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(54) **IRON FRAME SOFA WITH FOLDABLE HINGE STRUCTURE**

(57) The present application relates to the technology field of iron frame sofa, in particular to an iron frame sofa with a foldable hinge structure. The iron frame sofa includes a sofa mainframe with connecting square tubes mounted at four inner corners of the sofa mainframe. Supporting legs are mounted at bottom of the connecting square tubes. A grille supporting frame is mounted on top of the sofa mainframe. A first assembling pipe seat is mounted on both sides of a back of an inner wall of the sofa mainframe. A first assembling pipe is sleeved with the first assembling pipe seat at top end of the first assembling pipe seat. A second assembling pipe seat is

mounted on both of a front and a rear side of a right side of the inner wall of the sofa mainframe. A second assembling pipe is sleeved with the second assembling pipe seat at top end of the second assembling pipe seat. Folding hinges are mounted at both ends of the top of the second and first assembling pipes. The overall structure of the iron frame sofa is simple, and it is convenient to minimize packaging volume by folding the armrest and backrest frame by hinges, which can save space and reduce transportation costs and save packaging materials and have high stability and practicality, having certain promotion value

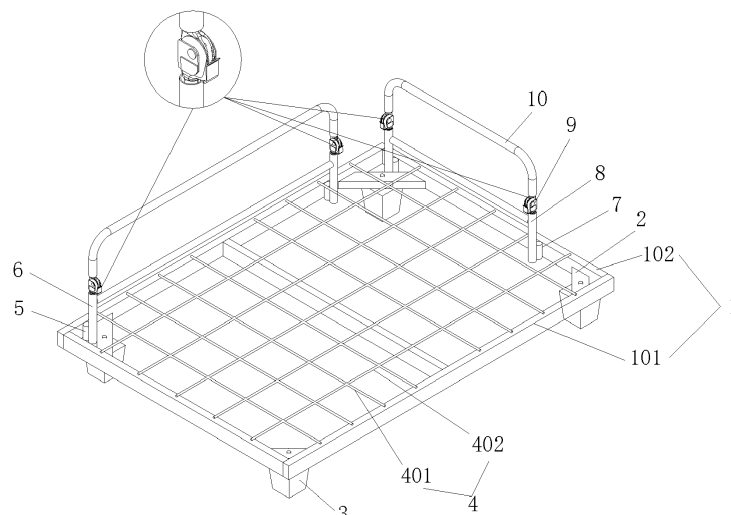


FIG. 1

Description

TECHNICAL FIELD

[0001] The present application relates to the technology field of iron frame sofa, in particular to an iron frame sofa with a foldable hinge structure.

DESCRIPTION OF THE PRIOR ART

[0002] Nowadays, there are many types of sofas on the market, most of which use scarce forest resources that cannot be regenerated, or use glue that is harmful to the human to bond wood to make the skeleton of the sofa. In disassembly and assembly combination, inconvenient disassembly and assembly methods using screws, etc are also used, most of which do not use compressed packaging, resulting in expensive transportation costs, waste of packaging materials, and serious pollution.

[0003] Therefore, an iron frame sofa with a foldable hinge structure is needed to improve the above problems.

SUMMARY OF THE DISCLOSURE

[0004] The object of the present application is to provide an iron frame sofa with a foldable hinge structure to solve the problems raised in the above prior art.

[0005] In order to achieve the above purpose, the application provides the following technical solutions.

[0006] An iron frame sofa with a foldable hinge structure, including a sofa mainframe, wherein a connecting square tubes is mounted at each of four inner corners of the sofa mainframe, a supporting leg is mounted at a bottom of each the connecting square tube, a grille supporting frame is mounted at a top of the sofa mainframe, a first assembling pipe seat is mounted at each of two sides of a back of an inner wall of the sofa mainframe, a first assembling pipe is sleeved with the first assembling pipe seat at top end of the first assembling pipe seat, a second assembling pipe seat is mounted at each of a front and a rear side of a right side of the inner wall of the sofa mainframe, a second assembling pipe is sleeved with each the second assembling pipe seat at top end of the second assembling pipe seat, a foldable hinge is mounted at each of two top ends of the second assembling pipe and the first assembling pipe, and a foldable top bar is mounted on top of the foldable hinge.

[0007] Preferably, the sofa mainframe includes two first square tubes and a plurality of second square tubes, wherein the plurality of second square tubes are each fixed between the corresponding ends and the centers of the two first square tubes.

[0008] Preferably, numbers of the connecting square tubes and the supporting legs are both four.

[0009] Preferably, the grille supporting frame is composed of a plurality of first bar members and a plurality of second bar members disposed criss-cross at equal intervals.

