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(54) VARIABLE-VOLUME CONTAINER

BEHÄLTER MIT VARIABLEM VOLUMEN

CONTENEUR A VOLUME VARIABLE

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Description

[0001] This invention concerns a lifting container. More specifically, it concerns a lifting container formed into at least two parts, in which the main parts of the container are arranged in a manner allowing them to be connected in at least two mutually dissimilar positions, particularly for the purpose of reducing the container volume during return transport.

[0002] It is a well-known problem that lifting containers being returned after use, for example from an installation offshore, occupy the same cargo volume despite a relatively modest container weight. This situation results in supply boats not utilizing their payload due to the volume of empty containers occupying available cargo volume.

[0003] US Patent Specification 3966075 describes an "International Standards Organization" (ISO) container of the type having an end wall, floor, roof and end door means and a telescopically interfitting container for use therewith and having adapters whereby the interfitting container fixings can conform to ISO locations. Means are not described for performing mechanically or simply the operation of inserting one container into the other or for removing it. Nor does this interfitting container system provide a dismantlable container as such.

[0004] The object of the invention is to remedy the disadvantages of prior art.

[0005] The object is achieved in accordance with the invention and by means of the features disclosed in the following description and in the subsequent claims.

[0006] By forming a lifting container into at least two parts and in a manner allowing the main parts of the lifting container to be joined in at least two mutually dissimilar positions, it is possible to reduce the volume of the lifting container during return transport, for example. During cargo transport, the main parts of the lifting container are joined in a manner providing a relatively large lifting container volume, while it is joined in a mutual position during return transport, causing the lifting container to occupy a reduced volume.

[0007] According to the invention, a lifting container of the type arranged to be lifted by means of a lifting device, where the lifting container comprises at least a first container section having first sidewalls and a second container section having second sidewalls, where the first container section and the second container section are connectable in at least two mutually dissimilar positions and where the first and the second container sections are mutually and telescopically displaceable, is characterized by a pullout strap attachable to the second sidewalls of the second container section to extend around rollers on the first sidewalls of the first container section and arranged for connection to a lifting hook, so as to allow extending the container by pulling the strap by said hook.

[0008] The container parts are provided with a lock, for example in the form of locking bolts, for mutual locking of the container parts in each of the mutually connectable

positions. Preferably, the container parts are mutually lockable also in intermediate positions in order to adapt the length of the lifting container to the cargo length.

[0009] Preferably, a lifting point is arranged at each of the four outer corner portions of the lifting container, at which corner portions the respective end walls are connected to a sidewall. Optionally, the sidewalls of the lifting container parts, at their opposite portions, may also be provided with lifting points.

[0010] In a preferred embodiment, in which the container parts are mutually and telescopically displaceable, a pullout strap is connected to the sidewalls of the second container part at the portion of the sidewalls facing away from the end wall thereof.

[0011] The pullout strap extends about a roller connected to the sidewalls of the first container part via a flange at portion of the sidewalls facing away from the end wall thereof.

[0012] When the lifting container is to be extended to its extended position, the lock is released, and the bend of the pullout strap is placed in a lifting hook, for example. When the lifting hook pulls the pullout strap about the turning disks, the second container part is displaced in a direction outward and away from the first container part. After having engaged the lock, the lifting container is ready to be loaded and lifted.

[0013] For example, the lifting container may be moved together by lifting the lifting container from its four lifting points after having disengaged the lock.

[0014] To facilitate the mutual displacement of the second container part into the first container part, the first and the second container part may be provided with guides and/or guide rollers.

[0015] A lifting container may comprise two or more container parts, preferably telescopic container parts. For example, a container may comprise a container part at each end portion and also an intermediate container part without an end wall, and being arranged in a manner allowing it to be displaced into one or both end portion container parts.

[0016] In the following, a non-limiting example of a preferred embodiment is described and illustrated on the attached drawing, in which: .

Figure 1 shows, in perspective, an extended, two-part, telescopic lifting container during lifting;

Figure 2 shows, in perspective, a contracted, two-part, telescopic lifting container during extension by means of a pullout strap;

Figure 3 shows a section I-I of figure 1; and

Figure 4 shows, in perspective, a three-part, telescopic lifting container.

[0017] On the drawings, reference numeral 1 denotes a telescopic lifting container comprising a first container

part 2 and a second container part 4.

