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(54) **A CONNECTION RING FOR GAS TAPS**

VERBINDUNGSRING FÜR GASHÄHNE

ANNEAU DE RACCORDEMENT POUR ROBINETS À GAZ

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Description

The Related Art

[0001] The invention relates to a connection ring for being mounted to gas taps of ovens and furnaces, operating in accordance with the movement of the taps, and allowing operation of the switches that provide electrical energy to the ignition system.

The Prior Art

[0002] Nowadays, switches providing electrical energy to ignition units used for burning gas, and washer or similar connecting pieces enabling operation of these switches are used in electronically or manually controlled, LPG- or NG-operated heater, cooker (domestic and industrial type ovens, furnaces, combi boilers etc.) devices.

[0003] Washers used in the prior art are hard to mount and their removal during repair works is even harder. Also, even though another kind is easy to mount, it does not have a lock and/or it has technical problems such as being dislocated easily since its lock is loose. Therefore, a solution is required, which is easy to mount/install, is locked and does not get dislocated, and can be removed easily during repair works.

[0004] US1492561 A provides a washers or shim which can be placed in position on a shaft between two parts as between a shoulder on a shaft and a side of a bearing, or between an eye and shackle in an automobile spring suspension without removal or displacement of any of the parts on the shaft or pin and which admits of manufacture in a variety of thickness and which provides a secure joint, between the segments thereof.

[0005] DE102012013992 A1 discloses a safety disk for use as starting disk for shaft of axial bearing arrangement for gear arrangement, has detent projection engaging in groove, and lock formed so that sector elements are captively coupled with each other. The disk (22) has identical sector elements (30, 32) connected to a circular shape, and including a half ring-like base body (34) with two ends (36, 38). One of the ends (36) includes a detent projection (46), and the other end includes a detent groove (54).

[0006] WO8601266 A1 discloses a snap lock assembly which may be mounted on a shaft without passing over an end of the shaft. The assembly (10, 101) comprises two segments which are sized and shaped to encircle the shaft and which snap lock with each other. The shaft may be a rod, a bolt, or the like and; the assembly may be a nut, a washer, or the like. Various adaptors (80, 92, 96) are disclosed for adapting the assembly to threadless shafts (90). Also a tool (50) for disengaging the snap lock assembly is disclosed.

[0007] Documents WO 2008/135839 A2, EP 1 500 881 A2, WO 2011/082882 A2 disclose gas taps having connection rings.

Description of the Invention

[0008] The purpose of the invention is to have technical characteristics that bring an initiative to the related technical field compared to the prior art embodiments.

[0009] A purpose of the invention is to provide easy mounting compared to the prior art embodiments.

[0010] Another purpose of the invention is to provide a structure that does not come off itself and provides a firm and stable mounting.

[0011] Another purpose of the invention is to have a structure that can easily and effortlessly be removed simply by opening the locks when it is required to be removed due to repair and/or another reason.

[0012] Another purpose of the invention is to provide a design formed of two engaging pieces in order to ensure easy and effortless mounting and demounting. This structure is obtained with the use of two units of a piece, such that they would engage.

Figures for Better Understanding of the Invention

[0013]

Figure 1; shows the perspective view of the mounting steps showing adaptation of the connection ring to the tap shaft.

Figure 2; is a close-up individual perspective view of the connection ring according to the invention.

Figure 3.1; is the first step section view of the connection ring adaptation to the tap shaft.

Figure 3.2; is the second step section view of the connection ring adaptation to the tap shaft.

Figure 4; is a partial close-up view of the connection ring according to the invention.

Reference Numbers

[0014]

1. Connection Ring
2. First level
3. Second level
4. Locking set
5. Lower clutch key
- 5.1 Lower clutch slot
6. Retaining protrusion
- 6.1 Crescent form
- 6.2 Radiused transition surface
7. Fixing key
8. Fastening space
9. First piece
10. Second piece
11. Male tab
- 11.1 Fitting surfaces
- 11.2 Angular transition surface
12. Tap shaft
13. Tap shaft channel

