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(54) Title: STORAGE BOX LID LOCKING SYSTEM

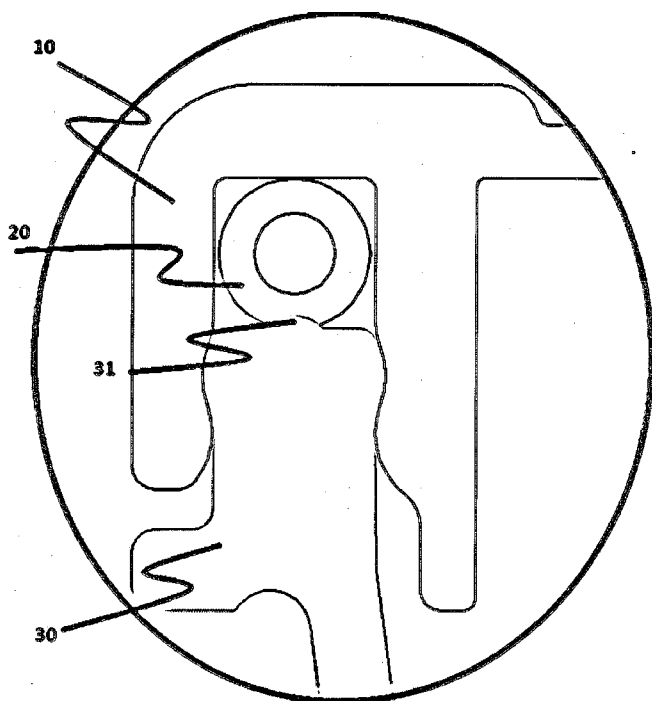


Figure 2

(57) Abstract: The invention relates to storage boxes (30) and storage box lid locking systems used for storage of products at various temperatures in air-free environments and providing ease of usage with its technical novelties. The invention particularly relates to the storage box (30) positioning the invention on the ground and comprising the other components, a lid (10) required for storing products within said storage box (30), and the storage box (30) locking system comprising at least one seal (20) positioned between said storage box (30) and said lid (10), based on the method of compressing said seal (20), and thus preventing air inlet into the storage box (30).



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— with international search report (Art. 21(3))

DESCRIPTION

STORAGE BOX LID LOCKING SYSTEM

5 THE RELATED ART

The invention relates to storage boxes and storage box lid locking systems used for storage of products at various temperatures in air-free environments and providing ease of usage with its technical novelties.

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The invention particularly relates to the storage box positioning the invention on the ground and comprising the other components, a lid required for storing products within said storage box, and the storage box locking system comprising at least one seal positioned between said storage box and said lid, based on the method of
5 compressing said seal, and thus preventing air inlet into the storage box.

THE PRIOR ART

Storage box is a tool wherein any product that requires being stored or would
0 possibly decompose in short time is placed.

In prior art applications, storage boxes comprise ratchet systems, which have high risk of failure due to having redundant technical components. Moreover, unwanted situations such as breaking of the ratchet may occur in the ratchet systems under the conditions of high amount of heat transfer. These kinds of unwanted situations may
5 also cause financial loss for the consumer.

One of the most significant problems in the storage boxes used in the prior art is the occurrence of lid and chamber incompatibility due to the change in temperature. As a result of this, the lid does not fit exactly on the chamber and the desired protection can not be achieved in the storage box.

Since pressure can not be equally distributed between the storage box and the lid in the prior art systems, air gaps are formed at the low pressure regions.

- 5 In the light of these results, a novel embodiment is required for solution of above said problems of the prior art storage box locking system mechanisms. The invention is presented for solution of above said problems.

PURPOSE OF THE INVENTION

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The invention solves all of the above said problems at the same time. The present invention basically relates to the storage box positioning the invention on the ground and comprising the other components, a lid required for storing products within said storage box, and the storage box locking system comprising at least one seal
15 positioned between said storage box and said lid, based on the method of compressing said seal, and thus preventing air inlet into the storage box.

A purpose of the invention is to provide compatible mounting of the storage box and the lid part by means of the cambers formed on the storage box and the lid part.

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Another purpose of the invention is to provide a storage box that is not affected from the change of temperature and thus show resistance against the change in the temperature.

- 25 Another purpose of the invention is to expose the seal to sufficient pressure by means of the seal pressure protrusion formed on the upper part of the storage box in order to enable the lid tightly grasp the storage box.

