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(54) **Shelving**

(57) A shelving (1) having a first (2) and a second (3) standard provided to be positioned in an upright direction and at least one shelf (4) extending from the first standard (2) to the second standard (3), **characterized in that** the shelf (4) is hingedly mounted to the first (2) and second (3) standard such that the shelf (4) hinges the second standard (3) towards the first standard (2) when moving the second standard (3) along a direction substantially parallel to the upright direction with respect to the first standard (2). **characterized in that** the shelf (4) is hingedly mounted to the first (2) and second (3) standard such that the shelf (4) hinges the second standard (3) towards the first standard (2) when moving the second standard (3) along a direction substantially parallel to the upright direction with respect to the first standard (2).

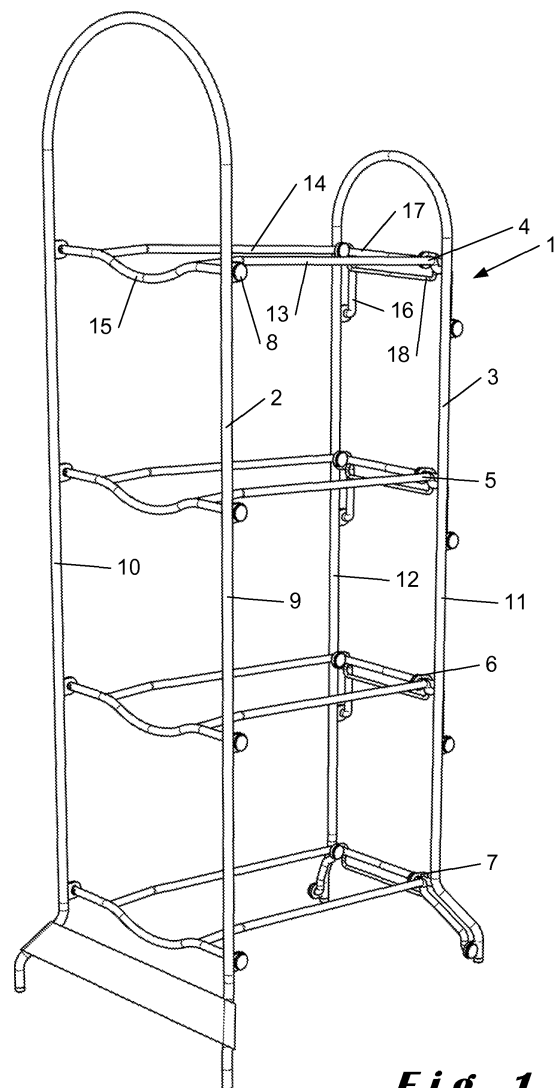


Fig. 1

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Description

[0001] The present invention relates to a foldable shelving, according to the preamble of the first claim.

[0002] Shelvings for storing various goods are already well known to the person skilled in the art. Such shelvings comprise a first and a second standard which are provided to be positioned in an upright direction. The standards are rigidly interconnected by several shelves. When the standards are positioned in the upright direction the shelves extend in a horizontal direction and extend from the first standard towards the second standard.

[0003] The known shelvings however have the problem that when unused, the shelvings take a substantial amount of space.

[0004] There is thus a need for a shelving which allows the amount of space taken up by the shelving to be reduced.

[0005] This is achieved according to the present invention with a shelving according to the characterizing part of the first claim.

[0006] Thereto, the shelf is hingedly mounted to the first and second standard such that the shelf hinges the second standard towards the first standard when moving the second standard along a direction substantially parallel to the upright direction with respect to the first standard.

[0007] The inventor has found that when the first and second standard of a shelving are interconnected by such hinging shelves, the shelving can be folded when unused and unfolded when used such that while unused the shelving takes up substantially less space and while used its storage capacity can be used.

[0008] The inventor has moreover found that as an effect of the folding of the shelf between the first and the second standard when moving the second standard along a direction substantially parallel to the upright direction with respect to the first standard, the shelf, when the shelving is folded, becomes positioned between the first and second standard with their longitudinal direction being substantially parallel. In such a position the shelf is substantially adjacently positioned between the first and the second standard substantially decreasing the space needed for storing the shelving.

[0009] Other details and advantages of the device according to the invention will become apparent from the enclosed figures and description of preferred embodiments of the invention.

