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(54) **Convertible piece of furniture which can be converted from a sofa and/or single bed into a bunk bed**

In ein Etagenbett umwandelbares Sofa oder Einzelbett

Canapé ou lit unique transformable en un lit superposé

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(73) Proprietor: **Manzoni, Giulio**
20030 Seveso (Milan) (IT)

(72) Inventor: **Manzoni, Giulio**
20030 Seveso (Milan) (IT)

(74) Representative: **Forattini, Amelia et al**
c/o Internazionale Brevetti
Ingg. ZINI, MARANESI & C. S.r.l.
Piazza Castello 1
20121 Milano (IT)

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Description

[0001] The present invention relates to a convertible piece of furniture which can be converted from a sofa and/or single bed into a bunk bed.

[0002] There is a constant need to optimize the use of the space available when furnishing a room. Accordingly, pieces of furniture which perform multiple functions are often preferred and sometimes essential. This requirement becomes primary for example in the case of children's rooms, where space is truly essential, or in the case of hostels or hotels, where the need to offer a room with a sofa which is comfortable and aesthetically pleasant is combined with the need to have the highest possible number of beds.

[0003] Many solutions have been proposed in the course of time in order to meet the above requirements, and there are many sofas which convert into beds, bunk beds or single beds with a cot for emergencies.

[0004] The prior art includes several sofas that can be converted into one bed, and sofas that can be converted into two beds within the space occupied by a bed, but these prior art sofas are scarcely capable to perform all the functions adequately.

[0005] Another drawback of the prior art is that sofas, when they can be converted into beds, are often either comfortable as a sofa or as a bed, but not both.

[0006] Another drawback of the prior art is that a bed arranged under the sofa or under another bed, if pulled out for use, occupies the space of a further bed without meeting the requirement of optimizing space.

[0007] Another drawback of the prior art is that the second bed, even when used under the elevated single bed, cannot be considered a true bunk bed, since the space between the two beds is not sufficient to make it a true bunk bed, and the second bed is in any case at a considerably lower level than a normal bed.

[0008] Another drawback of the prior art is that even when the second bed meets the requirement of optimizing space, being arranged under the single bed, it does not always comply with maximum safety requirements, especially regarding its deployment.

[0009] An example of a sofa which can be converted into a bunk bed can be found in the publication "Product Licensing Index," no. 177 (pages 37-38).

[0010] The aim of the present invention is to obviate the drawbacks of the cited prior art, by providing a piece of furniture which can be easily converted from a sofa and/or single bed into a bunk bed.

[0011] An object of the present invention is to provide a piece of furniture which is equally comfortable as a sofa, as a single bed and as a bunk bed.

[0012] A further object of the present invention is to provide a piece of furniture in which the space below the sofa is used to store a true bed without any particular limitation regarding for example the thickness of the bed or mattress when stored and to its distance from the ground when pulled out, because the bed leaves its stor-

age space by rotation and arranges itself in a bunk bed-like arrangement above the other bed.

[0013] A further object of the present invention is to provide a piece of furniture which optimizes space by letting the second bed being arranged above the single bed.

[0014] A further object of the present invention is to provide a piece of furniture which, when used as a bunk bed, maintains between the two beds the space that is typical of bunk beds, without forcing the user to sit on the lower bed in uncomfortable crouching positions.

[0015] A further object of the present invention is to provide a piece of furniture which can be used and handled practically and without danger or effort for the users.

[0016] A further object of the present invention is to provide a piece of furniture at an economically advantageous cost.

[0017] This aim, these objects and others are achieved by a convertible piece of furniture which can be converted from a sofa and/or single bed into a bunk bed, as claimed in the appended claims.

[0018] Further characteristics and advantages of the invention will be more apparent by the following description of an embodiment of the invention, illustrated, by way of example in the enclosed drawings in which:

FIG. 1 is a schematic transverse sectional view of the piece of furniture, according to the invention, shown in the closed position;

FIG. 2 is a schematic transverse sectional view of the piece of furniture shown in the open position;

FIG. 3 is a front view of the piece of furniture shown in the bunk-bed position.

[0019] With reference to the above figures, the piece of furniture according to the invention comprises two half-frames 1 each constituted by a C-shaped member, made for example of quadrangular metal tube, which is frontally rigidly coupled to posts 8, constituted for example by a U-shaped metal profile.

[0020] Rods 2, preferably made of metal tube, are rigidly coupled to half-frames 1, for example by means of screws or other fasteners, and act as a support for the unit. Half-frames 1 are mutually connected by longitudinal members 3, 4 and 5, which are made for example of quadrangular metal tube, coupled by welding, and acting as braces.

[0021] Lugs 6, preferably made of metal plate, are provided on half-frames 1 in a rear region. A longitudinal member 7, preferably made of metal tube, is screwed between the lugs and acts as a support for the padding components of the back rest 54.

[0022] A second pair of half-frames 9, symmetrical and identical to half-frames 1, are arranged in a front region and are connected to the half-frames 1 by the

two hinges 10 which are rigidly coupled, for example by welding, to half-frames 1 and 9.

[0023] A bedspring 11 and longitudinal members 12 and 13 are rigidly coupled, for example by welding, to half-frames 9; the longitudinal members act as braces and support for the covering panel 14.

