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(54) **ADRYER COMPRISING A DRUM THE FRONT BEARING OF WHICH IS PERFORMED BY ROLLERS**

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Description

[0001] The present invention relates to a dryer that comprises a drum, the front bearing of which is performed by means of rollers.

[0002] As is known, in dryers, laundry to be dried is loaded into a drum. The drying process is performed by this drum being driven by a motor and rotated.

[0003] In the state of the art, sliding or roller systems are used for drums to be borne from their front side. In the roller system, which is advantageous due to the fact that it is less dependent on the surface smoothness of the drum, various difficulties related to the assembly of the roller and of the shaft whereto the roller is mounted are confronted.

[0004] In the state of the art, the shafts used for the roller to be connected to the bearing member are fixed to the bearing member by various methods. Nailing of the shafts to the bearing member, which is one of these methods, is a preferred method regarding the production time and costs. However, the shafts fixed to the bearing member by this method loosen in the course of time by the effect of the load exerted on the rollers during the operation of the dryer and as a result of this loosening, axial escape and noise, sound and abrasion problems occur.

[0005] In the state of the art embodiment, the European Patent Application No EP0802273, a washing dryer comprising a hollow axle which is C-shaped in cross-section and two securing members which are secured to the hollow axle such that one of them will remain in front of the roller and the other one behind it, and thus, which provide the roller to be held in the desired position on the hollow axle, is explained. In this embodiment, the hollow axle has a cylindrical cross-section and is inserted into the bearing bush on the bearing flange.

[0006] In the state of the art embodiment, the Korean Patent Application No KR20040020653, a drying drum comprising a roller shaft which is cylindrical-shaped and on one face of which is a grinding part is formed, and a roller shaft insertion hole which has a cylindrical cross-section and on one face of which a grinding part is formed, is explained. The requirement of the grinding parts to face the same direction during the insertion of the roller shaft into the hole provides centering and rotation of the roller shaft inside the hole is also prevented. In this embodiment, the roller shaft insertion hole is situated on the rear supporter, and after being inserted, the roller shaft is fixed by means of a nut.

[0007] The aim of the present invention is the realization of a dryer wherein its rollers that provide the drum to be borne from its front side are easy to assemble and have high strength.

[0008] The dryer realized in order to attain the aim of the present invention is explicated in the attached claims.

[0009] In the dryer of the present invention, the drum rotates on the rollers, against which the front lid bears. The rollers are borne by means of a shaft that is inserted

into the housing situated on the bearing member.

[0010] The shaft comprises an entry section, a fitting section, an axle section and a threaded section. When the shaft is inserted into the housing, while the entry section and the fitting section remain inside the housing, the axle section and the threaded section remain outside the housing.

[0011] The entry section has a cylindrical cross-section and is the portion of the shaft that enters the housing first. The fitting section has a polygonal cross-section and a diameter wider than the diameter of the entry section.

[0012] In an embodiment of the present invention, the shaft is nailed to the housing during the production while the bearing member is warm. Then, as the bearing member gets cool, the housing becomes narrow and thus, the walls of the housing tightly surround the fitting section. Hence, the fixing of the shaft to the bearing member is performed.

[0013] In another embodiment of the present invention, the shaft is inserted into the mould during the production of the bearing member and comes out of the mould together with the bearing member. Thus, the shaft is provided to be fixed such that it will be one piece with the bearing member.

[0014] The axle section remaining outside the housing has a cylindrical cross-section and the roller is mounted thereon. The threaded section located in front of the axle section enables a fixing means such as nut to be mounted thereon. Thus, the roller is rotatably mounted to the shaft such that the roller will remain between the fixing means and the fitting section.

[0015] The dryer, furthermore, comprises a lid covering the front face of the bearing member. The bearing member and the lid comprise opposite locking means such as feder-boss that enable them to be fixed to each other by shape-locking. Thus, the forces acting on the shaft are distributed to the lid as well as to the bearing member and the strength of the shaft is improved.

[0016] At its end wherein the entry section is situated, the shaft comprises a bore that is formed as threaded suitable for mounting a screw therein. Accordingly, the bearing member and the lid comprise screw holes. The bore and the screw holes overlap when the shaft, the bearing member and the lid are brought together. The dryer, furthermore, comprises at least one screw in order to fix the shaft at its end whereto the roller is not mounted. The screw is mounted in the bore by passing through the screw holes on the bearing member and on the lid.

[0017] The bearing member, furthermore, comprises stoppers that are located at the edges of the screw hole and that prevent the shaft from proceeding too much during its nailing into the housing.

[0018] The model embodiments that relate to the dryer realized in order to attain the aim of the present invention are illustrated in the attached figures, where:

Figure 1 - is the schematic view of a dryer.

Figure 2 - is the rear perspective view of the bearing

member and the rollers.

Figure 3 - is the detailed front view of the bearing member, the roller and the lid.

Figure 4 - is the detailed rear view of the bearing member, the roller and the lid.

Figure 5 - is another detailed rear view of the bearing member, the roller and the lid.

Figure 6 - is the cross-sectional view of the bearing member, the roller and the lid.

Figure 7 - is the exploded view of the bearing member, the roller and the lid.

Figure 8 - is the front perspective view of the shaft.

Figure 9 - is the rear perspective view of the shaft.

Figure 10 - is the sideways view of the shaft.

[0019] The elements illustrated in the figures are numbered as follows:

1. Dryer
2. Drum
3. Body
4. Front wall
5. Roller
6. Bearing member
7. Shaft
8. Housing
9. Fixing means
10. Entry section
11. Fitting section
12. Axle section
13. Threaded section
14. Lid
15. Locking means
16. Bore
17. Screw
18. Stopper

[0020] The dryer (1) of the present invention comprises a drum (2) that is rotated around its own horizontal axis (Figure 1). The dryer (1) of the present invention is a horizontal axis dryer (1).

