



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
29.08.2007 Bulletin 2007/35

(51) Int Cl.:
A47L 13/60 (2006.01)

(21) Application number: **06460008.3**

(22) Date of filing: **28.03.2006**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK YU

(72) Inventors:
• **Sanocki, Tadeusz**
38-460 Jedlicze (PL)
• **Sanocki, Marek**
38-400 Krosno (PL)

(30) Priority: **27.02.2006 PL 37906906**

(74) Representative: **Dabkowski, Jerzy**
Kancelaria Patentowa
ul. Raabego 11 m 4
02-793 Warszawa (PL)

(71) Applicant: **Splast Sp. z o.o.**
38-400 Jedlicze (PL)

(54) **A squeezing press roller of a cleaning kit**

(57) The subject of this invention is a squeezing press roller, especially a squeezing press roller of a cleaning kit.

The roller is made as one element plastic construction and has lengthwise rectangular-shaped body (1) which is square in section, whose bottom side is open, and inside the body (1) is located an internal stiffening structure, composed of intersecting fins (2) slant to the lengthwise body (1) axis and interconnecting body (1) walls (3). The central part of the body is closed on its

both sides with flat round planes (4) which are perpendicular to the lengthwise body (1) axis, and on both ends the body (1) is ended with cylinder-shaped tips (5) with fins on the surface in the form of lengthwise projections (6) forming splines, and on the body (1) the socket (7) is non-centrally located, closer to one round plane (4), perpendicular to the lengthwise axis of the body (1), whereas the socket (7) is cylinder-shaped located within the body (1), whereas the mandrel (8) seated in the socket (7) base is centrally located inside the cylinder.

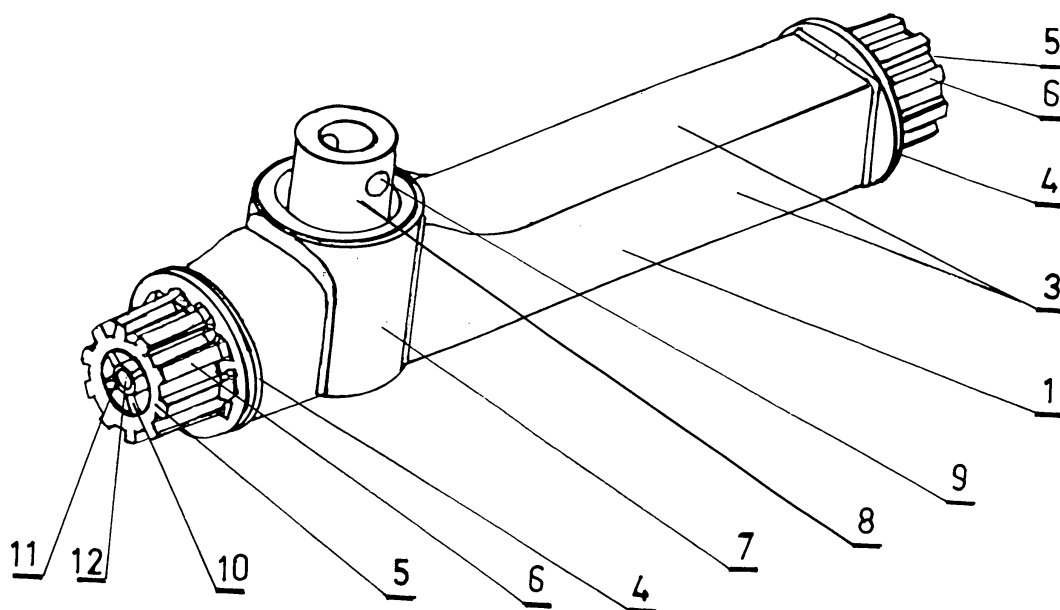


Fig. 1

Description

[0001] The subject of this invention is the construction of the squeezing press roller, especially for the squeezing press roller of the cleaning kit, made as one element plastic construction.

[0002] The squeezing press roller which has been known so far is made as aluminum long cylinder-shaped cast, with stopper rings on both ends of the long axis and rectangular-shaped mandrel at the end with square-section. A roller-shaped connection supported by the external flange holding the roller is located closer to one of the rings, and is perpendicular to the lengthwise roller axis.

