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(54) **FOLDING TABLE MECHANISM, ESPECIALLY FROM THE SIDE UNIT OF A LOUNGE ARMCHAIR**

(57) The folding table mechanism, especially from the side unit of a lounge furniture item, includes an arrangement of arms permanently connected to the structure of the side of the support frame for upholstered lounge furniture by means of the base of the mechanism (1), in which the base arm (3) is connected to the base of the mechanism using a rotary ratchet mechanism (2) in the adjustment range of 0° horizontally and up to 95° vertically with an additional tilt of up to 5°, the second of the arms - the support arm (4) is provided with a formation that creates an additional usable area and is connected to the base arm (3) by means of a sliding, retractable support (5) in the form of a bracing, and the support arm (4) and the swivel arm of the base (6) connected to it are joined pivotally so that the mobility of this connection is 0-10° and allows the tilt degree of the folding working area (7) to be adjusted within this range.

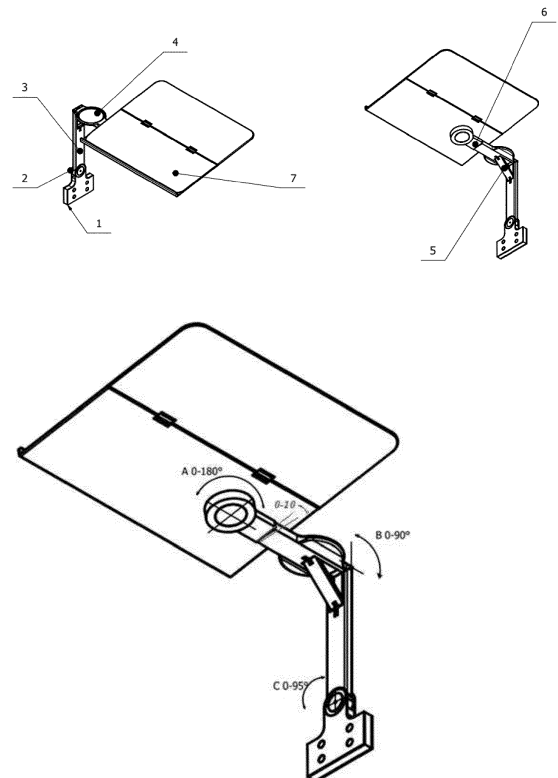


Fig. 1

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Description

[0001] The object of the invention is a folding table mechanism, especially from the side unit of a lounge armchair, which allows work with e.g. a laptop.

[0002] Portable electronic devices, including laptops, are used for both work and entertainment. Furniture items designed for working with laptops most often involve an office chair or armchair and a working top in the form of a table or desk. It is also possible to find furniture items which, due to space constraints, are intended to serve as both a seat and a desk or a working top. In these types of furniture items, the working top is retracted into the structure of the main furniture so that it does not take up space when not in use.

[0003] From the description of patent application JP2021078659A a kitchen cabinet is known with a top, which is mounted on pull-out guides.

[0004] The description of the invention JP2011255063 reveals a structure of lecture chairs, the backrest of which is provided with a folding top in its rear part. Folding tops enable the reduction of spacing between rows of chairs and the increase in the number of available seats for e.g. students.

[0005] Further, a chair according to the invention JP2009056257 is known, in which one of the legs is provided with a tubular socket in which a top support is swivel mounted. The top is equipped with an additional leg for stability.

[0006] The invention KR20030073027 discloses a chair in which the top is slidably fitted on a guide with a continuous hinge. Once the top is pulled out towards the front of the chair, it is possible to rotate it to its work position, where it locks using the end of the range of rotation allowed by the hinge.

[0007] Also JP2008200221 discloses an armchair provided with a top swivel-mounted in the armrest. The top is mounted on a swivel support and is moved above or beyond the seat.

[0008] In addition, a chair is known, disclosed in the invention JPH09248227, that includes a top, which is swivel mounted to the structural elements of the chair by means of a support. The top is additionally supported by a caster-equipped leg.

[0009] Known solutions allow the space necessary for setting up working tops and chairs e.g. in a lecture room to be minimized. Unfortunately, they require additional supports, e.g. additional legs, or they generate significant loads on the kinematic systems used, which result in their damage in the long term. In addition, these mechanisms are mounted to external structural elements, which has a significant impact on the aesthetics of the furniture. In the case of furniture for offices or lecture rooms, aesthetics is not a primary feature, giving way to durability and functionality. Therefore, the aim was to develop a mechanism for lounge furniture items, e.g. upholstered ones, which would ensure functionality and durability.