[0021] The drum (2) comprises a cylindrical body (3), and a ring-shaped front wall (4) forming the front surface of the body (3) (Figure 1).

[0022] The dryer (1), furthermore, comprises

- more than one roller (5) whereon the front wall (4) is seated and which have a rotational axis parallel with the rotational axis (X) of the drum (2), and support the drum (2) by rotating around themselves during the drying process by the rotational movement of the drum (2),
- a bearing member (6) whereon the rollers (5) are borne by being mounted thereon,
- one shaft (7) each, which provides each roller (5) to be rotatably mounted to the bearing member (6),
- more than one cylindrical-shaped housing (8) which are located at the bearing member (6) face that faces

the drum (2), and wherein the shafts (7) are at least partially snap-fittingly inserted, and

- at least one fixing means (9) which provides the roller (5) to be fixed to the shaft (7) (Figures 2 to 7).

[0023] The shaft (7) comprises

- an entry section (10) which has a cylindrical cross-section, which is located at the end side of the shaft (7) and which is the portion of the shaft (7) that enters the housing (8) first
- a fitting section (11) which has a polygonal cross-section and a diameter wider than the diameter of the entry section (10), which is located behind the entry section (10) and which provides the shaft (7) to be fixed to the housing (8),
- an axle section (12) which remains outside the housing (8), which has a cylindrical cross-section and whereon the roller (5) is mounted, and
- a threaded section (13) whereon the fixing means (9) is mounted and thus, which provides the roller (5) to be rotatably mounted to the shaft (7) such that the roller (5) will remain between the fixing means (9) and the fitting section (11) (Figures 8 to 10).

[0024] The shafts (7) are produced by a rod, which entirely has a polygonal cross-section, being processed such that an entry section (10), an axle section (12) and a threaded section (13) will be formed. The fitting section (11) has preferably a hexagonal cross-section (Figures 8 to 10).

[0025] In an embodiment of the present invention, the shaft (7) is nailed to the housing (8) in a short time after the production of the bearing member (6), while the bearing member (6) is still warm. Thus, the nailing process is provided to be easily performed. By the cooling of the bearing member (6), the housing (8) becomes narrow and thus, bears against the fitting section (11) and even against the entry section (10) of the shaft (7) inserted therein. Thus, the snap-fit fixing of the shaft (7) onto the bearing member (6) is performed.

[0026] In another embodiment of the present invention, the bearing member (6) is produced by being shaped by means of a mould, and the shaft (7) is inserted into the mould during the production of the bearing member (6) and thus, comes out of the mould together with the bearing member (6). Thus, the shaft (7) is provided to be strongly fixed onto the bearing member (6).

[0027] Then, the roller (5) is mounted to the axle section (12) of the shaft (7) and by the fixing means (9) being mounted onto the threaded section (13) that remains in front of the roller (5), the assembly of the roller (5) onto the shaft (7) is performed. The fixing means (9) is preferably a nut (Figure 7).

[0028] By means of the polygonal shape of the fitting section (11), the shaft (7) is provided to be centered inside the housing (8) and rotation of the shaft (7) inside the housing (8) caused by the loosening of the connection

by the effect of the loads that act on the shaft (7) during the rotation of the drum (2) is prevented.

[0029] The dryer (1), furthermore, comprises a lid (14) covering the bearing member (6) face that does not face the drum (2). The bearing member (6) and the lid (14) comprise opposite locking means (15) that enable them to be fixed to each other by shape-locking (Figure 6). By means of this shape-locking structure, the forces acting on the shaft (7) are not only carried by the bearing member (6) whereon the shaft (7) is mounted, but also by the locking means (15) and therefore, by the lid (14), and the strength is improved.

[0030] The shaft (7) comprises a bore (16) wherein a thread is cut and which is located at the shaft (7) end wherein the entry section (10) is situated. Accordingly, the bearing member (6) and the lid (14) comprise screw holes which are aligned with the bore (16) when the bearing member (6), the shaft (7) and the lid (14) are brought together. The dryer (1), furthermore, comprises a screw (17) which is mounted in the bore (16) by passing through the screw holes on the bearing member (6) and on the lid (14) (Figure 6 and Figure 7). Besides being a secondary means for the fixing of the bearing member (6) and the lid (14) to each other, the screw (17) also causes the shaft (7) to be drawn towards itself by locking to the threaded form inside the bore (16). Thus, the shaft (7) is provided to be tightly fixed and to be held in the desired position, and is prevented from loosening in the course of time.

[0031] The bearing member (6) comprises stoppers (18) that are located at the edges of the screw hole, at the base of the housing (8) and that prevent the shaft (7) from proceeding more than desired during its nailing into the housing (8) (Figure 7).

[0032] In an embodiment of the present invention, the roller (5), the bearing member (6) and the lid (14) are assembled by the assembly method that is explained below.

- While the bearing member (6) is warm, the shaft (7) is nailed to the housing (8) (101),
- by the cooling of the bearing member (6), the housing (8) becomes narrow and thus, bears against the fitting section (11) and the entry section (10) of the shaft (7) inserted therein (102),
- to the axle section (12), the roller (5) is mounted (103),
- onto the threaded section (13) remaining in front of the roller (5), the fixing means (9) is mounted (104),
- the bearing member (6) and the lid (14) are fixed to each other by shape-locking by means of the locking means (15) (105),
- the screw (17) passes through the screw holes on the bearing member (6) and on the lid (14) and locks to the threaded form inside the bore (16), and causes the shaft (7) to be drawn towards itself (106).