[0024] The bedspring 15 is arranged inside half-frames 1 and rests on the longitudinal members 3 and 5 and on the adjustable supports 16 rigidly coupled to the bedspring 11. Brackets 17 are rigidly coupled to the bedspring 15 in a rear region, for example by welding, and are articulated to the pair of pivots 18 rigidly coupled to half-frames 1. Advantageously, on its rear side, bedspring 15 has a mattress retention frame 19 made of shaped metal tube.

[0025] On the opposite side with respect to the covering panel 14, a foldaway ladder 60, constituted by a deformable-parallelogram, is articulated to the bedspring 11 which is rigidly coupled to half-frames 9 and is arranged below the bedspring 15 so that the supporting surface is directed downward.

[0026] As best shown in FIG. 3, the ladder 60 comprises a short post 20, a long post 21, three rungs 22, 23 and 24, a safety barrier 25 and a rod for the barrier 26. Rungs 22, 23 and 24 are articulated to the posts 20 and 21 about the pivots 27, 28, 29, 30, 31 and 32.

[0027] The barrier 25 is articulated to the post 21 about the pivot 33 and to the rod 26 about the pivot 34, while, at its other end, the rod 26 is articulated to the bedspring 11 about the pivot 35.

[0028] The posts 20 and 21 are pivoted about the pivots 36 and 37 which are rigidly coupled to the plates 38 and 39, which are welded to the bedspring 11.

[0029] The spring/damper unit 41 is articulated to the plate 39 about the pivot 40 and is articulated, at its other end, about the pivot 42 which is rigidly coupled to the post 21.

[0030] By slightly pushing the posts 20 and 21 of the ladder 60 as described, the ladder turns counterclockwise about the pivots 36 and 37, so that the system constituted by the ladder and the barrier and composed of deformable parallelograms arranges itself horizontally, supported by the spring/damper unit 41, varying its dimensions until it folds up completely and horizontally.

[0031] The post 21, which is coaxial to the rod 26, can reach the end of its stroke only after it has been forced manually to superimpose itself on the rod 26, through producing a spring effect which helps to keep the system in the horizontal position (in Figure 3 the folded position of the ladder 60 and of the barrier is shown in dashed lines).

[0032] A spring/damper unit 45 is articulated between one of the half-frames 1 and the bedspring 15, at the points 43 and 44, and facilitates the partial overturning of the bedspring 15 and of the corresponding mattress 46, required for subsequently pulling out, by rotation, the second bedspring 11 and the corresponding mattress 47.

[0033] The spring/damper unit 48 is articulated about the pivot 49, which is rigidly coupled to the lug 50 which is welded inside the U-shaped metal profiled member 8 and, at its other end, about the pivot 51, which is rigidly coupled to the lug 52 which is welded inside the U-shaped metal profiled member 53, so that in the closed position, since the pivot 51 is axially offset with respect to the articulation 49 and to the hinge 10, it keeps the pair of mutually hinged frames 1 and 9 in a stably closed position.

[0034] The spring/damper unit 48 is therefore arranged, during maximum compression, inside the pair of U-shaped profiled members 8 and 53, which conceal it from view when the piece of furniture is closed.

[0035] In order to convert the piece of furniture from a sofa position (in which the mattress 46 acts as seat, the mattress 47 is stored upside down under the preceding mattress and the padding of the back rest 54 is supported by the longitudinal member 7) into a single bed position, it is sufficient to remove the back rest padding 54, while the conversion into a bunk bed entails (see FIG. 2) partially turning over the bedspring 15 and the corresponding mattress 46, which are pushed and supported by the spring/damper unit 45, and then, by gripping the covering panel 14, pushing upward, so that the system composed of the pair of frames 9, the corresponding longitudinal members 12 and 13, the mattress 47, the ladder 60 and barrier assembly hinged to the pair of frames 11, by virtue of the pair of hinges 10, rotates through 180°, assisted and supported by the thrust of the spring/damper unit 48, arranging itself in the bunk-bed configuration (FIG. 2).

[0036] The padding components of the back rest 54 can be stored on the supporting surface 55. The bedspring 15 and the corresponding mattress 46 are repositioned horizontally and are supported by the longitudinal members 3 and 5, while the second bed becomes accessible after turning, through 90°, the ladder and the corresponding barrier, which are folded frontally and horizontally, by gripping for example the post 21 and turning it clockwise, with the assistance of the spring/damper unit 41, with a weight balancing function, until the ladder is unfolded vertically and the barrier is simultaneously lifted. This operation opens the chain of parallelograms that constitutes the ladder-barrier assembly.

[0037] In order to return to the original position, it is sufficient to perform the operations in reverse, after anchoring the mattress 47 to the bedspring 11 by virtue of adapted pair of straps 56, while in order to ease access to the upper bed it is sufficient to fold up the ladder to the horizontal position and turn downward the movable part of the furniture unit until the force of the spring/damper unit 48 balances the weight; this occurs approximately after a quarter turn. The mattress is thus inclined forward, facilitating bed-making.

