze (2) eine Dicke kleiner als eine Hälfte der Dicke der sonstigen Matratzen aufweist.

6. Ein Möbelstück nach Anspruch 1, **dadurch gekennzeichnet, dass** der Sitz in der zusammengeklappten Position geneigt ist.

7. Ein Möbelstück nach Anspruch 1, **dadurch gekennzeichnet, dass** die Matratzen in der ausgeklappten Position horizontal liegen.

Revendications

1. Le meuble avec le siège en biais avec un mécanisme pour le dépliement horizontal d'un matelas triple, comprenant un corps, un matelas triple, un chevet réglable avec le mécanisme pour le dépliement des matelas, **caractérisé en ce que** le mécanisme pour le dépliement du matelas triple comprend un tasseau horizontal (8) équipé d'un bras supérieur (21) et de trois bras inférieures (13),(14), (15), au tasseau horizontal (8) sont fixés par articulation, un levier frontal (12) et un levier arrière (11) auxquels sont fixées par articulation les cornières, supérieure (7) et médiane (6), auxquelles sont fixés les matelas (4) et (3), le mécanisme est supporté par un ressort hélicoïdal fixé au bras (13) du tasseau horizontal (8) et au bras (18) du levier frontal (12) et le matelas du chevet (2) est fixé à la cornière basse (5) qui est connectée par articulation via le levier (9) au bras (14) et via le levier (10) au bras (15) du tasseau horizontal (8), et le levier (10) est connecté par articulation à l'aide d'un plat court (16) au levier arrière (11).

2. Le meuble conformément à la revendication 1, **caractérisé en ce que** le levier frontal (12) est en forme d'un plat proche de la lettre (F) renversé.

3. Le meuble conformément à la revendication 1, **caractérisé en ce que** le levier arrière (11) est un forme d'un plat proche d'un agrafe avec les bras écartés avec le bras inférieur comportant un double pliage.

4. Le meuble conformément à la revendication 1, **caractérisé en ce que** sur le bras (13) du tasseau horizontal (8) est fixé un vis à ressort accessoire, connecté par la deuxième extrémité à la goupille fixée sur le bras (18) du levier frontal (12).

5. Le meuble conformément à la revendication 1, **caractérisé en ce que** le matelas du chevet (2) est d'une épaisseur inférieure à la moitié de l'épaisseur des autres matelas.

6. Le meuble conformément à la revendication 1, **caractérisé en ce qu'**en position pliée, le siège est positionné en biais.

7. Le meuble conformément à la revendication 1, **caractérisé en ce qu'**en position dépliée les matelas sont posés horizontalement.

