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(54) **IMPROVED DEDICATED BULK BAG FOR CONTAINER USE CONVENIENT FOR LOADING AND UNLOADING**

(57) An improved container-dedicated bulk bag for convenient loading and unloading includes a bag body, and two forklift-specific fork guide tubes. The two forklift-specific fork guide tubes pass through an upper end of the bag body and are respectively fixed on two inner

side walls of the upper end of the bag body. In use, forks of a forklift are inserted directly into the forklift-specific fork guide tubes to quickly fork and lift the bulk bag. The bulk bag can facilitate the operation of the forklift, and improve the load-bearing characteristics and stability.

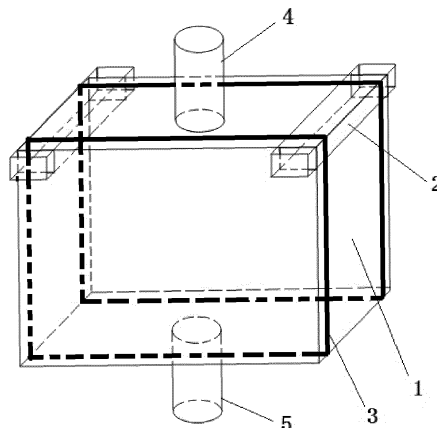


FIG. 1

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Description

TECHNICAL FIELD

[0001] The present invention relates to an improved container-dedicated bulk bag for convenient loading and unloading.

BACKGROUND

[0002] Due to the limitation on the height of a container, a forklift is required to load goods of a bulk bag into the container. At present, however, the typical loading methods for bulk bags have the following shortcomings.

1. The forklift directly forks the bag lug of the bulk bag to load it into the container. This manner has the following disadvantages: the container has a limited capacity and height, the load-bearing capacity of the prior bulk bag is about 1 ton, and the bulk bags are stacked in two layers when being loaded. The height of the bulk bag for being loaded into the container is generally up to half the height of the container. The bulk bag in the lower layer may be loaded simply and conveniently, but the bulk bag in the upper layer is difficult to be loaded into the container by the forklift due to the limited height of the container plus the height of the bag lug of the bulk bag. Even if the height of the two layers of bulk bags is reduced for being loaded into the container, it is also very tedious to search for the bag lug and then fork the bag lug to unload the bulk bag, which requires the special personnel to climb into the container by means of auxiliary professional tools. In addition, when the fork of the forklift at work may touch or stick into the bag body, it is easy to damage the bulk bag.

2. The bulk bag is put on the pallet, and the forklift loads the pallet with the bulk bag into the container. This manner has the disadvantages as follows: (1) the pallet occupies the capacity of the container, which increases the cost; (2) the export of goods needs fumigation, and there is a risk of returning the goods if they fail to pass the fumigation.

3. The crane grips the bag lug of the bulk bag and loads it into an open-top container. This manner has the disadvantages as follows: (1) the number of the open-top container is insufficient; (2) the cost is expensive; (3) the open-top container has an open top that is disadvantageous to some products, and thus cannot meet the loading needs of all products.

4. CN201821228100.X discloses a container-dedicated bulk bag for convenient loading and unloading. This patent was filed by the same inventor and has been granted, but it still has some shortcomings. The bag body described in the patent is externally provided with a bag lug, and the fork guide tube of the forklift passes through the bag lug and is fastened thereon, which causes stress imbalance. When the

container is forked, a large part of the strain is concentrated on the bag lug having poor load-bearing characteristics, thereby breaking the bag lug or damaging the bag body. Therefore, this patent has limitations on applying the bulk bag for a relatively heavy container.

SUMMARY

[0003] Aiming at solving the problems of tedious loading of prior bulk bags into containers and high damage rate during loading, as well as solving the problem of forking relatively heavy containers, the present invention provides an improved container-dedicated bulk bag for convenient loading and unloading, which is convenient for a forklift to enter the container, convenient for the bulk bag to be piled up and unloaded by the forklift, and can stably lift up the bulk bag.

[0004] In order to achieve the above objective, the present invention adopts the following technical solutions.

[0005] An improved container-dedicated bulk bag for convenient loading and unloading, includes a bag body (1), and two forklift-specific fork guide tubes (2) that pass through an upper end of the bag body (1) and are respectively fixed on two inner side walls of the upper end of the bag body (1).

[0006] Preferably, a reinforced support belt (3) is respectively arranged in a direction perpendicular to the forklift-specific fork guide tubes (2) and surrounded onto two ends of the bag body (1).

[0007] More preferably, the reinforced support belt (3) is surrounded on the outer surface or the inner surface of the bag body (1).

[0008] Preferably, a material feeding port (4) is arranged above the bag body (1), and a material discharging port (5) is arranged below the bag body (1).

[0009] Preferably, two ends of the forklift-specific fork guide tube (2) protrude out of the bag body (1) or are aligned with the bag body (1).

[0010] Preferably, the diameter of the forklift-specific fork guide tube (2) is larger than the width of a forklift-specific fork.

[0011] The present invention is further explained below.

[0012] In the present invention, a guide tube slightly larger than the size of the forklift-specific fork is prepared (the guide tube is made of steel, paper, iron, plastic or any other material). The guide tube is symmetrically mounted into the upper end of the bag body to form the forklift-specific fork guide tubes, and the forklift-specific fork guide tubes are respectively fixed on two inner side walls of the upper end of the bag body 1. Further, the reinforced support belt is arranged on the bag body to improve the load-bearing characteristics and stability. In use, the forks of the forklift are inserted directly into the forklift-specific fork guide tubes to quickly fork and lift the bulk bag.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] FIG. 1 is a schematic diagram of the structure of an improved container-dedicated bulk bag for convenient loading and unloading according to the present invention.