[0010] The folding table mechanism, especially from

the side unit of a lounge armchair, includes an arrangement of arms permanently connected to the structure of the side of the support frame for upholstered lounge furniture by means of the base of the mechanism (1) to which the base arm (3) is connected by means of a rotary ratchet mechanism (2) in the adjustment range of 0° horizontally and up to 95° vertically with an additional tilt of up to 5°, the second of the arms - the support arm (4) is provided with a formation that creates an additional usable area and is connected to the base arm (3) by means of a sliding, retractable support (5) in the form of a bracing. The support arm (4) and the swivel arm of the base (6) connected to it are jointed pivotally so that the mobility of this connection is 0-10° and allows the tilt degree of the folding working area (7) to be adjusted within this range. The swivel arm (6) has a built-in ratchet-spring mechanism, enabling the folded elements of the working top to be rotated by 180° (A), successively verticalizing the support arm (4) by 90° (B), the released ratchet mechanism (2) in the range of 0-95° (C) enables the table to be hidden in the side of the upholstered furniture structure.

[0011] Depending on the side of the armchair on which the mechanism according to the invention is mounted, a mirror symmetrical image of the mechanism is used with respect to a vertical plane passing along the base of the mechanism.

[0012] The folding table mechanism, especially from the side unit of a lounge armchair, is shown in the drawing, where Fig. 1 shows a view of the mechanism according to the invention, Fig. 2 shows the mechanism in various positions during use, Fig. 3 shows the mechanism mounted in a furniture item presented as an example.

[0013] The folding table mechanism, especially from the side unit of a lounge armchair, includes an arrangement of arms permanently connected to the structure of the side of the support frame for upholstered lounge furniture by means of the base of the mechanism (1) to which the base arm (3) is connected by means of a rotary ratchet mechanism (2) in the adjustment range of 0° horizontally and up to 95° vertically with an additional tilt of up to 5°, the second of the arms - the support arm (4) is provided with a formation that creates an additional usable area and is connected to the base arm (3) by means of a sliding, retractable support (5) in the form of a bracing. The support arm (4) and the swivel arm of the base (6) connected to it are jointed pivotally so that the mobility of this connection is 0-10° and allows the tilt degree of the folding working area (7) to be adjusted within this range. The swivel arm (6) has a built-in ratchet-spring mechanism, enabling the folded elements of the working top to be rotated by 180° (A), successively verticalizing the support arm (4) by 90° (B), the released ratchet mechanism (2) in the range of 0-95° (C) enables the table to be hidden in the side of the upholstered furniture structure.

Claims

1. The folding table mechanism, especially from the side unit of a lounge furniture item, includes an arrangement of arms permanently connected to the structure of the side of the support frame for upholstered lounge furniture by means of the base of the mechanism (1), **characterized in that** the base arm (3) is connected to the base of the mechanism using a rotary ratchet mechanism (2) in the adjustment range of 0° horizontally and up to 95° vertically with an additional tilt of up to 5°, the second of the arms - the support arm (4) is provided with a formation that creates an additional usable area and is connected to the base arm (3) by means of a sliding, retractable support (5) in the form of a bracing, and the support arm (4) and the swivel arm of the base (6) connected to it are joined pivotally so that the mobility of this connection is 0-10° and allows the tilt degree of the folding working area (7) to be adjusted within this range.
2. The mechanism according to claim 1, **characterized in that** depending on the side of the armchair on which the mechanism according to the invention is mounted, a mirror symmetrical image of the mechanism is used with respect to a vertical plane passing along the base of the mechanism.

