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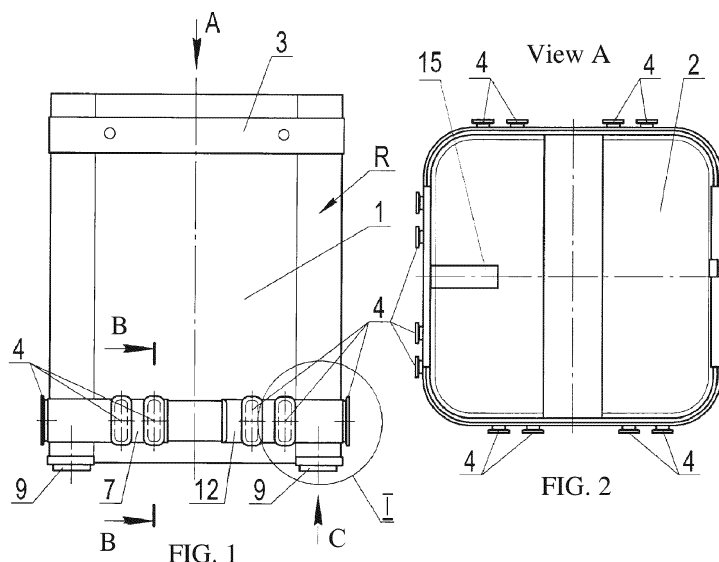
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(54) **CONTAINER WITH FASTENING MEANS**

(57) A container with fastening means comprises a box-like body in the shape of a parallelepiped with rounded ribs, a cover, and means for lifting and transferring the container. The side faces of the container are configured with latches that are staggered in a ring in a horizontal plane so as to be capable of engaging with latches on adjacent analogous containers. The means for lifting and transferring the container are disposed in the upper part of the side faces. The latches are detachable, are arranged in two pairs on each face of the container, and are shaped like a mushroom having a flat rectangular cap and a stem of corresponding shape which is inserted

in an opening in a rectangular plate. Said plate is provided with an analogous parallel rectangular opening for mating with the second analogous latch of a latch pair. Configured along the axis of the stem in the direction of the centre of the cap is a threaded blind hole, via which the latch is secured from inside the container by means of a screw. In addition, horseshoe-shaped supports are secured to the ribs of the container from the underside, said supports being designed to interact with a supporting metal strip fastened below the cover to the inside surfaces of the side faces of the container.



Description

Field of invention

[0001] The invention relates to containers, namely to containers for transportation and storage of articles and materials.

Prior art

[0002] A container with fastening means is known, comprising a box-like body in the form of a parallelepiped with rounded ribs, a cover, and means for lifting and transferring the container, wherein the side faces of the container are provided with latches that are staggered in a circle in a horizontal plane so as to be capable of engaging with latches of adjacent analogous containers (patent RU2635075, IPC B65D1/00, published on: 08.11. 2017, bulletin 31).

[0003] This technical solution is the closest to the invention in terms of technical essence and the effect achieved, therefore it is taken as a prototype.

[0004] The disadvantage of the prototype is an inadequate stability of the containers in stacks.

Summary of the invention

[0005] The technical effect of the claimed technical solution consists in an increase in stability of the containers in stacks.

[0006] All general and particular essential features of the invention which characterize their causal relationship with said technical effect and are sufficient for being implemented by those skilled in the art are disclosed below.

[0007] A container with fastening means comprises a box-like body in the form of a parallelepiped with rounded ribs, a cover, and means for lifting and transferring the container. The side faces of the container are provided with latches that are staggered in a circle in a horizontal plane so as to be capable of engaging with latches of adjacent analogous containers. The means for lifting and transferring the container are disposed in the upper part of the side faces. The latches are detachable, arranged in two pairs on each face of the container, and have mushroom shape with a flat rectangular cap and a stem of a corresponding shape which is inserted in an opening in a rectangular plate. Said plate is provided with an analogous parallel rectangular opening for mating with the second analogous latch of a latch pair. A threaded blind hole, via which the latch is secured from the inside of the container by means of a screw, is configured through the axis of the stem into the centre of the cap. At the same time, horseshoe-shaped supports are secured to the ribs of the container from the underside, said supports being configured to interact with a supporting metal strip fastened below the cover to the inner surfaces of the side faces of the container. The means for lifting and transferring the container may be designed as a circular belt