[0033] Thus, the forces occurring during the operation

of the dryer (1) are provided to be efficiently distributed between the roller (5), the bearing member (6), the shaft (7) and the lid (14), furthermore, a bearing with high strength, the assembly of which is performed in a short time and easily, is provided.

[0034] It is to be understood that the present invention is not limited to the embodiments disclosed above and a skilled person 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 dryer (1) comprising

- a drum (2) which can rotate around itself, and which has a horizontal-axial, cylindrical body (3) and a ring-shaped front wall (4) that forms the front surface of the body (3),
- more than one roller (5) whereon the front wall (4) is seated and which have a rotational axis parallel with the rotational axis (X) of the drum (2), and support the drum (2) by rotating around themselves during the drying process by the rotational movement of the drum (2),
- a bearing member (6) whereon the rollers (5) are borne by being mounted thereon,
- one shaft (7) each, which provides each roller (5) to be rotatably mounted to the bearing member (6),
- cylindrical-shaped housings (8) which are located at the bearing member (6) face that faces the drum (2), and wherein the shafts (7) are at least partially inserted, and
- at least one fixing means (9) which provides the roller (5) to be fixed to the shaft (7),

characterized by the shaft (7) that has

- an entry section (10) which has a cylindrical cross-section, and which is the portion of the shaft (7) that enters the housing (8) first, and
- a fitting section (11) which has a polygonal cross-section and a diameter wider than the diameter of the entry section (10), and which provides the shaft (7) to be fixed to the housing (8),

wherein

- a) the shaft (7) is nailed to the housing (8) while the bearing member (6) is warm,
- or
- b) the bearing member (6) is produced by being shaped by means of a mould, and the shaft (7) is inserted into the mould during the production of the bearing member (6) and thus, comes out

of the mould together with the bearing member (6).

2. A dryer (1) as in Claim 1, **characterized by** the shaft (7) that has

- an axle section (12) which remains outside the housing (8), which has a cylindrical cross-section and whereon the roller (5) is mounted, and
- a threaded section (13) whereon the fixing means (9) is mounted and thus, which provides the roller (5) to be rotatably mounted to the shaft (7) such that the roller (5) will remain between the fixing means (9) and the fitting section (11).

3. A dryer (1) as in Claim 1 or 2, **characterized by** the fitting section (11) that has a hexagonal cross-section.

4. A dryer (1) as in any one of the above Claims, **characterized by** a lid (14) which covers one face of the bearing member (6) whereby said face covered by the lid (14) is the face of the bearing member (6) that does not face the drum (2).

5. A dryer (1) as in Claim 4, **characterized by** the bearing member (6) and the lid (14) comprising opposite locking means (15) which enable the bearing member (6) and the lid (14) to be fixed to each other by shape-locking.

6. A dryer (1) as in Claim 4 or 5, **characterized by** the shaft (7) that has a bore (16), the inside of which is formed as threaded, and which is located at the shaft (7) end wherein the entry section (10) is situated, and by the bearing member (6) and the lid (14) that have screw holes which are aligned with the bore (16) when the bearing member (6), the shaft (7) and the lid (14) are brought together.

7. A dryer (1) as in Claim 6, **characterized by** the screw (17) which is mounted in the bore (16) by passing through the screw holes on the bearing member (6) and on the lid (14).

8. A dryer (1) as in any one of the above Claims, **characterized by** the bearing member (6) which comprises stoppers (18) that are located at the edges of the screw hole, at the base of the housing (8) and that prevent the shaft (7) from proceeding more than desired during its nailing into the housing (8).

9. An assembly method for a dryer (1) as in Claims 7 or 8, comprising the following steps:

as a first step,

- a) nailing the shaft (7) to the housing (8)

while the bearing member (6) is warm (101), or

- b) inserting the shaft (7) into the mould during the production of the bearing member (6) such that the shaft (7) comes out of the mould together with the bearing member (6) that is produced by being shaped by means of a mould,

and as following steps,

- bearing the bearing member (6) against the fitting section (11) and the entry section (10) of the shaft (7) inserted therein by the housing (8) becoming narrow by the cooling of the bearing member (6) (102),
- mounting the roller (5) to the axle section (12) (103),
- mounting the fixing means (9) onto the threaded section (13) that remains in front of the roller (5) (104),
- fixing the bearing member (6) and the lid (14) to each other by shape-locking by means of the locking means (15) (105),
- locking the screw (17) to the threaded form inside the bore (16) by passing through the screw holes on the bearing member (6) and on the lid (14) and causing the shaft (7) to be drawn towards the screw (17) (106).

Patentansprüche

1. Trockner (1), umfassend

- eine Trommel (2), die sich um sich selbst drehen kann und einen horizontal-axialen, zylindrischen Körper (3) und eine ringförmige Stirnwand (4) aufweist, die die Vorderfläche des Körpers (3) bildet,
- mehrere Rollen (5), auf denen die Stirnwand (4) sitzt und die eine Drehachse parallel zur Drehachse (X) der Trommel (2) aufweisen und die Trommel (2) abstützen, indem sie sich während des Trocknungsvorgangs durch die Drehbewegung der Trommel (2) um sich selbst drehen,
- ein Lagerelement (6), auf dem die Rollen (5) durch Anbringung daran gelagert sind,
- je eine Welle (7), die es ermöglicht, dass die einzelnen Rollen (5) drehbar am Lagerelement (6) angebracht sind,
- zylindrisch geformte Gehäuse (8), die an der Fläche des Lagerelements (6) angeordnet sind, die der Trommel (2) zugewandt sind, und in die die Wellen (7) wenigstens teilweise eingeführt sind, und
- wenigstens ein Befestigungsmittel (9), das es

ermöglicht, dass die Rolle (5) an der Welle (7) befestigt wird,

dadurch gekennzeichnet, dass die Welle (7) Folgendes aufweist:

- einen Eintrittsabschnitt (10) mit einem zylindrischen Querschnitt, der der Abschnitt der Welle (7) ist, der zuerst in das Gehäuse (8) eintritt, und
- einen Passabschnitt (11) mit einem polygonalen Querschnitt und einem Durchmesser, der größer als der Durchmesser des Eintrittsabschnitts (10) ist, und der es ermöglicht, dass die Welle (7) am Gehäuse (8) befestigt wird,

wobei

- a) die Welle (7) an das Gehäuse (8) genagelt wird, während das Lagerelement (6) warm ist, oder
- b) das Lagerelement (6) hergestellt wird, indem es mittels eines Formwerkzeugs geformt wird, und die Welle (7) während der Herstellung des Lagerelements (6) in das Formwerkzeug eingeführt wird und das Formwerkzeug somit zusammen mit dem Lagerelement (6) verlässt.

2. Trockner (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Welle (7) Folgendes aufweist:

- einen Achsabschnitt (12), der außerhalb des Gehäuses (8) bleibt und einen zylindrischen Querschnitt aufweist, und an dem die Rolle (5) angebracht ist, und
- einen Gewindeabschnitt (13), an dem das Befestigungsmittel (9) angebracht ist und das auf diese Weise ermöglicht, dass die Rolle (5) drehbar an der Welle (7) angebracht ist, derart, dass die Rolle (5) zwischen dem Befestigungsmittel (9) und dem Passabschnitt (11) bleibt.

3. Trockner (1) nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** der Passabschnitt (11) einen hexagonalen Querschnitt aufweist.

4. Trockner (1) nach einem der vorangehenden Ansprüche, **gekennzeichnet durch** einen Deckel (14), der eine Fläche des Lagerelements (6) abdeckt, wobei die von dem Deckel (14) abgedeckte Fläche die Fläche des Lagerelements (6) ist, die nicht der Trommel (2) zugewandt ist.

5. Trockner (1) nach Anspruch 4, **dadurch gekennzeichnet, dass** das Lagerelement (6) und der Deckel (14) gegenüberliegende Verriegelungsmittel (15) umfassen, die es dem Lagerelement (6) und dem Deckel (14) gestatten, formschlüssig aneinander befestigt zu werden.

6. Trockner (1) nach Anspruch 4 oder 5, **dadurch gekennzeichnet, dass** die Welle (7) eine Bohrung (16) aufweist, deren Inneres mit einem Gewinde gebildet ist und die an dem Ende der Welle (7) angeordnet ist, in dem der Eingangsabschnitt (10) angeordnet ist, und dadurch, dass das Lagerelement (6) und der Deckel (14) Schraubbohrungen aufweisen, die mit der Bohrung (16) übereinstimmen, wenn das Lagerelement (6), die Welle (7) und der Deckel (14) zusammengebracht werden.

7. Trockner (1) nach Anspruch 6, **gekennzeichnet durch** die Schraube (17), die in der Bohrung (16) angebracht ist, indem sie **durch** die Schraublöcher an dem Lagerelement (6) und am Deckel (14) geführt ist.

8. Trockner (1) nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** das Lagerelement (6) Anschläge (18) umfasst, die an den Kanten der Schraubbohrung an der Basis des Gehäuses (8) angeordnet sind und die verhindern, dass sich die Welle (7) während des Vernagelns im Gehäuse (8) weiter als gewünscht bewegt.

9. Verfahren zum Zusammenbauen eines Trockners (1) nach den Ansprüchen 7 oder 8, folgende Schritte umfassend:

als einen ersten Schritt,

- a) Nageln der Welle (7) an das Gehäuse (8), während das Lagerelement (6) warm ist, oder
- b) Einführen der Welle (7) in das Formwerkzeug während der Herstellung des Lagerelements (6), derart, dass die Welle (7) das Formwerkzeug zusammen mit dem Lagerelement (6) verlässt, welches hergestellt wird, indem es mithilfe eines Formwerkzeugs geformt wird,

und als folgende Schritte

- Anlegen des Lagerelements (6) an den Passabschnitt (11) und den Eintrittsabschnitt (10) der Welle (7), die darin eingeführt ist, indem das Gehäuse (8) durch das Abkühlen des Lagerelements (6) schmaler wird (102),
- Anbringen der Rolle (5) am Achsabschnitt (12) (103),
- Anbringen des Befestigungsmittels (9) am Gewindeabschnitt (13), der vor der Rolle (5) zurückbleibt (104),
- Befestigen des Lagerelements (6) und des Deckels (14) aneinander durch Formschluss mithilfe des Verriegelungsmittels

(15) (105),

- Anziehen der Schraube (17) in der Gewindeform in der Bohrung (16), indem sie durch die Schraubbohrungen am Lagerelement (6) und am Deckel (14) geführt wird, und Bewirken, dass die Welle (7) zur Schraube (17) hin gezogen wird (106).

