



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
13.01.2016 Bulletin 2016/02

(51) Int Cl.:
B28C 7/12 (2006.01) **B01F 15/00 (2006.01)**
B01F 15/02 (2006.01) **B28C 5/12 (2006.01)**

(21) Application number: **15001973.5**

(22) Date of filing: **02.07.2015**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
MA

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(30) Priority: **10.07.2014 BE 201400549**

(54) **MIXING DEVICE FOR BUILDING MATERIALS**

(57) Mixing device (1) for building materials consisting of a motor (2) provided with a mixing rod (3) with stirring apparatus (4) and held in a portable housing (5), characterised in that the mixing device (1) is provided with a closable supply pipe with water with which the operator of the mixing device can dispense a desired quantity of water during stirring.

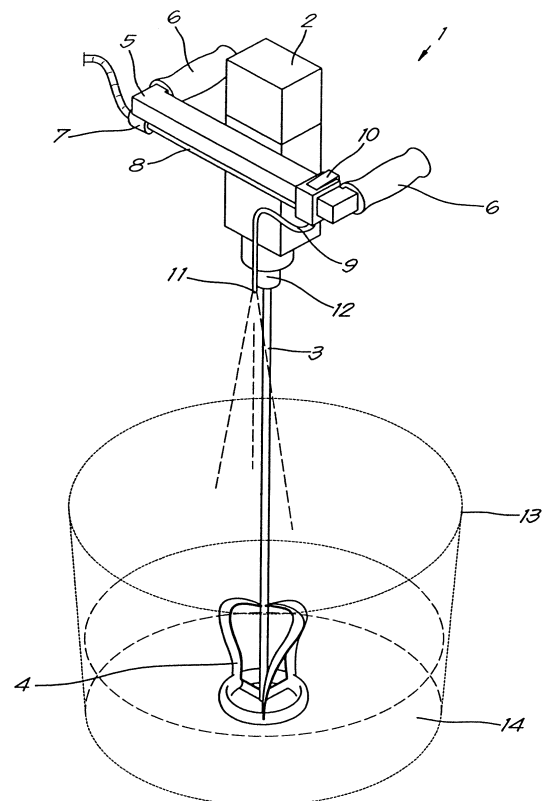


Fig. 1

Description

[0001] The present invention relates to a mixing device for building materials mixing device for building materials.

[0002] More specifically, the invention is intended for mixing solid building materials with water.

[0003] It is known that mortar must be made by mixing dry cement with sand to which a suitable quantity of water must be mixed in. It is also known that plaster for plastering walls must be made by adding a suitable quantity of water to dry plaster. Other building materials such as tile cement or wallpaper paste must frequently be mixed with a suitable quantity of water to be able to be applied.

[0004] Traditionally a mixing device is used for mixing, consisting of an electric motor, held in a portable housing, whose drive shaft is connected to a mixing rod that reaches into the mixture that must be mixed with water, whereby the mixing rod is provided with a stirring apparatus to stir the mixture well when the motor is switched on.

[0005] A disadvantage of such a traditional mixing device is that the quantity of added solid material is generally well known, such as the number of kilograms in a bag for example, but that the quantity of water to be added is generally not exactly known, and frequently must be attuned on site to the desired liquidity.

[0006] If the mixing is done by one operator, he must repeatedly put the mixing device to one side in order to add water by hand until the consistency of the mixture corresponds to what he wants to obtain.

[0007] The mixing device is very heavy and soiled and is thus frequently left in the mixing bowl when adding water, which constitutes an increased risk of the mixing device and/or the mixing bowl falling over, with the loss of the mixture and undesired soiling as a result.

[0008] Another disadvantage of a traditional mixing device is that the exact quantity of added water cannot be read off from the mixing device and that this quantity is generally determined empirically resulting in unreproducible results.