having an inner reinforcing insert, which is secured horizontally on the side faces of the container in the area of their abutment. The means for lifting and transferring the container may be designed as plastic handles located on the opposite faces of the container. The rectangular plate may be commensurate with the pair of latches. Said plates may have an edge elongated on one side and curved in the form of the rounded rib of the container, and be located asymmetrically along the diagonals of the container. Short ends of the curved plates are provided with inserts having rectangular slots, said inserts being connected to the other ends by means of spacers. Said blind hole in the cap of the latch may be provided with a threaded bush.

Drawings

[0008] The device is illustrated with drawings, where: Fig. 1 is a front view of a container; Fig. 2 is a view A of Fig. 1; Fig. 3 is a section B-B of Fig. 1; Fig. 4 is an isometry of a latch; Fig. 5 shows a variant of fastening the plates; Fig. 6 is a view I of Fig. 1; Fig. 7 is a section D-D of Fig. 6; Fig. 8 is a view C of Fig. 1; Fig. 9 shows a variant of stacking the containers.

Embodiment of the invention

[0009] The container with fastening means comprises a box-like body 1 in the form of a parallelepiped with rounded ribs R, a cover 2, and means 3 for lifting and transferring the container.

[0010] The side faces of the container are provided with latches 4 that are staggered in a circle in a horizontal plane so as to be capable of engaging with latches 4 of adjacent analogous containers.

[0011] The means 3 for lifting and transferring the container are disposed in the upper part of the side faces.

[0012] The latches 4 are detachable, arranged in two pairs on each face of the container, and have mushroom shape with a flat rectangular cap 5 and a stem 6 of a corresponding shape which is inserted in an opening in a rectangular plate 7.

[0013] Said plate 7 is provided with an analogous parallel rectangular opening for mating with the second analogous latch 4 of a latch pair.

[0014] A threaded blind hole, via which the latch 4 is secured from the inside of the container by means of a screw 8, is configured through the axis of the stem 6 into the centre of the cap 5.

[0015] At the same time, horseshoe-shaped supports 9 are secured to the ribs R of the container from the underside, said supports being configured to interact with a supporting metal strip 10 fastened below the cover 2 to the inner surfaces of the side faces of the container.

[0016] The means 3 for lifting and transferring the container may be designed as a circular belt 11 having an inner reinforcing insert (not shown), which is secured horizontally on the side faces of the container in the area of

their abutment.

[0017] The means 3 for lifting and transferring the container may be designed as plastic handles (not shown) located on the opposite faces of the container.

[0018] The rectangular plate 7 may be commensurate with the pair of latches.

[0019] Said plates 7 may have an edge elongated on one side and curved in the form of the rounded rib R of the container, and be located asymmetrically along the diagonals of the container.

[0020] Short ends of the curved plates 7 are provided with inserts 12 having rectangular slots, said inserts being connected to the other ends by means of spacers 13.

[0021] Said blind hole in the cap 5 of the latch 4 may be provided with a threaded bush 14.

[0022] To remove the cover 2, a grip in the form of a loop 15 or a ring (not shown) is provided.

[0023] The comparison made between the claimed technical solution and the prior art known from the scientific and technical and patent documentation as of the date of priority in the main or related heading did not reveal a means to which the features identical to all the features contained in the set of claims suggested by the Applicant, including the purpose characteristic, are inherent. In other words, the set of the essential features of the claimed solution was not known before and is not identical to any known technical solutions, therefore, it meets the requirement of patentability "novelty".

Industrial applicability

[0024] This technical solution is industrially applicable, since a purpose thereof is specified in the description of the application and the title of the invention, it may be realized industrially for transportation and storage of articles and materials, it is realizable and reproducible, and the distinctive features contained in the set of claims allow to obtain a predetermined technical effect, that is, the distinctive features are essential.