Figure 1 shows a preferred embodiment of a foldable shelving according to the invention.

Figure 2 shows the shelving shown in figure 1 when folded.

[0010] The shelving 1 shown in figure 1 comprises a first 2 and a second 3 standard provided to be positioned in an upright direction. In figure 1 the standards 2, 3 are positioned in their upright position. At least one shelf 4

extends from the first standard 2 to the second standard 3. The shelf 4 is hingedly mounted to the first 2 and second 3 standard such that the shelf 4 hinges the second standard 3 towards the first standard 2 when moving the second standard 3 along a direction substantially parallel to the upright direction with respect to the first standard 2.

[0011] The shelving 1 shown in figure 1 is unfolded. The shelving 1 shown in figure 2 is folded. Due to the shelves 4, 5, 6, 7, the second standard 3 folds towards the first standard 2 when moving the second standard 3 along the direction substantially parallel to the upright direction with respect to the first standard 2. After folding the shelves 4, 5, 6, 7 become positioned substantially adjacently between the first 2 and second 3 standard, as shown in figure 2.

[0012] The first standard 2 shown in figure 1 comprises a first 9 and second 10 rack, the first rack 9 extending in longitudinal direction of the first standard 2 along a first side and the second rack 10 extending in longitudinal direction of the first standard 2 along a second side opposing the first side.

[0013] The second standard 3 shown in figure 1 comprises a third 11 and fourth 12 rack, the third rack 11 extending in longitudinal direction of the second standard 3 along a first side and the fourth rack 12 extending in longitudinal direction of the second standard 3 along a second side opposing the first side.

[0014] As shown in figure 1 and 2 the first 9, the second 10, the third 11 and/or the fourth 12 rack preferably are tubeshaped. This is however not critical for the invention and the first 9, the second 10, the third 11 and/or the fourth 12 rack can also have a square cross-section, a triangular cross-section, etc. The first 9, the second 10, the third 11 and/or the fourth 12 rack can be made in one piece or can be made of different pieces which are glued, stapled, nailed, welded, soldered, etc. together.

[0015] The first 9, the second 10, the third 11 and/or the fourth 12 rack for example may comprise wood, plastic, metal, such as for example steel, stainless steel, etc. Preferably, the first 9, the second 10, the third 11 and/or the fourth 12 rack comprises metal, more preferably steel and/or stainless steel.

[0016] As shown in figure 1, the standards 2, 3 preferably are substantially identical. This is however not identical and the dimension, form, material, etc. of the first and second standard 2, 3 are not critical for the invention and can be determined by the person skilled in the art.

[0017] The shelf 4 shown in figure 1 is provided to support a cylindrical object with its longitudinal direction extending substantially parallel to the direction along which the shelf 4 extends from the first standard 2 towards the second standard 3. Such a cylindrical object for example is a water container or a container containing another liquid. It is for example known to use cylindrical containers containing about 5 gallon and/or 10l, but not limited thereto, of liquid, such as water, in for example offices or homes in combination with a dispensing device.

The shelving 1 comprising a shelf 4 provided to support such containers in such a case can be used to store a replacement container or empty containers.

[0018] Although the shelf 4 shown in figure 1 are provided to support cylindrical objects, the shelf 4 can be adapted to store differently shaped objects such as for example rectangular, cubical, triangular, etc. objects.

[0019] The shelf 4 shown in figure 1 comprises three supporting members 13, 14, 15 adapted to support a cylindrical object as described above. However less or more than three supporting members 13, 14, 15 can be provided. A first 13 and a second 14 supporting member extend from the first standard 2 towards the second 3 standard from opposing sides of the first 2 and second 3 standard respectively. As shown in figure 1 the first supporting member 13 and the second supporting member 14 extend respectively from the first rack 9 towards the third rack 11 and from the second rack 10 towards the fourth rack 12. The distance between the first 13 and second 14 supporting member preferably is adapted to the object which is carried by the shelf 4. In case the shelf 4 is provided to carry a cylindrical object as described above, the distance between the first 13 and the second 14 supporting members preferably is adapted to the diameter of the cylindrical object such that the cylindrical object rests with its circumferential wall on the first 13 and the second 14 supporting member.