- 14. Tap shaft tip
- 15. Tap body
- 16. Locking levels

Detailed Description of the Invention

[0015] Figure 2 shows the connection ring (1) for being mounted on a gas tap body (15) of ovens and furnaces, the gas tap body comprising a tap shaft (12) and a gas tap channel (13), wherein the connection ring comprises a first piece (9) and a second piece (10) to be coupled to each other for forming the connection ring, wherein the first and second pieces comprise locking sets (4) for throttling the tap shaft channel (13) of said gas tap body (15) in an assembled state of the connection ring. It comprises fixing keys (7) formed on this first piece (9) and second piece (10) and comprising locking levels (16). Also, it comprises male tabs (11) formed on both the first piece (9) and the second piece (10) and comprising fitting surfaces (11.1) attached to said locking levels (16) in an assembled state of the connection ring, and a fastening space (8) in which said fixing keys (7) are housed in an assembled state of the connection ring, thereby enabling the coupling of the first and second piece to each other.

[0016] Figure 2 shows the retaining protrusion (6) having a convex shape and which, in an assembled state of the connection ring and due to its flexible structure, applies a force on the fixing keys (7) in the fastening space (8) for pushing the fixing keys towards the male tabs. Besides; said retaining protrusion (6) comprises a crescent form (6.1) surrounding the gas tap body (15) and a radiused transition surface (6.2) enabling comfortable insertion of said fixing keys (7). Moreover; it comprises flexible male tabs (11) comprising angular transition surface (11.2) which allows comfortable insertion of fixing keys (7) into said fastening space (8). Moreover, a lower clutch key (5) formed on both the first piece (9) and the second piece (10) clutching said tap body (15) from the lower area, and a lower clutch slot (5.1) in which said lower clutch keys (5) are housed are formed.

[0017] The way of operation of the connection ring (1) according to the invention is as follows: First of all, the first piece (9) and the second piece (10) of the connection ring (1) are coupled to each other. This coupling is ensured by housing of the fixing keys (7) in the fastening space (8) by means of the movement of the first piece (9) and the second piece (10) in opposite directions on y-axis, such as -y and +y. By means of housing of the fixing keys (7) in the fastening space (8), the fitting surfaces (11.1) of the male tabs (11) firstly fits into the first level (2) of the locking level (16) (see Figure 3.1), and in this position, the first piece (9) and the second piece (10) perform the first throttling motion, while they are not fitted on the tap shaft channel (13) of the tap body (15) yet. However, with the pressing motion applied on the first piece (9) and the second piece (10) in -y and +y directions (see Figure 3.2), the first piece (9) and the second piece (10) are inserted/fitted into the tap shaft channel (13). In

this position, the fitting surfaces (11.1) of the male tabs (11) fit into the second level (3) of the locking level (16). In this way, desired fixing operation is completed.

Claims

1. A connection ring (1) for being mounted on a gas tap body (15) of ovens and furnaces, the gas tap body comprising a tap shaft (12) and a gas tap channel (13), wherein the connection ring comprises

- a first piece (9) and a second piece (10) to be coupled to each other for forming the connection ring, wherein the first and second pieces comprise locking sets (4) for throttling the tap shaft channel (13) of said gas tap body (15) in an assembled state of the connection ring,
- fixing keys (7) formed on said first piece (9) and second piece (10) and comprising locking levels (16),
- male tabs (11) formed on both the first piece (9) and the second piece (10) and comprising fitting surfaces (11.1) attached to said locking levels (16) in an assembled state of the connection ring, and
- a fastening space (8) in which said fixing keys (7) are housed in an assembled state of the connection ring, thereby enabling the coupling of the first and second piece to each other,

characterized in that the connection ring further comprises

a retaining protrusion (6) having a convex shape and which, in an assembled state of the connection ring and due to its flexible structure, applies a force on the fixing keys (7) in the fastening space (8) for pushing the fixing keys towards the male tabs.

2. The connection ring (1) according to Claim 1, **characterized in that**; said retaining protrusion (6) comprising a crescent form (6.1) surrounding the gas tap body (15) and a radiused transition surface (6.2) enabling comfortable insertion of said fixing keys (7).
3. The connection ring (1) according to Claim 1, **characterized in that**; it comprises a lower clutch key (5) formed on both the first piece (9) and the second piece (10) clutching said tap body (15) from the lower area.
4. The connection ring (1) according to Claim 4, **characterized in that**; it comprises a lower clutch slot (5.1) in which said lower clutch keys (5) are housed.