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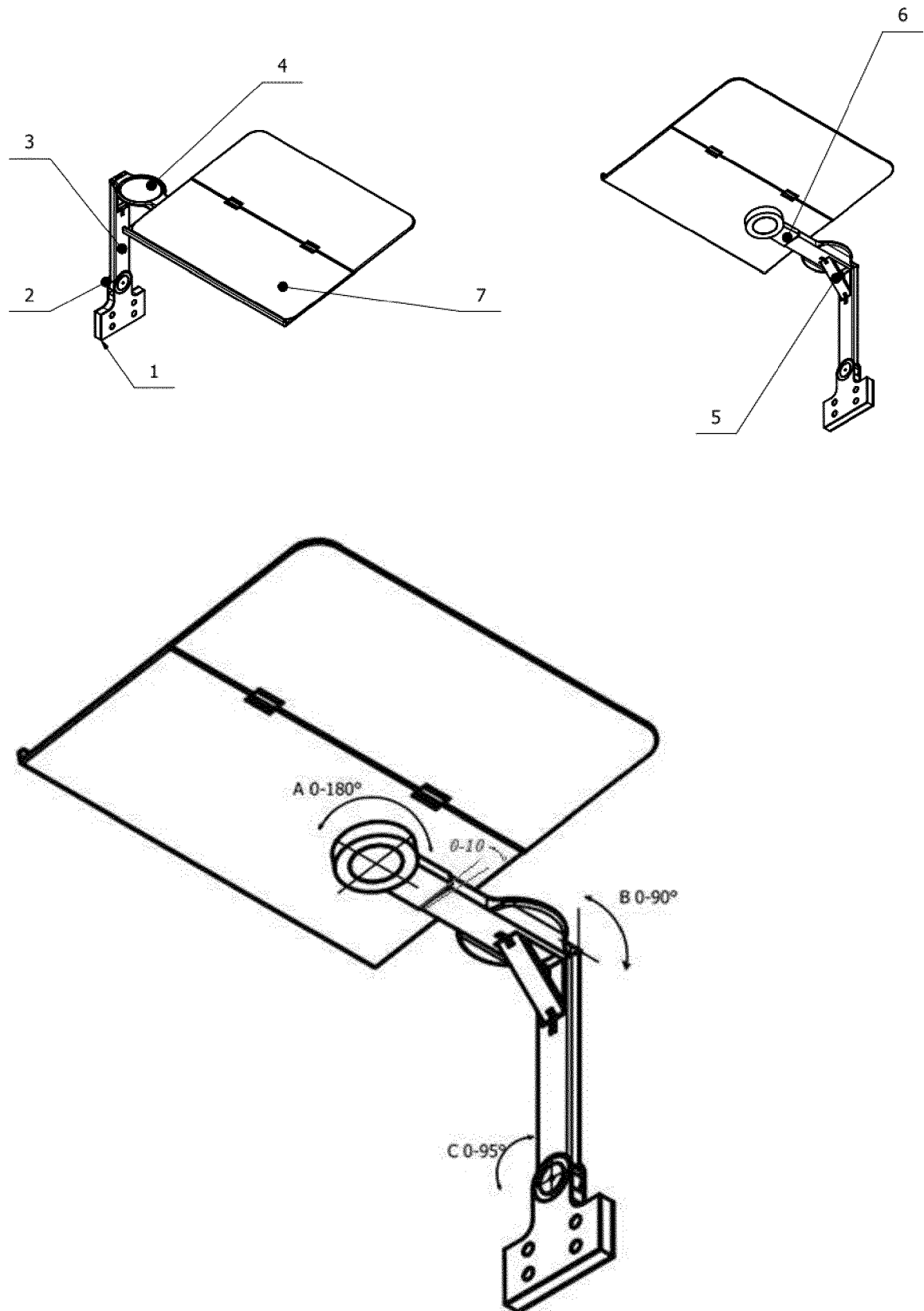
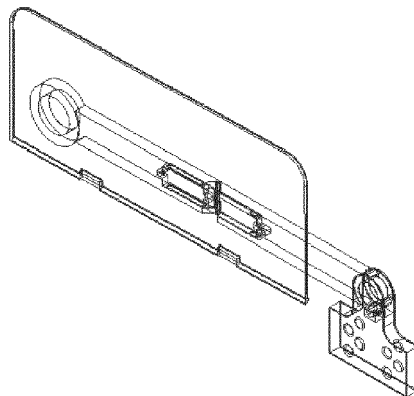
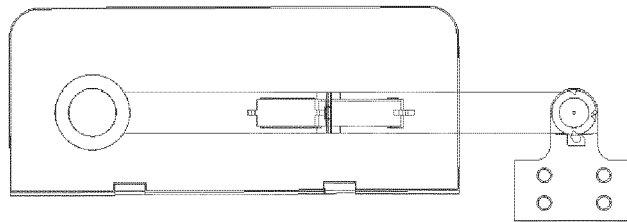
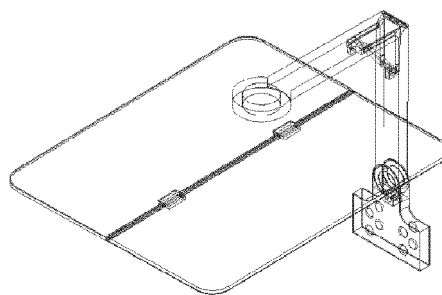
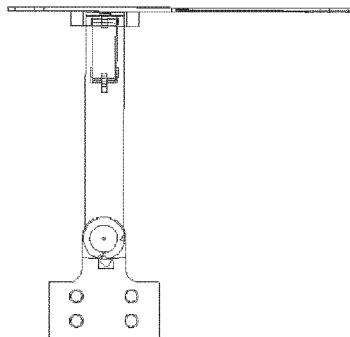
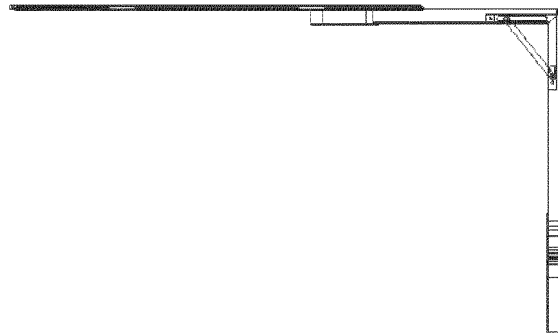