[0009] The purpose of the present invention is to provide a solution to the aforementioned and other disadvantages, by providing a mixing device for building materials with which the user can add a suitable quantity of water to the suitable quantity of solid material that must be mixed therewith.

[0010] To this end the invention concerns a mixing device for building materials consisting of a motor provided with a mixing rod with stirring apparatus and held in a portable housing, whereby the mixing device is provided with a closable supply pipe with water with which the operator of the mixing device can dispense a desired quantity of water during stirring without having to interrupt the stirring. Preferably the closable supply pipe is provided with a pushbutton that opens the water supply when the pushbutton is pressed in.

[0011] An advantage of such a pushbutton is that the operator can switch the water supply on and off according to desire during mixing, by operating this pushbutton with

one finger, and can dispense water repeatedly until the desired consistency is obtained.

[0012] Preferably this pushbutton is integrated in the portable housing within reach of the hands holding the mixing device above a mixing bowl.

[0013] Preferably the closable supply pipe is provided with a water meter that adds up the quantity of water supplied. This meter enables the operator to know at all times what volume of water has already been supplied to the mixture, which makes the dispensing of the quantity much more accurate.

[0014] This water meter is preferably integrated in the portable housing and can take on the form of a digital meter with figures from 0 to 10 for example, or an analogue pointer on a dial for example.

[0015] The closable supply pipe is preferably provided with a spray nozzle with adjustable spraying position that is directed towards the mixing bowl and which does not go any lower than the coupling of the mixing rod with stirring apparatus to the drive motor.

[0016] An advantage of this spray nozzle is that it prevents the water supply hose from getting wound around the mixing rod during mixing or coming into contact with the mixture in the mixing bowl.

[0017] The closable supply pipe is preferably provided with an adjustable spray nozzle that can adapt the spray angle to direct the water at the entire stirring apparatus and stirring rod.

[0018] An advantage attached to this adjustable spray nozzle is that the water jet can be used to rinse off the stirring apparatus in an empty mixing bowl for the purpose of cleaning the mixing rod with stirring apparatus after use.

[0019] Preferably the closable supply pipe is provided with a pump that draws in water from a water reservoir.

[0020] An advantage of such a pump is that it enables the water to be supplied from a reservoir in places where a public water network is not available, and enables the water to be sprayed into the mixture at the desired pressure.

[0021] The pump is preferably integrated in the portable housing of the drive motor, so that it is always available if the mixing device must pump up water itself.

[0022] In a simpler embodiment the closable supply pipe is detachably connected to the public water supply system by means of couplings, such as those that are usual for garden hoses for example, and the water is under pressure up to the pushbutton of the mixing device, which upon opening allows the water under pressure through to the mixing bowl.

[0023] Preferably the closable supply pipe is integrated in the portable housing of the drive motor, so that the supply pipe hinders the user as little as possible when using the mixing device for building materials.

[0024] With the intention of better showing the characteristics of the invention, preferred embodiments of the mixing device according to the invention are described hereinafter by way of an example, without any limiting

nature, with reference to the accompanying drawings, wherein:

Figure 1 schematically shows a perspective view of a mixing device for building materials according to the invention;

figure 2 shows a variant of figure 1.

[0025] Figure 1 presents a mixing device 1 for building materials according to the invention, consisting of a motor 2 provided with a stirring rod 3 with stirring apparatus 4 and held in a portable housing 5 that is provided with two handles 6. The mixing device is provided with a coupling 7 for a water supply pipe 8 that is connected to a cut-off valve 9 that is provided with a pushbutton 10 and which further guides the water to a spray nozzle 11 that does not go lower than the collar 12 of the motor 2 in which the stirring rod 3 is fastened. The mixing device 1 is held in a mixing bowl 13 for mixing building materials 14 with water.

[0026] Figure 2 shows a variant 15 of figure 1, whereby in this case a housing 16 is used with integrated coupling 17 for water supply, pushbutton 18 for water supply, water meter 19, water pipe with spray nozzle 20 and optionally a built-in water pump 21. In this case the water 22 from the spray nozzle 20 covers the entire stirring apparatus to enable cleaning thereof.