[0038] It has been seen in practice how the above aims and objects have been achieved by a piece of fur-

nitire which is converted, by rotation, from a sofa and/or single bed to a bunk bed, according to the present invention, which includes: a pair of vertical metal frames which are rigidly coupled to a pair of horizontal rods with a supporting function and are mutually connected by four horizontal longitudinal members; a bedspring, which is hinged inside the frames and also acts as support for the seat; a second pair of vertical metal frames, which is symmetrical and arranged in a forward position with respect to the first one and is connected by two horizontal longitudinal members; a metal tube frame, which is rigidly coupled to the frame pair and acts as a bedspring for the second bed; a ladder, constituting a deformable parallelogram, having a related barrier and being articulated to the bedspring of the second bed. The frame pairs are mutually hinged in the front and upper region, so that after partially turning over the bedspring of the first bed, with the aid of the thrust of a spring/damper unit, and by turning through 180° the pair of front frames and the bedspring that is rigidly coupled thereto with the aid of another spring/damper unit, the bedspring and the corresponding mattress that were arranged upside down under the surface of the first bed are now arranged adequately above the surface and in the position for use as bunk bed, stably supported by the pair of underlying twin frames. The ladder and the corresponding barrier, following the rotation of the second bed, are folded horizontally in a front position. By virtue of the simple rotation of a post, the ladder, by turning on two pivots which are rigidly coupled to the bedspring, folds out and opens so as to be arranged in a vertical position to support the bedspring, while at the same time the barrier, which is articulated to the ladder, rises. Conversion to a bunk bed is thus obtained without effort and with a small number of simple and safe movements. By performing these operations in reverse, the piece of furniture can be arranged in the folded, or closed, position again, acting as a single bed which is a comfortable sofa, equipped with adapted cushions supported by one of the longitudinal members of the first bed. The cushions or pillows can be stored under the first bed when the furniture unit is used as a bunk bed.

[0039] The embodiment described above has been proposed merely by way of example and it is understood that it can be susceptible of numerous modifications or variations, within the scope of the appended claims. By performing small or more complex modifications, amendments and refinements, the piece of furniture according to the invention can also be applied to other fields.

[0040] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the scope of each element identified by way of example by such reference signs.

Claims

1. A convertible piece of furniture comprising a first frame (1) articulated to a second frame (9), said first frame (1) supporting a first bed member (15,46) and said second frame (9) supporting a second bed member (11,47), **characterised in that** said first and second frames define at least two positions: a folded position wherein said second bed member (11,47) is arranged horizontally under said first bed member (15,46) and said first bed member (15,46) functions as a sofa or a single bed; and an open position wherein said second frame (9) is arranged above said first frame (1) whereby said second bed member (11,47) is arranged over said first bed member (15,46) at a distance sufficient to make said first and second bed members function as a bunk bed.
2. The piece of furniture according to claim 1, further comprising a foldaway ladder (60), in said folded position of said piece of furniture, said ladder (60) being folded at one side of said second bed member (11,47).
3. The piece of furniture according to claim 1 or 2, wherein said first frame is constituted by a pair of half-frames (1) and said second frame is constituted by a pair of half-frames (9), said first bed member comprising a bedspring (15) hinged inside said half-frames (1), said second bed member comprising a second bedspring (11) arranged inside said second frame (9), said first frame (1) being symmetrically identical to said second frame (9), said ladder (60) being articulated to said second bed member (11), said frames (1,9) being mutually hinged in the front and upper region.
4. The piece of furniture according to one or more of the preceding claims, further comprising a covering panel (14) associated with said second bed member (11) and with longitudinal members (12) and (13) of said second frame (9).
5. The piece of furniture according to one or more of the preceding claims, **characterized in that** said first bedspring (15) is arranged inside said first frame (1) and rests on longitudinal members (3,5) and on adjustable supports (16); brackets (17) being rigidly associated with said first bedspring (15) in a rear region and being articulated to pivots (18) associated with said first frame (1), said first bedspring (15) having a mattress retention frame (19).
6. The piece of furniture according to one or more of the preceding claims, **characterized in that** said foldaway ladder (60) is articulated to said second bedspring (11), on the opposite side with respect to

said covering panel (14), said second bedspring (11) being arranged below said first bedspring (15) with the supporting surface facing down in said folded position of said piece of furniture.

7. The piece of furniture according to one or more of the preceding claims, wherein said ladder (60) comprises a short post (20), a long post (21), three rungs (22,23,24), a safety barrier (25) and a rod (26) for said barrier (25); said three rungs (22,23,24) being articulated to said posts (20,21) about pivots (27,28,29,30,31,32); said barrier (25) being articulated to one of said post (21) about a further pivot (33) and to said rod (26) about a pivot (34), said rod (26) being articulated, at the other end, to said second bedspring (11) about a pivot (35); said posts (20,21) being further articulated about pivots (36,37) which are rigidly coupled to plates (38,39) associated with said second bedspring (11); a spring/damper unit (41) being articulated about a pivot (40) to said plate (39) and being articulated about a pivot (42) associated with said post (21), at its other end; said ladder (60) being adapted to rotate about pivots (36, 37), upon a pushing action on said posts (20, 21), so that the ladder-barrier assembly is arranged horizontally and supported by said spring/damper unit (41) until said ladder folds up completely and horizontally; said post (21), which is coaxial to said rod (26), being adapted to reach its stroke limit only after it has been forced manually to superimpose on said rod (26), thus generating a spring effect which helps to keep the system in the horizontal position.
8. The piece of furniture according to one or more of the preceding claims, wherein said spring/damper unit (45) is articulated between one half-frame of said half-frames of said first frame (1) and said first bedspring (15) and facilitates the partial overturning of said first bedspring (15) and of an associated mattress (46), which is required for the subsequent extraction, by rotation, of said second bedspring (11) and of its associated mattress (47).
9. The piece of furniture according to one or more of the preceding claims, wherein said spring/damper unit (48) is articulated about a pivot (49) which is associated with a lug (50), said lug (50) being arranged inside a U-shaped metal profiled member (8) at one end and, at its other end, about a pivot (51), which is associated with a second lug (52), said second lug (52) being arranged inside a second U-shaped metal profiled member (53), so that in said folded position, since the articulation (51) is axially offset with respect to the articulation (49) and to the hinge (10), it keeps the pair of mutually hinged frames (1,9) in a stably closed position.