[0020] The shelf 4 shown in figure 1 comprises a third supporting member 15 which extends substantially along the first standard 2. The third supporting member 15 shown in figure 1 extends from the first rack 9 towards the second rack 10. The first and second supporting member 13, 14 are attached to the third supporting member 15. This is however not critical for the invention and the first 13 and second 14 supporting member can also be for example directly attached to the first standard 2.

[0021] The third supporting member 15 shown in figure 1 is provided to support a cylindrical object as described above. The third supporting member 15 shown in figure 1 thereto comprises a part which is provided to support at least part of the circumferential wall of the cylindrical object along circumferential direction of the cylindrical object.

[0022] As shown in figure 1 and 2 the first 13, the second 14 and/or the third 15 supporting member preferably are tubeshaped. This is however not critical for the invention and the first 13, the second 14 and/or the third 15 supporting member can also have a square cross-section, a triangular cross-section, etc. The first 13, the second 14 and/or the third 15 supporting member can be made in one piece or can be made of different pieces which are glued, stapled, nailed, welded, soldered, etc. together.

[0023] The first 13, the second 14 and/or the third 15 supporting member for example may comprise wood, plastic, metal, such as for example steel, stainless steel, etc. Preferably the first 13, the second 14 and/or the third 15 supporting member comprises metal, more preferably

steel and/or stainless steel.

[0024] The shelf 4 is hingeably connected to the first standard 2 using at least one hinge 8. Figure 1 shows that shelf 4 is connected to the first standard 2 using two hinges. The hinges shown in figure 1 hingeably interconnect the third supporting member 15 to the first standard 2. The type of hinge used to interconnect the shelf 4 to the first standard 2 is not critical for the invention and any type of hinge can be used.

[0025] The shelf 4 is also hingedly connected to the second standard 3. The type of hinge used to interconnect the shelf 4 to the second standard 3 is also not critical for the invention.

[0026] The first 13 and the second 14 supporting member shown in figure 1 are hingeably interconnected to the respective third 11 and fourth 12 rack by two hinges, each hinge interconnecting a respective first or second supporting member 13, 14.

[0027] The supporting members 13, 14 shown in figure 1 comprise a part 16 which is provided to run substantially along the second standard 3 when the shelving 1 is unfolded. This part 16 is however not critical for the invention and can be omitted.

[0028] As shown in figure 1 the second standard 3 preferably comprises an abutting member 17. The abutting member 17 is provided to abut to at least part of the shelf 4 when the shelving is unfolded. The abutting part 17 shown in figure 1 is provided to abut to the first and second supporting member 13, 14 and has been found to render the shelving more rigid. The abutting member 17 shown in figure 1 extends between the third 11 and fourth 12 rack.

[0029] As shown in figure 1 and 2 the abutting member 17 preferably is tubeshaped. This is however not critical for the invention and the abutting member 17 can also have a square cross-section, a triangular cross-section, etc. The abutting member 17 can be made in one piece or can be made of different pieces which are glued, stapled, nailed, welded, soldered, etc. together.

[0030] The abutting member 17 for example may comprise wood, plastic, metal, such as for example steel, stainless steel, etc. Preferably the abutting member 17 comprises metal, more preferably steel and/or stainless steel.

[0031] As shown in figure 1, the shelf 4 preferably comprises fastening means 18 for fastening the shelf 4 to at least one standard 2, 3 such that the risk that the shelving unwontedly unfolds is reduced. The fastening means 16 shown in figure 1 are adapted to clamp over the abutting member 17 to fasten the position of the shelf 4 with respect to the standards 2, 3. However, other fastening means 18 can be provided.

[0032] The fastening means 18 shown in figure 1 more specifically is a clamp hingeably mounted to the shelf 4, more specifically mounted to the first 13 and second 14 supporting member by a respective hinge. Other embodiments are however possible. The fastening means 18 have been found to give more strength to the shelving

1. The clamp preferably comprises metal, more preferably steel or stainless steel. However the clamp may for example also comprise wood, plastic, etc.

[0033] The shelving shown in figure 1 and 2 comprises a first 4, a second 5, a third 6 and a fourth 7 shelf. The number of shelves is however not critical for the invention and can be less or more than four such as one, two, three, five, six, seven, eight, etc. Although the shelves 4, 5, 6, 7 shown in figure 1 are substantial identical, this is not critical for the invention and different shelves can be used.