[0027] The operation of the mixing device for building materials 1 is very simple and as follows.

[0028] The desired dry building materials 14 are brought together in a mixing bowl 13 that have to be mixed with a suitable quantity of water. The mixing device 1 for building materials is connected to a water source by means of a coupling 7, 17. The water source can be mains water under pressure from a public water network, or can be water from a stationary water reservoir that is pumped up by means of a water pump 21 built into the mixing device 15.

[0029] The operator of the mixing device holds the mixing device by the two handles and places it in the mixing bowl with the stirring apparatus 4 in the building materials 14. Then the operator supplies a first quantity of water by pressing the pushbutton 10, 18 with which the water valve can be opened and water runs into the mixing bowl 13 via the spray nozzle 11, 20. The motor 2 of the mixing device 1 is now switched on and the stirring apparatus 4 rotates in the mixing bowl 13, whereby the building materials 14 present are mixed with water. The operator can read off the quantity of water supplied from a water meter 19 that indicates how much water has already been supplied to the mixing bowl 13.

[0030] If the required quantity of water has not yet been reached, the operator can press the pushbutton 10, 18 again for the time needed to add a desired quantity of additional water and this without having to interrupt the mixing.

[0031] When the mixture has reached the desired consistency, the operator can place the mixing device 1, 15

in another empty mixing bowl and place the spray nozzle 11, 20 in a spraying position that covers the entire stirring apparatus 4 of the stirring rod 3, after which the stirring rod with stirring apparatus can be rinsed off by water under pressure in order to clean it so that it can be used for a subsequent task.

[0032] The present invention is by no means limited to the embodiments described as an example and shown in the drawings, but a mixing device for building materials according to the invention can be realised in all kinds of forms and dimensions, without departing from the scope of the invention as described in the claims.

15 Claims

1. Mixing device (1) for building materials consisting of a motor (2) provided with a mixing rod (3) with stirring apparatus (4) and held in a portable housing (5), **characterised in that** the mixing device (1) is provided with a closable supply pipe with water with which the operator of the mixing device can dispense a desired quantity of water during stirring.
2. Mixing device for building materials according to claim 1, **characterised in that** the closable supply pipe (8) is provided with a pushbutton (10) that opens the pipe when the pushbutton is pressed in.
3. Mixing device for building materials according to claim 2, **characterised in that** the pushbutton (18) is integrated in the portable housing (16).
4. Mixing device for building materials according to claim 1, **characterised in that** the closable supply pipe (8) is provided with a water meter (19) that adds up the quantity of water supplied.
5. Mixing device for building materials according to claim 4, **characterised in that** the water meter (19) is integrated in the portable housing (16).
6. Mixing device for building materials according to claim 1, **characterised in that** the closable supply pipe (8) is provided with an adjustable spray nozzle (20) with adjustable spray angle that is oriented towards the mixing bowl and which does not go lower than the collar (12) of the drive motor to which the mixing rod (3) with mixing apparatus (4) is coupled.
7. Mixing device for building materials according to claim 1, **characterised in that** the closable supply pipe (8) is provided with a spray nozzle (11) that directs the water on the mixing apparatus of the mixing rod.
8. Mixing device for building materials according to claim 1, **characterised in that** the closable supply

pipe (8) is provided with a pump (21) that draws in water from a water reservoir.