Revendications

1. Un sèche-linge (1) comprenant :

- un tambour (2) qui peut tourner autour de lui-même et qui présente un corps cylindrique horizontal-axial (3) et une paroi avant de forme annulaire (4) qui forme la surface avant du corps (3),
- plus d'une roue (5) sur laquelle la paroi avant (4) est placé et qui présente un axe de rotation parallèle à l'axe de rotation (X) du tambour (2), et supporte le tambour (2) en tournant autour de elles-mêmes au cours du processus de séchage par le mouvement de rotation du tambour (2),
- un élément de support (6) sur lequel les roues (5) sont supportées en étant montées sur celui-ci,
- un arbre (7) chacun, qui permet à chaque roue (5) d'être montée à l'élément de support (6) de manière rotative,
- logements cylindriques (8) qui sont disposés à la face de l'élément de support (6) qui fait face au tambour (2), et dans lesquels les arbres (7) sont insérés au moins partiellement, et
- au moins un moyen de fixation (9) qui permet à la roue (5) d'être fixée à l'arbre (7),

caractérisé par l'arbre (7) qui présente

- une section d'entrée (10) qui présente une section transversale cylindrique, et qui est la partie de l'arbre (7) qui entre dans le logement (8) avant tout, et
- une section de fixation (11) qui présente une section transversale polygonale et un diamètre plus large que le diamètre de la section d'entrée (10), et qui permet la fixation de l'arbre (7) au logement (8),

où

- a) l'arbre (7) est cloué au logement (8) lorsque l'élément de support (6) est chaud,
- ou
- b) l'élément de support (6) est produit en étant formé par un moule, et l'arbre (7) est inséré dans la moule pendant la fabrication de l'élément de support (6) et donc sort du moule en même

temps avec l'élément de support (6).

2. Un sèche-linge (1) selon la Revendication 1, **caractérisé par** l'arbre (7) qui présente

- une section d'essieu (12) qui reste à l'extérieur du logement (8), qui présente une section transversale cylindrique, et sur laquelle la roue (5) est montée, et
- une section filetée (13) sur laquelle le moyen de fixation (9) est monté et donc, qui permet à la roue (5) d'être montée à l'arbre (7) de manière rotative de telle sorte que la roue (5) reste entre le moyen de fixation (9) et la section de fixation (11).

3. Un sèche-linge (1) selon la Revendication 1 ou 2, **caractérisé par** la section de fixation (11) qui présente une section transversale hexagonale.

4. Un sèche-linge (1) selon l'une quelconque des revendications précédentes, **caractérisé par** un couvercle (14) qui recouvre une face de l'élément de support (6) où ladite face couverte par le couvercle (14) est la face de l'élément de support (6) qui ne fait pas face au tambour (2).

5. Un sèche-linge (1) selon la Revendication 4, **caractérisé par** l'élément de support (6) et le couvercle (14) qui comprennent des moyens de verrouillage opposés (15) qui permettent à l'élément de support (6) et au couvercle (14) d'être fixés l'un à l'autre par complémentarité de formes.

6. Un sèche-linge (1) selon la Revendication 4 ou 5, **caractérisé par** l'arbre (7) qui présente un alésage (16), dont l'intérieur est en forme filetée, et qui est arrangé à l'extrémité de l'arbre (7) où la section d'entrée (10) est située, et par l'élément de support (6) et le couvercle (14) qui présentent des trous de vis alignés avec l'alésage (16) lorsque l'élément de support (6), l'arbre (7) et le couvercle (14) sont réunis.

7. Un sèche-linge (1) selon la Revendication 6, **caractérisé par** la vis (17) qui est montée dans l'alésage (16) en passant à travers les trous de vis sur l'élément de support (6) et sur le couvercle (14).

8. Un sèche-linge (1) selon l'une quelconque des revendications précédentes, **caractérisé par** l'élément de support (6) qui comprend des butées (18) qui sont situées aux bords du trou de vis, à la base du logement (8) et qui empêchent l'arbre (7) d'avancer plus de ce que l'on désire lorsqu'il est cloué dans le logement (8).

9. Un procédé d'assemblage pour un sèche-linge (1) selon la Revendication 7 ou 8, comprenant les éta-

pes suivantes:

comme une première étape,

- a) clouer l'arbre (7) dans le logement (8) 5
lorsque l'élément de support (6) est chaud (101),
- b) insérer l'arbre (7) dans la moule pendant la fabrication de l'élément de support (6) de telle sorte que l'arbre (7) sort du moule en même temps avec l'élément de support (6) 10
qui est produit en étant formé par un moule,

et comme les étapes suivantes,

- s'appuyer l'élément de support (6) sur la partie de fixation (11) et la partie d'entrée (10) de l'arbre (7) qui y est inséré comme le logement (8) devient plus étroit par le refroidissement de l'élément de support (6) 15 20 (102),
- monter la roue (5) à la section d'essieu (12) (103),
- monter le moyen de fixation (9) sur la section filetée (13) qui reste à l'avant de la roue (5) (104), 25
- fixer l'élément de support (6) et le couvercle (14) l'un à l'autre par complémentarité des formes par l'intermédiaire des moyens de verrouillage (15) (105), 30
- verrouiller la vis (17) à la forme filetée dans l'alésage (16) en passant à travers les trous de vis sur l'élément de support (6) et sur le couvercle (14) et forçant l'arbre (7) à être attiré vers la vis (17) (106). 35