The invention is storage box lid locking system used for storage of products at various temperatures in air-free environments and providing ease of usage with its technical novelties, comprising at least one storage box positioning the invention on the ground, at least one lid positioned on said storage box, and at least one seal that is squeezed by being compressed during connection of said storage box and said lid with each other; wherein connection between said storage box and said lid is made by means of at least one camber and at least one indent formed on said storage box and lid, respectively, and comprises at least one protrusion that is formed on said storage box or lid in order to squeeze said seal during connection of said storage box and said lid with each other.

The present invention shall be a preferred product in the sector with its present form. Therefore, it would provide commercial success.

The structural and characteristic features of the invention and all advantages will be understood better in detailed descriptions with the figures given below and with reference to the figures, and therefore, the assessment should be made taking into account the said figures and detailed explanations.

FIGURES FOR BETTER UNDERSTANDING OF THE INVENTION

Figure – 1; is the drawing showing the side section view of the storage box, lid, and seal group of the invention.

Figure – 2; is the detailed drawing showing the side section view of the storage box, lid, and seal group of the invention.

Figure – 3; is the detailed drawing showing the upper part of the storage box of the invention.

Figure – 4; is the detailed drawing showing the lid of the invention.

Figure – 5; is the detailed drawing showing the alternative storage box and the alternative lid of the invention without the unilateral camber indent.

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Figure – 6; is the detailed drawing showing the storage box and the alternative lid of the invention and comprising the seal pressure protrusion both on the storage box and the alternative lid.

10 Figure – 7; is the detailed drawing showing the storage box and the alternative lid of the invention and comprising the seal pressure protrusion on the alternative lid.

REFERENCE NUMBERS

5 10. Lid

11. Lid indent

20. Seal

30. Storage box

31. Seal Pressure Protrusion

10 32. Storage box Camber Protrusion

The invention will be better understood when described with reference to above given reference numbers and attached figures.

15 DETAILED DESCRIPTION OF THE INVENTION

Below given description, reference numbers and attached drawings are provided only for exemplary purposes and to provide better understanding of the invention.

Figure – 1 and Figure-2 are the normal and detailed drawing showing side section view of the storage box (30), lid (10), and seal (20) of the present invention. Storage box (30) is positioned and then the lid (10) is placed on the storage box (30) by means of the storage box camber protrusion (32) found on the storage box (30) as shown in Figure-3 and the lid indent (11) found on the lid (10) as shown in Figure-4. Seal (20) is attached between the lid (10) and the storage box (30) and when the lid (10) is positioned on the storage box (30), the seal pressure protrusion (31) found at the upper end of the storage box (30) applies pressure on the seal (20) and the seal (20) applies pressure on the lid (10) part to recover to its original shape since it is squeezed. In this way, the lid (10) tightly locks the storage box (30). In order to prevent the magnitude of this pressure from being affected by cold or hot air, seal pressure protrusion (31) is formed at the storage box (30) upper part. When the system is locked, the product placed within the storage box (30) is prevented from air contact and thus the product life increases. The descriptions provided in the invention and the detailed description are given for the exemplary system comprising seal pressure protrusion (31) on the storage box (30).

Alternative embodiments of the invention are given in Figure-5, Figure-6, and Figure-7.

In Figure-5, the right side of the lid (10) part does not comprise lid indent (11). The seal (20) can also be squeezed in this way and perform its task.

In Figure-6, seal pressure protrusion (31) is formed both on the lid (10) and the storage box (30). The seal (20) can also be squeezed in this way and perform its task.

In Figure-7, seal pressure protrusion (31) is only formed on the lid (10) and the upper part. The seal (20) can also be squeezed in this way and perform its task.

CLAIMS

1. The invention is storage box lid locking system used for storage of products at various temperatures in air-free environments and providing ease of usage with its technical novelties, and it is characterized in that; it comprises:

- at least one storage box (30) positioning the invention on the ground,
- at least one lid (10) positioned on said storage box (30), and
- at least one seal (20) that is squeezed by being compressed during connection of said storage box (30) and said lid (10) with each other.

2. Storage box locking system according to claim 1, and it is characterized in that; connection between said storage box (30) and said lid (10) is made by means of the camber and indent formed on said storage box (30) and lid (10), respectively.

