MODULAR SHOES AND BOOTS STORAGE AND ORGANISING SYSTEM

Inventor: Andrea Alli, Edgware (GB)

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ABSTRACT

Modular shoe storage apparatus comprises at least two opposite side wall members, a rear wall member for interconnecting the side wall members, and at least one shelf member for interconnecting the side wall members. A plurality of first keyway channels is integrally formed as one-piece with the side wall members or the shelf member, and a plurality of first keys is slidably engageable with the first keyway channels only via the ends and are integrally formed as one-piece with the other of the side wall members and the shelf member. A plurality of second keyway channels is integrally formed as one-piece with the side wall members or the rear wall member, and a plurality of second keys is slidably engageable with the second keyway channels only via the ends and are integrally formed as one-piece with the other of the side wall members and the rear wall member.
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[0001] The present invention relates to modular shoe storage apparatus.

[0002] Storage apparatus is known for storing shoes, and some of these devices can be said to be modular since a user can add to and expand the apparatus as a shoe collection increases. However, these devices have solid panels which make viewing the stored shoes possible only from one direction. Furthermore, this adds weight to transportation.

[0003] Additionally, the walls may include projections for shelves. Again, this increases a thickness of the apparatus during transportation, thus increasing costs.

[0004] It is also beneficial to be able to purchase additional parts for modular expansion separately, and then positively interengage walls in a stackable manner.

[0005] The present invention seeks to provide a solution to these problems.

[0006] According to the invention, there is provided modular shoe storage apparatus comprising at least two opposite side wall members, a rear wall member for interconnecting the side wall members, and at least one shelf member for interconnecting the side wall members, a plurality of first keyway channels integrally formed as one-piece with the side wall members or the shelf member, and a plurality of first keys slidably engageable with the first keyway channels only via the ends and which are integrally formed as one-piece with the other of the side wall members and the shelf member, a plurality of second keyway channels integrally formed as one-piece with the side wall members or the rear wall member, and a plurality of second keys slidably engageable with the second keyway channels only via the ends and which are integrally formed as one-piece with the other of the side wall members and the rear wall member.

[0007] Preferable and/or optional features of the present invention are set forth in claims 2 to 18, inclusive.

[0008] The invention will now be more particularly described, by way of example only, with reference to the accompanying drawings, in which:

[0009] FIG. 1 is a perspective view of one embodiment of modular shoe storage apparatus, in accordance with the invention and shown in use; and

[0010] FIG. 2 is a perspective exploded view of the modular shoe storage apparatus, laid out for clarity.

[0011] Referring to the drawings, there is shown one embodiment of modular shoe storage apparatus which comprises a plurality of side wall members 12, in this case being eight, a plurality of rear wall members 14, in this case being six, and a plurality of shelf members 16, in this case being twelve. Conveniently, one or more of the shelf members 16 can double as a top of the apparatus 10, as necessity dictates.

[0012] Each side wall member 12 is or is substantially rectangular and formed from rigid moulded plastics to include a plurality of apertures 18 thus providing a frame. Specifically, a main, substantially rectangular or oval shaped, aperture 20 is provided centrally through a thickness of each side wall member 12, and a plurality of smaller apertures 22, being in this case six, is arranged symmetrically about the main aperture 18 and adjacent to each front and rear edge 24, 26. An aperture wall 28 is slightly spaced from and extends around each aperture 18 to provide rigidity whilst keeping the side wall member 12 as light as possible.

[0013] First keyway channels 30, having a T-shaped lateral cross-section, are integrally formed in the opposite major surfaces 32 of each side wall member 12 so as to form back to back pairs. The first keyway channels 30 are formed as one-piece with the side wall members 12. The first keyway channels 30, in this embodiment, are parallel with each other and equally spaced apart, but may be at angles and/or be non-uniformly spaced. Upper and lower first keyway channels 34, 36 are continuous from the front edge 24 of the side wall member 12 to the rear edge 26. Two intermediate first keyway channels 38 are discontinuous, having the main aperture 18 partway therealong.