[0018] The first container part 2 comprises a first end wall 6, first sidewalls 8 and a first floor 10. The second container part 4 comprises a second end wall 12, second sidewalls 14 and a second floor 16.

[0019] At their respective corner portions, where the first end wall 6 is connected to the first sidewalls 8, and where the second end wall 12 is connected to the second sidewalls 14, the first container part 2 and the second container part 4 are provided with lifting points 18.

[0020] The second container part 4 fits complementarily within the first container part 2. Both container parts 2 and 4 are provided with cut outs 20 for locking bolts 22. When the locking bolts 22 are placed in their respective and corresponding cut outs 20, the container parts 2 and 4 thus form a liftable, telescopic container 1.

[0021] A pullout strap 24, cf. figure 2, is connected to the second sidewalls 14 relative to the opposite portion 26 of the second end wall 12. The pullout strap 24 extends about a roller 28 connected to the first sidewalls 8 relative to the opposite portion 30 of the first end wall 6.

[0022] When the lifting container is to be extended, the bend of the pullout strap 24 is placed in a lifting hook 32. By allowing the lifting hook to pull the pullout strap 24 about the rollers 28 after having removed the locking bolts 22 from the cut outs 20, the second container part 4 is displaced in a direction outward and away from the first container part 2.

[0023] When the lifting container 1 has achieved the desired length, the container parts 2 and 4 are locked together by means of the locking bolts 22, after which the lifting container 1 is ready for loading and lifting by means of a lifting device 33.

[0024] In this preferred embodiment, the first container part 2 is provided with a number of guide rollers 34. The guide rollers 34 project up through cut outs 36 in upper flanges 38 of the first sidewalls 8. The guide rollers 34 are arranged to support flanges 40 of the second sidewalls 14 in order to facilitate the telescopic displacement of the second container part 4 within the first container part 2.

[0025] In an alternative embodiment the telescopic lifting container 1 comprises a first end portion container part 42, a second end portion container part 44 and an intermediate container part 46, in which the intermediate container part 46 is arranged in a manner allowing it to be displaced into both the first and the second end portion container parts 44 and 46.

Claims

1. A lifting container of the type arranged to be lifted by means of a lifting device, where the lifting container comprises at least a first container section (2) having first sidewalls (8) and a second container section (4) having second sidewalls (14), where the first container section and the second container section are

connectable in at least two mutually dissimilar positions and where the first and the second container sections are mutually and telescopically displaceable, **characterized by** a pullout strap (24) attachable to the second sidewalls (14) of the second container section (4) to extend around rollers (28) on the first sidewalls (8) of the first container section (2) and arranged for connection to a lifting hook, so as to allow extending the container by pulling the strap by said hook.

2. A lifting container as claimed in claim 1 and wherein the first and second sidewalls have flanges (38, 40), and by guide rollers (34) supporting flanges (40) of the second sidewalls (14).
3. A lifting container as claimed in claim 1 or claim 2 and **characterized by** an intermediate container section (46).
4. A lifting container as claimed in any one of claims 1 to 3 and wherein both the first and second container sections (2,4) have lifting cable attachment means (18).

Patentansprüche

1. Hebebehälter des Typs, der eingerichtet ist, mittels einer Hebevorrichtung gehoben zu werden, wobei der Hebebehälter wenigstens einen ersten Behälterabschnitt (2) mit ersten Seitenwänden (8) und einen zweiten Behälterabschnitt (4) mit zweiten Seitenwänden (14) umfasst, wobei der erste Behälterabschnitt und der zweite Behälterabschnitt in wenigstens zwei wechselseitig unterschiedlichen Positionen verbindbar sind und wobei die ersten und zweiten Behälterabschnitte wechselseitig und teleskopartig versetzbar sind, **gekennzeichnet durch** ein Zugband (24), das an den zweiten Seitenwänden (14) des zweiten Behälterabschnitts (4) befestigt ist, um sich um Rollen (28) an den ersten Seitenwänden (8) des ersten Behälterabschnitts (2) herum zu erstrecken, und zur Verbindung mit einem Hebehaken eingerichtet, um ein Erweitern des Behälters **durch** ein Ziehen des Bandes **durch** den Haken zu ermöglichen.
2. Hebebehälter nach Anspruch 1, wobei die ersten und zweiten Seitenwände Flanschen (38, 40) haben und durch Führungsrollen (34), die die Flanschen (40) der zweiten Seitenwände (14) stützen.
3. Hebebehälter nach Anspruch 1 oder 2, **gekennzeichnet durch** einen mittleren Behälterabschnitt (46).
4. Hebebehälter nach einem der Ansprüche 1 bis 3,

wobei sowohl die ersten als auch die zweiten Behälterabschnitte (2, 4) eine Befestigungseinrichtung (18) für ein Hebeseil haben.