10. The piece of furniture according to one or more of the preceding claims, wherein said spring/damper unit (48) is arranged, during maximum compression, inside said U-shaped profiled members (8, 53), which conceal it from view when said piece of furniture is in said folded position.

11. The piece of furniture according to one or more of the preceding claims, wherein in said folded position said mattress (46) of said first bed member acts as seat, and said mattress (47) of said second bed member is stored upside down under said first bed member; a back rest (54) being supported by a longitudinal member (7).

12. The piece of furniture according to one or more of the preceding claims, wherein said ladder (60) can be folded also when said piece of furniture is in said open position in order to facilitate bed-making of said second bed member (11,47); said ladder being folded up into a horizontal position.

Patentansprüche

1. Verwandelbares Möbelstück aufweisend einen ersten Rahmen (1) zusammenhängend mit einem zweiten Rahmen (9), wobei besagter erster Rahmen eine erste Liegefläche (15, 46) und besagter zweiter Rahmen (9) eine zweite Liegefläche (11, 47) stützen, charakterisiert dadurch, daß der erste und zweite Rahmen in wenigstens zwei Positionen festlegbar sind: Eine gefaltene Position, worin die zweite Liegefläche (11, 47) horizontal unter der ersten Liegefläche (15, 46) angeordnet ist und die erste Liegefläche (15, 46) als Sofa oder Einzelbett fungieren; und eine offene Position, worin besagter zweiter Rahmen (9) über dem ersten Rahmen (1) angeordnet ist wobei die zweite Liegefläche (11, 47) über der ersten Liegefläche (15, 46) in einem hinreichenden Abstand angeordnet ist um der ersten und zweiten Liegefläche die Funktion eines Kojenbetts zu geben.
2. Möbelstück gemäß Anspruch 1, weiterhin aufweisend eine zusammenklappbare Leiter (60), wobei die Leiter (60) in der gefalteten Position des Möbelstücks an einer Seite der zweiten Liegefläche (11, 47) gefalten wird.
3. Möbelstück gemäß Anspruch 1 oder 2, wobei der erste Rahmen aus einem Paar von Halbrähmen (1) konstruiert ist und der zweite Rahmen aus einem Paar von Halbrähmen konstruiert ist (9), wobei die erste Liegefläche Bettfedern (15) aufweist welche innerhalb des Halbrahmens (1) aufgehängt sind, die zweite Liegefläche eine zweite Bettfeder (11) aufweist welche innerhalb des zweiten Rahmens

(9) aufgehängt ist, der erste Rahmen (1) symmetrisch identisch zum zweiten Rahmen (9) ist, die Leiter (60) an der zweiten Liegefläche (11) angehängt ist und die Rahmen (1, 9) beweglich in der vorderen und oberen Region eingehängt sind.

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4. Möbelstück gemäß einem oder mehreren der vorhergehenden Ansprüche, weiterhin aufweisend eine Abdeckplatte verbunden mit der zweiten Liegefläche (11) und mit longitudinalen Streben (12) und (13) des zweiten Rahmens (9). 10
5. Möbelstück gemäß einem oder mehreren der vorangegangenen Ansprüche, dadurch charakterisiert, daß die erste Bettfeder (15) innerhalb des ersten Rahmens (1) angebracht ist und auf longitudinalen Streben (3, 5) und auf verstellbaren Stützen (16) aufliegt; die Klammern (17) mit der ersten Bettfeder (15) in der hinteren Region und mit Drehzapfen die am ersten Rahmen (1) befestigt sind fest verbunden ist; die erste Bettfeder (15) einen Matratzenrückhalterahmen (19) hat. 15
6. Möbelstück gemäß einem oder mehreren der vorhergehenden Ansprüche, dadurch charakterisiert, daß die faltbare Leiter (60) mit der zweiten Bettfeder (11) auf der bezüglich der Abdeckplatte (14) gegenüberliegenden Seite verbunden ist; die zweite Bettfeder (11) in der Faltposition des Möbelstücks mit der Oberfläche nach unten unterhalb der ersten Bettfeder (15) angeordnet ist. 20
7. Möbelstück gemäß einem oder mehreren der vorhergehenden Ansprüche, wobei die Leiter (60) einen kurzen Pfosten (20), einen langen Pfosten (21), drei Sprossen (22, 23, 24), eine Sicherheitsbarriere (25) und einen Stab (26) für die Barriere (25) aufweist; die drei Sprossen (22, 23, 24) mit den Pfosten (20, 21) über Lagerzapfen (27, 28, 29, 30, 31, 32) verbunden sind; die Absperrung (25) mit Pfosten (21) über einen weiteren Lagerzapfen (33), und mit dem Stab (26) über einen Lagerzapfen (34) verbunden ist, der Stab (26) am anderen Ende mit der zweiten Bettfeder (11) über einen Lagerzapfen (35) verbunden ist; die Pfosten (20, 21) weiterhin über Lagerzapfen (36, 37) befestigt sind, welche fest mit Platten (38, 39), die mit der zweiten Bettfeder (11) verbunden sind, verbunden sind; eine Feder/Dämpfereinheit (41) über einen Lagerzapfen (40) mit der Platte (39) und einen Lagerzapfen (42), der am anderen Ende des Pfostens (21) befestigt ist, verbunden ist; die Leiter (60) so angebracht ist, daß sie durch Druck gegen die Pfosten (20, 21) um die Lagerzapfen (36, 37) rotieren kann, so daß die Leiter-Absperrungseinheit horizontal anliegt und unterstützt wird von der Feder/Dämpfereinheit (41) bis die Leiter komplett horizontal zusammengefallen ist; der Pfosten (21), welcher coaxial zu dem Stab 25