Claims

1. A shelving (1) having a first (2) and a second (3) standard provided to be positioned in an upright direction and at least one shelf (4) extending from the first standard (2) to the second standard (3), **characterized in that** the shelf (4) is hingedly mounted to the first (2) and second (3) standard such that the shelf (4) hinges the second standard (3) towards the first standard (2) when moving the second standard (3) along a direction substantially parallel to the upright direction with respect to the first standard (2).
2. A shelving (1) as claimed in claim 1, **characterized in that** the shelf (4) comprises a first (13) supporting member and second (14) supporting member and **in that** the first (13) supporting member and the second (14) supporting member are provided to receive at least part of a circumferential wall of a cylindrical body between them, when the cylindrical body is positioned with its longitudinal axis extending substantial along the direction with which the shelf (4) extends between the first (2) and the second (3) standard.
3. A shelving as claimed in claim 2, **characterized in that** the shelf (4) comprises a third supporting member (15) provided to support at least part of the circumferential wall of the cylindrical object along circumferential direction of the cylindrical object.

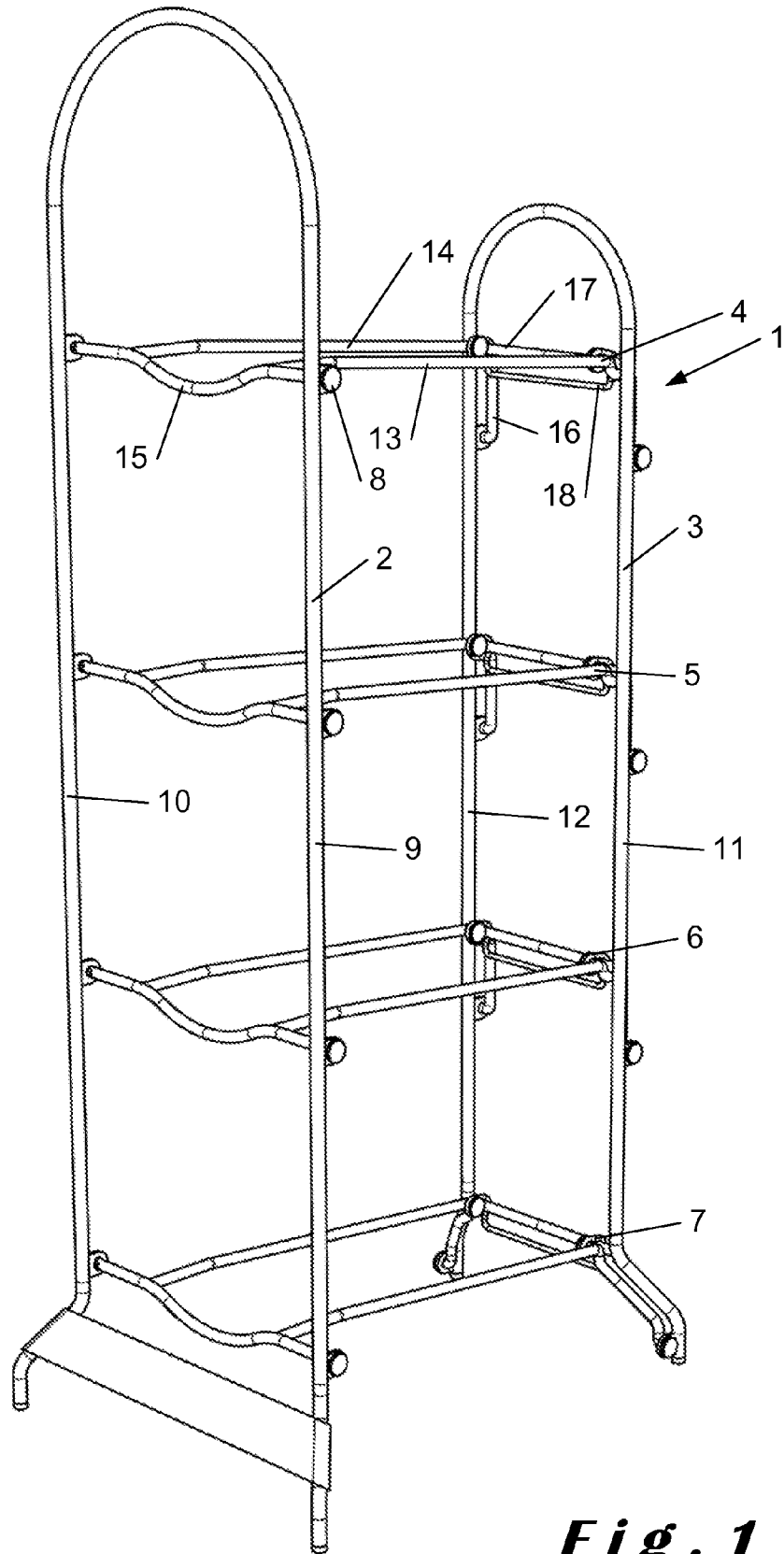


Fig. 1

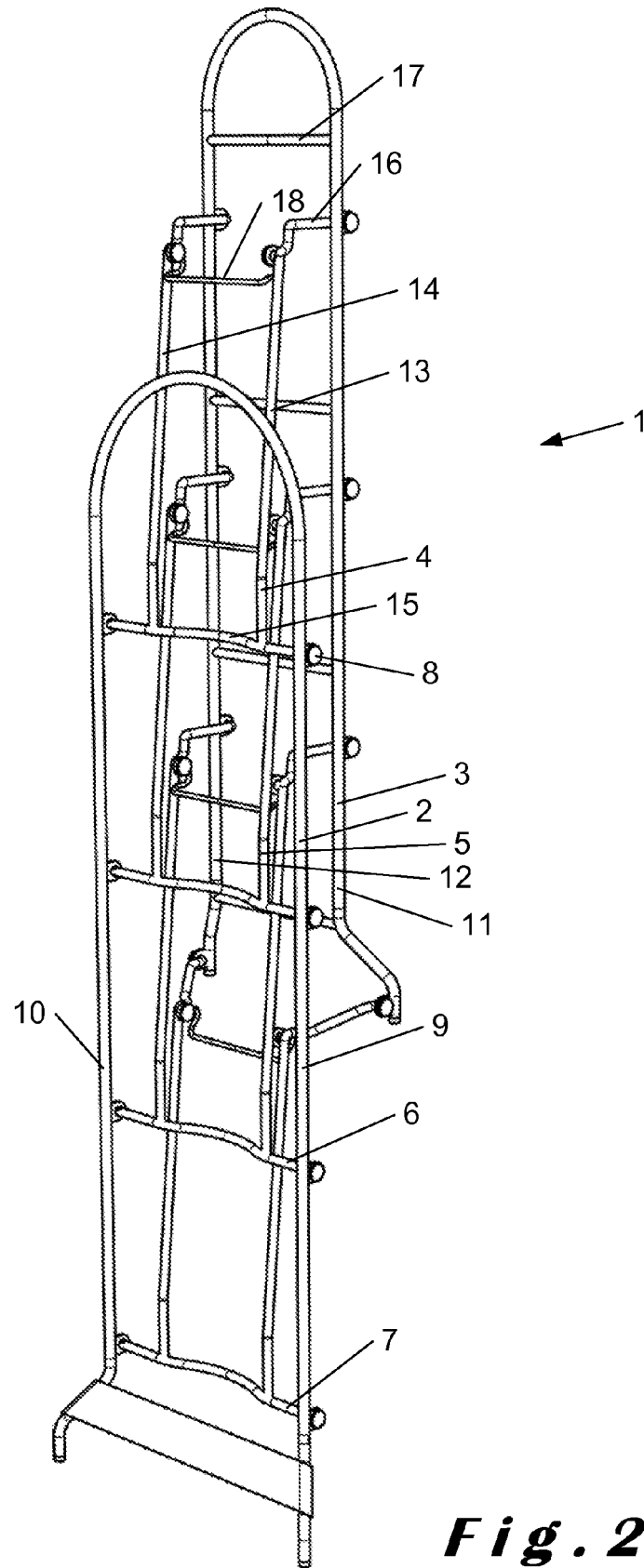


Fig. 2



EUROPEAN SEARCH REPORT

Application Number
EP 08 17 0023

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 15 April 2009	Examiner MacCormick, Duncan
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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 08 17 0023

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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