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71 Applicant: **Fetur Patentverwaltungsanstalt, Vaduz (LI)**

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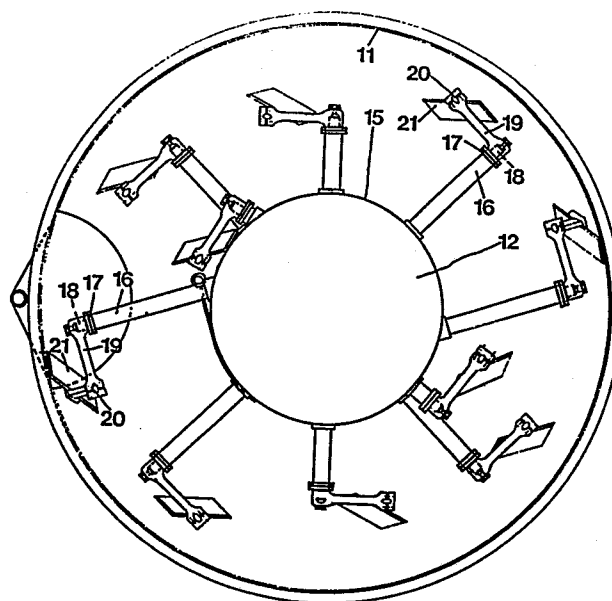
72 Inventor: **Bech, Gunnar, Björneborg, S-61056 Vrena (SE)**
Inventor: **Endal, Per-Olov, Musseronvägen 16,**
S-611 63 Nyköping (SE)
Inventor: **Ericsson, Rolf, Jupitervägen 6,**
S-611 60 Nyköping (SE)

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74 Representative: **Roth, Ernst Adolf Michael et al,**
GÖTEBORGS PATENTBYRA AB Box 5005,
S-402 21 Göteborg (SE)

54 **A device in a mixer.**

57 A device in a concrete activator, with a number of paddles rotatable about a common axel in a stationary mixing trough. The object is to provide a considerably simplified construction with respect to the bearing- and spring device of the paddle unit, which is so encased that the bearing- and spring components are not exerted to external damages and impurities. These problems have been solved by the fact that each distance member (16) comprises a distance tube projecting radially from the rotor (12) and fixed at this, that said bearing device (17) for a pivot arm (18) extending therethrough is detachably attached to the free end of the distance tube, said bearing device being partly axially located in the distance tube, said paddle arm (19) being unrotatably attachable to the end of the pivot arm (18) located outside the distance tube, while a lever plate (25) is unrotatably eccentrically attached at the part (24) of the pivot arm (18) located inside the distance tube, and at the bearing device (17) just opposite the plate (25) a holder-on (26) being attached, and that between the plate and the holder-on (26) there is arranged at least one resiliently compressible member (29) in the form of a rubber block or the like.



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A DEVICE IN A MIXER

The present invention relates to a device in a paddle mixer, particularly a concrete activator, with a number of rotatable paddles rotatable about a common axle in a stationary mixing trough, which each are fixed by a paddle arm, a bearing- and spring device and a distance member to a rotor.

Background of the invention

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In previously known mixers of the above mentioned kind (SE-C 218.528) the bearing members of the paddles are fixed to spring casing arranged outside the rotor, in which a lever and a compression spring are located, which press the paddles to fit-up against the bottom of the mixing trough. This construction, which for itself has proved to be very reliable in service and suitable, however has the disadvantage that a large number of axles of different length must be kept in stock and to which axles the paddle arm resp. the lever arm are connected. As in big mixers there can be up to thirty paddles of varying lengths, thus a large-scale stock-keeping is demanded. Furthermore the maintenance and the mounting and dismounting are relatively circumstantial, as the paddle unit consists of many parts which partly are encased in a spring casing, which extends around the whole rotor. The spring casing takes up a large space and reduces the free charging hole to the mixing vessel.

Even in a normal operation the wear on the paddles are so great, that the lower edge of the paddle is worn off within a week. This means that the paddles must be adjusted vertically daily so that they fit-up against the bottom of the mixing trough. It is also important that the paddles keep their relative position between themselves even after the height adjustment since their proper relative position is determining for an effective mixing. A height adjustment of the paddle may thus not lead to that the paddle is laterally displaced or that the tilt angle is substantially changed. A readjustment of the paddle may definitely not lead to that the parallelism

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between the lower edge of the paddle and the mixing trough is removed.