[0025] The invention, as characterised in the set of claims, can be implemented using the means and techniques described in patent RU2635075, which became publicly available before the date of priority of the invention.

[0026] Therefore, the claimed technical solution meets the requirement of patentability "industrial applicability".

[0027] The analysis of the known technical solutions in the art has shown that the suggested technical solution is not obvious from the prior art for a person skilled in the art, since the solutions comprising the features that are the same as the distinctive features thereof have not been revealed, while the fact that the distinctive features affect the technical effect specified in the application materials has not been confirmed in such solutions revealed.

[0028] In other words, the claimed solution comprises the features that are absent in the known technical solutions, and the use of these features in the claimed set of essential features makes it possible to obtain a new tech-

nical effect, namely an increase in the stability of the containers in stacks.

[0029] Therefore, the suggested technical solution can be obtained only by employing a creative approach and is not obvious for an ordinary person skilled in the art, that is, it involves an inventive step if compared to the state of the art.

[0030] In order to confirm the fact that the technical solution can be implemented, the following information on the operation of the device disclosing how the invention can be implemented, including the realization of the purpose specified by the Applicant and confirmation of the fact that the technical effect can be achieved when implementing the invention, is given below.

[0031] The device is implemented as follows.

[0032] After being filled with articles and materials, the container is covered with a cover 2 to be installed on the body 1.

[0033] The container can be lifted by the means 3 for lifting and transferring and installed next to a similar container or thereon.

[0034] In this case, the latches 4 of the original container securely fix the latches 4 of the adjacent container, ensuring the stability of the entire stack of containers.

[0035] The use of the invention allows to increase the stability of the containers in stacks.

Claims

1. A container with fastening means comprising a box-like body in the form of a parallelepiped with rounded ribs, a cover, and means for lifting and transferring the container, wherein the side faces of the container are provided with latches that are staggered in a circle in a horizontal plane so as to be capable of engaging with latches of adjacent analogous containers, **characterized in that** the means for lifting and transferring the container are disposed in the upper part of the side faces, the latches are detachable, arranged in two pairs on each face of the container, and have mushroom shape with a flat rectangular cap and a stem of a corresponding shape which is inserted in an opening in a rectangular plate that is provided with an analogous parallel rectangular opening for mating with the second analogous latch of a latch pair, wherein a threaded blind hole is configured through the axis of the stem into the centre of the cap, the latch being secured via said hole from the inside of the container by means of a screw, wherein horseshoe-shaped supports are secured to the ribs of the container from the underside, said supports being configured to interact with a supporting metal strip fastened below the cover to the inner surfaces of the side faces of the container.
2. The container of claim 1, wherein the means for lifting and transferring the container is designed as a cir-

cular belt having an inner reinforcing insert, which is secured horizontally on the side faces of the container in the area of their abutment.

3. The container of claim 1, wherein the means for lifting and transferring the container is designed as plastic handles located on the opposite faces of the container. 5
4. The container of claim 1, wherein the rectangular plate is commensurate with the pair of latches. 10
5. The container of claim 1, wherein said plates may have an edge elongated on one side and curved in the form of the rounded rib of the container, and are located asymmetrically along the diagonals of the container, and short ends are provided with inserts having rectangular slots, the inserts being connected to the other ends by means of spacers. 15
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6. The container of claim 1, wherein said blind hole in the cap of the latch is provided with a threaded bush. 25