[0014] In the figure: 1, bag body; 2, forklift-specific fork guide tube; 3, reinforced support belt; 4, material feeding port; and 5, material discharging port.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0015] Referring to FIG. 1, an improved container-dedicated bulk bag for convenient loading and unloading includes the bag body 1, and two forklift-specific fork guide tubes 2 that pass through the upper end of the bag body 1 and are respectively fixed on two inner side walls of the upper end of the bag body 1.

[0016] The reinforced support belt 3 is respectively arranged in a direction perpendicular to the forklift-specific fork guide tubes 2 and surrounded onto two ends of the bag body 1. The reinforced support belt 3 is surrounded on the outer surface or the inner surface of the bag body 1. The material feeding port 4 is arranged above the bag body 1, and the material discharging port 5 is arranged below the bag body 1. The two ends of the forklift-specific fork guide tube 2 protrude out of the bag body 1 or are aligned with the bag body 1. The diameter of the forklift-specific fork guide tube 2 is larger than the width of the forklift-specific fork.

ranged below the bag body (1).

5. The container-dedicated bulk bag for the convenient loading and unloading according to any one of claims 1-4, wherein two ends of the forklift-specific fork guide tube (2) protrude out of the bag body (1) or are aligned with the bag body (1).
6. The container-dedicated bulk bag for the convenient loading and unloading according to any one of claims 1-4, wherein a diameter of the forklift-specific fork guide tube (2) is larger than a width of a forklift-specific fork.

Claims

1. An improved container-dedicated bulk bag for convenient loading and unloading, comprising: a bag body (1), and two forklift-specific fork guide tubes (2), wherein the two forklift-specific fork guide tubes (2) pass through an upper end of the bag body (1) and are respectively fixed on two inner side walls of the upper end of the bag body (1).
2. The container-dedicated bulk bag for the convenient loading and unloading according to claim 1, wherein a reinforced support belt (3) is respectively arranged in a direction perpendicular to the forklift-specific fork guide tubes (2) and surrounded onto two ends of the bag body (1).
3. The container-dedicated bulk bag for the convenient loading and unloading according to claim 2, wherein the reinforced support belt (3) is surrounded on an outer surface or an inner surface of the bag body (1).
4. The container-dedicated bulk bag for the convenient loading and unloading according to claim 1, wherein a material feeding port (4) is arranged above the bag body (1), and a material discharging port (5) is ar-

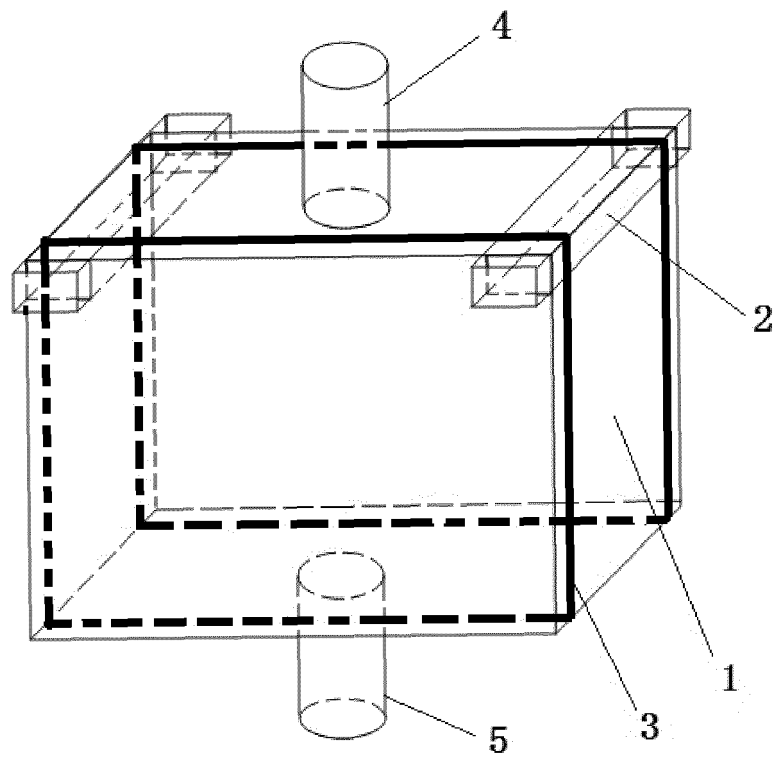


FIG. 1

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2020/076091

A. CLASSIFICATION OF SUBJECT MATTER

B65D 88/22(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

SIPOABS, VEN, CNABS: 袋, 导管, 叉车, 集装袋, bag, fork, sleeve, lift

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	CN 208560395 U (XIANGTAN HAOKANG ECOLOGICAL MATERIAL CO., LTD.) 01 March 2019 (2019-03-01) entire document	1-6
A	CN 202704273 U (NANTONG LIANRONG GROUP CO., LTD.) 30 January 2013 (2013-01-30) entire document	1-6
A	WO 9935058 A1 (JARDINE MARK HAMILTON) 15 July 1999 (1999-07-15) entire document	1-6
A	WO 2018142196 A1 (CODEFINE SA) 09 August 2018 (2018-08-09) entire document	1-6
A	GB 201202582 D0 (FLEXITUFF INTERNAT LTD) 28 March 2012 (2012-03-28) entire document	1-6

☐ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2020/076091

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