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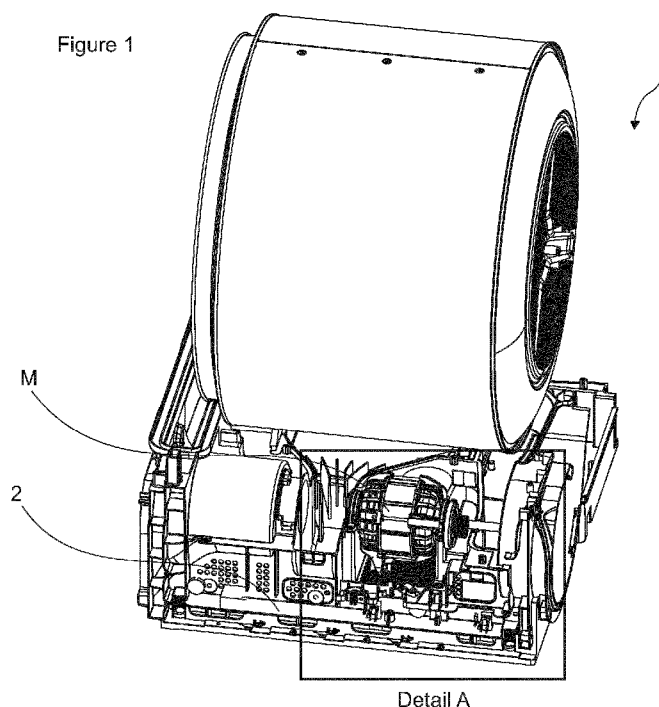
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(54) Title: A BEARING CLAMP



(57) Abstract: The present invention relates to a bearing clamp (1), comprising in its most basic form, at least one chassis (2), at least one support arm (3) extending from the chassis (2), on which the motor (M) is placed, at least one semi-circular seat (31) for placing the motor (M) therein, at least one bracket (4) settling on the support arm (3) and enclosing an end of the motor (M), at least one first hole (32) provided on the support arm (3), at least one engagement aperture (33) provided on the support arm (3), at least one bearing protrusion (41) extending from the bracket (4), at least one second hole (42) provided on the bearing protrusion (41), positioned so as to be concentric with the first hole (32), and at least one engaging projection (43) extending from the bracket (4) and fitting into the engagement aperture (33).

GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
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MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,
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A BEARING CLAMP

[0001] TECHNICAL FIELD

[0002] The present invention relates to a bearing clamp enabling fastening an electric engine used in domestic appliances or various other fields, to damp the vibration generated by said electric engine.

[0003] PRIOR ART

[0004] In domestic type dryers, drying of laundry items is essentially performed by passing heated air through the laundry items, and transmission/diffusion of the humidity of the laundry items to hot air. The heated air passes through the damp laundry items in a drum, absorbs the humidity of the laundry items and leaves the drum. The humid air leaving a drum is cooled by various methods depending on the type of the dryer, reducing its moisture holding capacity. Upon reducing the air's moisture holding capacity, the humidity of the air is condensed. Humidity is condensed by cooling the humid circulation air by passing it through the evaporator if the dryer is of the heat pump type, or by means of the cold air drawn from the environment if the dryer is of the condenser type.

[0005] In a dryer, a motor is used to rotate a drum and for a process fan to drive air flow. The rotation of the drum and the fan can be driven by a single motor as well as by separate motors. In case the drum and the fan are driven by a single motor, the drum is rotated by a belt and pulley assembly and the fan by coupling it to the shaft end of the motor. The motor is coupled to the feet provided on a chassis by bearing clamps. The motors used in domestic appliances are capable of revolving in high velocities, becoming a very significant source of vibration. All vibration generated by the motor is transmitted to the chassis if the motor is not beared correctly, if it is not correctly positioned on the chassis, and if its coupling points do not exhibit required rigidity.

[0006] Furthermore, since the motor is a component requiring maintenance, the bearing clamps of a motor have to be removed during maintenance. With current dryer coupling assemblies, side panels, rear wall and the drum have to be removed in order to detach motor bearing clamps.