[0003] A disadvantage of the already known roller is that while wet elements, such as mop or its parts, were squeezed, the roller would frequently get broken or twist over. The device would become damaged, and the roller needed to be replaced. The squeezing press would lose its functions in this way. The rollers were damaged because they could not withstand the bending and twisting forces effecting the roller material, and also because of construction of rollers which was inadequate often as a result of casting technological requirements, yet the main cause was the so-called material micro-shrinkages which formed during aluminum casting of rollers. Those defects cannot be seen externally, and certain specialist equipment would have to be used to detect them in the roller construction, which is related to significant costs. The already known rollers would be mainly damaged due to the effect of bending forces, and the maximum strength of the rollers designed in that way reached the values of 200 to 260 Nm during destruction tests.

[0004] The objective of the invention was to construct a roller which would be free of those defects, and furthermore could be made from high-strength and easy-to-make plastic material.

[0005] According to the invention the roller construction for the squeezing press with the lengthwise-shaped body and the activating pipe mandrel is characterized in that it is made as one-element plastic construction and has lengthwise rectangular-shaped body with the square section and open bottom. Inside the body is the internal stiffening construction consisting of intersecting fins slant to the lengthwise body axis and interconnecting body walls. Flat and round planes perpendicular to the lengthwise body axis close the central part of the body on its both sides. Both ends of the body are ended with cylinder-shaped tips which are finned on the surface in the form of lengthwise projections arranged on the tip surface to form splines. The activating pipe socket is non-centrally located on the body, closer to one of the round planes, perpendicular to the lengthwise axis of the body. The socket is cylinder-shaped and is located in the body, whereas the mandrel seated in the socket base is located centrally inside the cylinder.

[0006] Preferably, both body ends are located on internal equally arranged lengthwise fin holders located on

the central lengthwise cylinder-shaped mandrel with central opening.

[0007] Preferably, the internal finning is formed by rectangular open walls with the square section neighboring the external ones with the triangle section.

[0008] Preferably, the socket mandrel is above the upper socket edge and the mandrel has the opening perpendicular to the lengthwise body axis.

[0009] Preferably, the socket is cylinder-shaped with diameter bigger than the body thickness, and the finning covers the external surface of the socket cylinder.

[0010] Preferably, the diameter of flat and round planes is bigger than the body section.

[0011] The advantage of the squeezing press construction made as one-element plastic construction is considerable improvement of its strength. During destruction tests the strength reaches the values of 270 to 300 Nm. Due to the used construction the strength of the socket improved, wherein the roller would be most frequently broken. The construction based on the internal finning meets the strength requirements for bending and twisting. Such construction of the roller eliminated damage to the roller and the necessity of its frequent replacement.

[0012] The example of the subject of the invention is shown on the drawing, where Fig. 1 shows the side-view of the roller in the axonometric view, Fig.2 shows the side-view of the roller from the bottom in the axonometric view, Fig.3 the side-view of the roller in section, and Fig. 4 the side-view of the roller with the socket section.

[0013] The construction of the squeezing press roller of the cleaning kit, e.g., a mop or a flat mop, is lengthwise rectangular-shaped made as one-element plastic construction, consisting of the body 1, whose cross-section is square-shaped and whose bottom side is open. Inside the body 1 is located the internal stiffening structure made of intersecting fins 2 slant to the lengthwise body 1 axis and interconnecting body 1 walls 3, filling the entire space between the walls, and the central part 1 is closed from its both sides with flat and round planes 4 located perpendicular to the lengthwise body 1 axis, and on both body 1 ends are cylinder-shaped tips 5 with fins on the surface in the form of lengthwise projections 6 forming splines, and each tip 5 is located on internal equally arranged lengthwise holders 10 located on the central lengthwise cylinder-shaped mandrel 11 with the central opening 12. Located on the body 1 is the socket 7 for fixing a pipe, manually-pressed by a cleaning person, which socket is not centrally located, and is closer to one round surface 4, and is perpendicular to lengthwise axis of the body 1. The socket 7 is shaped like the cylinder located in the body 1. Inside the socket 7 centrally located is the mandrel 8 seated in the socket 7 base. A pipe is put on the mandrel, which pipe is connected by a clamp located in the mandrel and pipe port 9 to prevent disconnection during operation of the pipe and mandrel 8. The end of the pipe seated in the mandrel 8 is pressed manually by a cleaning person, due to which the press is

activated and the mop is squeezed out.