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Figure 1

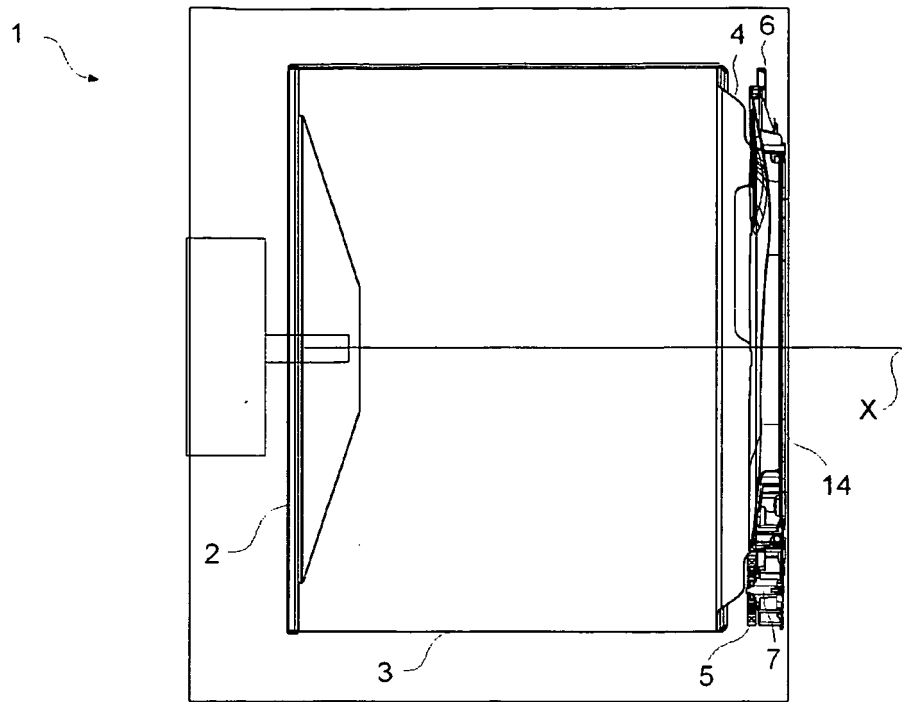


Figure 2

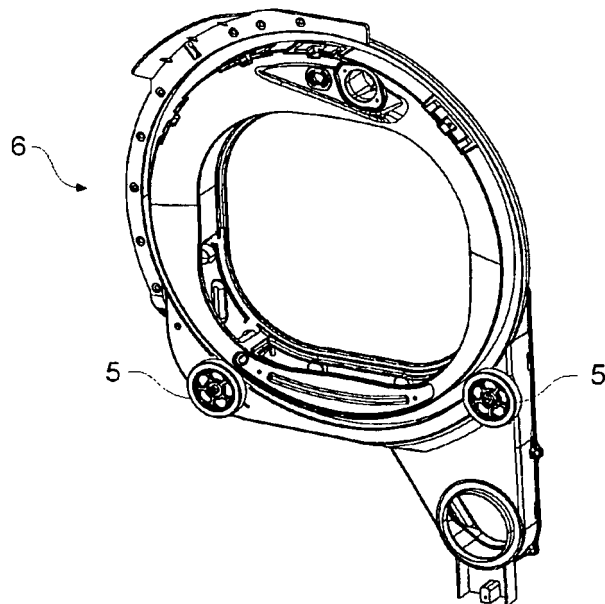


Figure 3

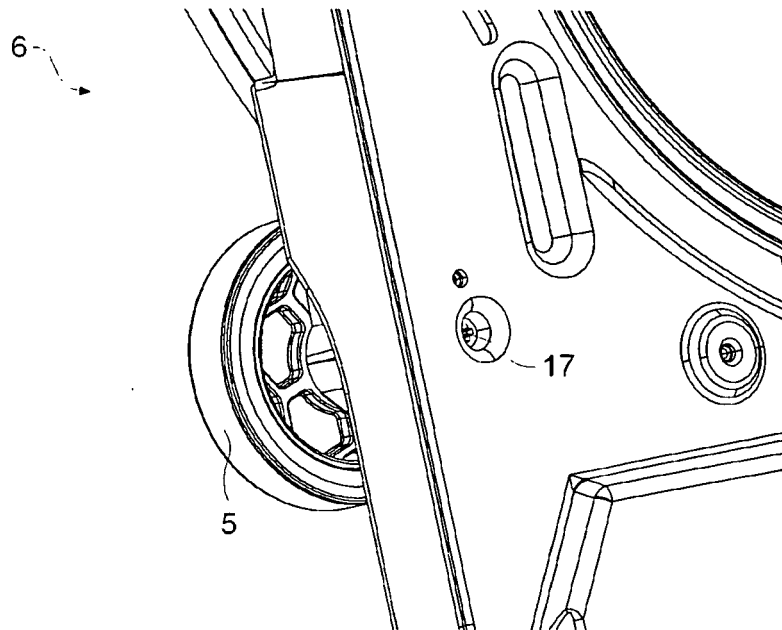


Figure 4