[0010] Preferably, a number of the foldable hinge is four, and one foldable top bar is mounted between the tops of two adjacent foldable hinges, and a foldable angle of the foldable hinge is 0-90°.

[0011] Compared with the prior art, the beneficial effects of the present application are:

1. In the present application, the first assembling pipe and the second assembling pipe are folded by means of the foldable hinges to achieve the overall optimal minimum product volume, which facilitates the transportation and packaging protection of the entire product, reduces transportation costs and packaging costs, and ultimately increases the interests of consumers. Furthermore, the pipe skeleton structure is used in the sofa mainframe and other components, which is characterized by light weight and small size, while reducing deforestation and realizing environmentally friendly manufacturing and production. And with sofa armrests and backrests using the hinge folding method of the sofa support frame are formed by the first assembling pipe and the second assembling pipe mating with the foldable top bar by foldable hinges, as well as the mainframe body as the seat, it is only necessary to tear the compression film and perform a reset manually. It can be restored to its original shape in a few seconds, the assembly is also simple and easy to operate. The structure is simple and easy to achieve the smallest packaging volume through folding armrests and backrests by means of foldable hinges, saving space, reducing transportation costs and saving the use of packaging materials.

BRIEF DESCRIPTION OF DRAWINGS

[0012]

FIG. 1 is a schematic diagram I of the overall structure of the present disclosure;

FIG. 2 is a schematic diagram II of the overall structure of the present disclosure.

[0013] Reference numerals: 1. Sofa mainframe; 101. First square tube; 102. Second square tube; 2. Connecting square tube; 3. Supporting leg; 4. Grille supporting frame; 401. First bar member; 402. Second bar member; 5. First assembling pipe seat; 6. First assembling pipe; 7. Second assembling pipe seat; 8. Second assembling pipe; 9. Foldable hinge; 10. Foldable top bar.

DESCRIPTION OF EMBODIMENTS

[0014] The technical solution in the embodiment of the present disclosure will be clearly and completely described in conjunction with the embodiment of the present disclosure. Obviously, the described embodiments are only a part of the embodiments of the present disclosure,

but not all embodiments. Based on the embodiments in the present disclosure, all other embodiments obtained by ordinary people skilled in the art without making creative labor, fall within the scope of the protection of the present disclosure.

[0015] In order to facilitate the understanding of the present disclosure, the present disclosure will be described more comprehensively with reference to the relevant drawings below. Some of embodiments of the present disclosure are given.

[0016] However, the present disclosure may be implemented in many different forms, and is not limited to the embodiments described herein. On the contrary, the purpose of providing these embodiments is to make the contents disclosed by the present disclosure more thorough and comprehensive.

[0017] It should be noted that when a component is said to be "fixed" to another component, it can be directly on top of another component or other components can exist in between. When a component is considered to be "connected" to another component, it can be directly connected to another component or other components can exist in between at the same time. The terms "vertical", "horizontal", "left", "right" and similar expressions used herein are for illustrative purposes only.

[0018] Unless otherwise defined, all technical and scientific terms used herein have the same meaning as those normally understood by those skilled in the technical art of the present disclosure. The terms used in the specification of the present disclosure herein are only for the purpose of describing specific embodiments, and are not intended to limit the present disclosure. As used herein, the terms "and/or" include any and all combinations of one or more related items listed.

[0019] Referring to FIGS. 1 and 2, the present disclosure provides a technical solution:

An iron frame sofa with a foldable hinge structure includes a sofa mainframe 1 with connecting square tubes 2 mounted at four inner corners of the sofa mainframe 1. Supporting legs 3 are mounted at bottom of the connecting square tubes 2. A grille supporting frame 4 is mounted on top of the sofa mainframe 1. First assembling pipe seats 5 are mounted on both sides of the back of the inner wall of the sofa mainframe 1, and first assembling pipes 6 are sleeved with the first assembling pipe seats 5 at the top ends of the first assembling pipe seats 5. Second assembling pipe seats 7 are mounted on the front and rear sides of the right side of the inner wall of the sofa mainframe 1, and second assembling pipes 8 are sleeved with the second assembling pipe seats 7 at the top ends of the second assembling pipe seats 7. Foldable hinges 9 are mounted at both ends of the top of the second assembling pipes 8 and the first assembling pipes 6. The overall structure of the iron frame sofa 1 is simple, and it is convenient to minimize packaging volume by folding the armrest and backrest frame by hinges, which can save space and reduce transportation costs and save packaging materials and have high stability and

practicality, having certain promotion value.