[0007] State of the art patent document no. US5488259 mentions a support system developed for placement of electric motors. Said document mentions a clamp system adaptable to motors of varying sizes.

[0008] PROBLEMS SOLVED BY THE INVENTION

[0009] The aim of the present invention is to realize a bearing clamp which can be attached and detached easily.

[0010] Another aim of the present invention is to realize a bearing clamp inhibiting vibration of an electric motor by fastening it stably.

[0011] DETAILED DESCRIPTION OF THE INVENTION

[0012] A bearing clamp realized to achieve the aim of the present invention is illustrated in the accompanying drawings, wherein:

Figure 1: is a schematic view of the bearing clamp.

Figure 2: is a perspective view of the detail A.

Figure 3: is a perspective view of the detail A without the motor.

Figure 4: is a perspective view of the detail B.

[0013] The elements in the figures are numbered individually and the correspondence of these numbers are given hereinafter.

1. Bearing clamp
2. Chassis
3. Support arm

[0014] 31. Seat

[0015] 32. First hole

[0016] 33. Engagement aperture
4. Bracket

[0017] 41. Bearing protrusion

[0018] 42. Second hole

[0019] 43. Engaging projection
5. Coupling member

M. Motor

[0020] In its most basic form, a bearing clamp (1) for motors (M) provided in domestic appliances, comprises

- at least one chassis (2),
- at least one support arm (3) extending from the chassis (2),

- at least one seat (31) for placing the motor (M) therein, semi-circularly opening on the support arm (3),
- at least one first hole (32) provided on the support arm (3),
- at least one engagement aperture (33) provided on the support arm (3),
- at least one bracket (4) settling on the support arm (3) and enclosing an end of the motor (M),
- at least one bearing protrusion (41) extending from the bracket (4),
- at least one second hole (42) provided on the bearing protrusion (41), positioned so as to be concentric with the first hole (31),
- at least one engaging projection (43) extending from the bracket (4) and fitting into the engagement aperture (32), and
- at least one coupling member (5) enabling the first hole (32) and the second hole (42) to be interconnected.

[0021] The bearing clamp (1) of the invention comprises a chassis (2) in which the essential parts and components of the system are placed. Two support arms (3) extend from the chassis (2) for placement of the motor (M). A semi-circular seat (31) is provided on the support arms (3) for placement of the motor (M) therein. A first hole (32) is provided on one of the support arms (3). In other terms, the first hole (32) is provided on one of the extensions forming due to the semi-circular shape of the seat (31). In a preferred embodiment of the invention, a screw thread is provided in the first hole (32). An engagement aperture (33) is provided on the support arm (3). In other terms, the engagement aperture (33) is provided on the other one of the extensions forming due to the semi-circular shape of the seat (31). A bracket (4) is provided, enclosing the motor (M) placed in the seat (31) and settling on a support arm (3). A bearing protrusion (41) extends from the bracket. A second hole (42) is provided on the bearing protrusion (41) and the second hole is positioned so as to be concentric with the first hole (31). Preferably a coupling member (5) is used to interconnect the first hole (32) and the second hole (42). An engaging projection (43) is provided, extending from the bracket (4) and fitting into the engagement aperture (32). In a preferred embodiment of the invention, a support projection (44) extends from the bracket (4), enabling keeping

the bracket (4) steadfast during vibration of the motor (M) by engaging the support arm (3). In a preferred embodiment of the invention, the bearing protrusion (41) enables keeping the bracket (4) steadfast during vibration of the motor (M) by engaging the support arm (3).

[0022] In the bearing clamp (1) of the invention, a bracket (4) with a shape almost symmetrical with the seat, is placed to enclose the motor (M) placed in the seat (31) in the support arm (3). The bracket (4) is placed as follows. A user first places the engaging projection (43) of the bracket into the engagement aperture (33). Following placement of the bracket (4) into the engagement aperture (33), the second hole (42) provided on the bearing protrusion (41) of the bracket (4), is positioned so as to be concentric with the first hole (32). The bracket (4) couples to the support arm (3) preferably by the coupling member (5) interconnecting the second hole (42) and the first hole (32). By this, the motor (M) is connected on the chassis (2) by easily coupling the bracket (4) on the support arm (3) by means of a single coupling piece. In addition, the bracket (4) realizes the vibration damping activity by holding the motor (M) steadfast against forces on varying axes due to vibrations, by means of the bearing projection (41) and the support projection (44) provided on the bracket (4) engaging separate surfaces on the support arm (3).