(26) ist, so angebracht ist, daß er seine Hubbegrenzung nur erreicht nachdem er manuell dazu gezwungen wurde den Stab (26) zu überlagern, dies generiert ein Federeffekt der dabei behilflich ist das System in der horizontalen Position zu halten.

8. Möbelstück gemäß einem oder mehreren der vorhergehenden Ansprüche, wobei die Feder/Dämpfereinheit (45) zwischen einem Halbrahmen des ersten Rahmens (1) und der ersten Bettfeder (15) eingehangen ist und das Teilumklappen der ersten Bettfeder (15) und einer damit verbundenen Matratze (46) erleichtert, was für das nachfolgende Ausziehen der zweiten Bettfeder (11) und der damit verbundenen Matratze (47) durch Rotation notwendig ist.
9. Möbelstück gemäß einem oder mehreren der vorhergehenden Ansprüche, wobei die Feder/Dämpfereinheit (48) an einen Lagerzapfen (49) angehängt ist, welcher mit einer Haltevorrichtung (50) verbunden ist, die Haltevorrichtung (50) an einem Ende innerhalb eines U-förmigen Metallprofils (8) und am anderen Ende über einen Lagerzapfen (51), welcher mit einer zweiten Haltevorrichtung (52) verbunden ist, angebracht ist, die zweite Haltevorrichtung (52) innerhalb eines zweiten U-Profils (53) angebracht ist, so daß in der gefalteten Position, wenn die Gelenkverbindung (51) axial zu der Gelenkverbindung (49) und zum Angelpunkt (10) verschoben ist, es das Paar der veränderbar aufgehängenen Rahmen (1, 9) in einer stabil geschlossenen Position hält.
10. Möbelstück gemäß einem oder mehreren der vorhergehenden Ansprüche, wobei die Feder/Dämpfereinheit (48) bei maximaler Kompression innerhalb der U-förmigen Befestigungen (8, 53), welche sie in der gefalteten Position des Möbelstücks verdecken, befestigt ist.
11. Möbelstück gemäß einem oder mehreren der vorhergehenden Ansprüche, wobei in der gefalteten Position die Matratze (46) der ersten Betteinheit als Sitz fungiert, und die Matratze (47) der zweiten Betteinheit mit der Oberfläche nach unten unter der ersten Betteinheit gelagert wird; eine Rückenlehne (54) unterstützt wird durch eine longitudinale Strebe (7).
12. Möbelstück gemäß einem oder mehreren der vorhergehenden Ansprüche, wobei die Leiter (60) ebenfalls gefalten werden kann wenn das Möbelstück in der offenen Position ist, um das Bettenmachen der zweiten Betteinheit (11, 47) zu erleichtern; die Leiter in horizontaler Position zusammengefallen wird.