9. Mixing device for building materials according to claim 8, **characterised in that** the pump (21) is integrated in the portable housing (16) of the drive motor. 5
10. Mixing device for building materials according to claim 1, **characterised in that** the closable supply pipe (8) is detachably connected to the public water supply system. 10
11. Mixing device for building materials according to claim 1, **characterised in that** the closable supply pipe (8) is integrated in the portable housing (16) of the drive motor (2). 15

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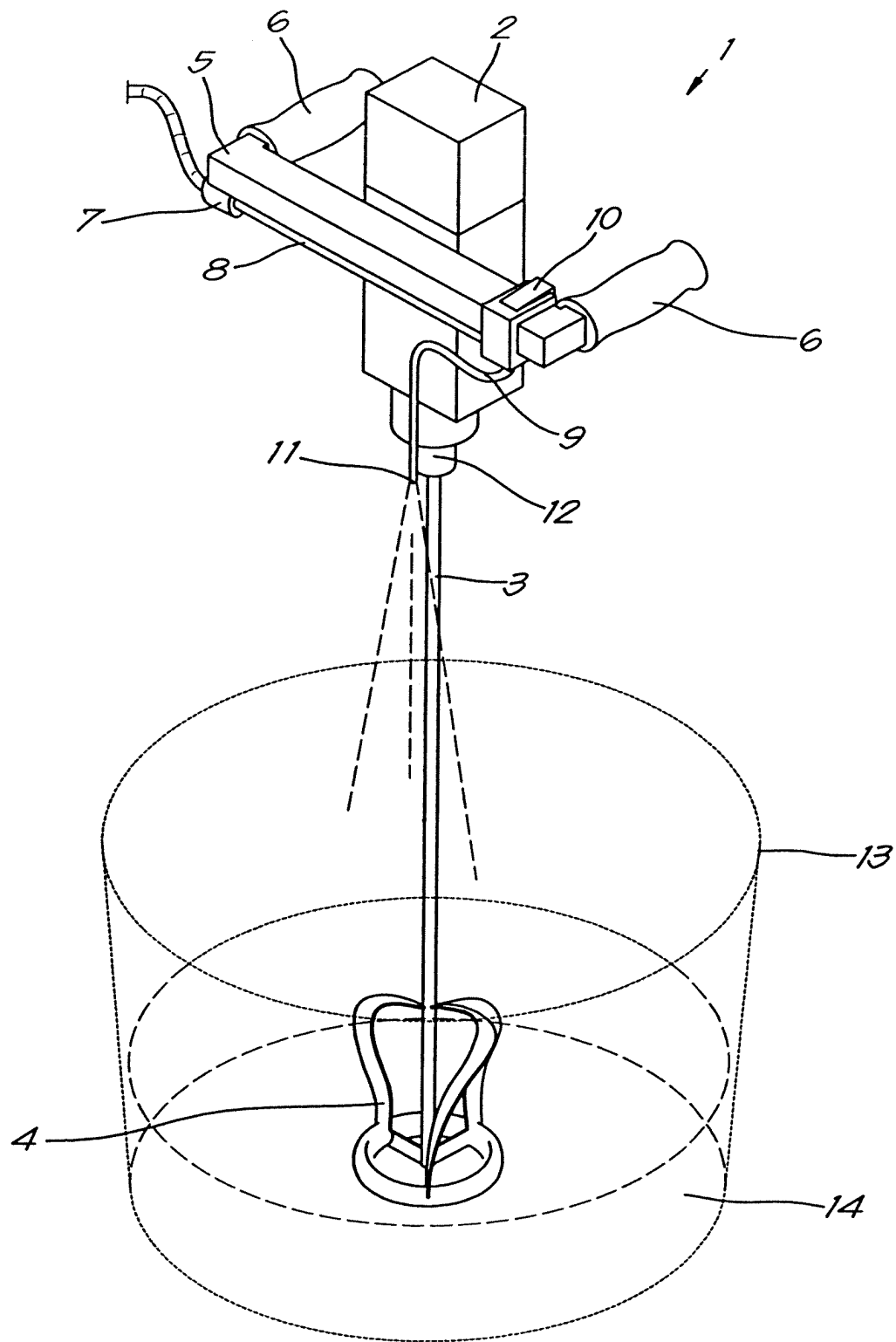