05 A mixer of the referred type is manufactured in many different sizes for example a mixer volume of 150 to 6.000 liter, which latter corresponds to a weight of 9.200 kg, and which mass should be mixed in a minute or some minutes. Therefore a very strong and rugged construction is required, which withstands even a very ungentle treatment.

10

The object and most important features of the invention

15 The object of the present invention is to provide a mixer with a considerably simplified construction referring to the paddle unit and where the same bearing- and spring device can be used for the paddles independent of how long the distance tube projects from the rotor. Another object of the invention is to provide a simple and easily dismountable construction which besides is rugged and so encased that the bearings- and the 20 spring components are not exerted to external damages and impurities. Furthermore it should not be necessary to arrange special housings for the bearing- and spring device, which might be an unnecessary complication and encroach on the free opening of the mixing trough. These problems have been solved 25 by the fact that each distance member comprises a distance tube projecting radially from the rotor and fixed at this, that said bearing device for a pivot arm extending therethrough is detachably attached to the free end of the distance tube, said bearing device being partly axially 30 located in the distance tube, said paddle arm being unrotatably attachable to the end of the pivot arm located outside the distance tube, while a lever plate is unrotatably eccentrically attached at the part of the pivot arm located inside the distance tube, and at the bearing device just 35 opposite the plate a holder-on being attached, and that between the plate and the holder-on is arranged at least one resiliently compressible member in the form of a rubber block or the like.

Description of the drawings

- Fig. 1 shows a mixer according to the invention in a view from above,
- 05 Fig. 2 shows a cross section through the mixer according fig. 1
- Fig. 3 shows on a larger scale the bearing device according the invention in a side view,
- Fig. 4 shows the bearing device according fig. 3 in a side view which is turned 90° with respect to fig. 3, and
- 10 Fig. 5 is a cross section according to the line V-V in fig. 4.

Description of the embodiments

- The mixer which is shown in fig. 1 and 2 is of a conventional
- 15 kind with an exception of the remoulding apparatus and its attachment to the rotor. Thus it is composed of a stationary mixing trough 11, in the center of which is arranged a rotor 12 consisting of a casing or the like, which by a transmission 13 and one or several electric motors 14, arranged under the
- 20 said casing, is driven with suitable rotation speed. To the vertical mantle wall 15 of the rotor 12 distance tubes 16 are substantially radially fixed, which may have different lengths due to where in the mixing trough the paddles of the remoulding apparatus are to be placed. A bearing device 17 for
- 25 a pivot arm 18 is detachably attached to the free end of the distance tube, a paddle arm being unrotatably attachable to the end of the said pivot arm 18 located outside the distance tube, which paddle arm at its opposite end supports the shaft
- 20 of a paddle 21.

30

- The bearing device 17 consists of a bearing housing 22 which comprises a flange plate 23, which with a suitable screw union can be fixed to the distance tube 16. A lever arm 25 is unrotatably attached at the part 24 of the pivot arm 18
- 35 located inside the distance tube which lever arm is substantially tangentially located with respect to the pivot arm 18. At the flange plate of the bearing housing 22 at the side of the lever arm 25 facing the distance tube 16 just opposite the lever plate 25 a holder-on 26 is arranged in such

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a way that between this and the lever arm 25 a space 27 is formed, when the lever arm takes its end position. This is reached when the lever arm fits-up against stop lug 28, which is firmly connected with the flange plate 23. In the said
05 space 27 there is arranged at least one resiliently compressible member 29, which for example can consist of a rubber block. The space between the lever arm and the holder-on 26 is preferably tapering in the direction radially away from the pivot arm 18 and the rubber block is in the
10 corresponding way dovetail-shaped and so made that in the unloaded condition it presses the lever arm 25 to fit-up against the stop lug 28. In this way a simple fixing of the resilient member is obtained, which is also exchangeable in a simple way.

15

The resilience of the member 29 and the relative location of the remoulding apparatus in relation to the paddle 21 have been so chosen that a suitable pressure against the bottom of the mixing trough is obtained. The remoulding apparatus can
20 also perform a vibratory movement in the direction away from the bottom, if for example an object e.g. a stone comes under the edge of the paddle. By the special performance of the bearing device it can be placed with its bearing- and spring components in any distance tube 16 and then it becomes well
25 encased against external damages and impurities. As the bearing device 17 is one of the most exposed parts, it can be easily removed if the resilient member must be replaced by a new or other maintenance must be taken.

