



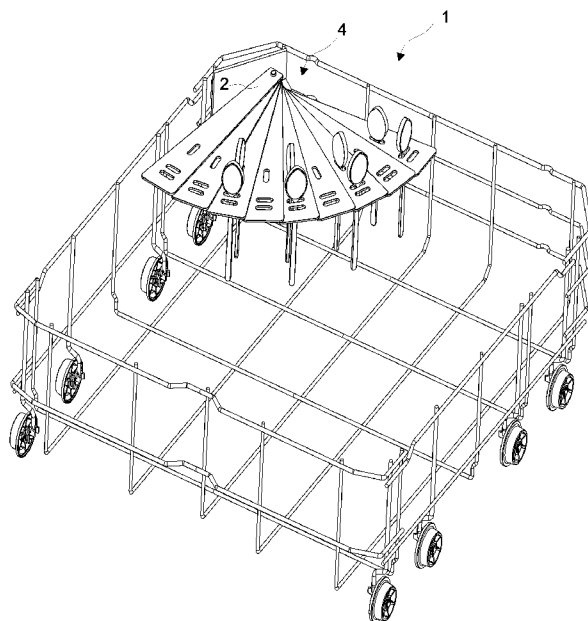
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(54) Title: A RACK SUITABLE FOR USING IN DISHWASHERS AND THE DISHWASHER WHEREIN THE RACK IS USED

Figure 1



(57) Abstract: The present invention relates to a rack (1) that is suitable for using in dishwashers and that comprises an accessory (4) which is used for placing the objects like forks and spoons into the rack (1) and which provides the user with loading spaces with variable sizes and relates to a dishwasher wherein the rack (1) is used.

Description**A RACK SUITABLE FOR USING IN DISHWASHERS AND THE DISHWASHER
WHEREIN THE RACK IS USED**

- [0001] The present invention relates to a rack comprising an accessory whereon the objects to be washed are placed and the dishwasher wherein the rack is used.
- [0002] In dishwashers, cutlery baskets are used that provide the small volume objects to be washed. When the cutlery basket cannot be entirely filled or is not used, the part of the cutlery basket that remains empty occupies unnecessary space inside the dishwasher and prevent loading of the other objects. When the cutlery basket volume is not sufficient, an additional washing unit is needed for washing the objects like forks and spoons.
- [0003] In the state of the art International Patent Application No. WO2011154386, a cutlery basket is described which provides variable storage space by means of the storing units that move with respect to each other.
- [0004] The aim of the present invention is the realization of a rack comprising an accessory which allows effective usage of the inner volume, and of a dishwasher wherein the rack is used.
- [0005] The rack that is suitable for using in dishwashers, realized in order to attain the aim of the present invention and explicated in the claims, comprises an accessory having a shaft which extends in the vertical axis and more than one carrier which is mounted onto the shaft so as to rotate around the shaft and whereon the objects such as forks, spoons, etc. are placed.
- [0006] By means of the carriers moving by rotating around the shaft in the vertical axis, the useable area of the accessory can be expanded and narrowed in the horizontal plane. As the carriers move closer to each other, the loading area narrows and as the carriers move away from each other, the loading area widens. Thus, the loading area is provided to be widened or narrowed according to the need when desired. When the horizontal and vertical axes of the carriers are aligned at the same level, the area of only one carrier can be used. When not in use, the accessory is kept inside the rack so as to allow the space of maximum one carrier to be used or is

removed from the rack completely.