Claims

1. The construction of the squeezing press roller with the lengthwise body, stopper rings and connection for fixing a pressing pipe is **characterized in that** the roller is made as one-element plastic construction and has lengthwise rectangular-shaped body (1) with the square section and its bottom side open. Inside the body (1) is located the internal stiffening construction consisting of intersecting fins (2) which is slant to the lengthwise body (1) axis and interconnects walls (3) of the body (1) that fills the entire space between the walls, and the flat and round planes (4) perpendicular to the lengthwise body (1) axis close the central part of the body (1) on its both sides, and on both body ends are cylinder-shaped tips (5) with fins on the surface in the form of lengthwise projections (6) forming splines, and on the body (1) non-centrally located is the socket (7), closer to one round plane (4), perpendicular to the lengthwise axis of the body (1), whereas the socket (7) is shaped like the cylinder located in the body (1), whereas inside the cylinder is centrally located mandrel (8) seated in the socket (7) base.
2. The construction of the roller according to claim 1 is **characterized in that** the tips (5) are located on internal equally arranged lengthwise fin holders (10) located on the central lengthwise cylinder-shaped mandrel (11) with central opening (12),
3. The construction of the roller according to claim 1 is **characterized in that** the internal fins (2) form open rectangular walls with the square section, which walls neighbor the walls with triangle section,
4. The construction of the roller according to claim 1 is **characterized in that** the mandrel (8) is above the upper socket (7) edge and the mandrel (8) has the port (9) perpendicular to the lengthwise body axis (1),
5. The construction of the roller according to claim 1 is **characterized in that** the socket (7) is cylinder-shaped, whose diameter is bigger than the diameter of the body (1), and the inside finning (2) spreads over the external surface of the socket (7),
6. The construction of the roller according to claim 1 is **characterized in that** the diameter of the flat and round planes (4) is bigger than the section of the body (1).