Fig. 1

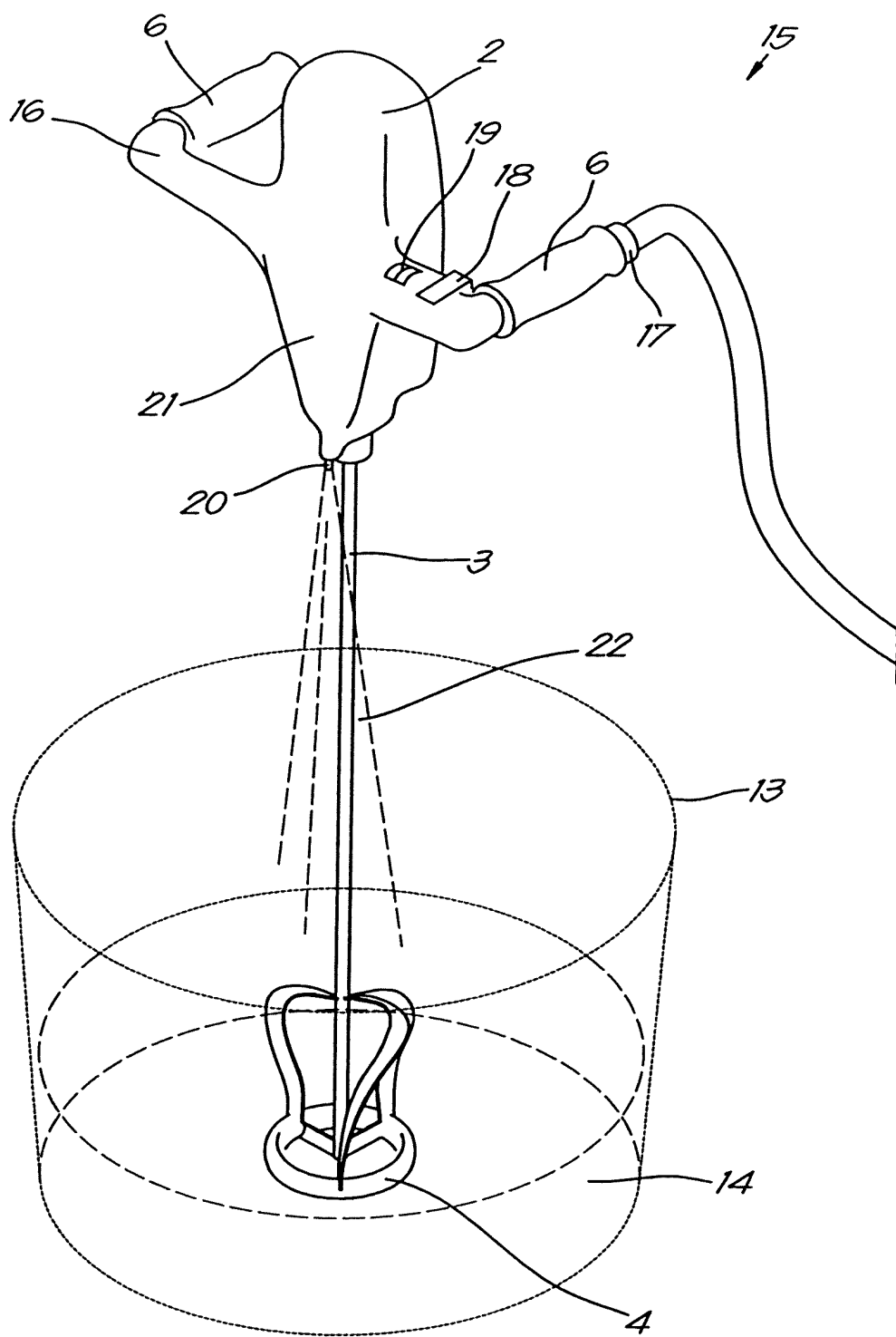


Fig. 2