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(54) A Device for Receiving Tools

(57) A device for receiving tools (1) comprises a base (10) and at least one bracket (20) for receiving at least one tool (T_1,T_2), wherein the bracket is mounted on the base pivotally and can be pivotally rotated between a receiving position (A) and an access position (B). Further, the bracket includes at least one receiving recess (22) which can receive the tool, and the base is formed with at least one taking recess (14), near the access position near the bracket. When the bracket is pivoted to the access position, the receiving recess and the taking recess are aligned approximately, and the tool received in the bracket is allowed to move longitudinally so as to be taken easily.

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Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention is related to a device for receiving tools, comprising at least a bracket that can be pivoted, so that the tool received in the bracket can be taken conveniently.

Description of the Related Art

[0002] In the past, a device for receiving tools mainly had depressions formed at the base for receiving the tools. Such a receiving device is convenient, but the tools that can be received are limited to the sizes and the forms of the depressions.

[0003] R.O.C. (Taiwan) Utility Model Patent Publication No. M259686, entitled "TOOLBOX," has made a minor improvement to the conventional receiving devices. The base of the toolbox is transferred to a structure that can be pivoted, raised and fastened, so that the toolbox allows the tools to be taken easily, like a rifle rack. In details, it discloses a toolbox in which the tools can be taken easily, wherein one end of the second board of the divided board is pivoted at the corresponding end of the box, and a push rod is disposed at the bottom of the other end of the first board of the divided board, so that the divided board can be folded to a certain degree along a furrow formed between the first board and the second board by pushing the push rod. Further, a notch for receiving the push rod is formed at the edge of the corresponding bottom of the other side of the box, and the corresponding first and second fasteners are disposed at the notch so as to respectively fasten the push rod before and after it is pushed.

[0004] However, the above invention has the following defects: (1) in order to receive the push rod disposed at the bottom of the other end of the first board of the divided board, a notch should be formed at the edge of the corresponding bottom of the other side of the box; thus, it will increase the complexity of manufacturing the box; (2) in order to fasten the push rod before and after it is pushed, the first and the second fasteners should be disposed at the upper edge of the notch; thus, it will increase the complexity of the process; (3) the friction will be produced between the push rod and the face of the notch that contacts the push rod when the push rod is moved back and forth in the notch, so that the push rod will be worn and torn easily; (4) the furrow formed at the middle of the divided board divides the board into the first and the second boards, and the divided board will be folded to a certain degree along the furrow or be flat by pushing the push rod, but the furrow formed between the first board and the second board of the divided board will be bent up and down, so that the material of the divided board will be fatigued and worn easily along the furrow; (5) the operation of folding the divided board, which receives several tools, by pushing the push rod only wastes more force and is not convenient; (6) when the divided board is folded to a certain degree, all of the tools received at the board will be raised and can be taken easily, but this operation is not only directed to the tools which will be taken but also to the others that will not be used; (7) the box does not have the related stopping device; thus, the tools received in the box will be easily moved longitudinally.

[0005] From the above, it is necessary for the industry to provide an improved device for receiving tools, which not only offers a more steady receiving structure so that the tools received therein will be taken easily, but also has multiple advantages, e.g., the tools received in the box are still arranged in order when the box is hung vertically, and the manufacturing expenses are low.

SUMMARY OF THE INVENTION

[0006] The main object of the present invention is to provide a device for receiving tools, wherein the receiving structure not only allows the tools (i.e., wrenches) received therein to be taken easily but also fixes the tools firmly in the receiving positions.

[0007] The other object of the present invention is to provide a device for receiving tools that has multiple advantages, e.g., the device can receive tools having different sizes at the same time, the device can be manufactured easily, and the manufacturing expenses are low.