3. Storage box locking system according to claim 1, and it is characterized in that; it comprises at least one protrusion that is formed on said storage box (30) or lid (10) in order to squeeze said seal (20) during connection of said storage box (30) and said lid (10) with each other.

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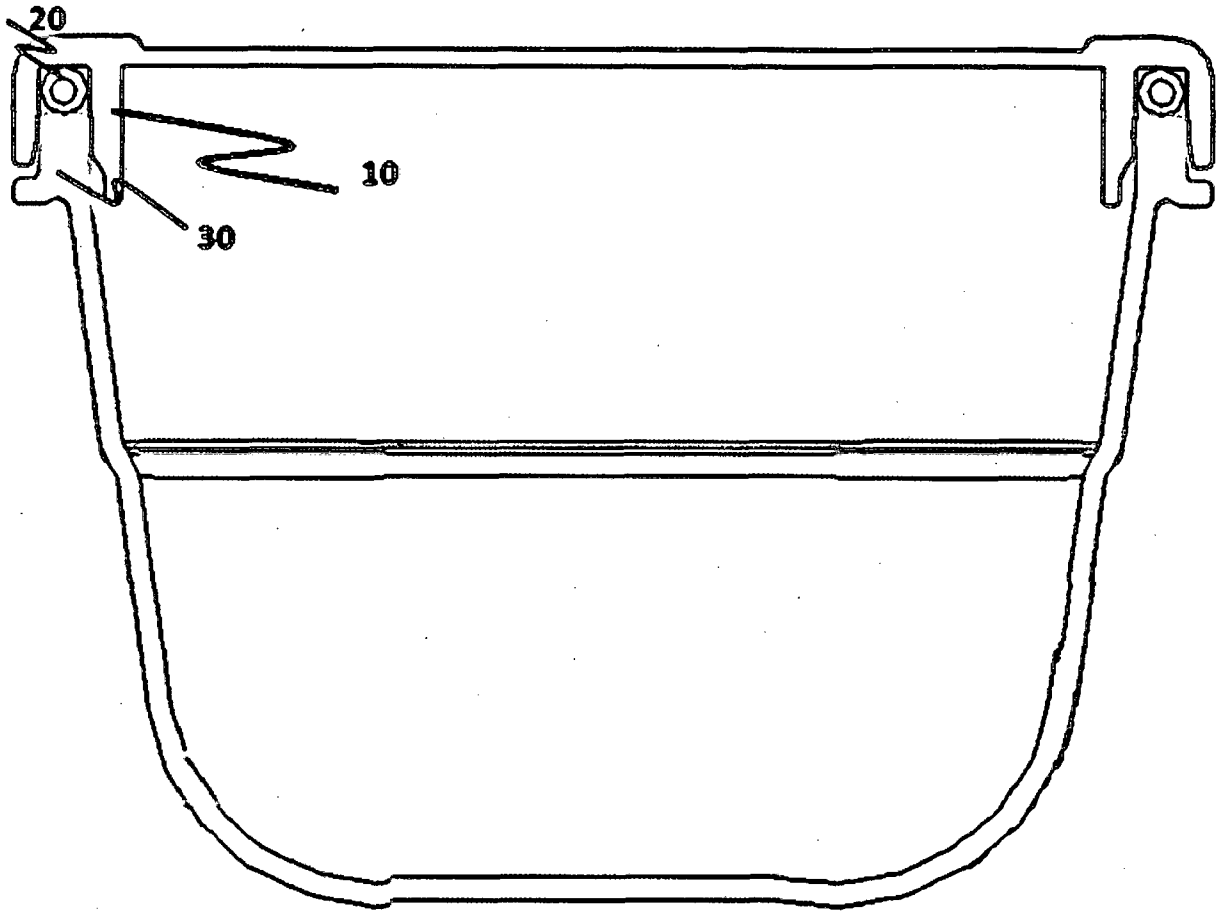


