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(54) **TOOL WAGON**

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(57) **ABSTRACT**

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A tool wagon, includes: a wagon body and a working platform. The wagon body has a front side, a rear side, and two flanks including several drawers positioning on the front side. The drawer can be pulled and closed horizontally. The working platform is positioned on a top of the wagon body, including two trays and a tool shelf. The trays are capable of being pulled and closed toward said flanks respectively and each has several storage compartments and a head cover. The storage compartments are positioned on top of the trays and for placing different kinds of tools, especially small tools. The tool shelf is positioned below the two trays and above the drawers. When the two trays are close, the tool shelf is hidden in the tool wagon, so a usable area of the working platform is expanded.

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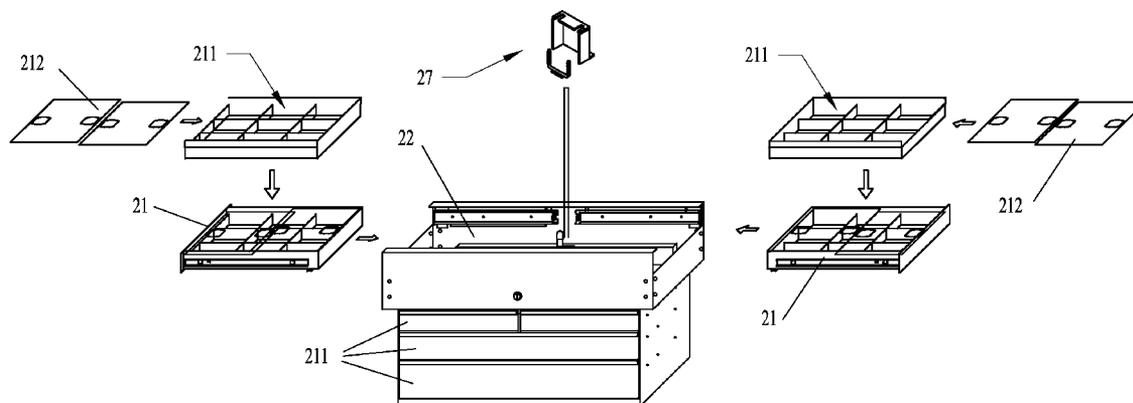
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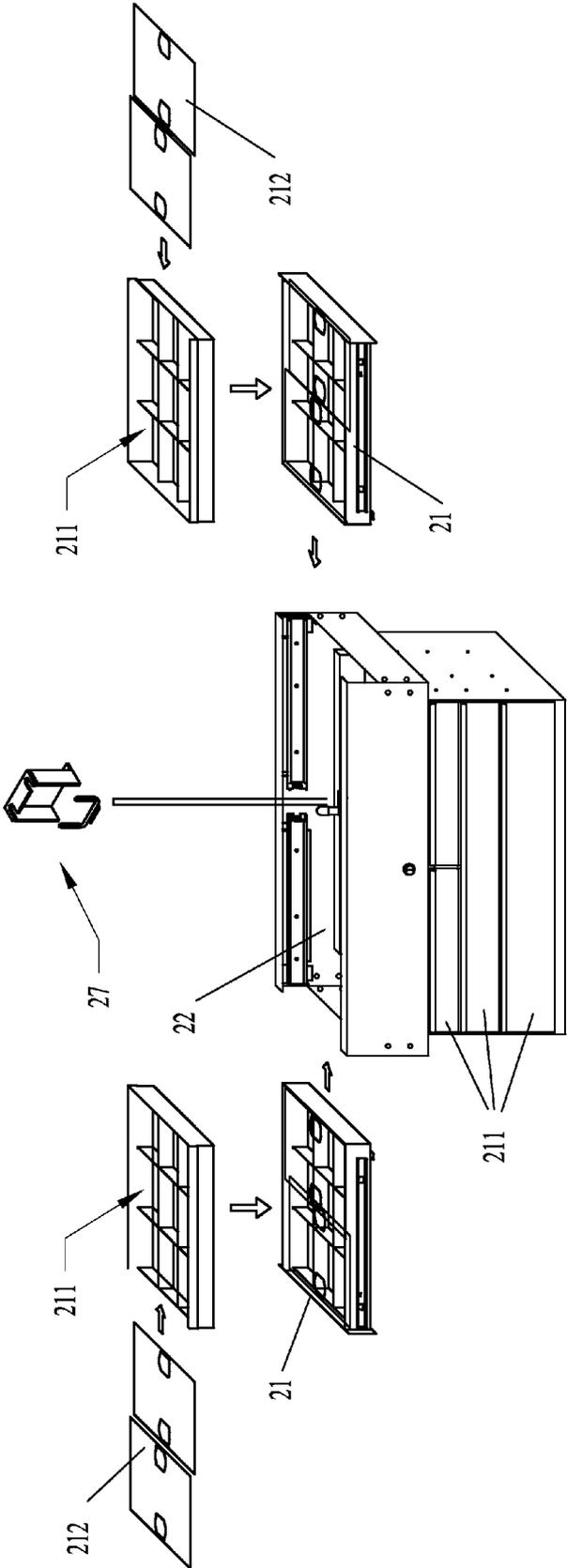