[0008] To achieve the above objectives, this invention provides a device for receiving tools comprises a base and at least one bracket for receiving at least one tool, wherein the bracket is mounted on the base pivotally and can be pivotally rotated between a receiving position and an access position. Further, the bracket includes at least one receiving recess which can receive the tool, and the base is formed with at least one taking recess, near the access position near the bracket. When the bracket is pivoted to the access position, the receiving recess and the taking recess are aligned approximately, and the tool received in the bracket is allowed to move longitudinally so as to be taken easily.

[0009] The structures and characteristics of this invention can be realized by referring to the appended drawings and explanations of the preferred embodiments.

DESCRIPTIONS OF THE DRAWINGS

[0010]

FIG. 1 is a perspective view of a device for receiving tools according to a preferred embodiment of the present invention;

FIG. 2 is a locally enlarged perspective view of a device for receiving tools according to a preferred embodiment of the present invention;

FIG. 3 is a locally enlarged exploded view of a device

for receiving tools according to a preferred embodiment of the present invention;

Fig. 4 is a locally enlarged schematic view showing the tools received within a device for receiving tools according to a preferred embodiment of the present invention; and

Fig.5 is a perspective view of a device for receiving tools according to a preferred embodiment of the present invention with the tools received therein.

DETAILED DESCRIPTIONS OF PREFERRED EMBODIMENTS

[0011] As shown in Figs. 1-3, the subject invention is related to a device for receiving tools 1, which mainly comprises a base 10, at least a bracket 20 for receiving the tools (i.e., wrenches) and a support plate 15.

[0012] The base 10 is disposed on the support plate 15 which can be a part of a toolbox or be disposed at the toolbox or a show window of a wall that displays the tools. The base 10 is used for mounting the brackets 20 and contains a pair of sidewalls 12 which extend linearly, and also can be curved so that the brackets 20 may be arranged radially or S-shaped (not shown) so as to provide an aesthetic appearance in the arrangement of the brackets 20. At least a pivot hole 11 is disposed at each sidewall 12 of the base 10 to allow the bracket 20 to be mounted thereon pivotally. It is preferable to form at least a taking recess 14 on an upper edge of each sidewall 12, and the details of which will be specified in the following description with respect to Fig. 4.

[0013] Moreover, as shown in Figs. 2 and 3, the bracket 20 preferably has an upper wall 23, a lateral wall 24 and a lower wall 25, which co-form a receiving recess 22 for receiving an elongated tool, and the configuration of the receiving recess 22 can be manufactured based on the type of the tool to be received. Further, each end of the lower wall 25 has a pivot 21 received within the corresponding pivot hole 11 formed at each sidewall 12 of the base 10. Based on the above structure, the bracket 20 is mounted to the base 10 pivotally, and is pivotally rotatable between a receiving position A and an access position B.

[0014] In order to receive tools having different thicknesses, several brackets 20 are provided. One approach is to make the thickness of the receiving recesses 22 (i.e., the heights of the lateral walls 24) of the brackets 20 different. However, the above arrangement will increase the cost of manufacturing the device for receiving tools greatly. In order to reduce the cost, a preferable manner is to arrange the positions of the pivot holes 11 (the pivoting positions) based on the thickness of the tools to be received, so that brackets having the receiving recesses of the same thickness can be used to receive the tools of different thicknesses by merely relying on the variations of the pivoting positions. Specifically, in the current preferred embodiment, the thickness of the receiving recesses 22 is large enough to receive all tools of different thicknesses. When a tool with a larger thickness is to be received within a bracket 20, the bracket 20 is pivoted to the pivot holes 11 at higher pivoting positions on the base 10 to have a larger space for the tool, such that at the receiving position A of the bracket 20, the tool can be firmly secured among the upper wall 23 and lateral wall 24 of the bracket 20 and the upper edges of the sidewalls 12 of the base 10 (see Figure 4). Alternatively, when a tool with a thinner thickness is to be received within a bracket 20, the bracket 20 is pivoted to the pivot holes 11 at lower pivoting positions on the base 10. Thus, when each bracket 20 is located at the respective receiving position A, different pivoting positions on the base 10 can achieve the purpose of receiving the tools having different thicknesses. The above structure prevents the present device for receiving tools 1 from offering the brackets 20 having receiving recesses 22 of different thicknesses when it receives the tools having different thicknesses, and the present device for receiving tools 1 can still steadily receive the tools having different thicknesses.