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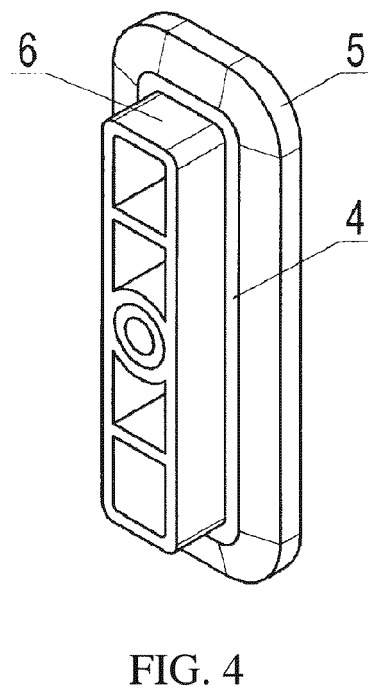
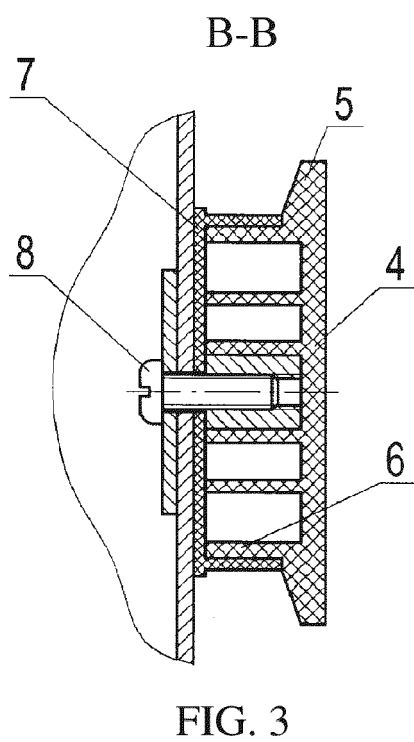
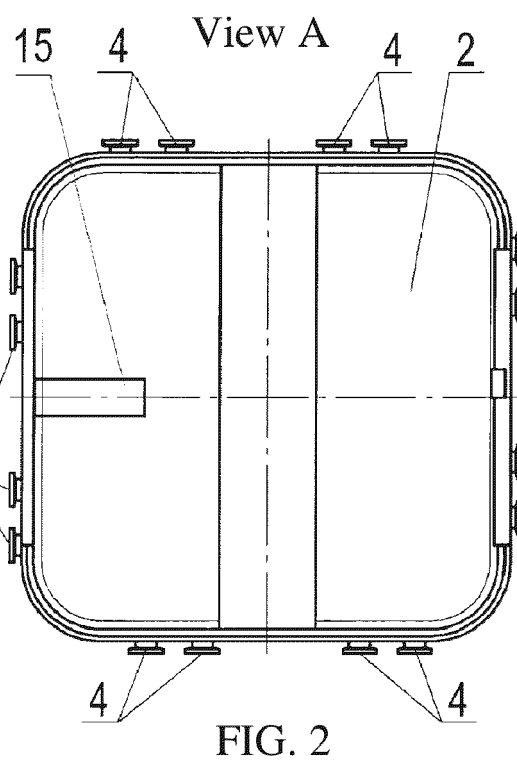