Fig. 1



folded system

Fig. 2



unfolded system

Fig. 2

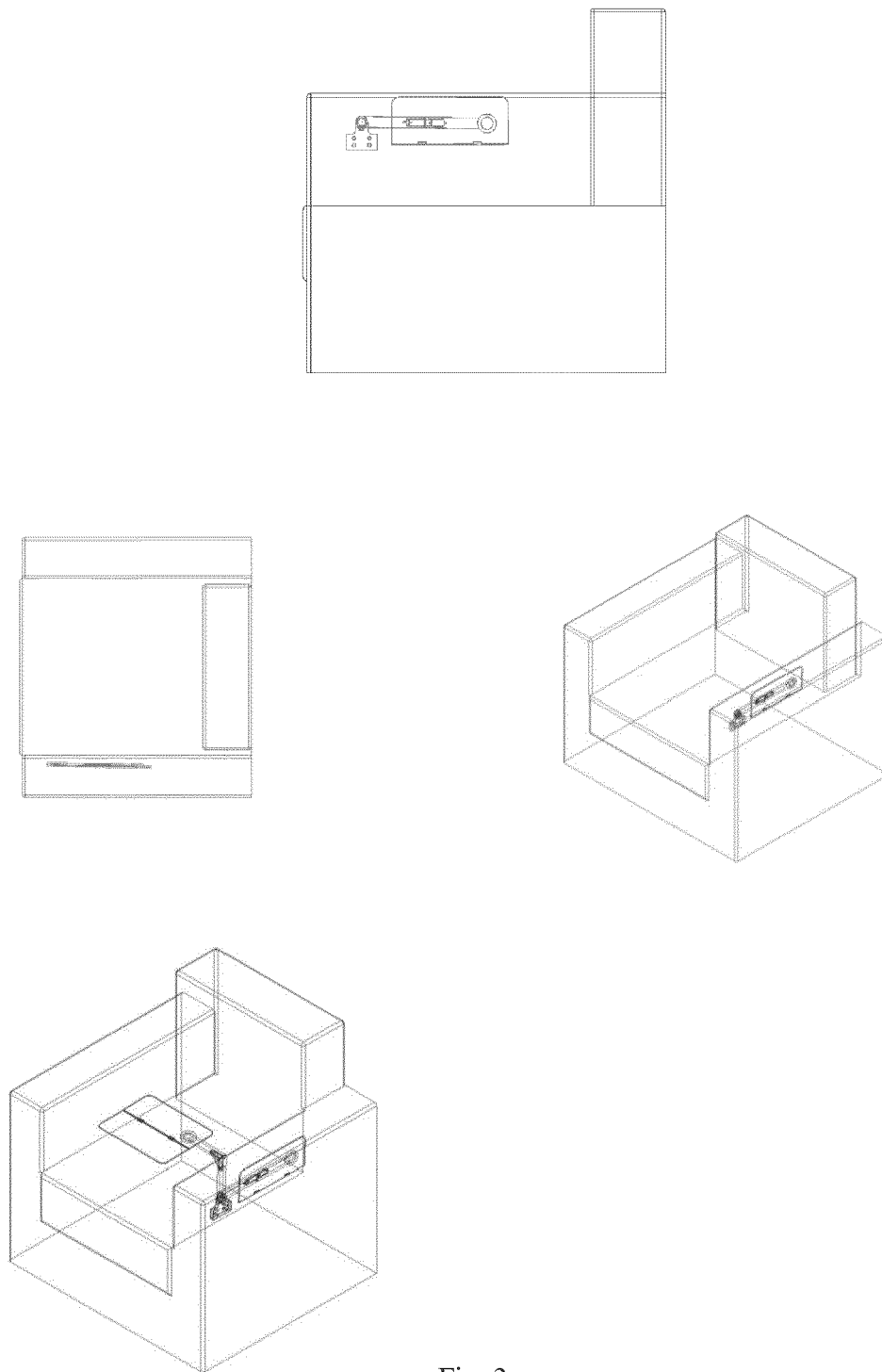


Fig. 3



EUROPEAN SEARCH REPORT

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 7 June 2023	Examiner Pössinger, Tobias
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ON EUROPEAN PATENT APPLICATION NO.**

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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