[0015] In addition, the bracket 20 preferably stays at the receiving position A or the access position B by the friction between the pivot 21 and the pivot hole 11. The bracket 20 can further rely on a fastener (not shown in the drawings) to stay in the receiving position A, so that the tool received in the bracket 20 can be fixed at the receiving position A and not fallen off.

[0016] As shown in Figures 1 and 5, the device for receiving tools 1 further has at least one longitudinal limiting portion 30 such that the tool received in the bracket 20 can not be moved longitudinally when the bracket 20 is located at the receiving position A. The longitudinal limiting portion 30 is disposed on the support plate 15, at the longitudinal direction of the receiving recess 22 of the bracket 20 and comprises at least one protruding block 32 or a stopping wall 34 which spaces from the bracket 20. If the device for receiving tools 1 is disposed on the toolbox or the show window, the stopping wall 34 can be one of the walls of the toolbox or the show window.

[0017] As shown in Figure 2, the device for receiving tools 1 further has at least a transverse limiting portion 40 corresponding to the receiving position A of the bracket 20. When the bracket 20 is pivotally rotated to the receiving position A, the transverse limiting portion 40 limits the transverse movement of the tool received in the bracket 20. The transverse limiting portion 40 can comprise at least one limiting block 42 disposed on each sidewall 11 of the base 10. Accordingly, in manufacturing the base 10, the limiting block 42 can be formed integrally therewith to reduce the manufacturing expenses.

[0018] Fig. 4 illustrates the operation of the device for receiving tools 1 in accordance with a preferred embodiment of the present invention. When the bracket 20 is pivotally rotated to the receiving position A, the tool received in the receiving recess 22 of the bracket 20 can be held by the upper wall 23 and lateral wall 24 of the bracket 20 and the upper edges of the sidewalls 12 of

the base 10, and be limited by the protruding block 32 and the limiting blocks 42 so that the tool can be prevented from moving longitudinally and transversely. When the bracket 20 is pivotally rotated to the access position B, the tool can be positioned in at least one taking recess 14 formed on the upper edge of the sidewall 12 and near the access position B, and the receiving recess 22 of the bracket 20 and the taking recess 14 formed on the base 10 are preferably aligned. Thus, the tools received in the bracket 20 are allowed to move longitudinally and be taken easily.

[0019] As shown in Fig. 5, the device for receiving tools 1 can further comprise a fixing hole 50 formed on the support plate 15, near an end thereof, so that the device for receiving tools 1 can be vertically hung on a wall.

[0020] The aforementioned explanations are merely directed to the description of preferred embodiments according to this invention. Various changes and implementations can be made by persons skilled in the art without departing from the technical concepts of this invention. For example, the bracket 20 can be a single bracket having multiple receiving recesses. Further, each receiving recess may receive more than one tool. Since this invention is not limited to the specific details described in connection with the preferred embodiments, changes to certain features of the preferred embodiments without altering the overall basic function of the invention are contemplated within the scope of the appended claims.

Claims

1. A device for receiving tools, comprising:

a base; and
at least one bracket, pivotally mounted on said base, and pivotally rotatable between a receiving position and an access position; said bracket being formed with at least one receiving recess for receiving at least one tool.

2. The device for receiving tools according to Claim 1, further comprising a support plate, said base being disposed on said support plate.

3. The device for receiving tools according to Claim 1 or 2, wherein said base contains a pairs of sidewalls.

4. The device for receiving tools according to Claim 2 or 3, further comprising at least one longitudinal limiting portion which is disposed on said support plate and spaced from said bracket, and when said bracket is pivotally rotated to said receiving position, said longitudinal limiting portion limits said tool received in said bracket to move longitudinally.