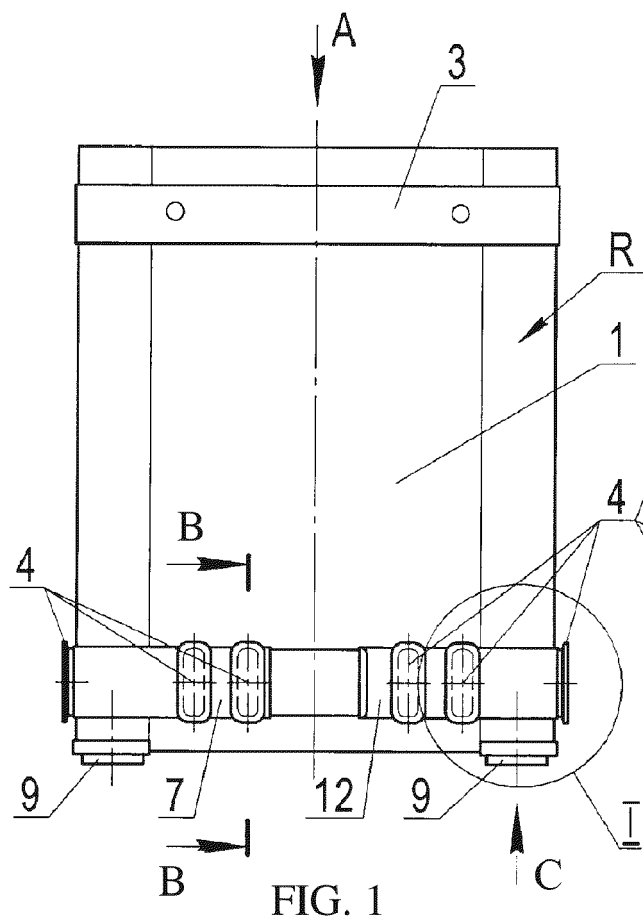
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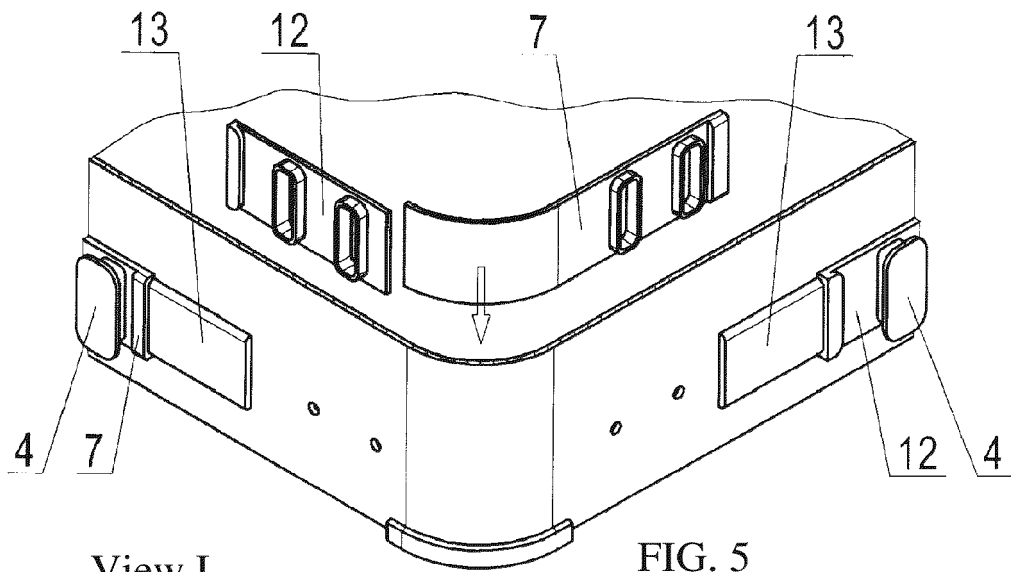