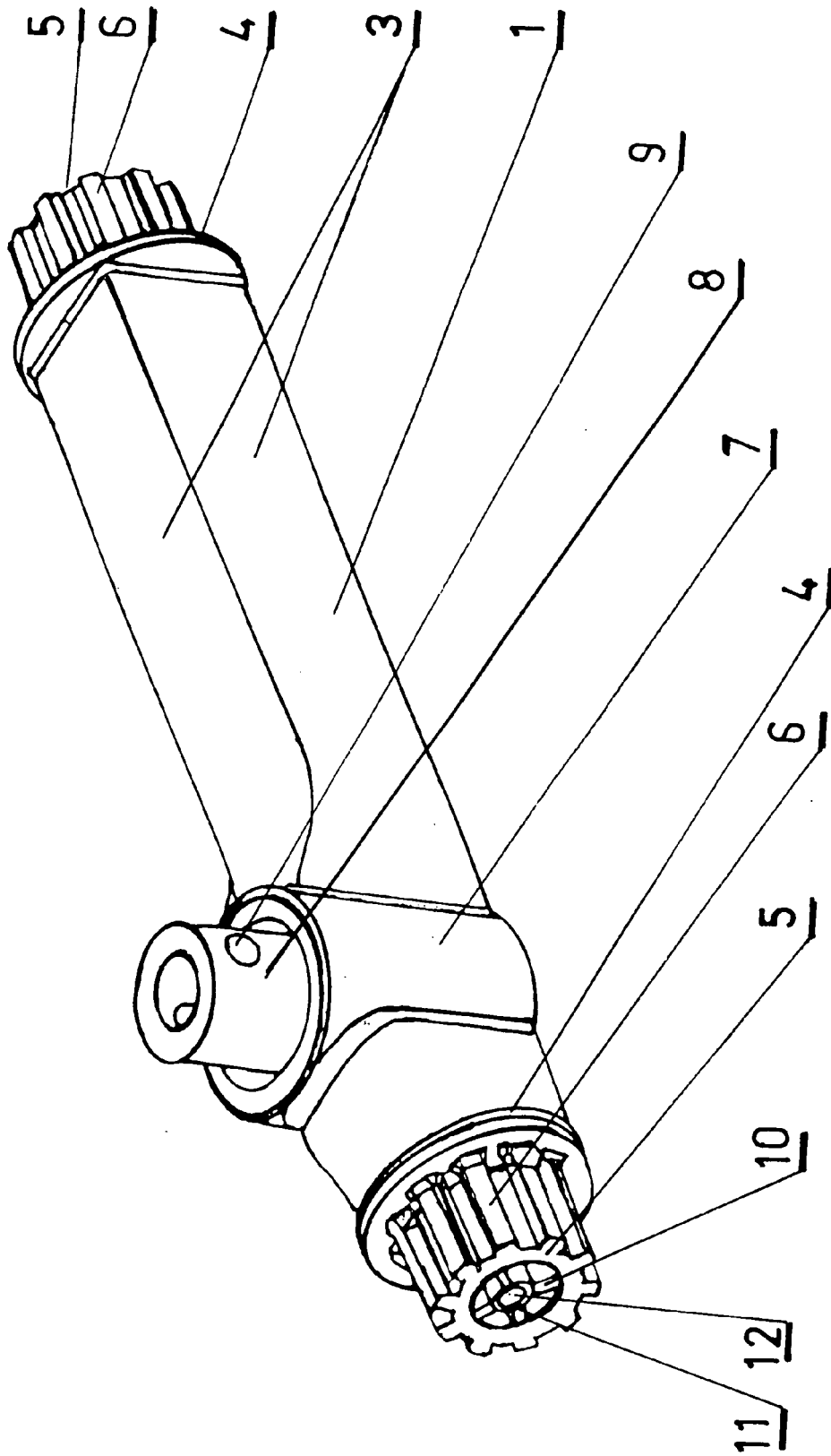


Fig.1

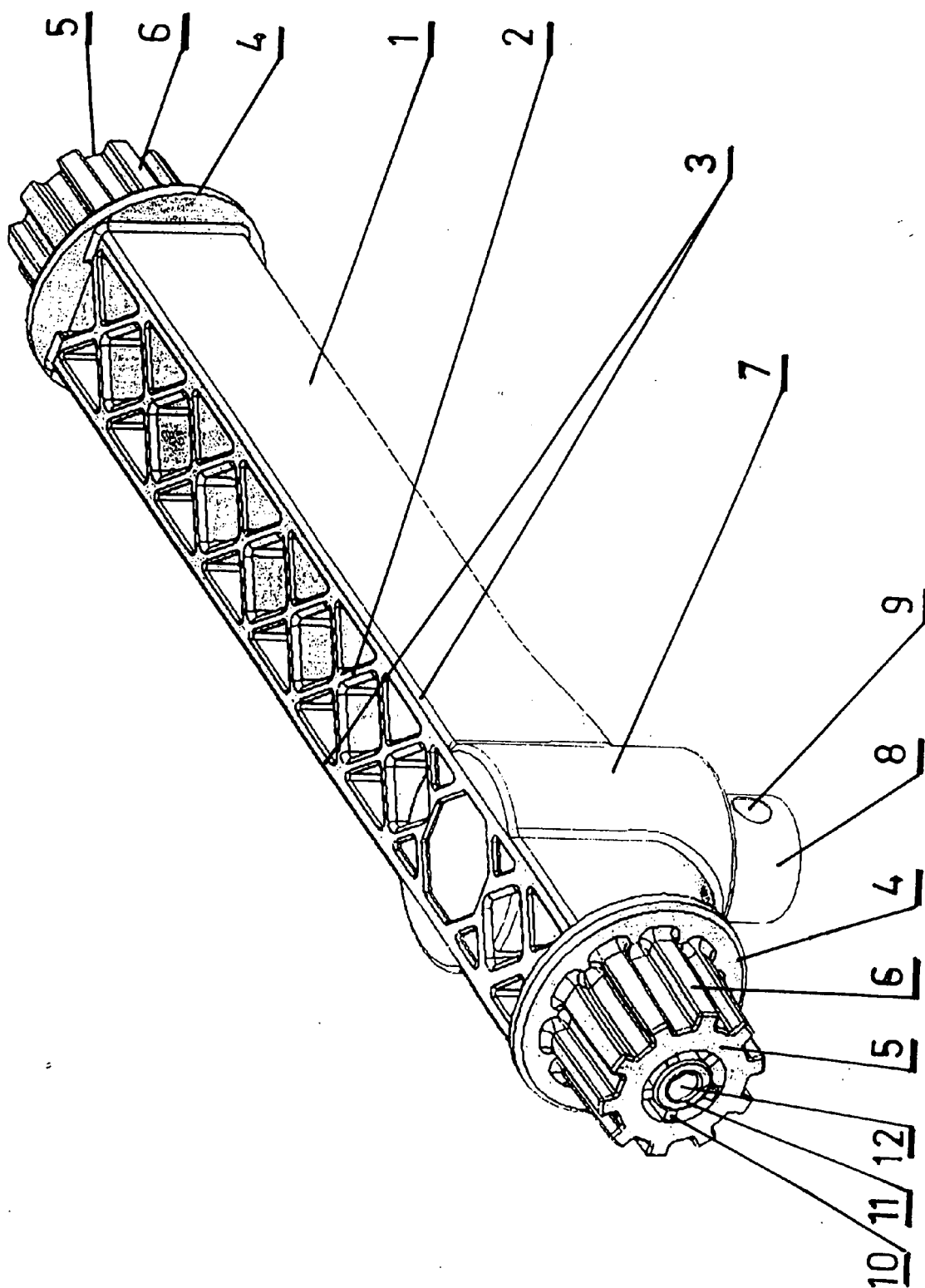


Fig. 2

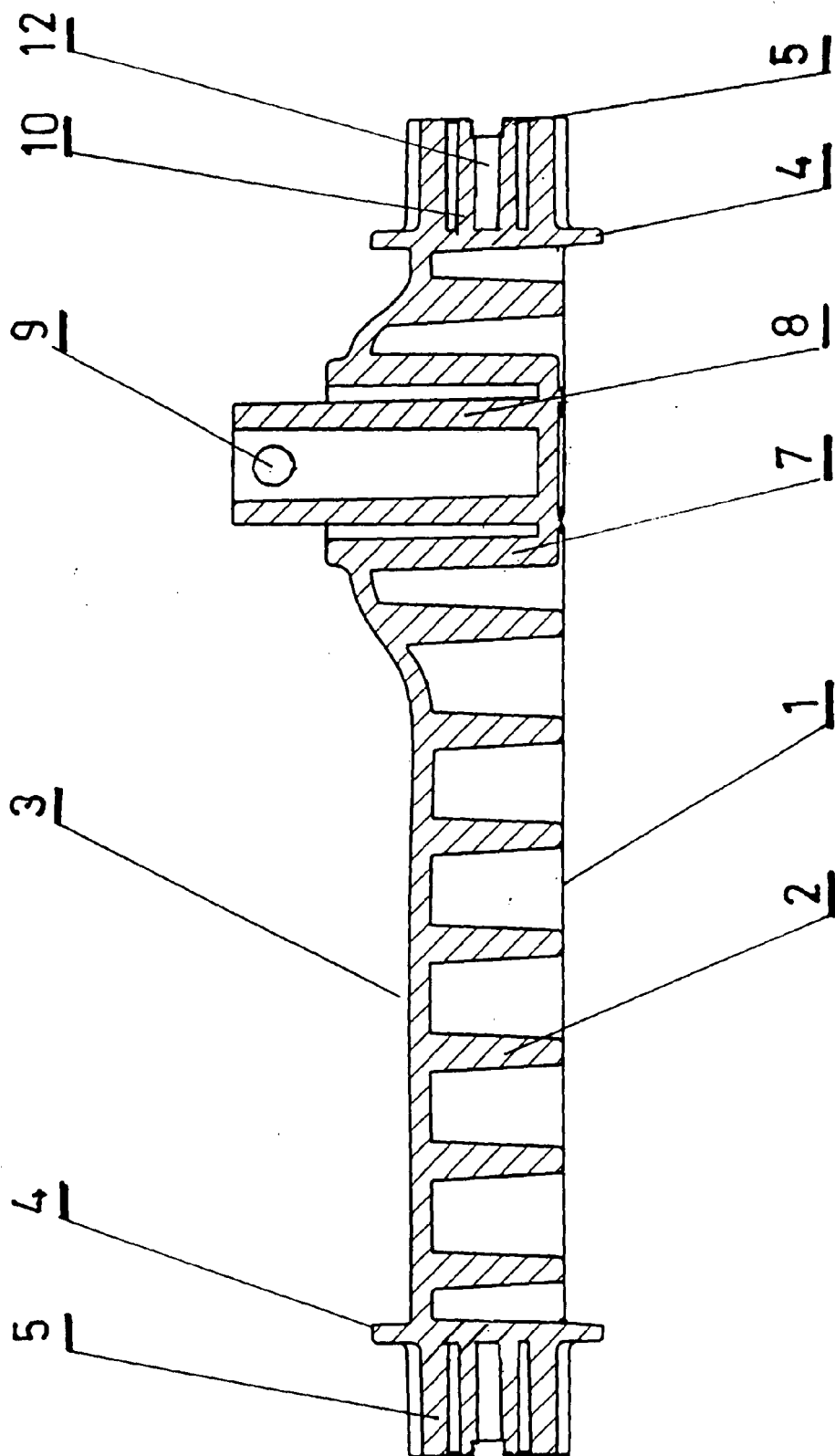


Fig. 3

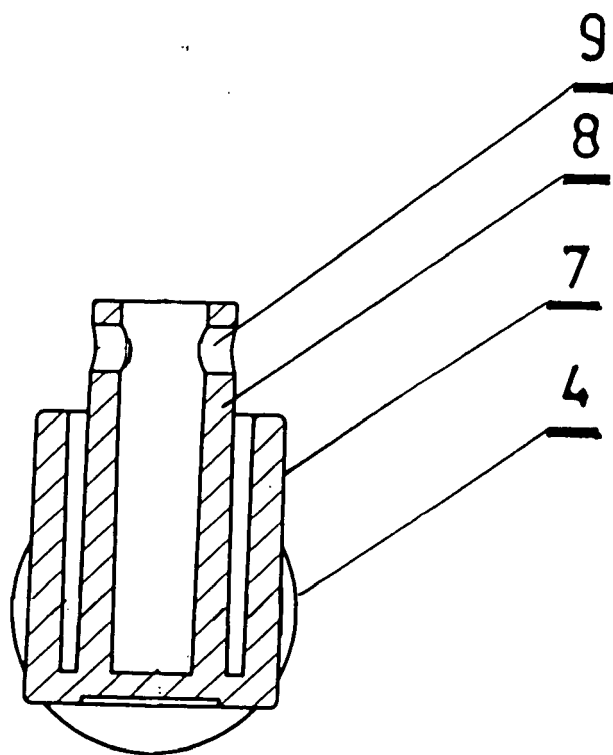


Fig. 4



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 46 0008

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 4 912 804 A (PASBOL JOHN C [DK]) 3 April 1990 (1990-04-03) * figures 1,11 * * column 16, line 54 - column 17, line 28 *	1-6	INV. A47L13/60
A	----- WO 94/26159 A (CERVELLIN SERGIO [IT]) 24 November 1994 (1994-11-24) * figures 1,2 * * page 3, lines 12-14 *	1	