[0014] Second keyway channels 40, again having a T-shaped lateral cross-section, are integrally formed in the opposite major surfaces 32 of each side wall member 12 so as to again form back to back pairs. Similarly to the first keyway channels 30, the second keyway channels 40 are formed as one-piece with the side wall members 12. One second keyway channel 40 is formed continuously from a top edge 42 of the side wall member 12 to or adjacent to a bottom edge 44 on one major surface 32 at or adjacent to the rear edge 26. The other second keyway channel 40 is formed oppositely on the other major surface 32. A stop 46 may be included at or adjacent to the bottom of each second keyway channel 40.

[0015] The first and second keyway channels 30, 40 are recessed or embedded so as not to project beyond a plane of the aperture walls 28. This enables neat and compact flat-pack storage when the apparatus 10 is dismantled.

[0016] Two spaced elongate locating foot elements 48 are formed on the bottom edge 44 of each side wall member 12. Each foot element 48 projects in a top to bottom direction, but has a lateral extent or width which does not extend beyond a plane of the major surfaces 32 when including the distal or outer free edges of the aperture walls 28.

[0017] Two complementarily shaped locating recesses 50 are also formed on the top edge 42 of each side wall member 12 so as to accept a respective foot element 48 in positive engagement. In this way, two or more side wall members 12 can be vertically stacked.

[0018] The rear wall member 14, being rectangular or square, is similar in construction to the side wall members 12, and is formed from rigid moulded plastics. A single main aperture 52 is provided centrally again to form a frame, and spaced inner and outer aperture walls 54 are included surrounding the aperture 52 to promote rigidity whilst maintaining a low mass.

[0019] Continuous rear wall keys 56 are provided on opposite side edges 58 of the rear wall member 14 so as to extend from a top edge 60 to or adjacent to a bottom edge 62. The rear wall key 56 has a T-shaped lateral extent or width so as to complementarily match the second keyway channel 40. By providing a symmetrical rear wall key 56 which projects from both side edges 58, the rear wall member 14 is reversible. The rear wall key 56 does not extend beyond a plane of the distal or free edge of the aperture wall 54 on each side, thus again aiding flat-pack storage of the apparatus 10 when collapsed.

[0020] The shelf member 16 is rigid and uniformly continuous over its major surfaces 32, thus being without apertures. However, one or more apertures is/are an option. In this embodiment, the shelf member 16 is preferably formed from light transmissible material so that a user can easily see shoes which are stored therebelow.

[0021] Similarly to the rear wall member 14, continuous shelf keys 64 are provided on opposite side edges 66 so as to extend from a front edge 68 to or adjacent to a rear edge 70. The shelf key 64 has a T-shaped lateral extent or width so as to complementarily match the first keyway channels 30. By
providing a symmetrical shelf key 64 which projects from both side edges 66, the shelf member 16 is reversible. The shelf key 64 does not extend beyond a plane of the major surfaces 72 of the shelf member 16, thus again aiding flat-pack storage of the apparatus 10 when collapsed.

The rear wall keys 56 and the shelf keys 64 may be discontinuous.

A detent, such as a pin and recess, may be included in or on one or both of the first and second keyway channels 30, 40, the rear wall key 56 and/or the shelf key 64 to positively retain the keyways 30, 40 and the keys 56, 64 in place.

The keys 56, 64 are adapted so that they can only be inserted into their respective keyway channels 30, 40 by slidable insertion from an end of the keyway channels 30, 40. Consequently, the keys 56, 64 cannot be inserted into their respective keyway channels 30, 40 in a lateral direction of the keyway channels 30, 40. In this way, the side wall members 12, rear wall member 14, and shelf member 16 are all securely and releasably engagable with each other.

In use, the rear wall keys 56 of one rear wall member 14 are slid into their respective second keyway channels 40 of the side wall members 12. The shelf keys 64 of one shelf member 16 are then slid in a front to back direction into the first keyway channels 30 of the side wall members 12 until a rear edge 70 of the shelf member 16 abuts the rear wall member 14. The apparatus 10 in its simplest configuration is thus assembled and can accept a pair of shoes.

If the shoes are, for example, a pair of tall or high boots, then further side wall members 12 with a rear wall member 14 can be stacked on the initially constructed base arrangement described above via the foot elements 48 and the associated recesses 50.

A top cover 74 can be placed on the assembled unit by the use of a further shelf member 16 being slid into the uppermost first keyway channels 34.