- [0007] In an embodiment of the present invention, the carrier and the adjacent carrier are mounted onto the shaft one above the other so as to overlap with each other. The shaft provides the carriers to be held together in the same vertical direction and determines the rotational axis of the accessory.
- [0008] In an embodiment of the present invention, the carrier has a first position wherein it is positioned almost one above the other with at least one other carrier and a second position wherein, by being rotated around the shaft, it is brought almost side by side with another carrier such that the objects can be placed on the carrier. While some of the carriers are in the first position, some of them can be kept in the second position. Thus, a sufficient number of carriers are brought to the second position to provide a sufficient area whereon only the objects to be washed are placed and the unused carriers are prevented from occupying unnecessary space on the rack by being kept in the first position.
- [0009] In an embodiment of the present invention, the shaft is disposed on the side wall of the rack. Thus, the accessory occupies less space inside the rack.
- [0010] In an embodiment of the present invention, the shaft extends upwards from the base of the rack. The carriers are positioned on the shaft at a height that allows the objects to be placed in the space remaining below the carriers.
- [0011] In an embodiment of the present invention, the carrier comprises at least one housing providing the carrier to be mounted onto the shaft. Thus, the carrier can be easily mounted onto the shaft. The housing is shaped so as to allow the carrier to rotate around the shaft.
- [0012] In an embodiment of the present invention, at least one hole, wherein the objects like forks and spoons are placed, is located on the carrier. The holes may have different cross-sectional areas in order to facilitate the placement of the objects in different sizes.
- [0013] In an embodiment of the present invention, at least two carriers overlap so that the objects can be placed in one hole on each carrier when the carriers are one above the other. Thus, the objects can be placed onto the

carriers that almost completely overlap.

- [0014] In an embodiment of the present invention, the carrier comprises at least one protrusion-shaped stopper. The protrusion-shaped stopper on the carrier provides the next carrier to stop by bearing against the edge thereof.
- [0015] In an embodiment of the present invention, the rack comprises a support whereon the shaft is mounted. The support provides the carriers to be mounted to the rack in a more balanced manner.
- [0016] In an embodiment of the present invention, at least one connection member providing the support to be mounted to the rack is disposed on the support. When the accessory is not in use, the support can be removed from the rack and can be mounted to the rack again when needed by means of the connection member.
- [0017] In an embodiment of the present invention, the accessory is fan-shaped.
- [0018] In an embodiment of the present invention, the carriers are shaped as triangles narrowing towards the housing.
- [0019] By means of the present invention, the rack volume is provided to be used effectively by an accessory used for placing the objects like forks and spoons.
- [0020] The model embodiments relating to the rack and the dishwasher, realized in order to attain the aim of the present invention, are illustrated in the attached figures, where:
- [0021] Figure 1 – is the perspective view of a rack and an accessory wherein the objects are placed in an embodiment of the present invention.
- [0022] Figure 2 – is the perspective view of a rack and an accessory in an embodiment of the present invention.
- [0023] Figure 3 – is the view of detail A in Figure 2.
- [0024] Figure 4 – is the top perspective view of the carrier in an embodiment of the present invention.
- [0025] The elements illustrated in the figures are numbered as follows:
1. Rack
 2. Carrier
 3. Shaft

4. Accessory
5. Housing
6. Hole
7. Stopper
8. Support
9. Connection member

- [0026] The rack (1) of the present invention that is suitable for using in dishwashers comprises an accessory (4) having a shaft (3) which extends in the vertical axis and more than one carrier (2) which is mounted onto the shaft (3) so as to rotate around the shaft (3) and whereon the objects like forks and spoons are placed.
- [0027] By means of the carriers (2) being rotated around the vertical axis formed by the shaft (3), the utilization space of the accessory (4) can be increased and decreased as needed. By opening only a sufficient number of carriers (2) to provide the area whereon the objects can be placed, the unused carriers (2) are prevented from occupying unnecessary space on the rack (1).
- [0028] In an embodiment of the present invention, the carriers (2) are mounted onto the shaft (3) one above the other so as to at least partially overlap. By means of the shaft (3), the carriers (2) are held together in the same vertical direction. Furthermore, the carriers (2) can move over each other easily by being rotated around the shaft (3).
- [0029] In an embodiment of the present invention, the carrier (2) has a first position wherein it is positioned almost one above the other with at least one other carrier (2) and a second position wherein it is brought almost side by side with the other carriers (2) by being rotated around the shaft (3) and the objects like forks and spoons are placed thereon. According to the need a desired number of carriers (2) are brought to the second position and the unused carriers (2) are kept in the first position in order to provide efficient utilization of the rack (1) volume.
- [0030] In an embodiment of the present invention, the shaft (3) is disposed on the side wall of the rack (1). Thus, the carriers (2) mounted to the shaft (3) occupy less space on the rack (1) and the rack (1) volume is utilized

efficiently.

