will be limited by the steel ring. However, the steel ring or its attachment to the chamber will already after a, in this connection, short time be damaged if the mixer assembly is not turned off. This known solution also requires an unnecessarily long and expensive output shaft.

Unbalance may also arise if the output shaft gets into natural frequency due to the critical number of revolutions, this is usually prevented by choosing the length of the output shaft in such a way that this phenomena does not arise. However, this constructional limitation may lead to the fact that the optimal length of the specific application cannot be used due to the inherent natural frequency of the output shaft.

Summary~~Object~~ of the Invention

Embodiments of t~~T~~he present invention seek to~~aims at~~ obviat~~ing~~e the abovementioned disadvantages and failings of previously know mixer assemblies and seek to~~at~~ provid~~ing~~e an improved mixer assembly. Embodiments~~A primary object~~ of the present invention seek~~is~~ to provide an improved mixer assembly of the initially defined type, which secure that neither the mixer assembly nor the chamber runs the risk of getting damaged if unbalance/wriggling arises in the output shaft.

Embodiments~~It is another object~~ of the present invention seek to provide a mixer assembly, in which the length of the output shaft and other dimensions unrestraintly may be determined based on the optimal for the specific application.

~~Brief description of the Invention~~

According to an aspect, there is provided a mixer assembly for agitating material in a chamber, comprising a drive unit and an output shaft extending from said drive unit, which output shaft is arranged to hang down into said

chamber rotatably suspended from the drive unit, ~~the invention at least the primary object is attained by means of the initially defined mixer assembly, which is~~ characterized in that the mixer assembly furthermore ~~it~~ comprises a stabilizer comprising a swivel and at least one resilient element connected to said swivel, the stabilizer being

connected to the lower end of the output shaft of the mixer assembly and being arranged to be connected to said chamber.

Embodiments of t~~T~~he present invention are~~is~~ thus based on the insight that the output shaft does not need to be unnecessarily lengthened and that the dimensions of the output shaft does not need to be chosen taking the inherent natural frequency of the output shaft into consideration. The use of the swivel and the resilient element, which are interconnected, entail that the output shaft may rotate unlimited and the more the output shaft will deflect/wriggle the more the resilient element will counteract the deflection/wriggle.

Preferred embodiments of the present invention are further defined in the dependent claims.

Preferably the swivel comprises a first element arranged to be driven in rotation about the output shaft of the mixer assembly, and a second element arranged to be connected the floor of the chamber, and a bearing arranged at the interface between the first element and the second element. According to the embodiment~~invention~~ the resilient element may be arranged between the lower end of the output shaft and the first element of the swivel or between the second element of the swivel and the floor of the chamber.

Preferably the stabilizer also comprises an anchor rod axially connected to the resilient element, which anchor rod is arranged to be connected to the floor of said chamber. This entails that one and the same stabilizer may be used independently of the distance between the lower end of the output shaft and the floor of the chamber.

Further advantages with and features of the invention will be apparent from the other dependent claims as well as from the following detailed description of preferred embodiments.

Claims

1. Mixer assembly for agitating material in a chamber ~~(1)~~, comprising a drive unit ~~(7, 8, 9)~~ and an output shaft ~~(10)~~ extending from said drive unit, which output shaft is arranged to hang down into said chamber ~~(1)~~ rotatably suspended from the drive unit, **characterized** in that the mixer assembly ~~(6)~~ furthermore comprises a stabilizer ~~(12)~~ comprising a swivel ~~(13)~~ and at least one resilient element ~~(14)~~ connected to said swivel ~~(13)~~, the stabilizer ~~(12)~~ being connected to the lower end of the output shaft ~~(10)~~ of the mixer assembly ~~(6)~~ and being arranged to be connected to said chamber ~~(1)~~.

2. Mixer assembly according to claim 1, **characterized** in that said at least one resilient element ~~(14)~~ is axially connected to said swivel ~~(13)~~.

3. Mixer assembly according to claim 1 or 2, **characterized** in that the swivel ~~(13)~~ comprises a first element ~~(16)~~ arranged to be driven in rotation about the output shaft ~~(10)~~ of the mixer assembly ~~(6)~~, a second element ~~(17)~~ arranged to be connected to the floor ~~(2)~~ of said chamber ~~(1)~~, and a bearing ~~(18)~~ arranged at the interface between the first element ~~(16)~~ and the second element ~~(17)~~.

4. Mixer assembly according to any of claims 1-3, **characterized** in that the first element ~~(16)~~ is fixedly connected to the free end of the output shaft ~~(10)~~ of the mixer assembly ~~(6)~~.

5. Mixer assembly according to claim 3 or 4, **characterized** in that the bearing ~~(18)~~ is a slide bearing.

6. Mixer assembly according to claim 43 or 4, **characterized** in that the bearing ~~(18)~~ is a ball bearing.

7. Mixer assembly according to claim 6, **characterized** in that the ball bearing is an axial ball bearing.

8. Mixer assembly according to any preceding claim, **characterized** in that the resilient element ~~(14)~~ is a coil spring.

9. Mixer assembly according to any preceding claim, **characterized** in that the stabilizer ~~(12)~~ furthermore comprises an anchor rod ~~(15)~~ axially connected to the resilient element ~~(14)~~, which anchor rod ~~(15)~~ is arranged to be connected to the floor of said chamber ~~(1)~~.