Patentansprüche

1. Verbindungsring (1) zur Anbringung an einem Gas-
hahnkörper (15) von Backöfen und Heizöfen, wobei
der Gashahnkörper eine Hahnwelle (12) und einen
Gashahnkanal (13) umfasst, wobei der Verbind-
ungsring folgendes umfasst:

- ein erstes Stück (9) und ein zweites Stück (10),
die miteinander gekoppelt sind, so dass sie den
Verbindungsring bilden, wobei das erste und
das zweite Stück Verriegelungssätze (4) umfas-
sen, um den Hahnwellenkanal (13) des Gas-
hahnkörpers (15) in einem montierten Zustand
des Verbindungsringes zu drosseln;

- Fixierungskeile (7), die an dem ersten Stück
(9) und dem zweiten Stück (10) ausgebildet sind
und Verriegelungsstufen (16) umfassen;

- äußere Ansätze (11), die an dem ersten Stück
(9) und an dem zweiten Stück (10) ausgebildet
sind, und die Passflächen (11.1) umfassen, die
an den Verriegelungsstufen (16) in einem mon-
tierten Zustand des Verbindungsringes ange-
bracht sind; und

- einen Befestigungsraum (8), in dem sich die
Fixierungskeile (7) in einem montierten Zustand
des Verbindungsringes befinden, wodurch die
Kopplung des ersten und des zweiten Teils an-
einander ermöglicht wird;

dadurch gekennzeichnet, dass der Verbindungs-
ring ferner folgendes umfasst:

einen Sicherungsvorsprung (6) mit einer konvexen
Form, und wobei dieser in einem montierten Zustand
des Verbindungsringes und durch dessen flexible
Struktur eine Kraft auf die Fixierungskeile (7) in dem
Befestigungsraum (8) ausübt, um die Fixierungskei-
le in Richtung der äußeren Ansätze zu drücken.

2. Verbindungsring (1) nach Anspruch 1, **dadurch ge-
kennzeichnet, dass** der Sicherungsvorsprung (6)
eine Halbmondform (6.1) umfasst, welche den Gas-
hahnkörper (15) umgibt, sowie eine gerundete Über-
gangsoberfläche (6.2), die ein bequemes Einführen
der Fixierungskeile (7) ermöglicht.

3. Verbindungsring (1) nach Anspruch 1, **dadurch ge-
kennzeichnet, dass** dieser einen unteren Kupp-
lungskeil (5) umfasst, der an dem ersten Teil (9) und
an dem zweiten Teil (10) ausgebildet ist, wobei der
Hahnkörper (15) von dem unteren Bereich gekuppelt
ist.

4. Verbindungsring (1) nach Anspruch 4, **dadurch ge-
kennzeichnet, dass** dieser einen unteren Kupp-
lungsschlitz (5.1) umfasst, in dem sich die unteren
Kuppelungskeile (5) befinden.

Revendications

1. Anneau de raccordement (1) destiné à être monté
sur un corps de robinet de gaz (15) de fours et de
fourneaux, le corps de robinet de gaz comprenant
un arbre de robinet (12) et un canal de robinet de
gaz (13), l'anneau de raccordement comprenant

- une première pièce (9) et une seconde pièce
(10) à accoupler l'une à l'autre pour former l'an-
neau de raccordement, les première et seconde
pièces comprenant des ensembles de ver-
rouillage (4) pour étrangler le canal d'arbre de
robinet (13) dudit corps de robinet à gaz (15)
dans un état assemblé de l'anneau de raccor-
dement,

- des clavettes de fixation (7) formées sur ladite
première pièce (9) et ladite seconde pièce (10)
et comprenant des niveaux de verrouillage (16),
- des languettes mâles (11) formées à la fois sur
la première pièce (9) et la seconde pièce (10)
et comprenant des surfaces d'ajustement (11.1)
fixées auxdits niveaux de verrouillage (16) dans
un état assemblé de l'anneau de raccordement,
et

- un espace de fixation (8) dans lequel lesdites
clavettes de fixation (7) sont logées dans un état
assemblé de l'anneau de raccordement, per-
mettant ainsi l'accouplement de la première et
de la seconde pièce l'une à l'autre,

caractérisé en ce que l'anneau de raccordement
comprend en outre

une saillie de retenue (6) ayant une forme convexe
et qui, dans un état assemblé de l'anneau de rac-
cordement et en raison de sa structure flexible, ap-
plique une force sur les clavettes de fixation (7) dans
l'espace de fixation (8) pour pousser les clavettes
de fixation vers les languettes mâles.