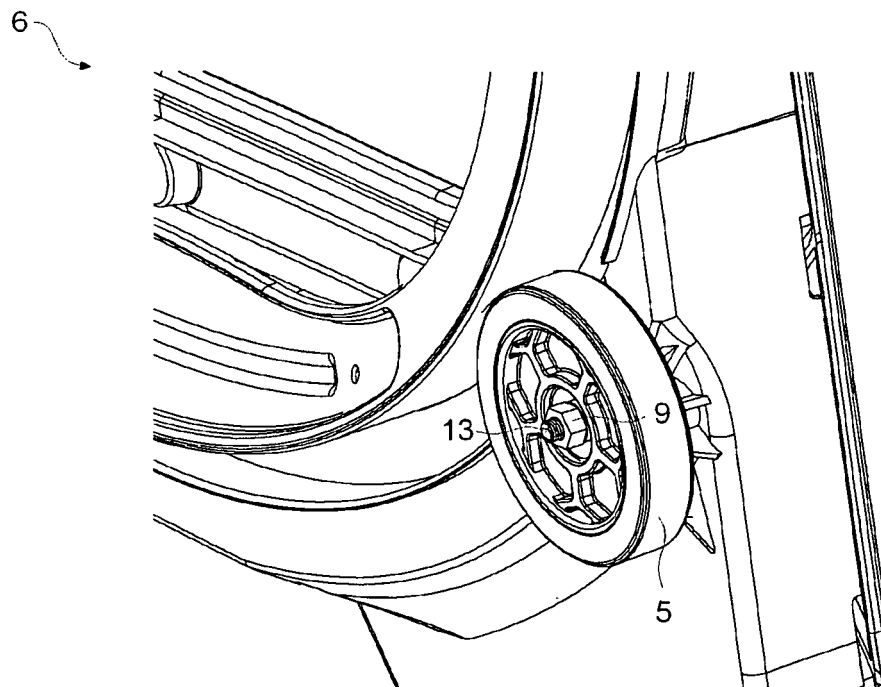


Figure 5

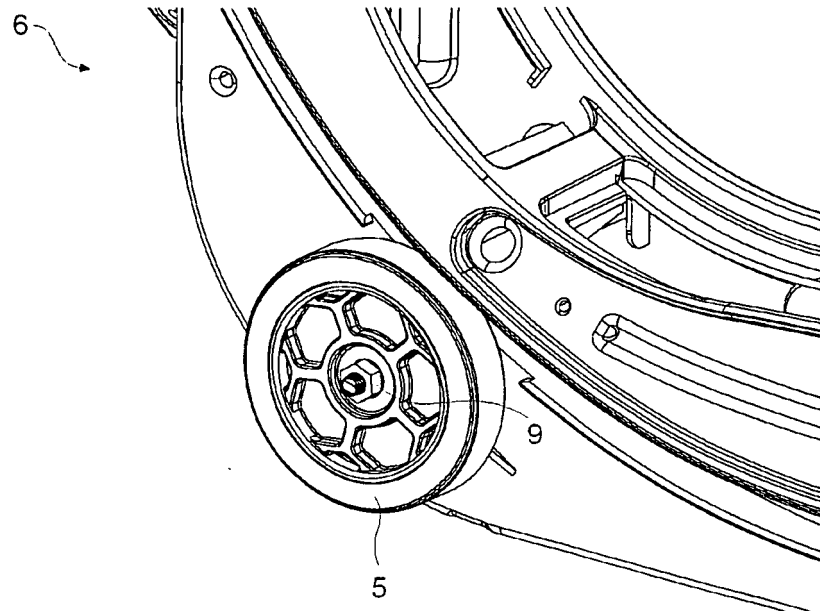


Figure 6

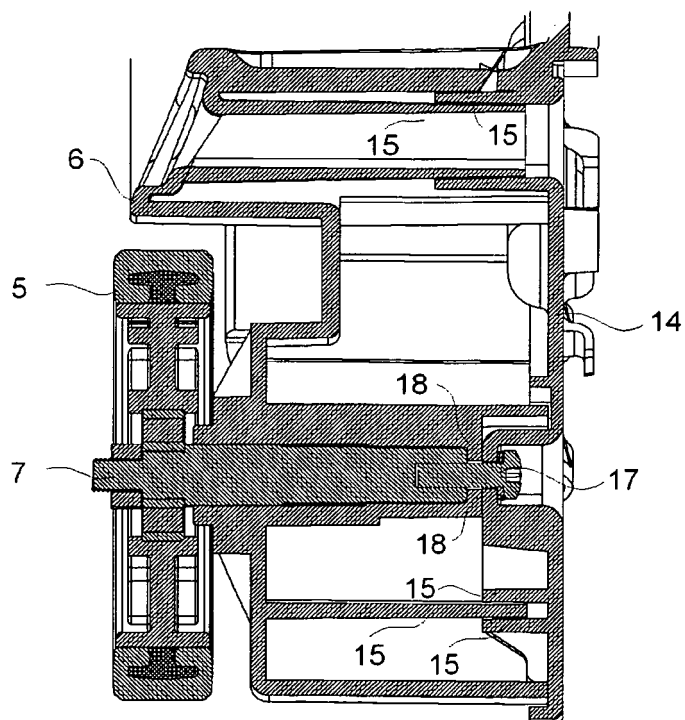


Figure 7

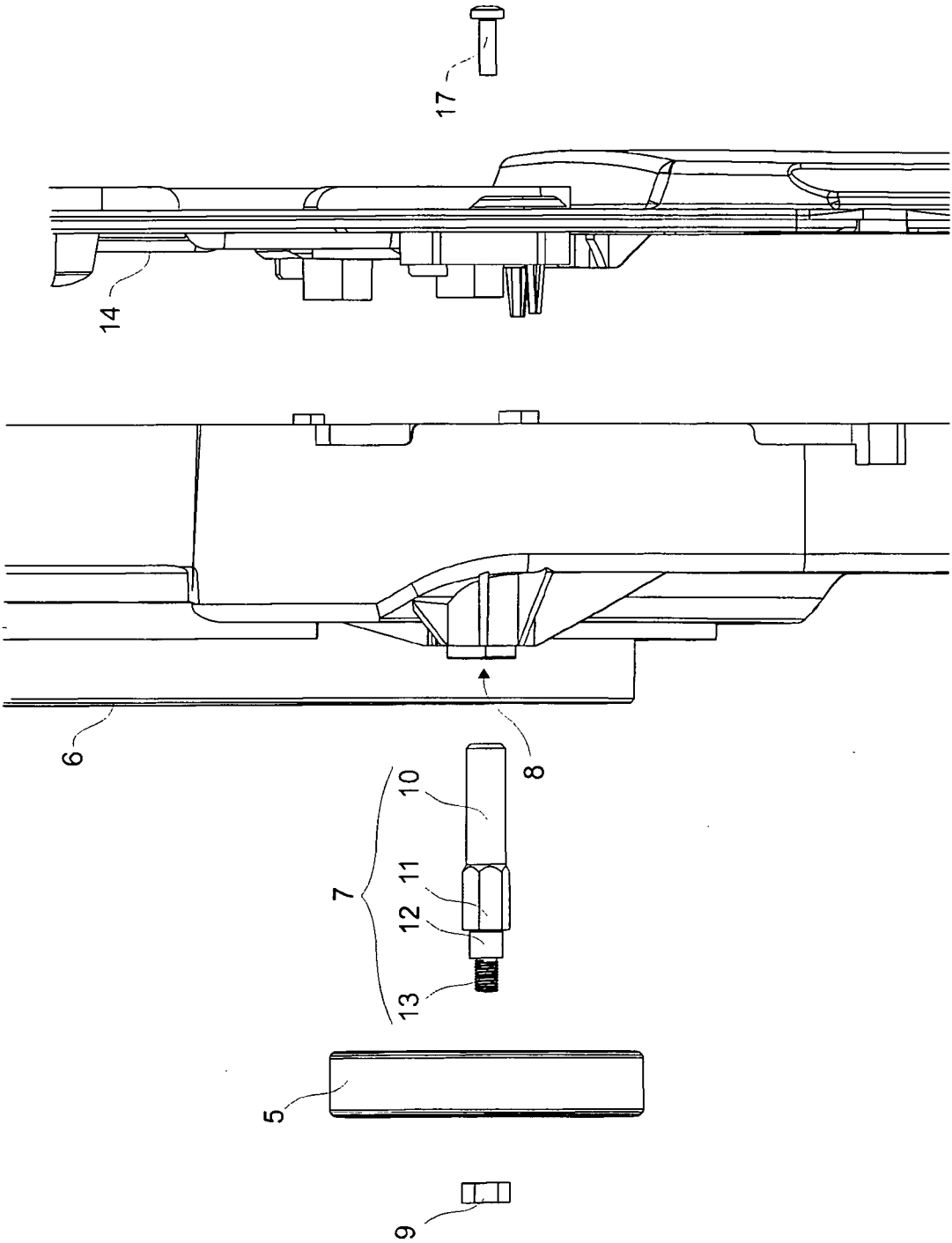


Figure 8