Fig. 1

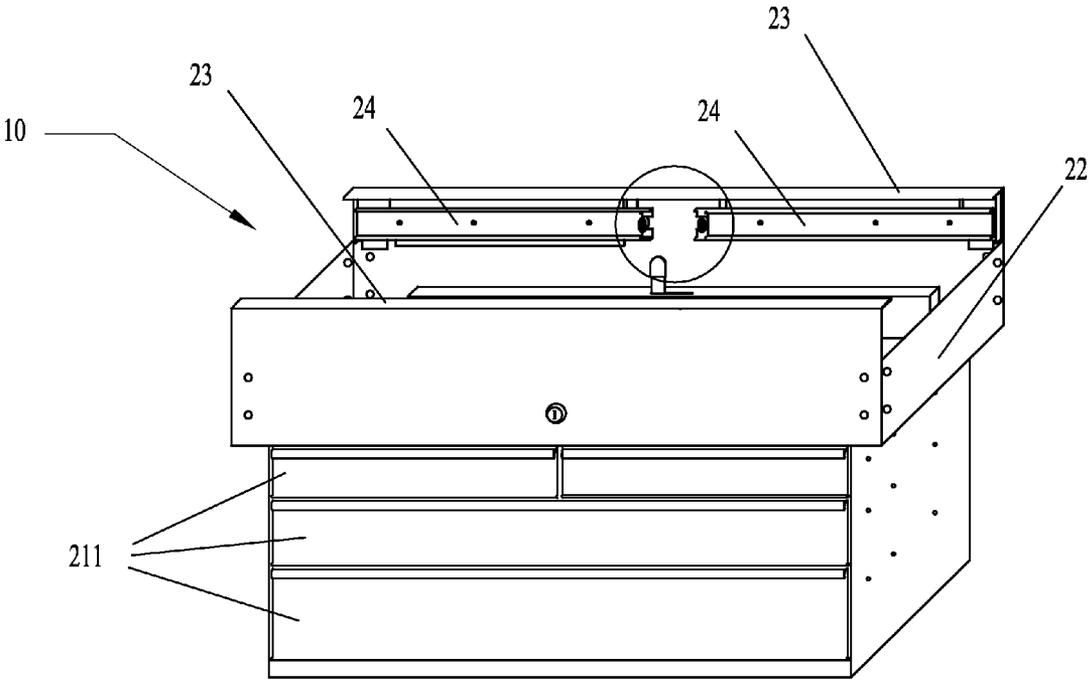


Fig. 2

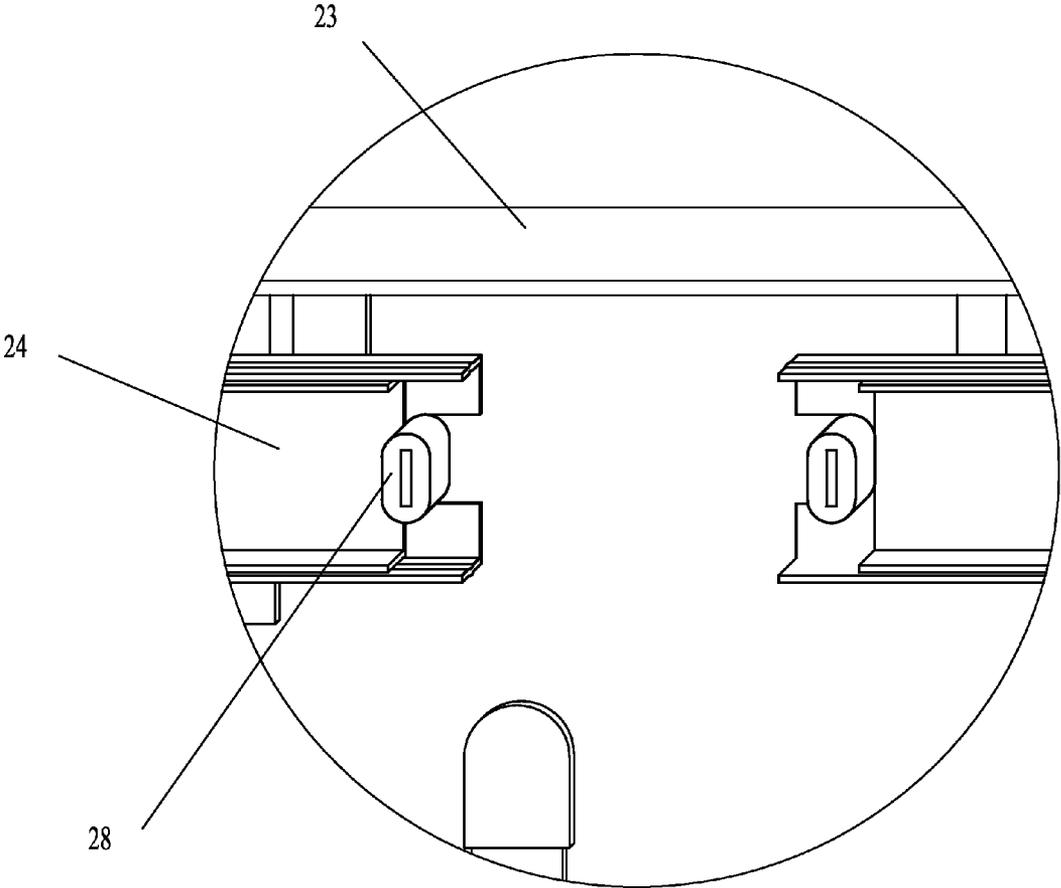


Fig. 3

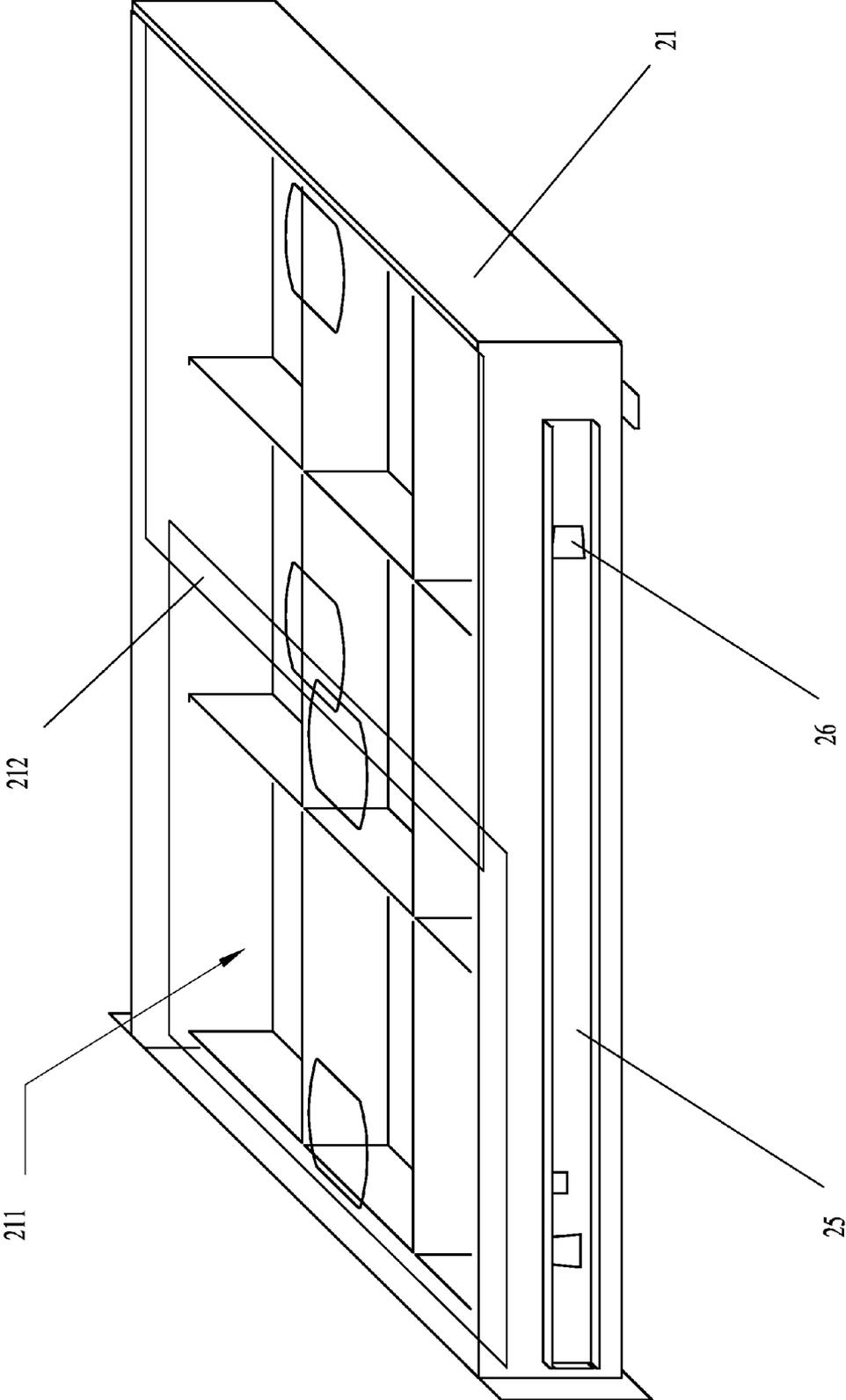