- [0031] In an embodiment of the present invention, the shaft (3) extends upwards from the base of the rack (1). Thus, the objects to be washed can also be placed in the space remaining below the carriers (2) mounted to the shaft (3).
- [0032] In an embodiment of the present invention, the carrier (2) comprises at least one housing (5) providing the carrier (2) to be mounted onto the shaft (3). The housing (5) bears the shaft (3).
- [0033] In an embodiment of the present invention, the carrier (2) comprises at least one hole (6) wherein the objects like forks and spoons are placed. The holes (6) are shaped so as to allow the objects to be washed to be easily placed and removed.
- [0034] In an embodiment of the present invention, at least two holes (6) overlap so as to allow the objects to be placed therein when at least two carriers (2) overlap. Thus, the objects can be placed onto the carriers (2) that almost completely overlap.
- [0035] In an embodiment of the present invention, the carrier (2) comprises at least one protrusion-shaped stopper (7) that stops another carrier (2). The protrusion-shaped stopper (7) on the carrier (2) provides the next carrier (2) to stop by bearing against the edge of the carrier (2).
- [0036] In an embodiment of the present invention, the rack (1) comprises a support (8) situated on the rack (1) and whereon the shaft (3) is mounted. The support (8) provides the shaft (3) and hence the carriers (2) carried by the shaft (3) to be mounted to the rack (1) in a more balanced manner.
- [0037] In an embodiment of the present invention, the support (8) comprises at least one connection member (9) providing the support (8) to be mounted onto the rack (1). The connection member (9) provides the support (8) to be easily mounted to/dismounted from the rack (1).
- [0038] In an embodiment of the present invention, the accessory (4) is fan-shaped.
- [0039] In an embodiment of the present invention, the carrier (2) is triangle-shaped.
- [0040] By means of the present invention, an accessory (4) is obtained that is

used for placing the objects like forks and spoons into the dishwasher and that provides the user with loading spaces with variable sizes.

[0041] It is to be understood that the present invention is not limited to the embodiments disclosed above and a person skilled in the art can easily introduce different embodiments. These should be considered within the scope of the protection postulated by the claims of the present invention.

Claims

1. A rack (1) that is suitable for using in dishwashers, **characterized by an** accessory (4) comprising a shaft (3) which extends in the vertical axis and more than one carrier (2) which is mounted onto the shaft (3) so as to rotate around the shaft (3) and whereon the objects like forks and spoons are placed.
2. A rack (1) as in Claim 1, **characterized by** the accessory (4), the utilization space of which can be increased and decreased by means of the carriers (2) being rotated around the vertical axis formed by the shaft (3).
3. A rack (1) as in Claim 1 or 2, **characterized by** the carrier (2) having a first position wherein it is positioned almost one above the other with at least one other carrier (2) and a second position wherein it is brought almost side by side with the other carrier (2) by being rotated around the shaft (3) and the objects like forks and spoons are placed thereon.
4. A rack (1) as in any one of the above claims, **characterized by** a shaft (3) whereon the carriers (2) are mounted one above the other so as to at least partially overlap.
5. A rack (1) as in any one of the above claims, **characterized by** the shaft (3) which is disposed on the side wall of the rack (1).
6. A rack (1) as in Claim 4, **characterized by** the shaft (3) that extends upwards from the base of the rack (1).
7. A rack (1) as in any one of the above claims, **characterized by** the carrier (2) comprising at least one housing (5) that provides the carrier (2) to be mounted onto the shaft (3).
8. A rack (1) as in any one of the above claims, **characterized by** the carrier (2) comprising at least one hole (6) wherein the objects like forks and spoons are placed.
9. A rack (1) as in Claim 8, **characterized by** the at least two holes (6) which overlap so as to allow the objects to be placed therein when at least two carriers (2) overlap.
10. A rack (1) as in any one of the above claims, **characterized by** the carrier (2) comprising at least one protrusion-shaped stopper (7) that stops the other carriers (2).
11. A rack (1) as in any one of the above claims, **characterized by** a support (8)

whereon the shaft (3) is mounted.