[0020] Please refer to FIGS. 1 and 2. According to an embodiment, the sofa mainframe 1 includes two first square tubes 101 and a plurality of second square tubes 102, wherein the plurality of second square tubes 102 are fixed separately between the corresponding ends and between the centers of the two first square tubes 101. The numbers of the connecting square tubes 2 and the supporting legs 3 are both four. The grille supporting frame 4 is composed of a plurality of first bar members 401 and a plurality of second bar members 402 disposed criss-cross at equal intervals. The number of the foldable hinges 9 is four, and one foldable top bar 10 is mounted between the tops of two adjacent foldable hinges 9, and the foldable angle of each foldable hinge 9 is 0-90°.

[0021] Working principle: when being used, the first assembling pipe and the second assembling pipe are folded by means of the foldable hinges to achieve the overall optimal minimum product volume, which facilitates the transportation and packaging protection of the entire product, reduces transportation costs and packaging costs, and ultimately increases the interests of consumers. Furthermore, the pipe skeleton structure is used in the sofa mainframe and other components, which is characterized by light weight and small size, while reducing deforestation and realizing environmentally friendly manufacturing and production. And with sofa armrests and backrests using the hinge folding method of the sofa support frame are formed by the first assembling pipe and the second assembling pipe mating with the foldable top bar by foldable hinges, as well as the mainframe body as the seat, it is only necessary to tear the compression film and perform a reset manually. It can be restored to its original shape in a few seconds, the assembly is also simple and easy to operate. The overall structure is simple and easy to achieve the smallest packaging volume through folding armrests and backrests by means of foldable hinges, which can save space and reduce transportation costs and save packaging materials and have high stability and practicality, having certain promotion value.

[0022] Although embodiments of the present disclosure have been shown and described, for those of ordinary skill in the art, it is understood that without departing from the principles and spirit of the present disclosure, a variety of changes, modifications, substitutions and variants may be made to these embodiments, and the scope of the present disclosure is defined by the appended claims and equivalents.

Claims

1. An iron frame sofa with a foldable hinge structure, including a sofa mainframe (1), wherein connecting square tubes (2) are mounted at four inner corners of the sofa mainframe (1), supporting legs (3) are mounted at bottom of the connecting square tubes (2), a grille supporting frame (4) is mounted on top

of the sofa mainframe (1), a first assembling pipe seat (5) is mounted on both sides of a back of an inner wall of the sofa mainframe (1), a first assembling pipe (6) is sleeved with the first assembling pipe seat (5) at top end of the first assembling pipe seat (5), a second assembling pipe seat (7) is mounted on both of a front and a rear side of a right side of the inner wall of the sofa mainframe (1), a second assembling pipe (8) is sleeved with the second assembling pipe seat (7) at top end of the second assembling pipe seat (7), foldable hinges (9) are mounted at both ends of the top of the second assembling pipe (8) and the first assembling pipe (6), and a foldable top bar (10) is mounted on top of the foldable hinge (9).

2. The iron frame sofa with a foldable hinge structure according to claim 1, wherein the sofa mainframe (1) includes two first square tubes (101) and a plurality of second square tubes (102), wherein the plurality of second square tubes (102) are fixed separately between the corresponding ends and the centers of the two first square tubes (101).
3. The iron frame sofa of a foldable hinge structure according to claim 1, wherein numbers of the connecting square tubes (2) and the supporting legs (3) are both four.
4. The iron frame sofa with a foldable hinge structure according to claim 1, wherein the grille supporting frame (4) is composed of a plurality of first bar members (401) and a plurality of second bar members (402) disposed criss-cross at equal intervals.
5. The iron frame sofa with a foldable hinge structure according to claim 1, wherein the number of the foldable hinges (9) is four, and one foldable top bar (10) is mounted between the tops of two adjacent foldable hinges (9), and a foldable angle of each foldable hinge (9) is 0-90°.