Revendications

1. Meuble convertible comprenant un premier cadre (1) articulé sur un second cadre (9), ledit premier cadre (1) portant un premier élément de lit (15, 46) et ledit second cadre (9) portant un second élément de lit (11, 47), **caractérisé en ce que** lesdits premier et second cadres définissent au moins deux positions : une position repliée dans laquelle ledit second élément de lit (11, 47) est disposé horizontalement sous ledit premier élément de lit (15, 46) et ledit premier élément de lit (15, 46) fonctionne comme un sofa ou un lit à une place, et une position ouverte dans laquelle ledit second cadre (9) est disposé au-dessus dudit premier cadre (1), ledit second élément de lit (11, 47) étant ainsi disposé au-dessus dudit premier élément de lit (15, 46) à une distance suffisante pour faire fonctionner lesdits premier et second éléments de lit comme un lit superposé.
2. Meuble selon la revendication 1, comprenant, en outre, une échelle escamotable (60) dans ladite position repliée dudit meuble, ladite échelle (60) étant repliée d'un côté dudit second élément de lit (11, 47).
3. Meuble selon la revendication 1 ou 2, dans lequel ledit premier cadre est constitué d'une paire de demi-cadres (1) et ledit second cadre est constitué d'une paire de demi-cadres (9), ledit premier élément de lit comprenant un sommier (15) articulé à l'intérieur desdits demi-cadres (1), ledit second élément de lit comprenant un second sommier (11) disposé à l'intérieur dudit second cadre (9), ledit premier cadre (1) étant symétriquement identique audit second cadre (9), ladite échelle (60) étant articulée sur ledit second élément de lit (11), lesdits cadres (1, 9) étant mutuellement articulés dans la région frontale et supérieure.
4. Meuble selon une ou plusieurs des revendications précédentes, comprenant, en outre, un panneau de recouvrement (14) associé audit second élément de lit (11) et à des éléments longitudinaux (12) et (13) dudit second cadre (9).
5. Meuble selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ledit premier sommier (15) est disposé à l'intérieur dudit premier cadre (1) et repose sur des éléments longitudinaux (3, 5) et sur des supports ajustables (16); des pattes d'attache (17) étant associées rigidement audit premier sommier (15) dans une région arrière et étant articulées à des pivots (18) associés audit premier cadre (1), ledit premier sommier (15) ayant un cadre de maintien de matelas (19).
6. Meuble selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** ladite échelle escamotable (60) est articulée sur ledit second sommier (11), du côté opposé audit panneau de recouvrement (14), ledit second sommier (11) étant disposé sous ledit premier sommier (15), la surface de support faisant face vers le bas dans ladite position repliée dudit meuble.
7. Meuble selon une ou plusieurs des revendications précédentes, dans lequel ladite échelle (60) comprend un montant court (20), un montant long (21), trois barreaux (22, 23, 24), une barrière de sécurité (25) et une barre (26) pour ladite barrière (25); lesdits trois barreaux (22, 23, 24) étant articulés sur lesdits montants (20, 21) autour de pivots (27, 28, 29, 30, 31, 32), ladite barrière (25) étant articulée sur l'un desdits montants (21) autour d'un autre pivot (33) et à ladite barre (26) autour d'un pivot (34), ladite barre (26) étant articulée, à l'autre extrémité, audit second sommier (11) autour d'un pivot (35); lesdits montants (20, 21) étant également articulés autour de pivots (36, 37) qui sont couplés rigidement à des plaques (38, 39) associées audit second sommier (11); une unité ressort/amortisseur (41) étant articulée à ladite plaque (39) autour d'un pivot (40) et étant articulée autour d'un pivot (42) associé audit montant (21) à son autre extrémité; ladite échelle (60) étant adaptée pour tourner autour de pivots (36, 37) lorsqu'une action de poussée est exercée sur lesdits montants (20, 21), de sorte que l'ensemble échelle/barrière est disposé horizontalement et porté par ladite unité ressort/amortisseur (41) jusqu'à ce que ladite échelle soit complètement repliée horizontalement; ledit montant (21), qui est coaxial par rapport à ladite barre (26), étant adapté pour atteindre sa fin de course seulement après avoir été forcé manuellement à se superposer à ladite barre (26), ce qui génère ainsi un effet de ressort qui aide à maintenir le système dans la position horizontale.
8. Meuble selon une ou plusieurs des revendications précédentes, dans lequel ladite unité ressort/amortisseur (45) est articulée entre un demi-cadre desdits demi-cadres dudit premier cadre (1) et ledit premier sommier (15) et facilite le retournement partiel dudit premier sommier (15) et d'un matelas associé (46), qui est nécessaire pour l'extraction ultérieure, par rotation dudit, second sommier (11) et de son matelas associé (47).
9. Meuble selon une ou plusieurs des revendications précédentes, dans lequel ladite unité ressort/amortisseur (48) est articulée autour d'un pivot (49) qui est associé à une oreille (50), ladite oreille (50) étant disposée à l'intérieur d'un élément métallique profilé en forme de U (8) à une extrémité, à son autre

extrémité autour d'un pivot (51) qui est associé à une seconde oreille (52), ladite seconde oreille (52) étant disposée à l'intérieur d'un second élément métallique profilé en forme de U (53), de sorte que, dans ladite position repliée, étant donné que l'articulation (51) est décalée axialement par rapport à l'articulation (49) et à la charnière (10), elle maintient la paire de cadres mutuellement articulés (1, 9) dans une position fermée stable.

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10. Meuble selon une ou plusieurs des revendications précédentes, dans lequel ladite unité ressort/amortisseur (48) est disposée, pendant la compression maximale, à l'intérieur desdits éléments métalliques profilés en forme de U (8, 53) qui la camouflent lorsque ledit meuble se trouve dans ladite position repliée.

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11. Meuble selon une ou plusieurs des revendications précédentes, dans lequel, dans ladite position repliée, ledit matelas (46) dudit premier élément de lit sert de siège et ledit matelas (47) dudit second élément de lit est stocké à l'envers sous ledit premier élément de lit; un dossier (54) étant soutenu par un élément longitudinal (7).

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12. Meuble selon une ou plusieurs des revendications précédentes, dans lequel ladite échelle (60) peut être également repliée lorsque ledit meuble se trouve dans ladite position ouverte afin de faciliter l'installation du lit dudit second élément de lit (11, 47); ladite échelle étant repliée dans une position horizontale.