Figure 1

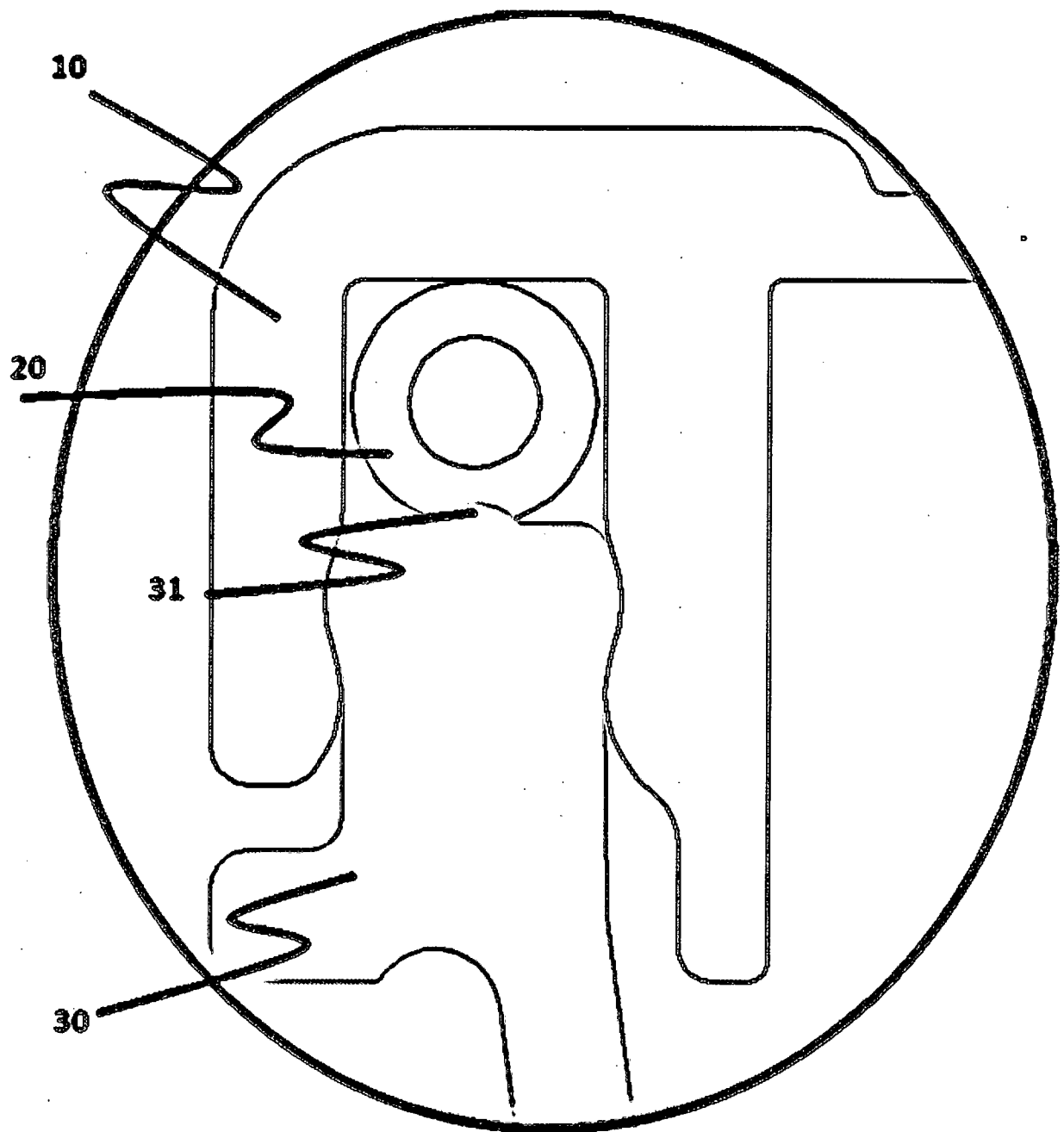


Figure 2

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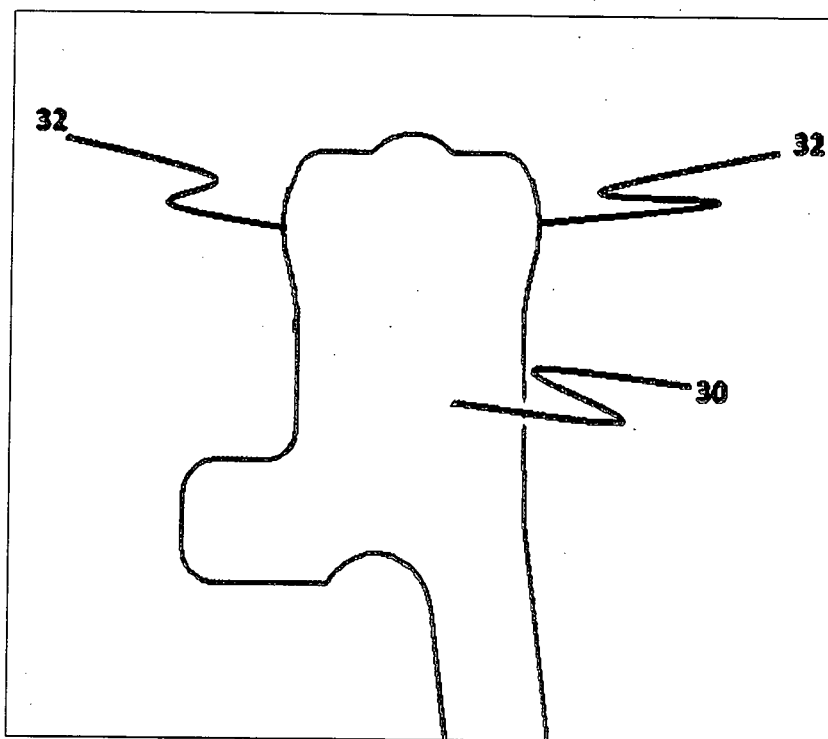