A	----- US 3 074 097 A (MARTIN SPIER I) 22 January 1963 (1963-01-22) * figure 1 * * column 1, lines 71,72 *	1	
A	----- US 1 517 187 A (BONSALL THOMAS L) 25 November 1924 (1924-11-25) * figure 2 *	1,4	
A	----- BE 482 699 A (ROSART ORPHÉE, COSYNS CAMILLE) 15 June 1948 (1948-06-15) * page 4, lines 1-2 *	1	TECHNICAL FIELDS SEARCHED (IPC) A47L
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 25 June 2007	Examiner Özsoy, Sevda
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

 4
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 46 0008

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-06-2007

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4912804 A	03-04-1990	AU 618960 B2	16-01-1992
		AU 2081288 A	12-01-1990
		DE 3875742 D1	10-12-1992
		DE 3875742 T2	09-06-1993
		DE 421986 T1	17-10-1991
		WO 8912419 A1	28-12-1989
		EP 0421986 A1	17-04-1991
		HK 1000460 A1	27-03-1998
		JP 4501962 T	09-04-1992
WO 9426159 A	24-11-1994	AU 6795294 A	12-12-1994
		IT VE930010 U1	07-11-1994
US 3074097	A 22-01-1963	NONE	
US 1517187	A 25-11-1924	NONE	
BE 482699	A	NONE	