30

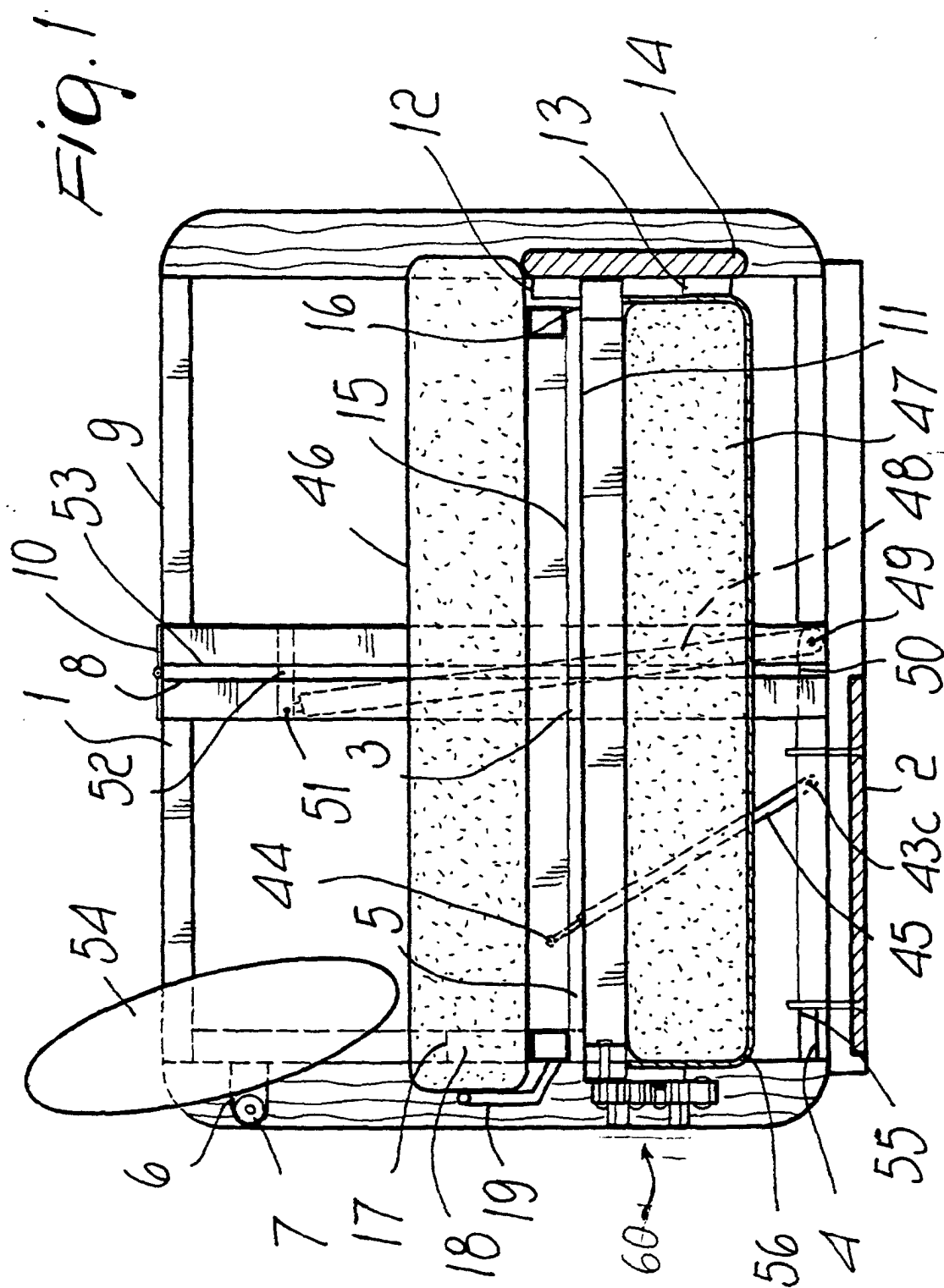
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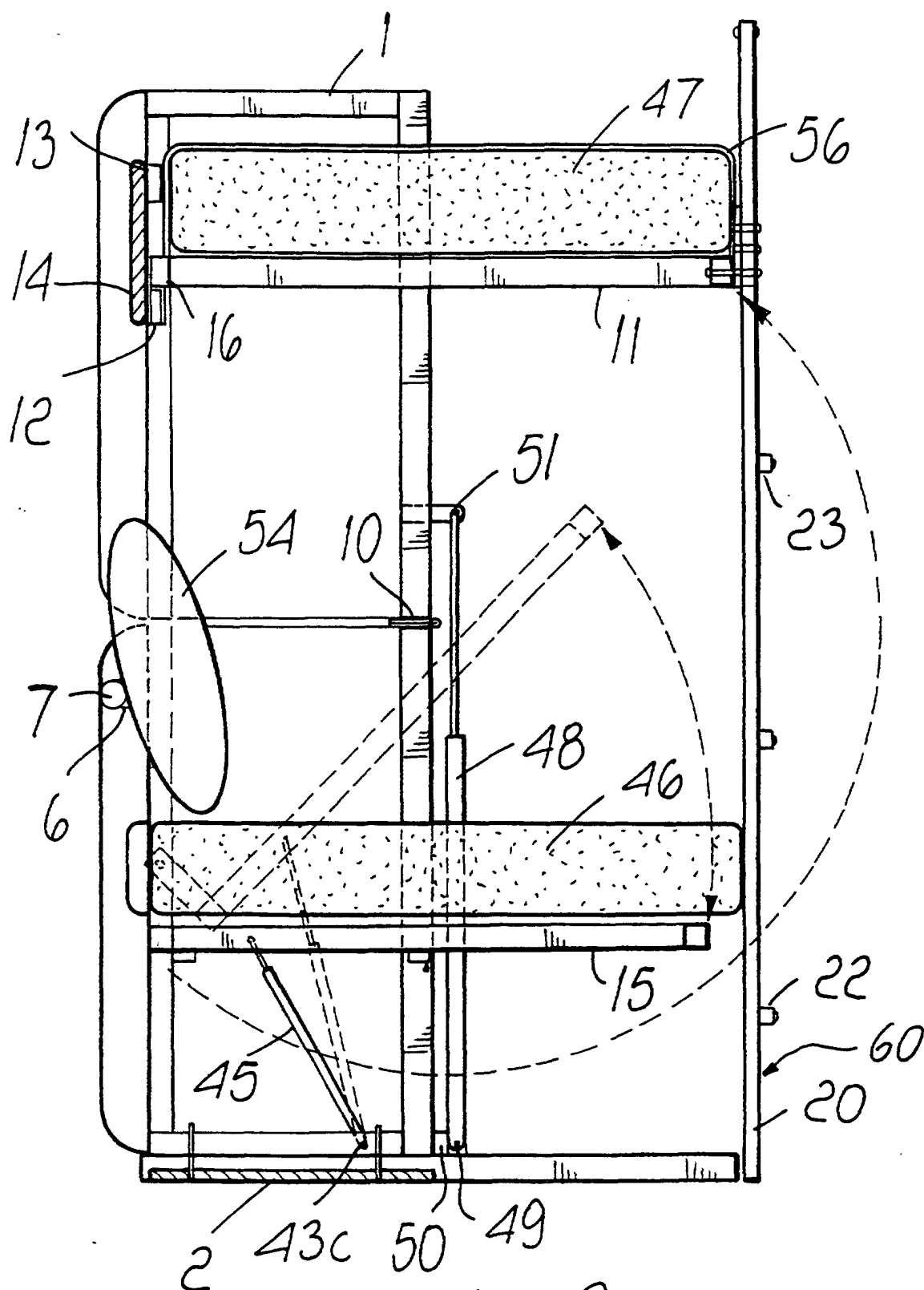