Figure 3

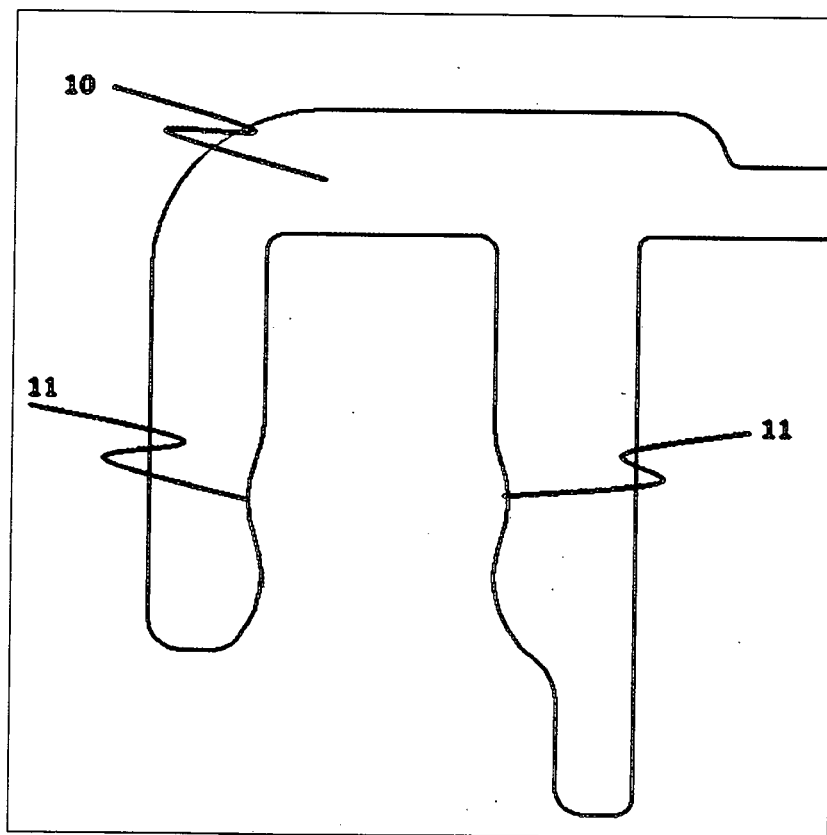


Figure 4

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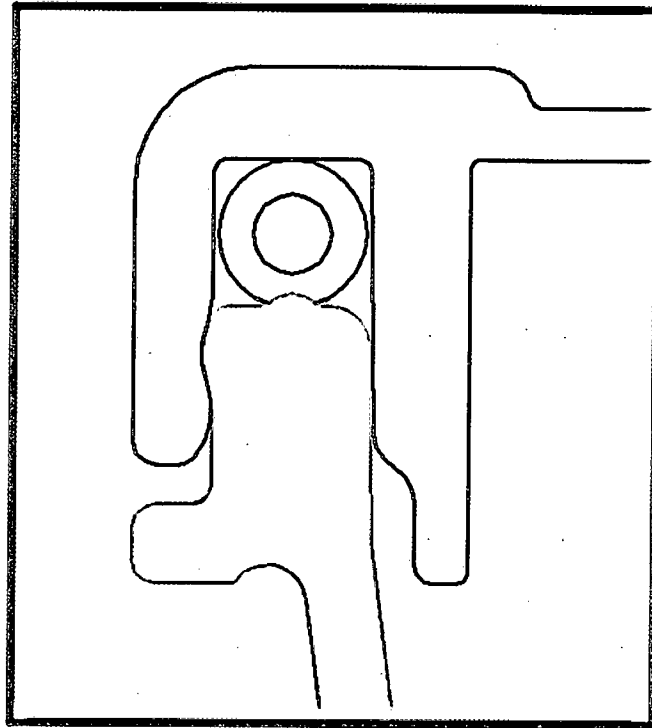