2. Anneau de raccordement (1) selon la revendication
1, **caractérisé en ce que** ; ladite saillie de retenue
(6) comprend une forme de croissant (6.1) entourant
le corps de robinet de gaz (15) et une surface de
transition arrondie (6.2) permettant une insertion
confortable desdites clavettes de fixation (7).

3. Anneau de raccordement (1) selon la revendication
1, **caractérisé en ce que** ; il comprend une clavette
de serrage inférieure (5) formée à la fois sur la pre-
mière pièce (9) et la seconde pièce (10) serrant le
corps de robinet (15) depuis la zone inférieure.

4. Anneau de raccordement (1) selon la revendication
4, **caractérisé en ce que** ; il comprend une fente de
serrage inférieure (5.1) dans laquelle sont logées
lesdites clavettes de serrage inférieures (5).

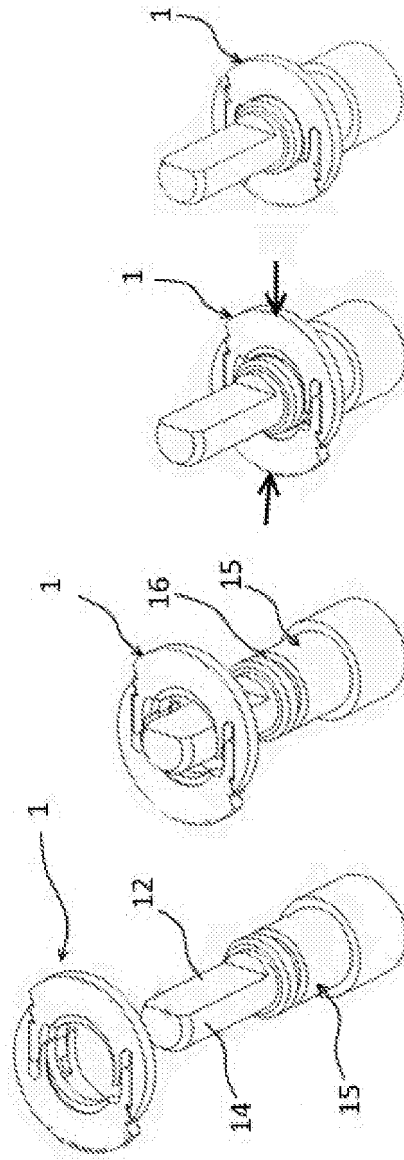
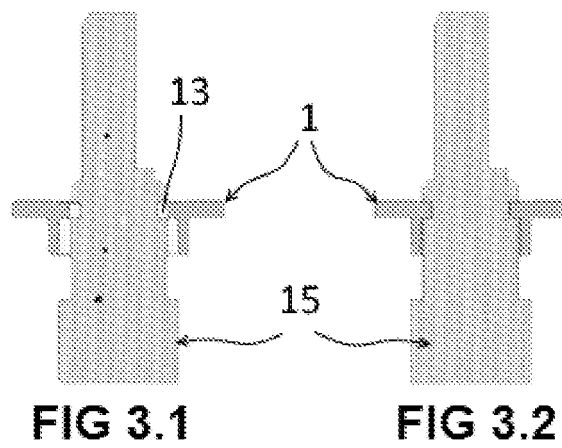
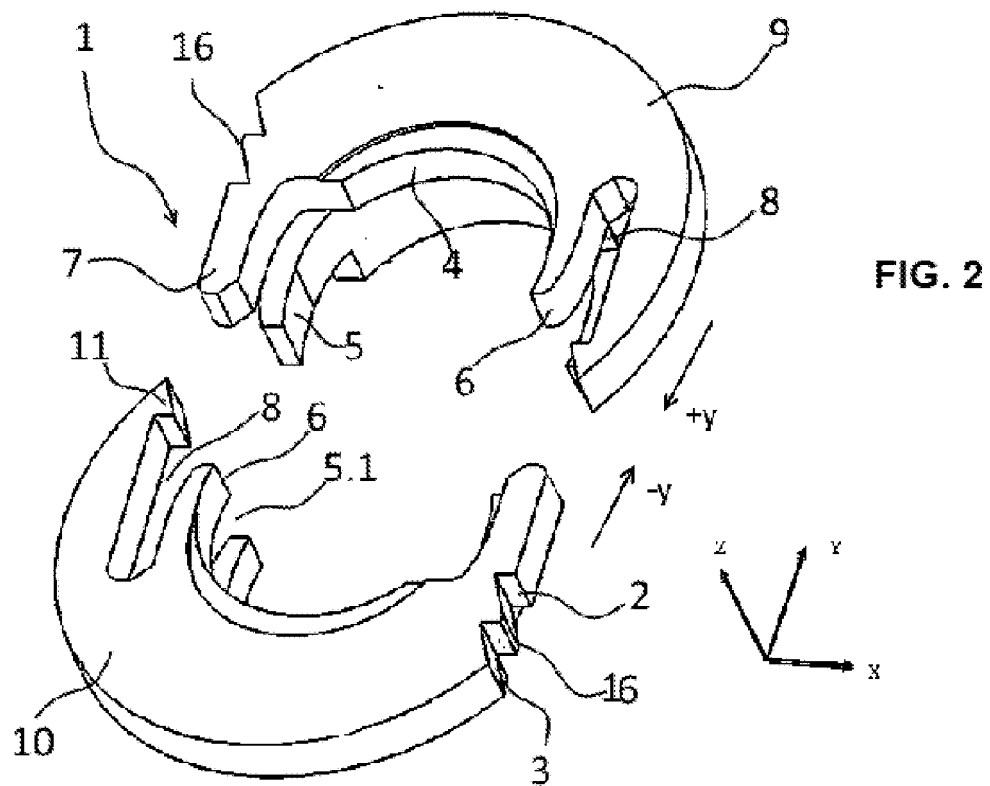