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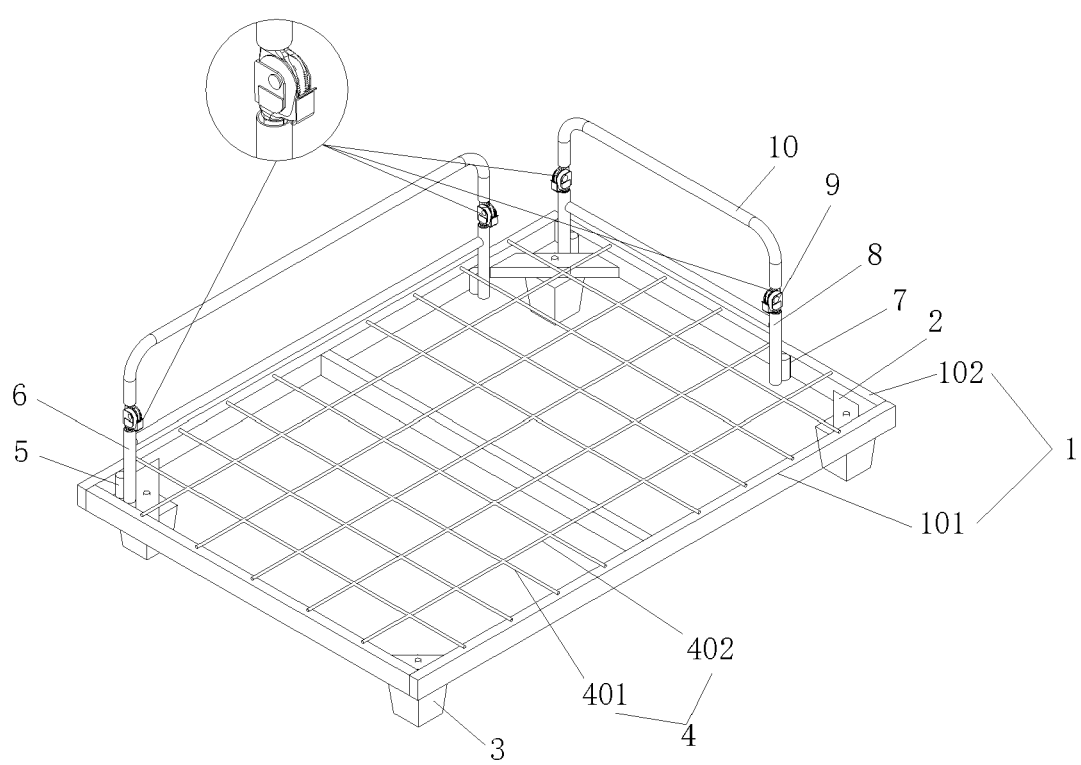


FIG. 1

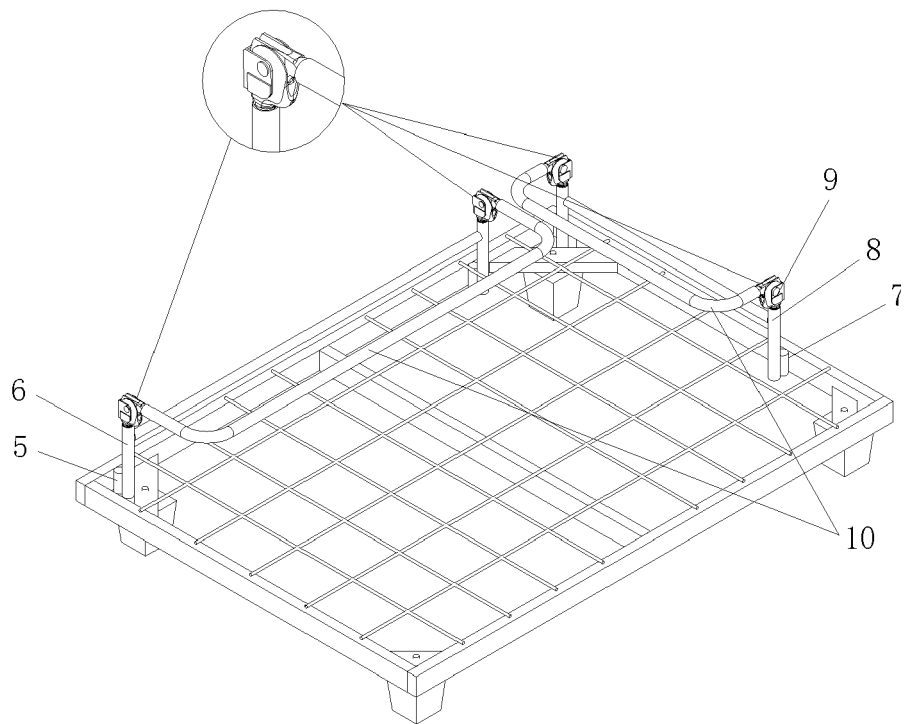


FIG. 2



EUROPEAN SEARCH REPORT

Application Number

EP 23 16 3483

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EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	JP H05 199925 A (CHUBU SOGYO KK) 10 August 1993 (1993-08-10) * paragraph [0012] - paragraph [0025]; figures 1-9 *	1-5	INV. A47C4/18 A47C7/40 A47C17/00
A	JP H09 215549 A (UCHIKOSHI TERUO) 19 August 1997 (1997-08-19) * paragraph [0008] - paragraph [0026]; figures 1-10 *	1-5	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47C
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 7 August 2023	Examiner Kus, Slawomir
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 23 16 3483

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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07-08-2023

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