Figure 5

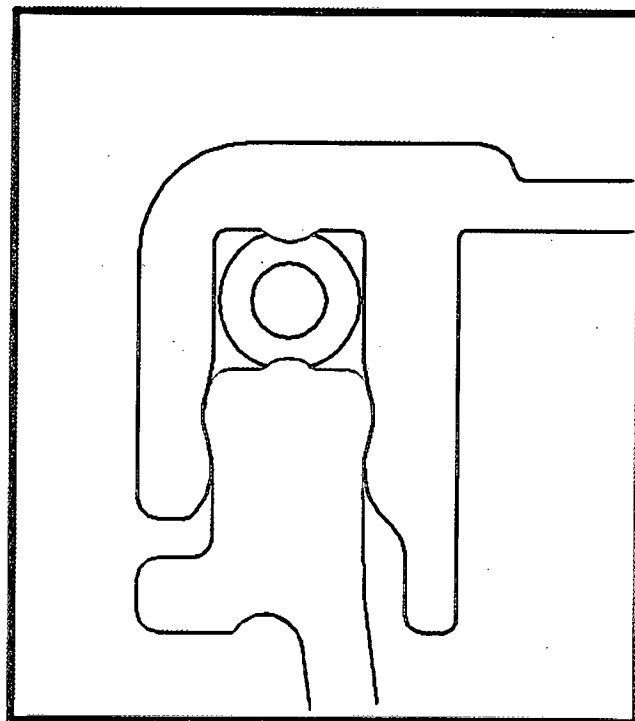


Figure 6

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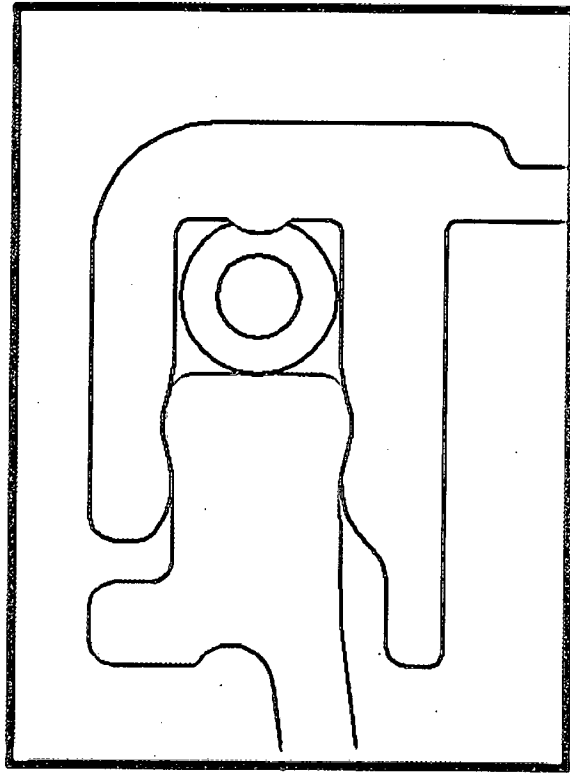


Figure 7

INTERNATIONAL SEARCH REPORT

International application No
PCT/TR2014/000095A. CLASSIFICATION OF SUBJECT MATTER
INV. B65D43/02
ADD.

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)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 977 563 A (HOLT WILLIAM GILBERT) 31 August 1976 (1976-08-31) figure 3	1-3
X	US 4 166 548 A (CRISCI VICTOR E [US]) 4 September 1979 (1979-09-04) figure 2	1,2



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

27 June 2014

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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			DE 7620452 U1	14-10-1976
			ES 221949 Y	01-03-1977
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