12. A rack (1) as in Claim 11, **characterized by** the support (8) comprising at least one connection member (9) that provides the support (8) to be mounted onto the rack (1).
13. A rack (1) as in any one of the above claims, **characterized by** the fan-shaped accessory (4).
14. A rack (1) as in any one of the above claims, **characterized by** the triangle-shaped carrier (2).
15. A dishwasher **characterized by** a rack (1) as in any one of the above claims.

Figure 1

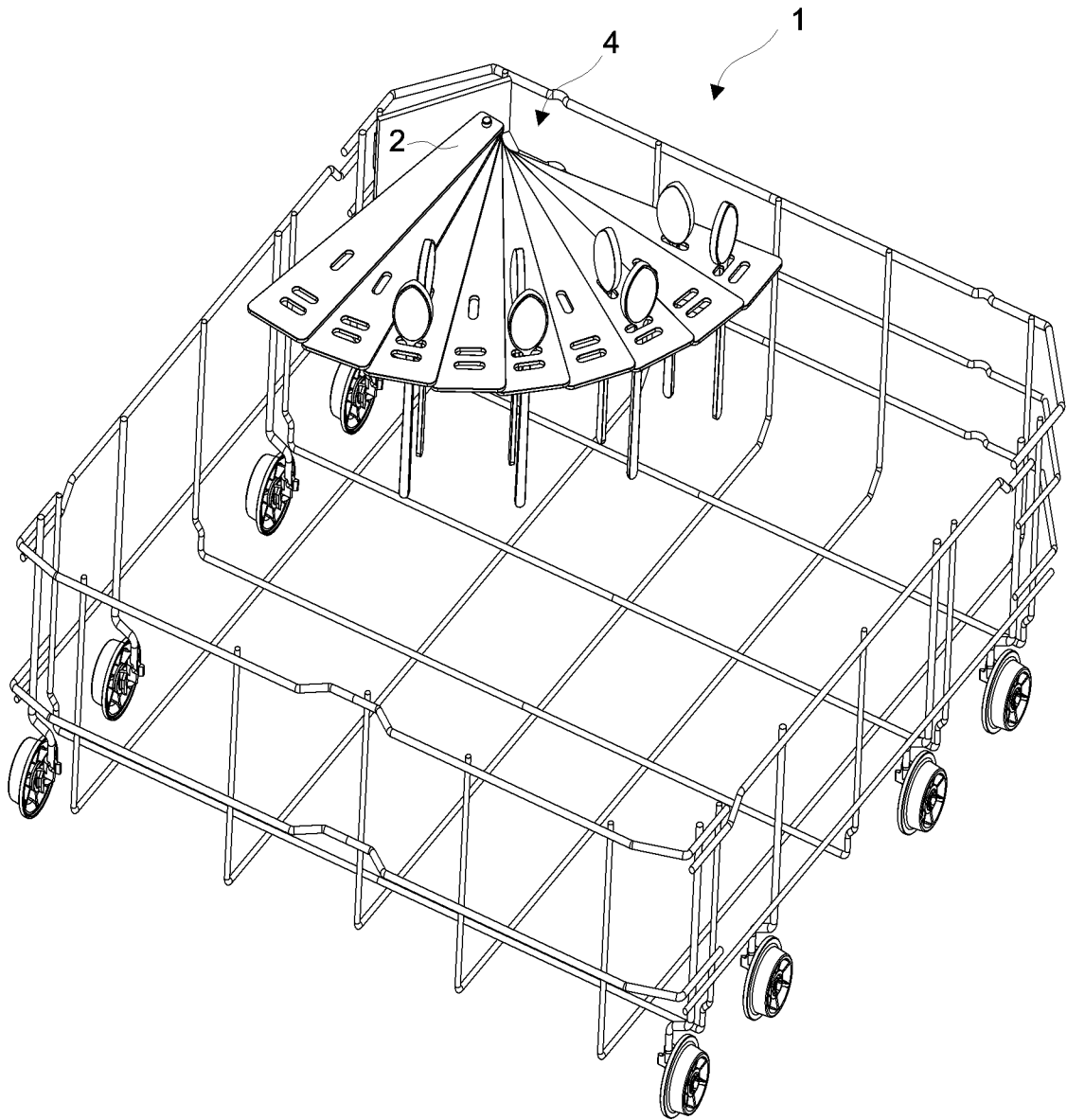


Figure 2

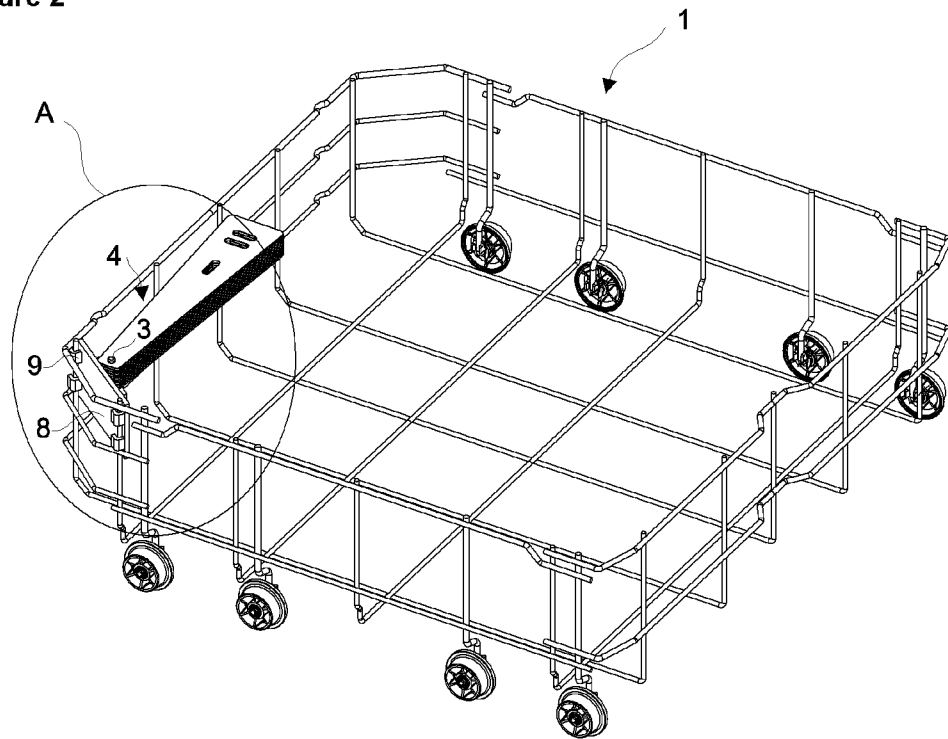


Figure 3

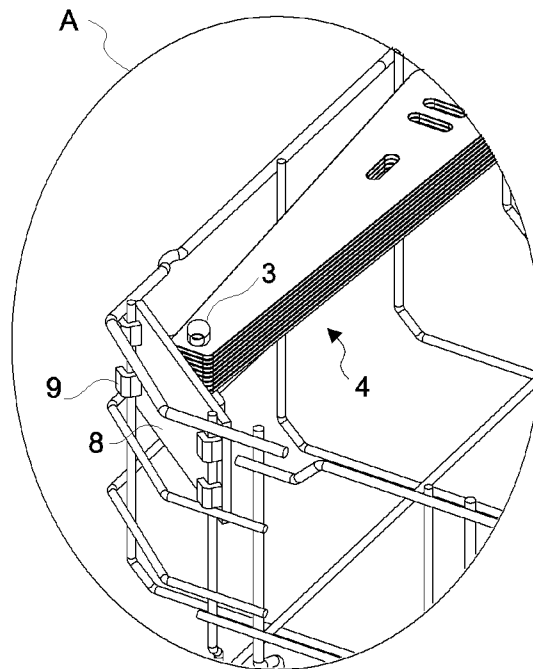