5. The device for receiving tools according to Claim 4, wherein said longitudinal limiting portion is a protruding block.

6. The device for receiving tools according to Claim 4, wherein said longitudinal limiting portion is a stopping wall.

7. The device for receiving tools according to Claim 3, further comprising at least one transverse limiting portion disposed on said base, and when said bracket is pivotally rotated to said receiving position, said transverse limiting portion limits said tool received in said bracket to move transversely.

8. The device for receiving tools according to Claim 7, wherein said transverse limiting portion is a limiting block disposed on at least sidewall of said base, and when said bracket is pivoted to said receiving position, said limiting block and said bracket co-limit said tool received in said bracket to move transversely.

9. The device for receiving tools according to any of Claims 3 to 8, wherein said sidewalls of said base are linear.

10. The device for receiving tools according to any of Claims 3 to 8, wherein said sidewalls of said base are curved.

11. The device for receiving tools according to any of Claims 3 to 8, wherein said sidewalls of said base are S-shaped.

12. The device for receiving tools according to any of the preceding Claims, wherein said base comprises a fastener corresponding to each bracket for fastening said bracket at said receiving position.

13. The device for receiving tools according to Claim 3, wherein said base comprises at least one taking recess formed on an upper edge of each sidewall, near said access position of said bracket, and when said bracket is pivotally rotated to said access position, said receiving recess and said taking recess are aligned approximately, and said tool received in said bracket is allowed to move longitudinally so as to be taken easily.

14. The device for receiving tools according to Claim 2, further comprising a fixing hole formed on said support plate, so that said device for receiving tools can be hung vertically.

15. The device for receiving tools according to any of the preceding Claims, wherein each pivoting position of said bracket to said base is disposed based on the thicknesses of said tool which will be received in said bracket.