30 The invention is not limited to the described embodiments but a number of variations are possible within the scope of claims.

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CLAIMS

- 05 1. A device in a paddle mixer, particularly a concrete activator, with a number of rotatable paddles (21) rotatable about a common axel in a stationary mixing trough and which each are fixed by a paddle arm (19), a bearing- and spring device (17) and a distance member to a rotor (12),
c h a r a c t e r i z e d i n,
10 that each distance member (16) comprises a distance tube projecting radially from the rotor (12) and fixed at this, that said bearing device (17) for a pivot arm (18) extending therethrough is detachably attached to the free end of the distance tube, said bearing device being partly axially located in the distance tube, said paddle arm (19) being
15 unrotatably attachable to the end of the pivot arm (18) located outside the distance tube, while a lever plate (25) is unrotatably eccentrically attached at the part (24) of the pivot arm (18) located inside the distance tube, and at the bearing device (17) just opposite the plate (25) a holder-on
20 (26) being attached, and that between the plate and the holder-on (26) there is arranged at least one resiliently compressible member (29) in the form of a rubber block or the like.
- 25 2. A device according to claim 1,
c h a r a c t e r i z e d i n,
that at the bearing member (17) a stop lug (28) is fixed, arranged and designed to limit the movement of the lever plate (25) in the direction away from the holder-on (26).
- 30 3. A device according to claim 2,
c h a r a c t e r i z e d i n,
that the resilient member (29) in unloaded condition is designed to press the lever plate (25) to fit-up against the
35 stop lug (28).
4. A device according to claim 3,
c h a r a c t e r i z e d i n,

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that the resilient member (29) in cross section is dovetail-shaped, and that the space between the holder-on (26) and the lever plate (25), when this takes a position to fit-up against the stop lug (28), is designed with a corresponding tapering shape in the direction away from the pivot arm (18).