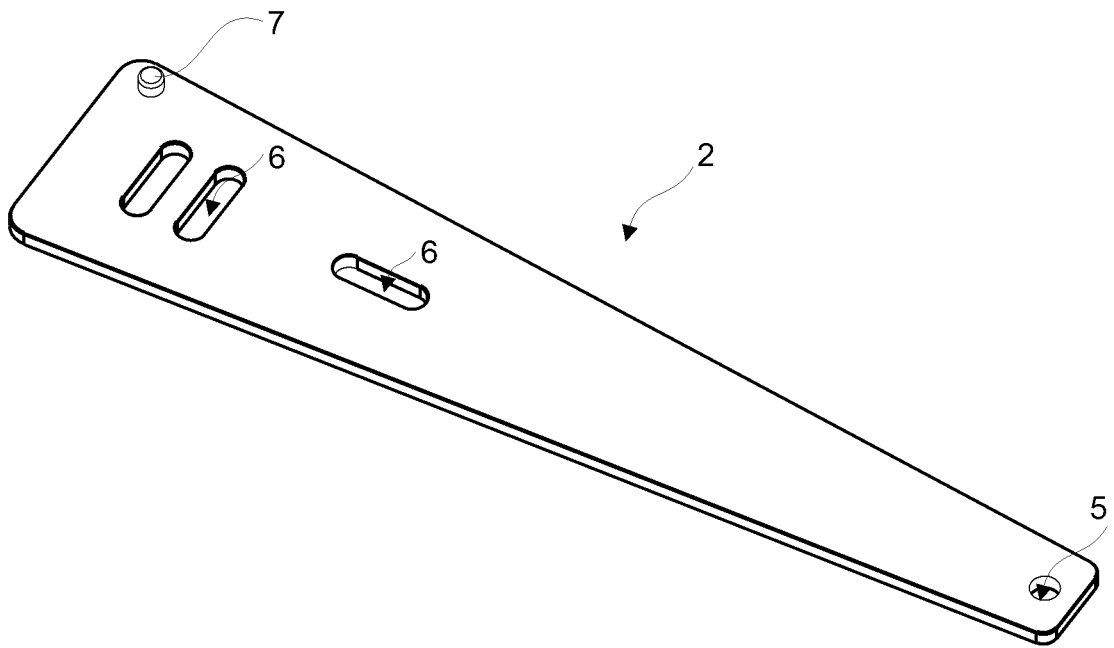


Figure 4



INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2013/061358

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A47L15/50
 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)
 A47L

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, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 2 283 765 A2 (BSH BOSCH SIEMENS HAUSGERAETE [DE]) 16 February 2011 (2011-02-16) paragraph [0020] - paragraph [0021]; figure 3	1-15
A	EP 1 281 347 A1 (CANDY SPA [IT]) 5 February 2003 (2003-02-05) paragraph [0050] - paragraph [0054]; figure 8	1-15
A	US 3 779 258 A (BRENNER R ET AL) 18 December 1973 (1973-12-18) column 2, line 35 - column 3, line 28	1-15
A	EP 1 275 336 A1 (BONFERRARO SPA [IT]) 15 January 2003 (2003-01-15) the whole document	1-15

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
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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 20 June 2013	Date of mailing of the international search report 27/06/2013
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Jeziarski, Krzysztof
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2013/061358

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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