[0023] In a preferred embodiment of the invention, two support arms (3) are provided to fasten the motor (M) at both ends to the chassis (2) of the appliance. Motor (M) settles into the seats (31) and is then fixed by the bracket (4).

Claims

1. A bearing clamp (1) for motors (M) provided in domestic appliances, **comprising** in its most basic form at least one chassis (2), at least one support arm (3) extending from the chassis (2), at least one seat (31) for placing the motor (M) therein, semi-circularly opening on the support arm (3), and at least one bracket (4) settling on the support arm (3) and enclosing an end of the motor (M), **characterized by**
 - at least one first hole (32) provided on the support arm (3),
 - at least one engagement aperture (33) provided on the support arm (3),
 - at least one bearing protrusion (41) extending from the bracket,
 - at least one second hole (42) provided on the bearing protrusion (41), positioned so as to be concentric with the first hole (32), **and by**
 - at least one engaging projection (43) extending from the bracket (4) and fitting into the engagement aperture (33).
2. A bearing clamp (1) according to claim 1, **comprising** the at least one first hole (32) in which a screw thread is provided and to which the coupling member is coupled.
3. A bearing clamp (1) according to claim 1, **comprising** a support projection (44) engaging the support arm (3) and extending from the bracket (4) to damp the vibrations of the motor (M).
4. A bearing clamp (1) according to claims 1 to 3, **comprising** a bearing projection (41) engaging the support arm (3) to damp the vibrations of the motor (M).
5. A bearing clamp (1) according to claims 1 to 3, **comprising** at least one coupling member (5) enabling the first hole (32) and the second hole (42) to be interconnected.