A further side wall member 12 can be coupled to one side of the assembled unit by attaching a further rear wall member 14 to the second keyway channel 40 on the opposite major surface 32 of one of the existing side wall members 12, and a further shelf member 16 can be engaged at a suitable location dependent on the size of the shoes to be stored.

Although the keyways are formed as part of the side wall members and the keys are formed as part of the rear wall member and the shelf member, the keys may be formed as part of the side wall members and the keyways may be formed as part of the rear wall member and the shelf member, or a combination thereof.

It is thus possible to provide shoe storage apparatus which is modular thus allowing the retrofitting of further components as and when necessity dictates. It is also possible to provide shoe storage apparatus which is compact and simple to dismantle, store and/or transport. Furthermore, the apparatus is lightweight, and, once assembled, the components cannot simply be lifted apart, thus providing a strong, rigid and robust freestanding structure.

The embodiments described above are provided by way of examples only, and various other modifications will be apparent to persons skilled in the art without departing from the scope of the invention as defined by the appended claims.

1. Modular shoe storage apparatus comprising at least two opposite side wall members, a rear wall member for interconnecting the side wall members, and at least one shelf member for interconnecting the side wall members, a plurality of first keyway channels integrally formed as one-piece with the side wall members or the shelf member, and a plurality of first keys slidably engagable with the first keyway channels only via the ends and which are integrally formed as one-piece with the other of the side wall members and the shelf member, a plurality of second keyway channels integrally formed as one-piece with the side wall members or the rear wall member, and a plurality of second keys slidably engagable with the second keyway channels only via the ends and which are integrally formed as one-piece with the other of the side wall members and the rear wall member.

2. Modular shoe storage apparatus as claimed in claim 1, wherein the first keyway channels extend from a front edge of the apparatus, and the second keyway channels extend from a top edge of the apparatus.

3. Modular shoe storage apparatus as claimed in claim 1, wherein the first keyway channels are provided on the side wall members and the first keys are provided on the shelf.

4. Modular shoe storage apparatus as claimed in claim 3, wherein the first keyway channels extend from a front edge of the side wall members and from a rear edge.

5. Modular shoe storage apparatus as claimed in claim 3, wherein the first keyway channels extend continuously from a front edge of the shelf member to a rear edge.

6. Modular shoe storage apparatus as claimed in claim 1, wherein the second keyway channels are provided on the side wall members and the second keys are provided on the rear wall member.

7. Modular shoe storage apparatus as claimed in claim 6, wherein the second keyway channels extend from a top edge of the side wall members and from a bottom edge.

8. Modular shoe storage apparatus as claimed in claim 6, wherein the second keys extend continuously from a top edge of the rear wall member to a bottom edge.

9. Modular shoe storage apparatus as claimed in claim 1, wherein the first keyways and/or the second keyways are formed on both major surfaces of each side wall member.

10. Modular shoe storage apparatus as claimed in claim 9, wherein the first keys and/or the second keys are provided on both major surfaces of the rear wall member and/or the shelf member.

11. Modular shoe storage apparatus as claimed in claim 1, wherein each key and/or keyway includes a detent for releasably positively retaining the key in the keyway.

12. Modular shoe storage apparatus as claimed in claim 1, wherein the side wall members are frames.

13. Modular shoe storage apparatus as claimed in claim 1, wherein the rear wall member is a frame.

14. Modular shoe storage apparatus as claimed in claim 1, wherein at least one first keyway channel or key is interrupted by an aperture through the respective side wall member.

15. Modular shoe storage apparatus as claimed in claim 1, wherein each said side wall member includes at least one foot on one of the upper and lower edges and a complementarily shaped recess on the other of the upper and lower edges for receiving the foot of a like side wall member.

16. Modular shoe storage apparatus as claimed in claim 1, wherein like said side wall members are stackably positively interengagable so that the major surfaces are coplanar.

17. Modular shoe storage apparatus as claimed in claim 1, wherein the shelf member is formed of light transmissible material.

18. Modular shoe storage apparatus as claimed in claim 1, wherein three or more said side wall members, two or more said rear wall members, and two or more said shelves are provided.

19. Modular shoe storage apparatus as claimed in claim 1, in the form of a kit of parts.

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