Fig. 1

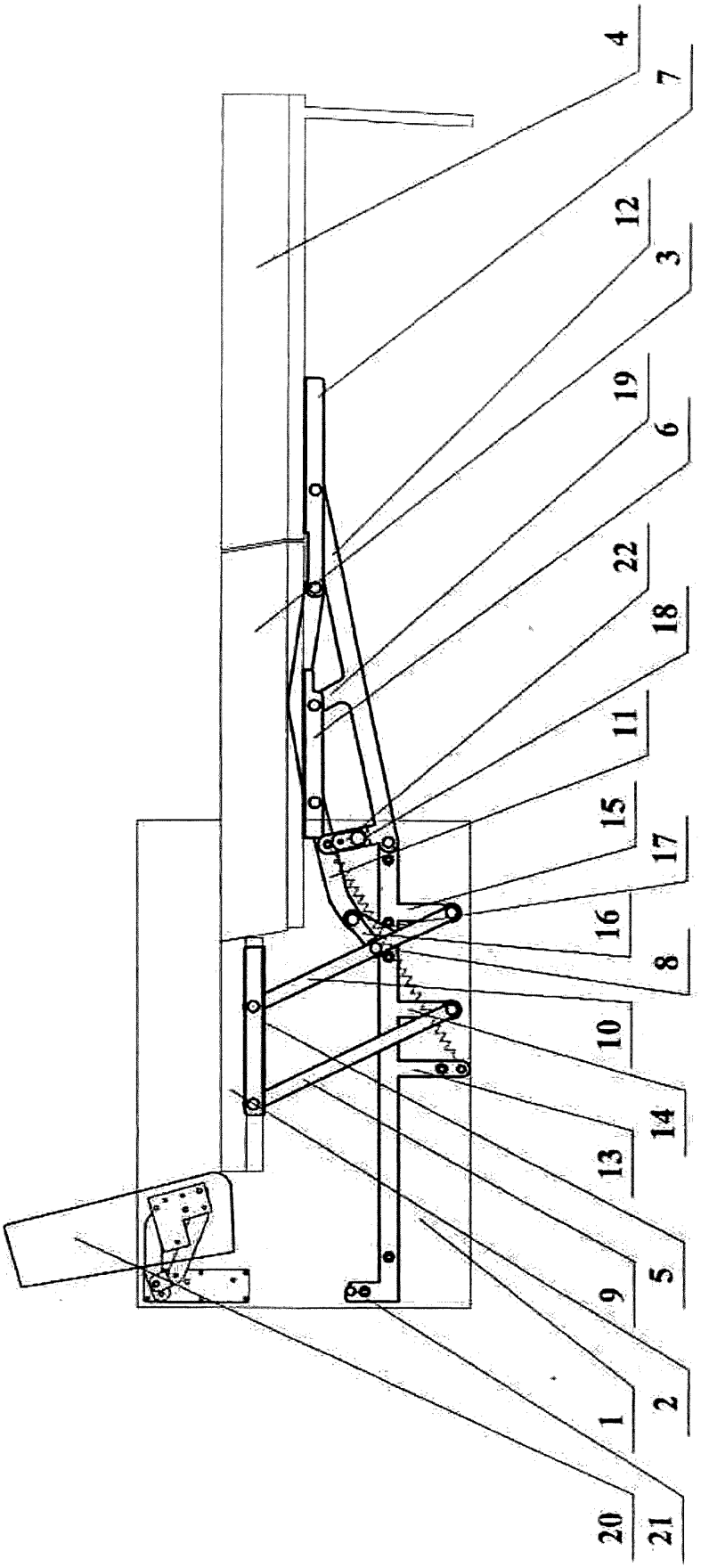


Fig. 2

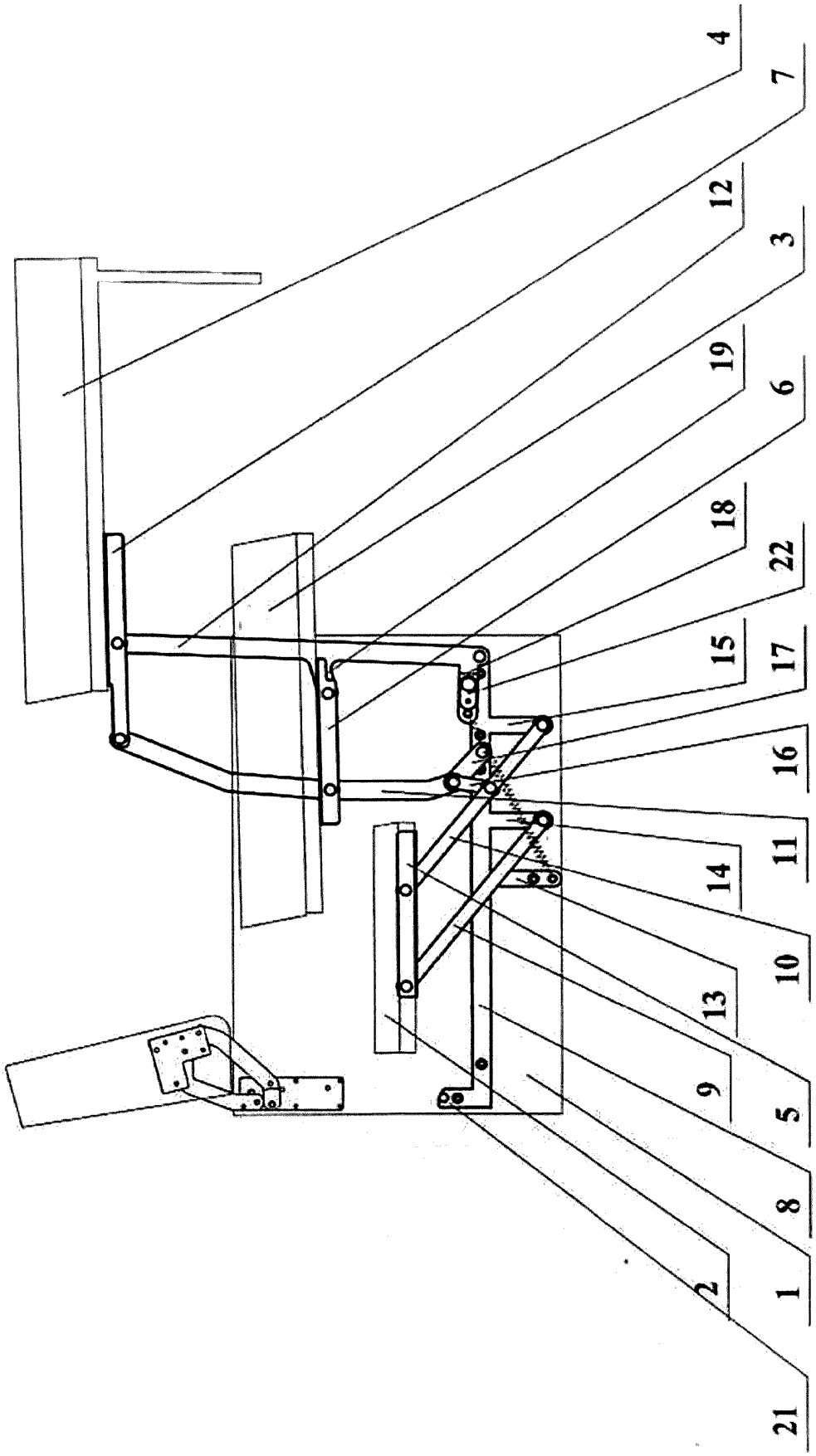
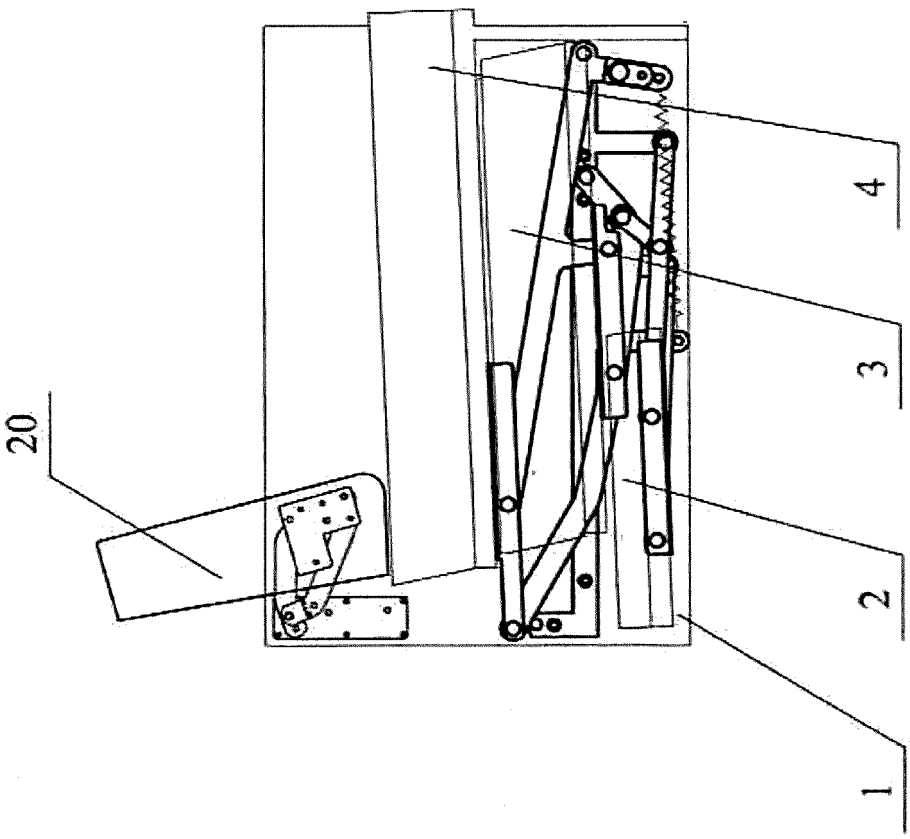


Fig. 3



REFERENCES CITED IN THE DESCRIPTION

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- WO 2013162410 A1 **[0003]**