FIG 1

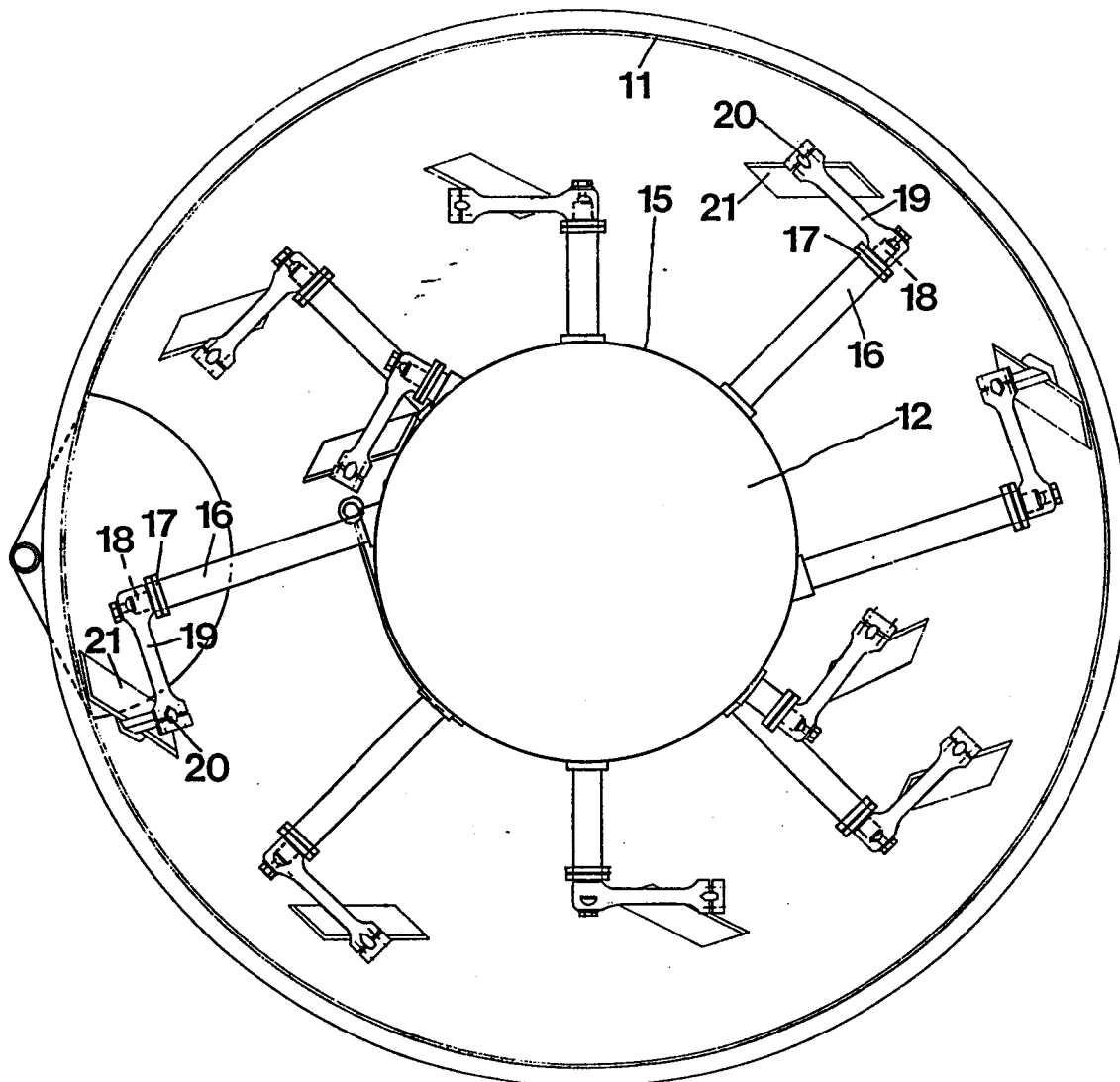


FIG 2

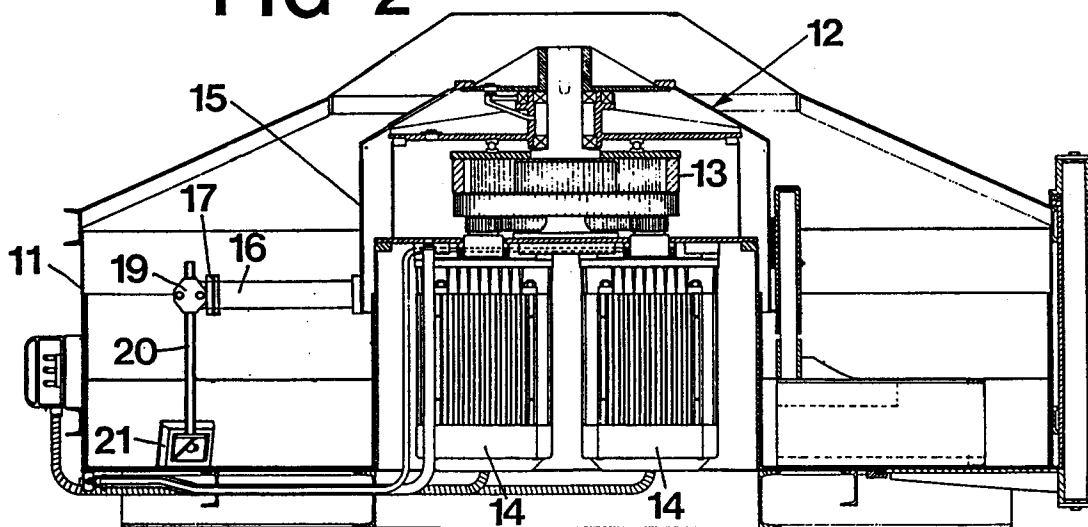