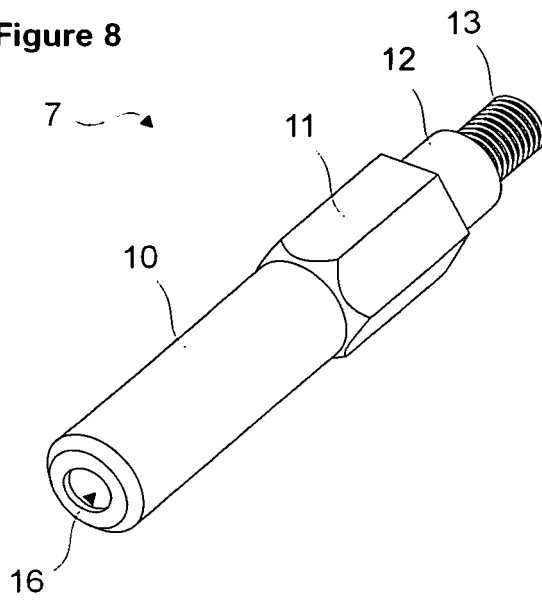


Figure 9

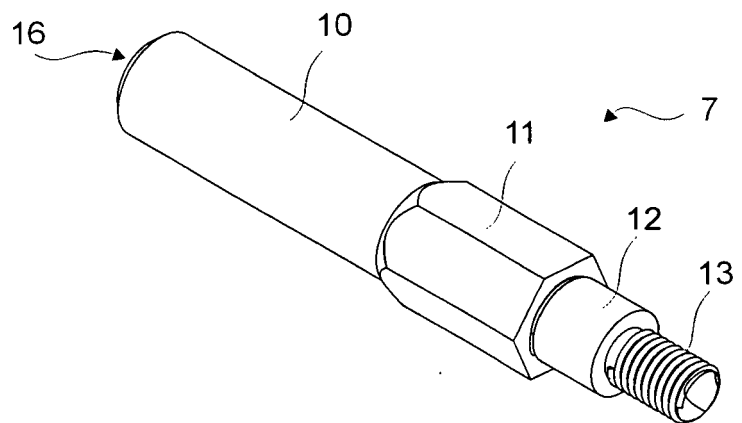
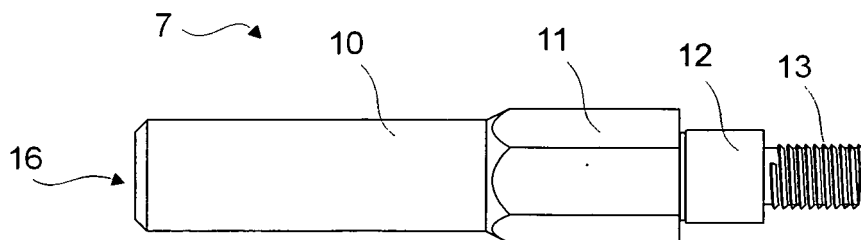


Figure 10



REFERENCES CITED IN THE DESCRIPTION

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