FIG. 5

View I

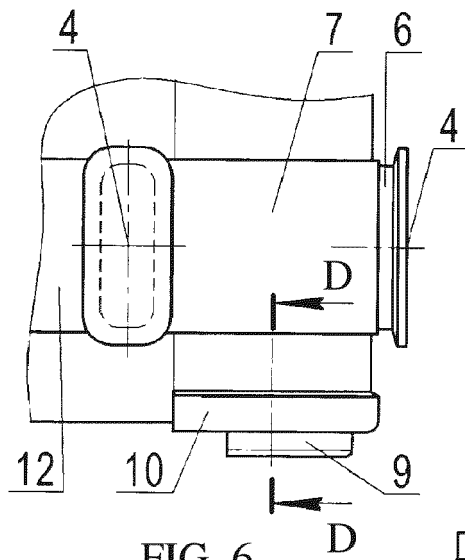


FIG. 6

View C

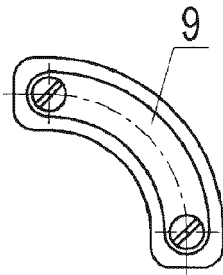


FIG. 8

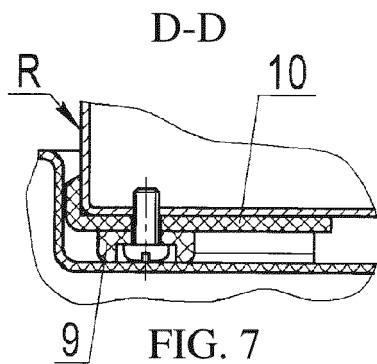


FIG. 7

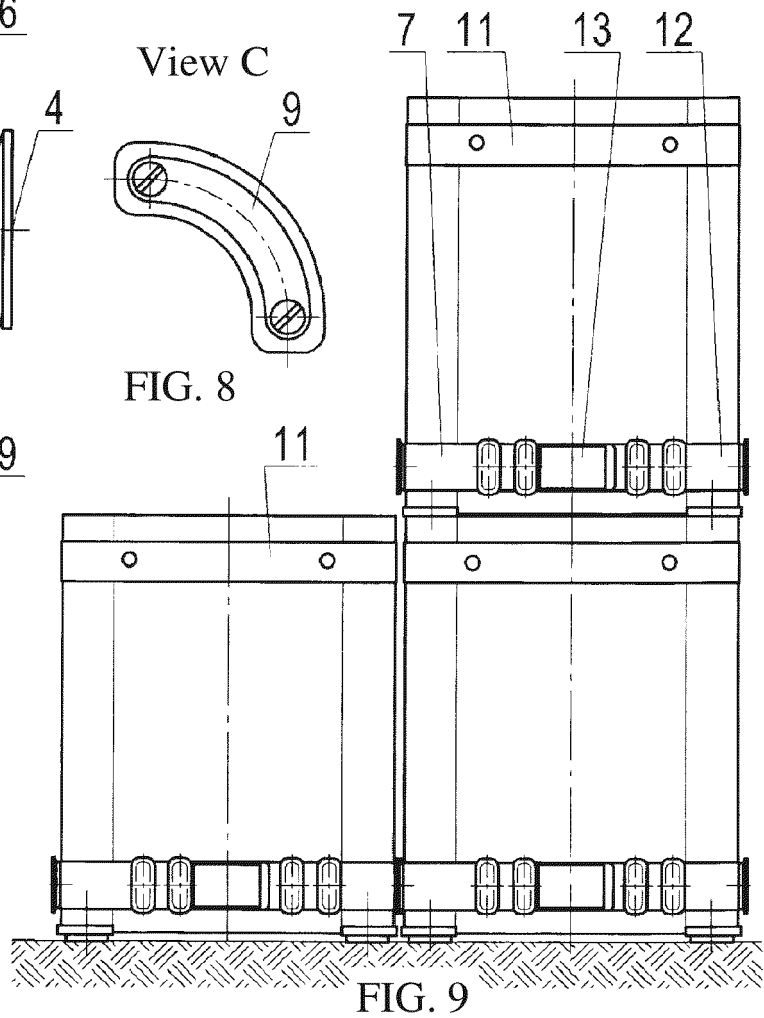


FIG. 9

INTERNATIONAL SEARCH REPORT

International application No.

PCT/RU 2019/000300

A. CLASSIFICATION OF SUBJECT MATTER		
B65D 21/028 (2006.01) B65D 90/12 (2006.01)		
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 21/00, 21/024, 21/028, 1/00, 1/22, 19/02, 90/12		
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)		
Esp@cenet, USPTO DB, PATSEARCH, PATENTSCOPE, RUPTO		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	RU 2635075 C1 (MILIAVSKY DMITRY KONSTANTINOVICH et al.) 08.11.2017	1-6
A	US 2015/0191306 A1 (WILLIAM WINTERBERG) 09.07.2015	1-6
A	US 6506091 B1 (SCOTT GARPOW) 14.01.2003	1-6
☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "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 "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		Date of mailing of the international search report
30 August 2019 (30.08.2019)		12 September 2019 (12.09.2019)
Name and mailing address of the ISA/ RU		Authorized officer
Facsimile No.		Telephone No.

Form PCT/ISA/210 (second sheet) (January 2015)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- RU 2635075 [0002] [0025]