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Revendications

1. Conteneur pouvant être soulevé, du type agencé pour être soulevé au moyen d'un dispositif de levage, dans lequel le conteneur pouvant être soulevé comprend au moins une première section de conteneur (2) ayant des premières parois latérales (8) et une seconde section de conteneur (4) ayant des secondes parois latérales (14), dans lequel la première section de conteneur et la seconde section de conteneur peuvent être assemblées dans au moins deux positions respectivement différentes et dans lequel les première et seconde sections de conteneur peuvent être déplacées l'une par rapport à l'autre et télescopiquement, **caractérisé par** une sangle de déploiement (24) qui peut être attachée aux secondes parois latérales (14) de la seconde section de conteneur (4) pour passer autour de rouleaux (28) prévus sur les premières parois latérales (8) de la première section de conteneur (2) et qui est agencée pour être reliée à un crochet de levage de manière à permettre la mise en extension du conteneur en tirant la sangle au moyen dudit crochet. 10 15 20 25
2. Conteneur pouvant être soulevé selon la revendication 1 et dans lequel les premières et secondes parois latérales ont des rebords (38, 40), et qui est **caractérisé par** des rouleaux guides (34) qui supportent des rebords (40) des secondes parois latérales (14). 30 35
3. Conteneur pouvant être soulevé selon la revendication 1 ou selon la revendication (2) et **caractérisé par** une section intermédiaire de conteneur (46). 40
4. Conteneur pouvant être soulevé selon l'une quelconque des revendications 1 à 3 et dans lequel les première et seconde sections de conteneur (2, 4) présentent des moyens (18) d'attache de câbles de levage. 45

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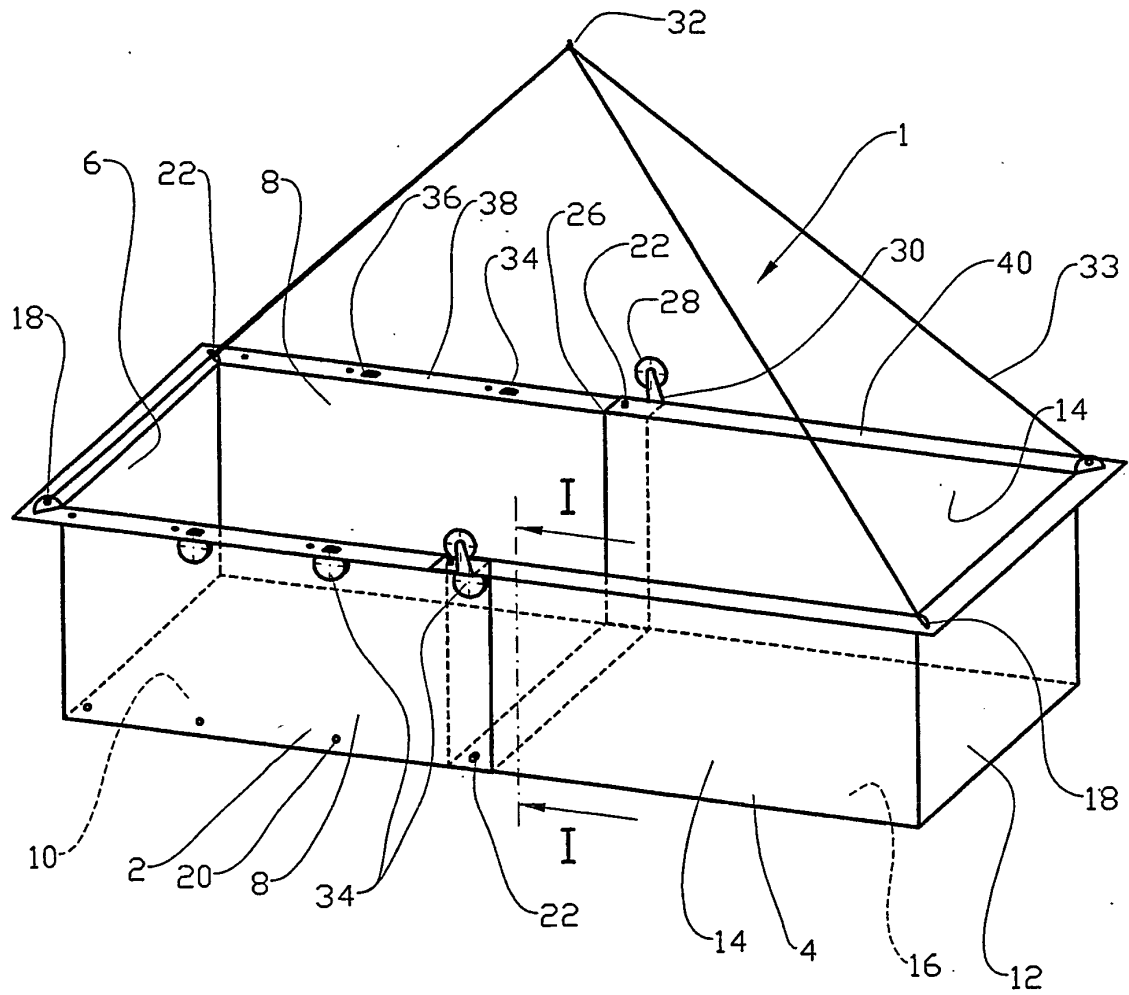