Fig. 2

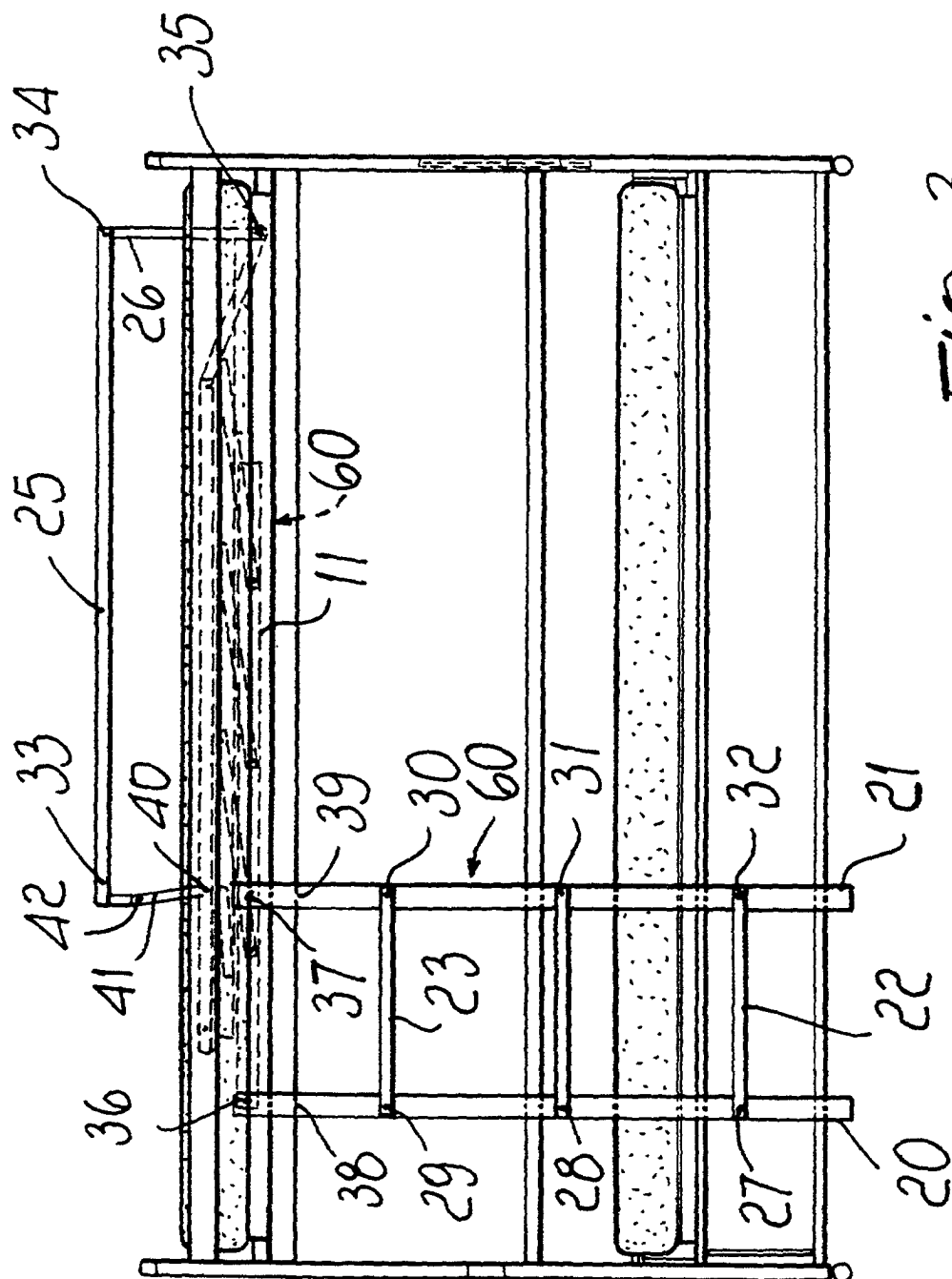


Fig. 3