Fig. 4

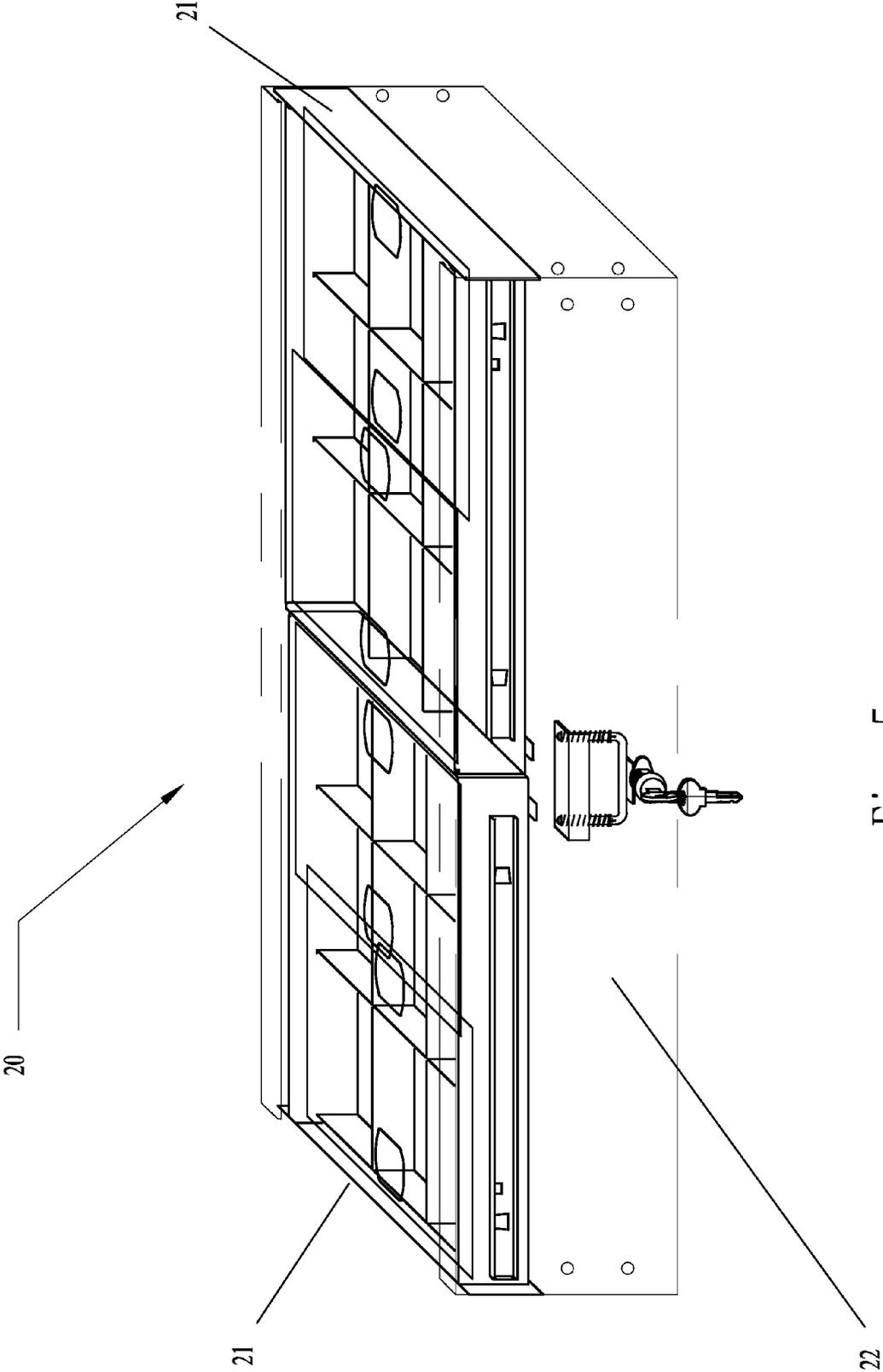


Fig. 5

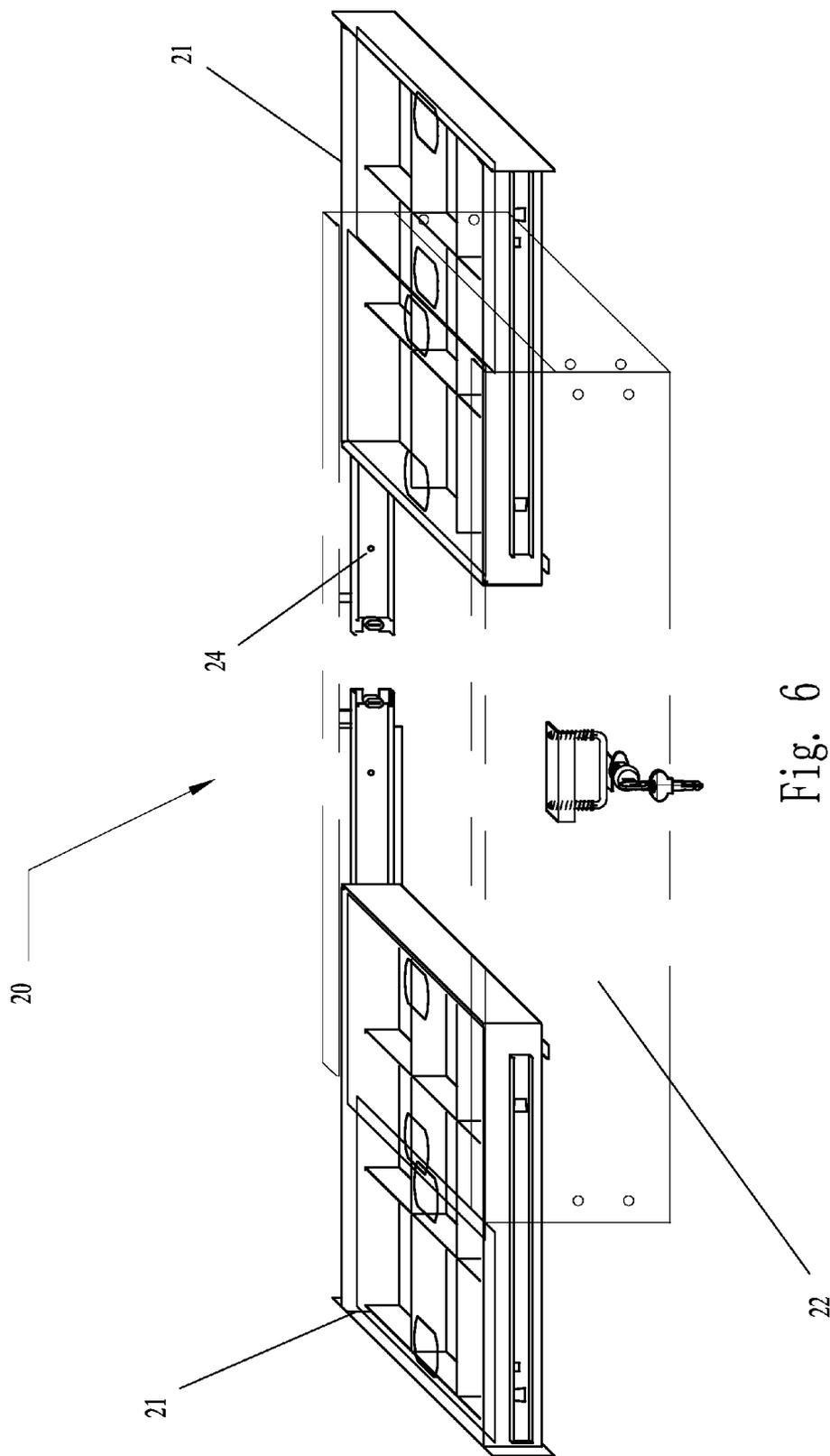


Fig. 6