Fig. 1

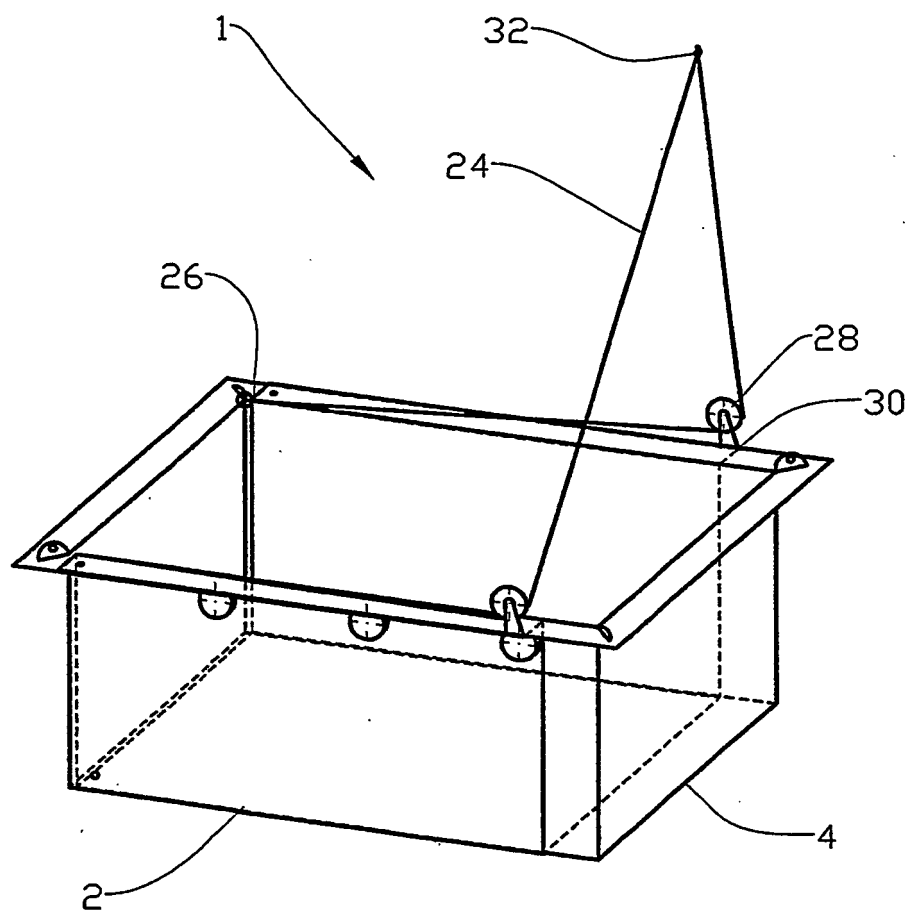


Fig. 2

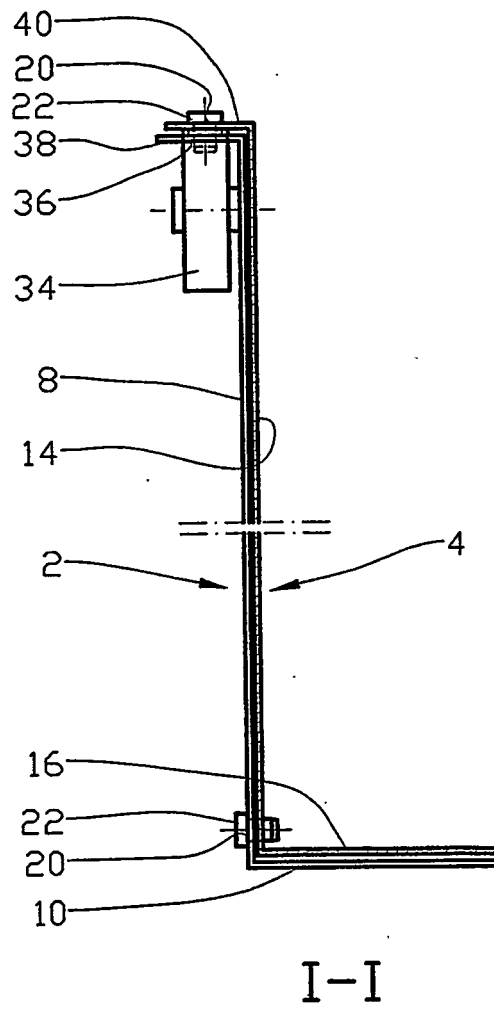


Fig. 3