1 / 3

Figure 1

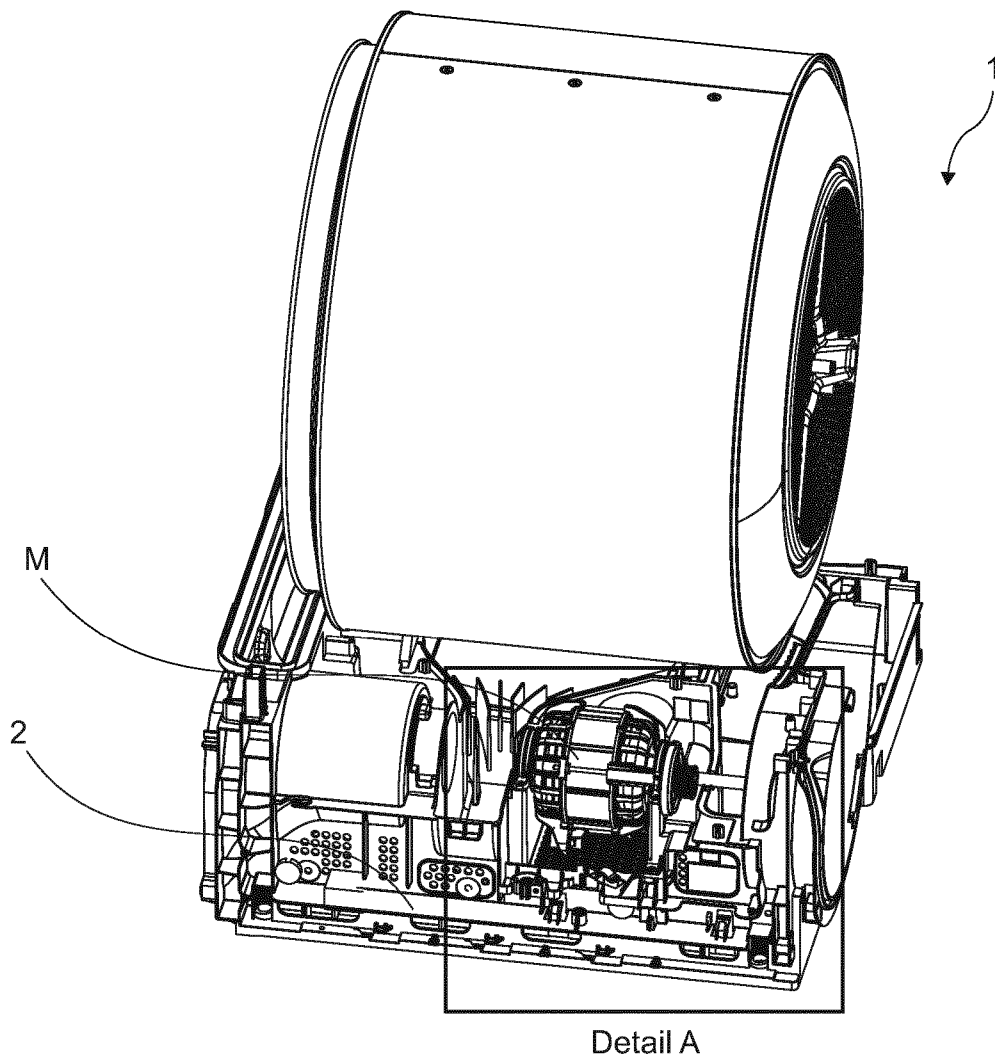


Figure 2

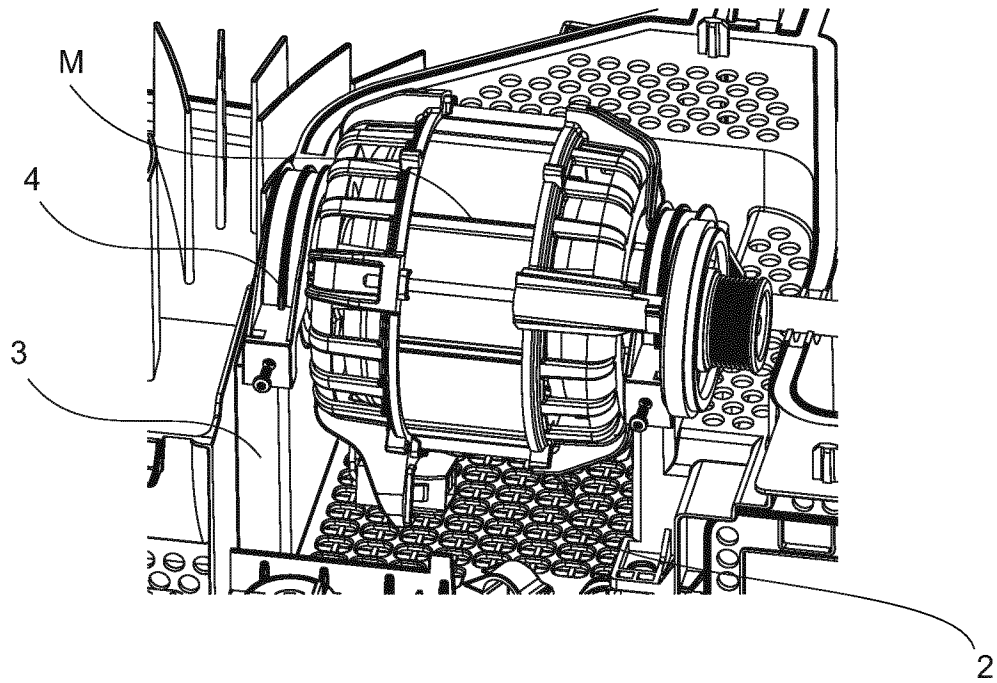
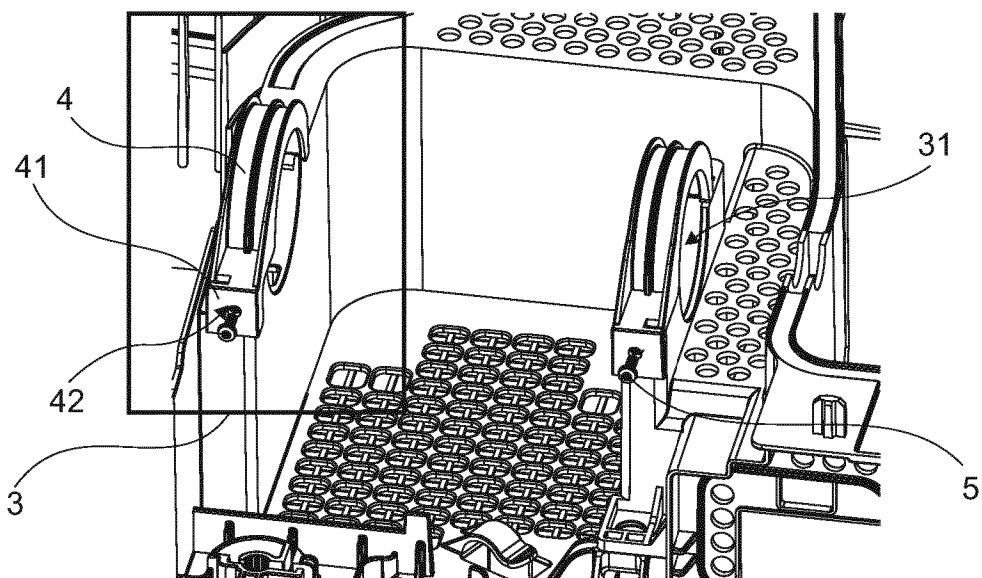
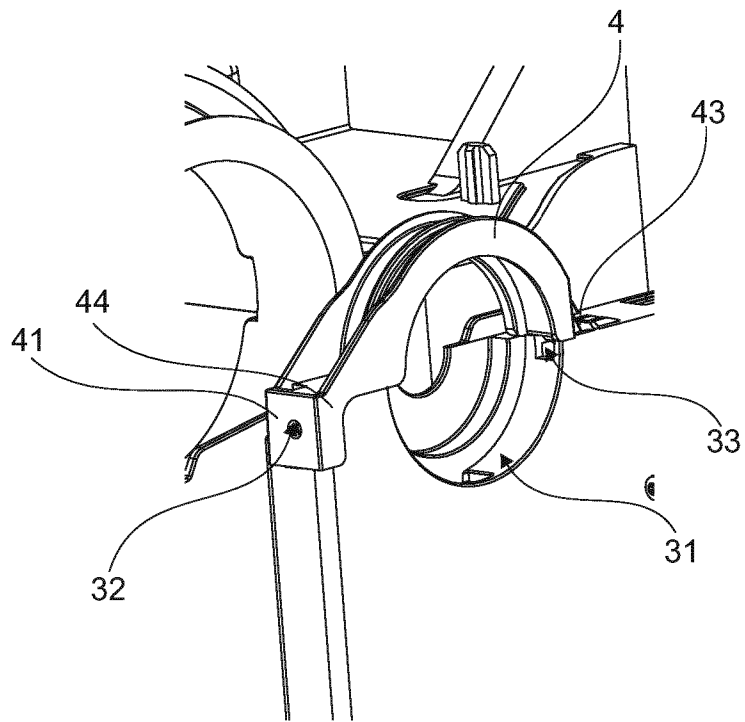


Figure 3



3 / 3

Figure 4



INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2018/086471

A. CLASSIFICATION OF SUBJECT MATTER
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 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)

D06F F16P F16M H02K

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.
X	WO 2011/091670 A1 (ZHONGSHAN BROAD OCEAN MOTOR [CN]; XIONG HUAYUN [CN]) 4 August 2011 (2011-08-04) paragraphs [0028] - [0029]; figures 1-2 -----	1,2,5
X	FR 2 742 843 A1 (ELECTRO MEC NIVERNAIS [FR]) 27 June 1997 (1997-06-27) pages 3-7; figures 1-4, 5c -----	1,2,5
A	CA 514 035 A (LIDELL ANDREW C; STEWART JAMES) 28 June 1955 (1955-06-28) the whole document -----	1-5



Further documents are listed in the continuation of Box C.



See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/EP2018/086471

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2011091670	A1	04-08-2011	NONE
FR 2742843	A1	27-06-1997	NONE
CA 514035	A	28-06-1955	NONE