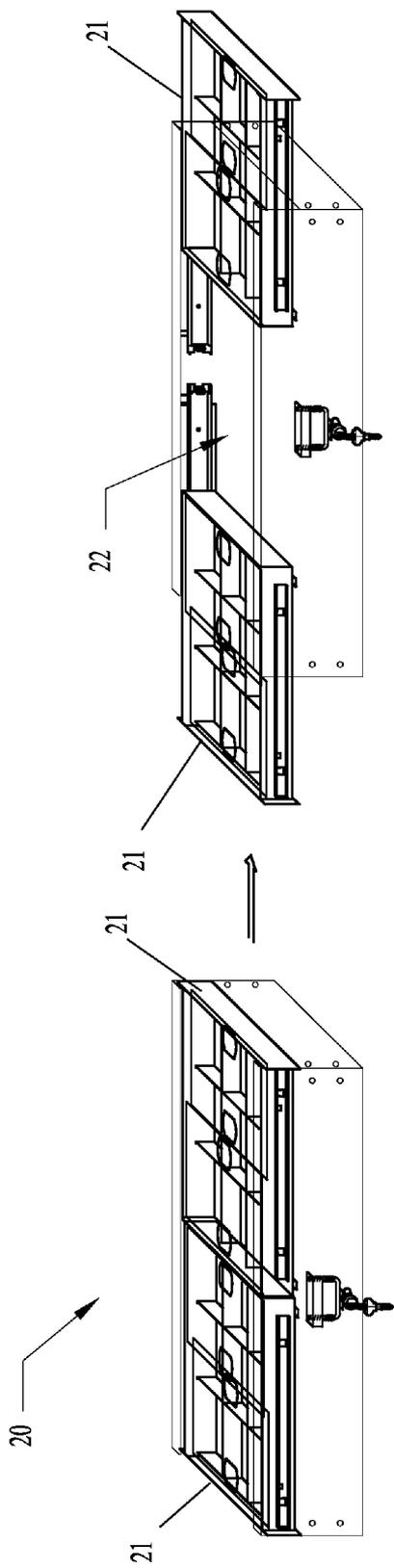


Fig. 7

TOOL WAGON

BACKGROUND OF THE PRESENT INVENTION

[0001] 1. Field of Invention

[0002] The present invention relates to a tool wagon, and more particularly to a tool wagon having a top storage drawer which is capable of moving laterally.