FIG. 1



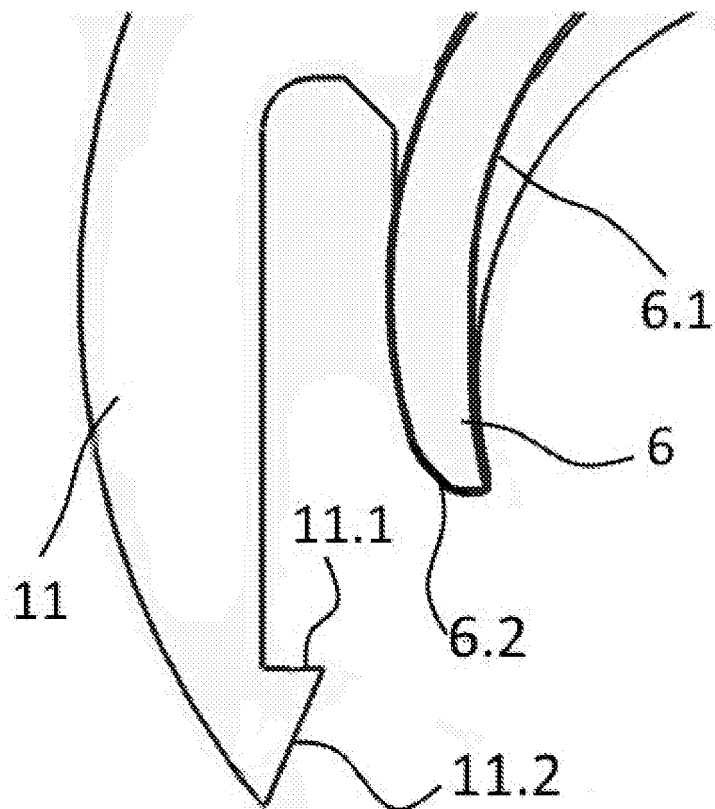


FIG. 4

REFERENCES CITED IN THE DESCRIPTION

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