FIG 3

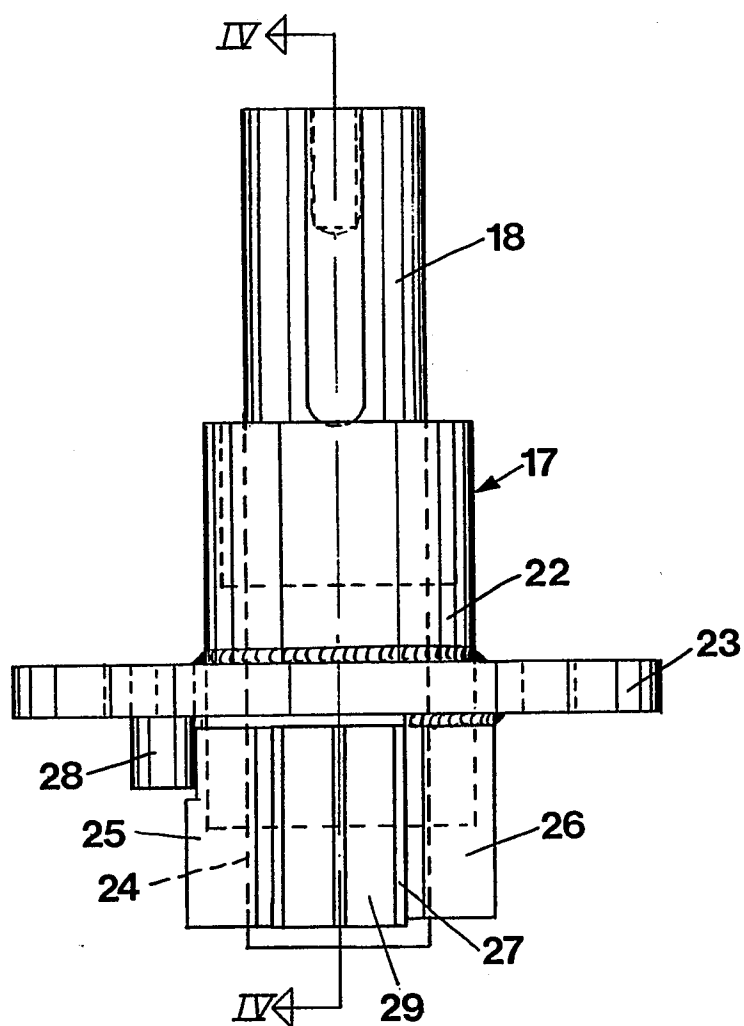
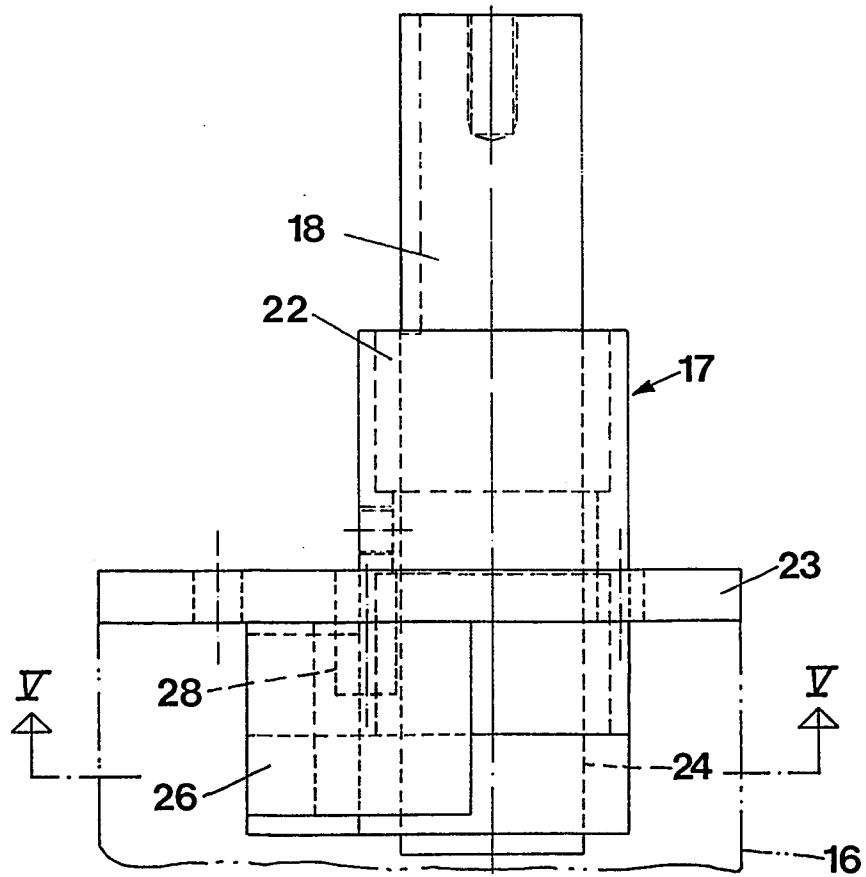


FIG 4**FIG 5**