[0003] 2. Description of Related Arts

[0004] Tool wagon is used frequently in daily life and is popular for large loading room and capability of loading many different kinds of tools in categories. A conventional tool wagon has several drawers, such that many different kinds of tools are placed in each drawer, the corresponding drawer is pulled when one needs a tool.

[0005] However, the conventional tool wagon is not convenient during use. When one drawer is pulled, the use of adjacent drawers is influenced, so the drawer has to be closed when taking out or putting into a tool. But people always have some tools that are frequently used during use, so that the drawers have to be switched back and forth which is so inconvenient and more inconvenient to screws and other small tools.

[0006] Meanwhile, the top of the conventional tool wagon is a platform, people frequently put the tools on the platform to avoid inconvenience, but new questions appear, dispersed placement of the tools on the platform is not good for use and the tools may drop down, the tool wagon lose the function of placing the tools in categories.

SUMMARY OF THE PRESENT INVENTION

[0007] A main object of the present invention is to provide a tool wagon which optimizes a placement of tools, and drawers of the tool wagon can be switched back and forth freely when using many different kinds of tools, so that pulling and closing several drawers ceaselessly and stacking the tools on a top of the tool wagon dispersedly can be avoided.

[0008] Another object of the present invention is to provide a tool wagon which expands a working platform, so people can conveniently and simultaneously pick and place some tools that are frequently used and pulling and closing several drawers repeatedly can be avoided.

[0009] Another object of the present invention is to provide a tool wagon which specially adapts for placing screws or other small tools on positions that are convenient for taking and classifying clearly, so the work efficiency is improved highly.

[0010] Another object of the present invention is to provide a tool wagon, wherein an area of the tool wagon is not increased unduly as a usable area of the tool wagon is expanded which avoids occupying space overly and the inconvenience of transportation and storing.

[0011] Another object of the present invention is to provide a tool wagon, no complicated structure is introduced or the factory cost of the tool wagon is increased improperly while the above objects are accomplished.

[0012] Accordingly, in order to accomplish the above objects, the present invention provides a tool wagon, comprising:

[0013] a wagon body, which has a front side, a rear side and two flanks, comprising several drawers positioning on the front side, which are capable of being pulled and closed horizontally; and

[0014] a working platform, which is positioned on a top of the wagon body, comprising: two trays which are capable of being pulled open horizontally toward the two flanks respectively, wherein each tray has several storage compartments positioning on a top of the tray and a head cover positioning on the storage compartments, and a tool shelf which is positioned below the two trays and above the drawers, wherein when the two trays are closed, the tool shelf is hidden in the tool wagon, when the two trays are pulled open, the tool shelf appears, so the usable area of the working platform is expanded.

[0015] With the foregoing structure, the storage compartments are used for storing articles such as screws with different sizes and other small tools in categories, the tools are convenient to take and use, the mix by dispersed placement is avoided, meanwhile, the tool shelf is capable of being placed some other matching tools that are used frequently provisionally or for long, so the most convenient working platform is utilized in maximum. Further, the two trays are pulled open toward the two flanks, so the pulling and closing of the drawers are uninfluenced, the needed drawers is capable of being pulled open at the same time, therefore the number of the tools that can be taken at the same time is increased greatly.

[0016] These and other objectives, features, and advantages of the present invention will become apparent from the following detailed description, the accompanying drawings, and the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] FIG. 1 is an exploded sketch view of a tool wagon according to a preferred embodiment of the present invention.

[0018] FIG. 2 is a perspective view of a wagon body of the tool wagon according to the above preferred embodiment of the present invention.

[0019] FIG. 3 is a partial enlarged view of a slide way structure of the tool wagon according to the above preferred embodiment of the present invention.

[0020] FIG. 4 is a perspective view of a tray of the tool wagon according to the above preferred embodiment of the present invention.

[0021] FIG. 5 is a sketch view of a working platform of the tool wagon in the state of closing according to the above preferred embodiment of the present invention.

[0022] FIG. 6 is a sketch view of the working platform of the tool wagon in the state of pulling open according to the above preferred embodiment of the present invention.

[0023] FIG. 7 is a sketch view of the working platform of the tool wagon according to the above preferred embodiment of the present invention, illustrating switching back and forth between the states of pulling open and closing.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0024] Referring to FIG. 1 to FIG. 7 of the drawings, the present invention is a tool wagon, comprising: a wagon body 10 and a working platform 20.

[0025] The wagon body 10 has a front side, a rear side, and two flanks, and comprises several drawers 11 positioning on the front side. The drawers 11 is capable of being pulled and closed horizontally.

[0026] The working platform 20 is positioned on a top of the wagon body 10, comprising two trays 21 and a tool shelf 22. Each tray 21 has several storage compartments 211 and a

head cover 212. The storage compartments 211 are positioned on a top of the two trays 21 to be used for placing different tools, especially the screws of different sizes and other small tools. The head cover 212 is positioned on the storage compartments 211 and is capable of switching between the state of opening and closing. The tool shelf 22 is positioned below the two trays 21 and above the drawers 11, when the two trays 21 are closed, the tool shelf 22 is hidden inside the tool wagon, when the two trays 21 are pulled open, the tool shelf 22 appears, so the tools on the two trays 21 and the tool shelf 22 can be used at the same time, a usable area of the working platform 20 is expanded.