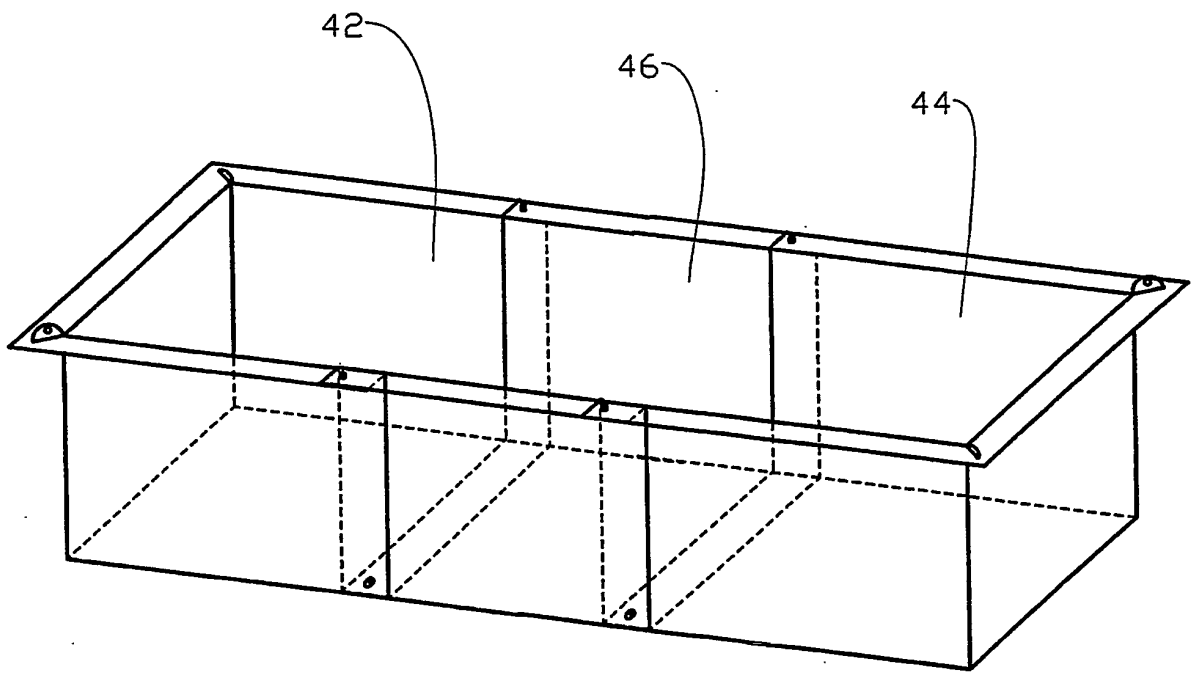


Fig. 4

REFERENCES CITED IN THE DESCRIPTION

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