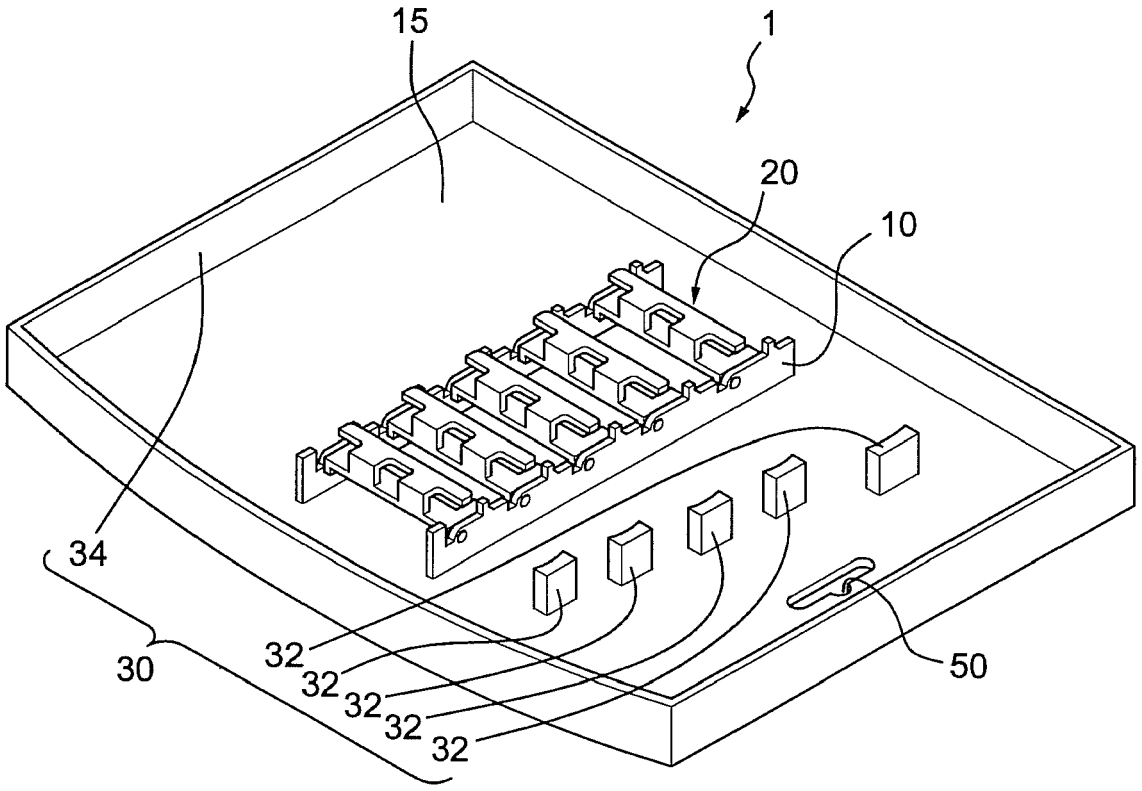

FIG.1

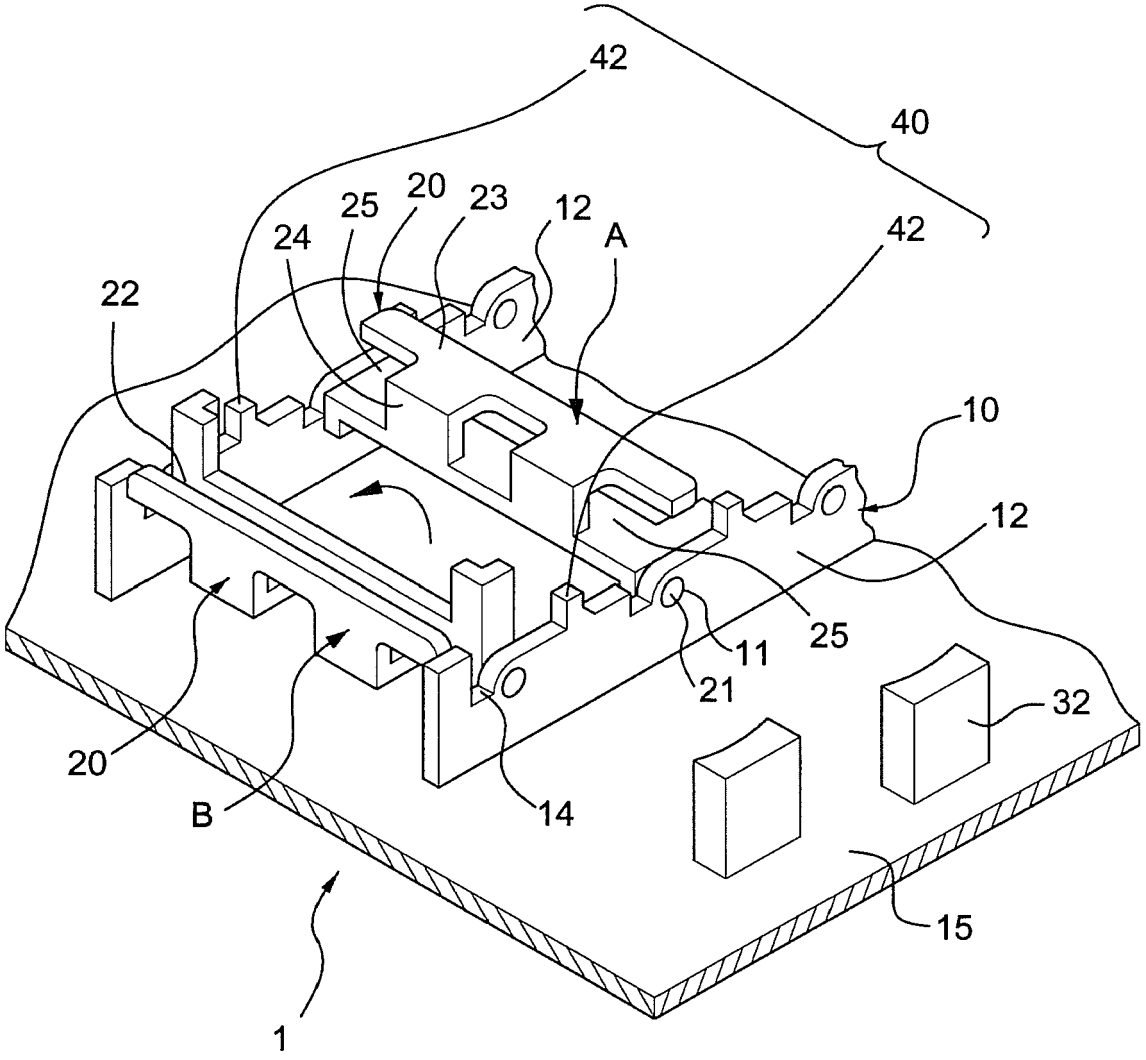

FIG.2

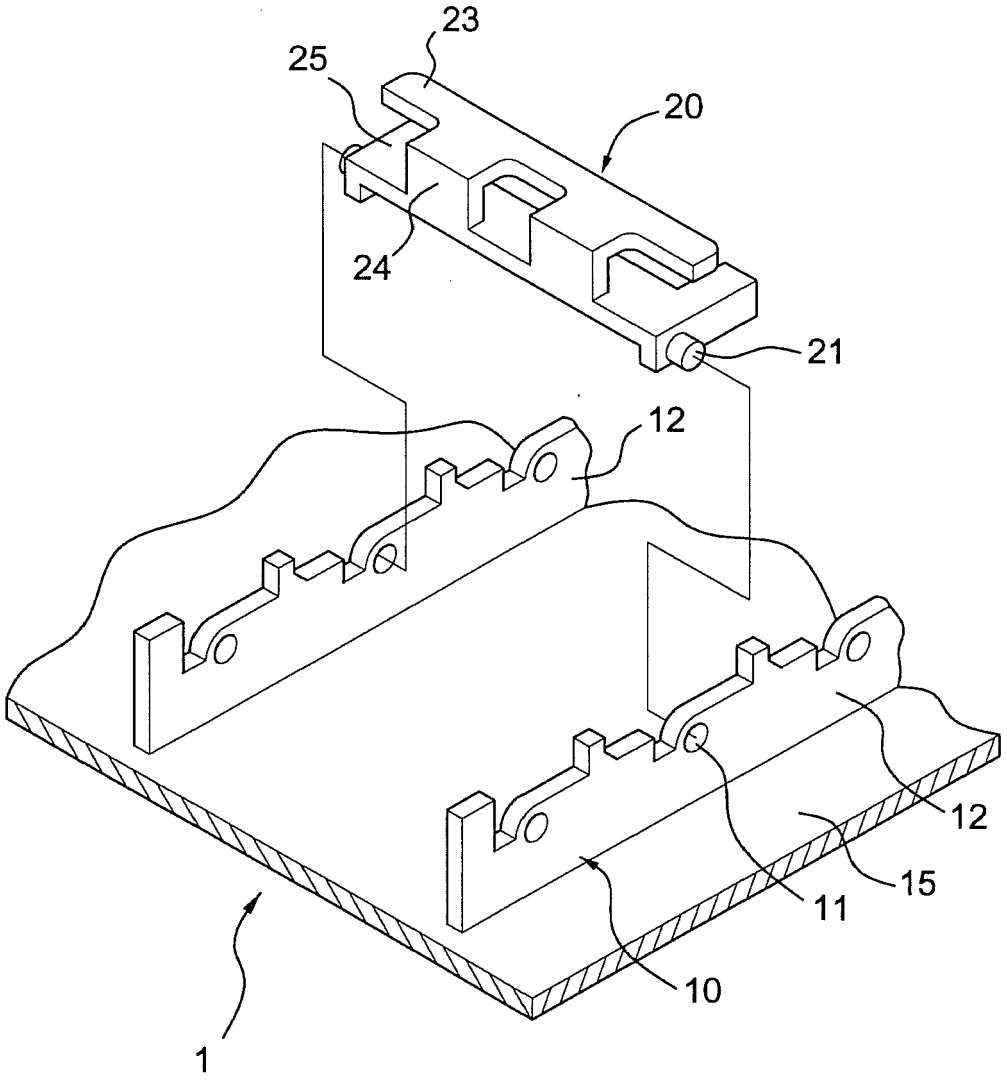

FIG.3

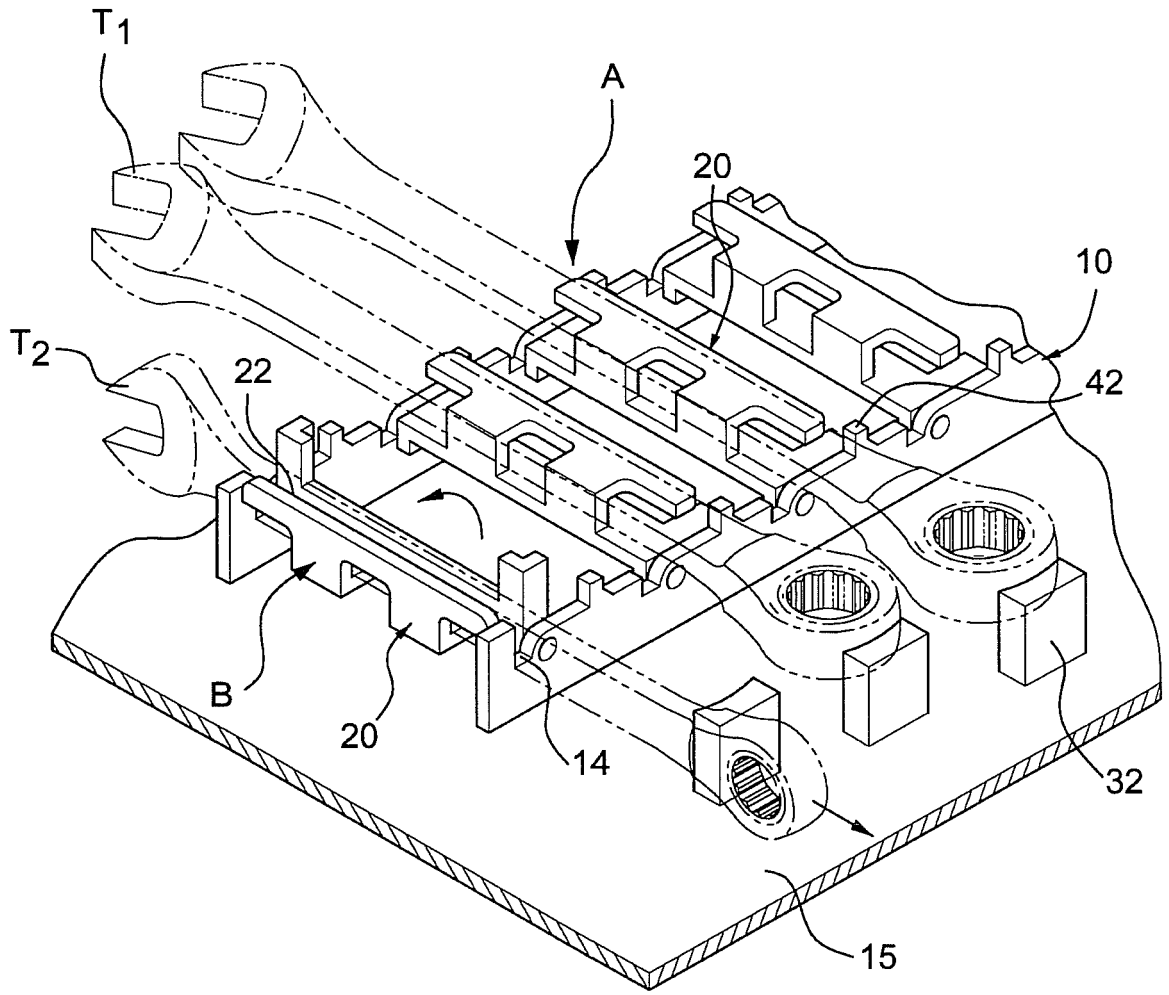

FIG.4

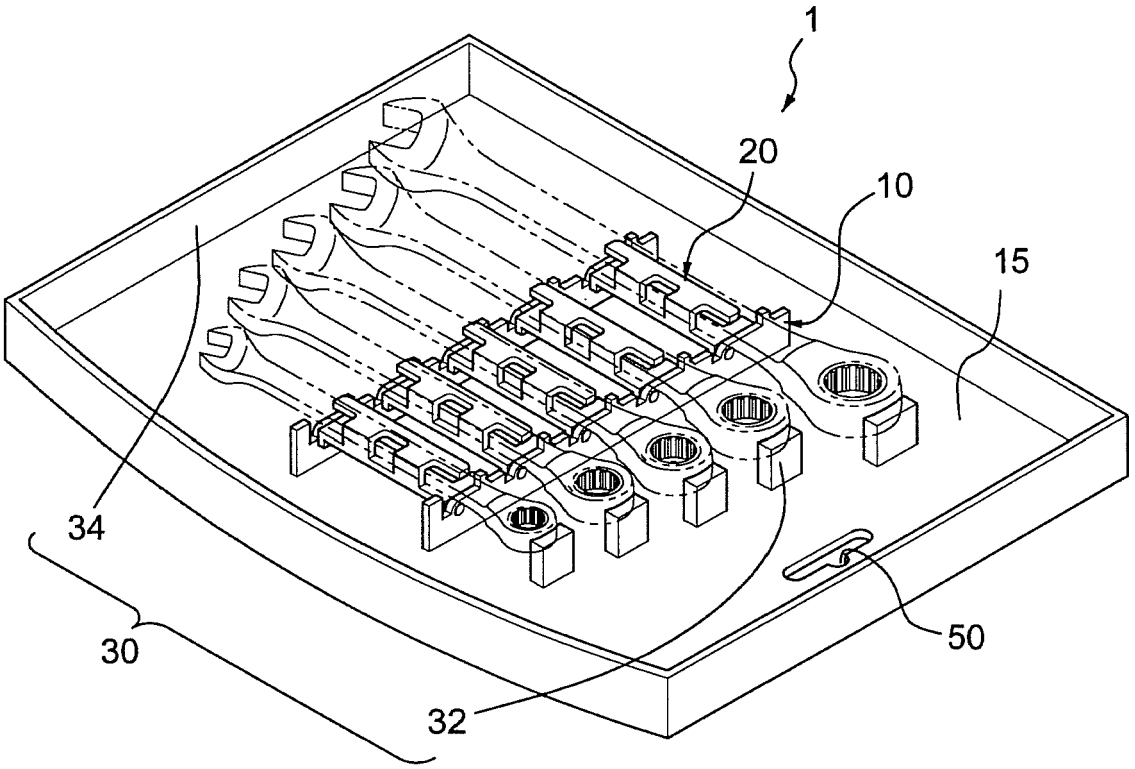

FIG.5

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EUROPEAN SEARCH REPORT

Application Number
EP 06 11 9039

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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TECHNICAL FIELDS SEARCHED (IPC)

B25H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	11 December 2006	Gerard, Olivier

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 06 11 9039

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11-12-2006

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

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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