[0027] With the foregoing structure, the storage compartments 211 are used for storing articles such as screws with different sizes and other small tools in categories, the tools are convenient to take and use, the mix by dispersed placement is avoided. Meanwhile, the tool shelf 22 is capable of being placed some other matching tools that are used frequently provisionally or for long, for instance, a screw driver or a pair of pliers, so the most convenient working platform 20 is used in maximum. In the idle state, the two trays 21 are closed, now the tool wagon occupies a small space which is convenient to transport and place. In the working state, the tool shelf 22 which is below the two trays 21 can be used through pulling open the two trays 21. So when repeatedly taking some tools that are used frequently, the work efficiency is improved.

[0028] Meanwhile, the two trays 21 are pulled open toward the two flanks, the pulling and closing of the drawers 11 are uninfluenced, the needed drawers 11 is capable of being pulled open at the same time, the number of the tools that can be taken at the same time is increased greatly.

[0029] According to a preferred embodiment of the present invention, the working platform 20 further comprises two protecting walls 23 which are respectively mounted along tops of the front side and the rear side horizontally, wherein the two protecting walls 23 respectively comprises a slide way 24 mounted horizontally. The two trays 21 respectively has a corresponding tray slide way 25 matching with the slide way 24, so that a corresponding laterally horizontal move is achieved through a slide way structure. Because metallic tools are generally heavy, the slide way structure has advantage of dispersing stressing, so the two trays 21 are capable of moving smoothly.

[0030] Further, the working platform 20 further comprises an inhibiting device 26, positioning on an inner end of the tray slide ways 25, wherein the inhibiting device 26 inhibits the two trays 21 when the two trays 21 are pulled open, preventing taking off from the slide ways 24 and dropping. The inhibiting device 26 is capable of being a raised module structure, or other embodiments that people who skills in the filed will easily think about, all of that are to be considered within the scope of the present invention.

[0031] It is worth mentioning that according to a preferred embodiment of the present invention, a flat surface is provided under the two trays 21. The tool shelf 22 is defined by two opposite inner walls of the two trays 21, the two protecting walls 23 and the flat surface after pulling open the two trays 21. The tool shelf 22 is used for placing tools provisionally, the tools are taken and placed into the drawers 11 which is under the tool shelf 22 when one is done with the tools. In this structure, on can decide to place which tool on the tool shelf 22 depends on the use circumstance, the trouble of exchanging tools provisionally is avoided, and an inner space

of the tool wagon is not occupied when closing the two trays 21, therefore the structure is compact.

[0032] According to a preferred embodiment of the present invention, the working platform 20 further comprises a locking device 27, connecting with the two trays 21, wherein the locking device 27 is used for locking the two trays 21 when the two trays 21 are pulled open or closed to fix the state of the two trays 21. So an unexpected movement of the two trays 21 in transportation or under external force, which may damage the tool wagon or hurt people, is prevented.

[0033] The locking device 27 can adopt lock catch, bolt or other structures, or other embodiments that people who skills in the filed will easily think about, all of that are to be considered within the scope of the present invention.

[0034] It is worth mentioning that the working platform 20 further comprises a cushioning device 28, positioning on an inner sides of the two trays 21 to prevent damaging from crashing when closing the two trays 21.

[0035] According to a preferred embodiment of the present invention, the cushioning device 28 is a rubber gasket.

[0036] According to another preferred embodiment of the present invention, the tool shelf 22 and a top drawer 11 are integrated which is capable of being pulled and closed toward the front side horizontally. In this structure, the top of the tool wagon is composed of the two trays 21 directly, and the top drawer 11 of the tool wagon appears when pulling open the two trays 21, the top drawer 11 is capable of being used as a part of the working platform 20. Meanwhile, the tool shelf 22 is capable of being pulled directly which is convenient to take the tools solely.

[0037] It is worth mentioning that, the drawers 11 under the tool shelf 22 appears after respectively pulling open the two trays 21 and the tool shelf 22. The usable area of the working platform 20 is further expanded through reasonably controlling the height of each unit.

[0038] Preferably, according to a preferred embodiment of the present invention, the storage compartments 211 is a 3*3 nine grids structure which is convenient to store tools with different sizes in categories, wherein the humanistic design is convenient for people to take and place the tools and elements, therefore mix is prevented. People who skills in the filed will easily think about that the storage compartments 211 are also to be a 3*2, 2*2 or other dividing styles, all such variations and modifications of shapes and structures are to be considered within the scope of the present invention.

[0039] According to a preferred embodiment of the present invention, the storage compartments 211 is a holding tank corresponding to shapes of the tools, the tools will not be moved after placing into the storage compartments 211.

[0040] Further, according to a preferred embodiment of the present invention, the head cover 212 comprises two parts which are overlapped up and down and are capable of sliding laterally, when using, one just needs to withdraw a part and take the tools in the storage compartments 211.

[0041] According to another preferred embodiment of the present invention, the head cover 212 comprises two parts which are respectively pivotly connected with the two trays and capable of opening upwardly, so that users can take the tools that are stored in said storage compartment.

[0042] Further, according to a preferred embodiment of the present invention, the head cover 212 is a transparent or translucent structure which is convenient for a user to check the tools in the storage compartments 211, therefore the head

cover 212 is not needed to be open all the time, which is convenient to manage and take.

[0043] It will thus be seen that the objects of the present invention have been fully and effectively accomplished. Its embodiments have been shown and described for the purposes of illustrating the functional and structural principles of the present invention and is subject to change without departure from such principles. Therefore, this invention includes all modifications encompassed within the spirit and scope of the following claims.

What is claimed is:

- 1. A tool wagon, comprising:
 - a wagon body, which has a front side, a rear side and two flanks which comprising several drawers mounting on said front side, wherein said drawers are capable of being pulled open and closed horizontally; and
 - a working platform, mounting on a top of said wagon body, comprising two trays which are capable of being pulled and closed toward said flanks respectively, wherein said each tray has several storage compartments which are positioned on a top of said two trays and a head cover which is positioned on a top of said storage compartments, and a tool shelf, which is positioned on a top of said drawers and below said trays, wherein when said two trays are closed, said tool shelf is hidden inside said tool wagon, when said two trays are pulled open, said tool shelf appears, so a usable area of said working platform is expanded.
- 2. The tool wagon, as recited in claim 1, wherein said working platform further comprises two protecting walls which are horizontally mounted along tops of said front side and said rear side respectively, wherein said storage compartments respectively has a slide way mounted horizontally, said two trays respectively has a corresponding tray slide way matching with said slide way, so that a laterally horizontal move is achieved through said slide way structure.
- 3. The tool wagon, as recited in claim 2, wherein said working platform further comprises an inhibiting device, positioning on an inner end of said tray slide ways, wherein said inhibiting device inhibits said two trays when said two trays are pulled open, preventing said two trays taking off from said slide way and dropping.
- 4. The tool wagon, as recited in claim 1, wherein a flat surface is provided under said two trays, said tool shelf is defined by two opposite inner walls of said two trays, said two protecting walls and said flat surface.
- 5. The tool wagon, as recited in claim 2, wherein a flat surface is provided under said two trays, said tool shelf is defined by two opposite inner walls of said two trays, said two protecting walls and said flat surface.
- 6. The tool wagon, as recited in claim 3, wherein a flat surface is provided under said two trays, said tool shelf is defined by two opposite inner walls of said two trays, said two protecting walls and said flat surface.
- 7. The tool wagon, as recited in claim 1, wherein said working platform further comprises a locking device which

connects with said two trays, for locking said two trays to fix a state of said two trays when said two trays are pulled open or closed.

8. The tool wagon, as recited in claim 2, wherein said working platform further comprises a locking device which connects with said two trays, for locking said two trays to fix a state of said two trays when said two trays are pulled open or closed.

9. The tool wagon, as recited in claim 6, wherein said working platform further comprises a locking device which connects with said two trays, for locking said two trays to fix a state of said two trays when said two trays are pulled open or closed.

10. The tool wagon, as recited in claim 1, wherein said working platform further comprises a cushioning device, positioning on an inner side of said two trays to prevent damaging from crashing when closing said two trays.

11. The tool wagon, as recited in claim 2, wherein said working platform further comprises a cushioning device, positioning on an inner side of said two trays to prevent damaging from crashing when closing said two trays.

12. The tool wagon, as recited in claim 9, wherein said working platform further comprises a cushioning device, positioning on an inner side of said two trays to prevent damaging from crashing when closing said two trays.

13. The tool wagon, as recited in claim 1, wherein said tool shelf and a top drawer are integrated which is capable of being pulled open and closed toward said front side horizontally.

14. The tool wagon, as recited in claim 2, wherein said tool shelf and a top drawer are integrated which is capable of being pulled open and closed toward said front side horizontally.

15. The tool wagon, as recited in claim 3, wherein said tool shelf and a top drawer are integrated which is capable of being pulled open and closed toward said front side horizontally.

16. The tool wagon, as recited in claim 12, wherein said tool shelf and a top drawer are integrated which is capable of being pulled open and closed toward said front side horizontally.

17. The tool wagon, as recited in claim 1, wherein said storage compartments is a 3*3 nine grids structure which is convenient to store tools with different sizes in categories.

18. The tool wagon, as recited in claim 1, wherein said head cover comprises two parts which are overlapped and are capable of sliding laterally, when using, one just needs to move one of said parts to take the tools in said storage compartments

19. The tool wagon, as recited in claim 1, wherein said head cover comprises two parts which are respectively pivotly connected with said two trays and capable of opening upwardly, so that a user can take the tools stored in said storage compartment.

20. The tool wagon, as recited in claim 1, wherein said head cover is a transparent or a translucent structure.

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