April 17, 1951 C. M. OSTERHELD 2,549,121

MIXER

Filed July 8, 1946

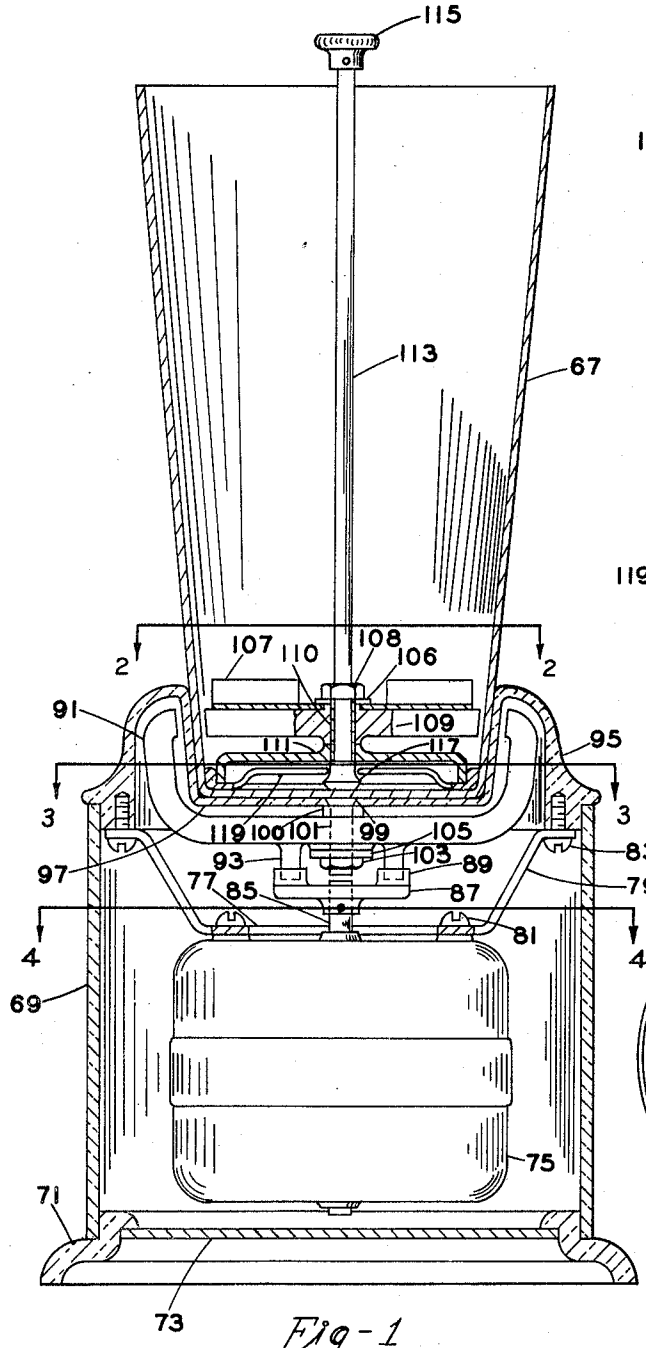


Fig-1

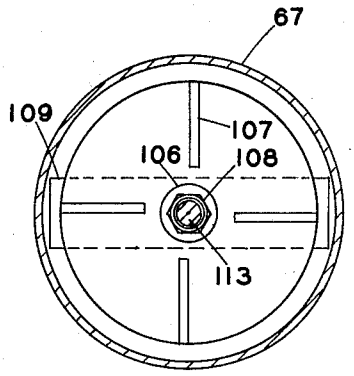


Fig-2

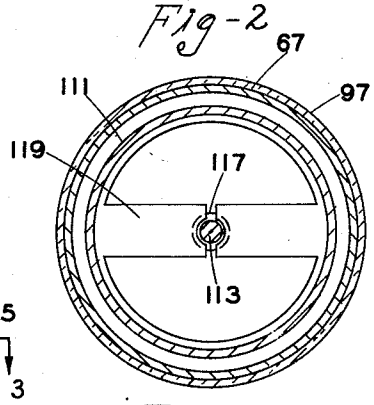


Fig-3

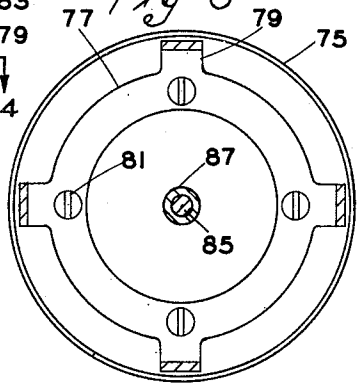


Fig-4

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MIXER

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2 Claims. (Cl. 259—108)

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My invention relates to food and drink mixer and particularly to means for driving the agitators therefor.

An object of my invention is to provide a novel form of drive for the agitators of mixers.

Another object of my invention is to provide a permanent magnet drive for mixers.

Another object of my invention is to provide an assembly in food and drink mixers cooperative with a permanent magnet drive.

Other objects of my invention will either be pointed out in the description of several forms of devices embodying my invention or will be set forth therein, particularly in the appended claims.

In the drawings,

Figure 1 is a view mainly in vertical section of a mixer embodying my invention,

Figs. 2, 3 and 4 are horizontal sectional views taken along the lines 2—2, 3—3 and 4—4 respectively in Fig. 1.

In the drawings is shown a device embodying my invention comprising a container 67 which is adapted to be inserted in and removed from a supporting housing 95. The container 67 as well as the housing 95 may be made of a plastic material such as Bakelite. The supporting housing 69 is supported by a rest 71 which is substantially of annular shape and is adapted to be closed by a plate 73 which may be either of metal or of Bakelite.

I provide a small electric motor 75 which is supported within the hollow housing 69 so that its shaft extends substantially vertically. Supporting means for the motor 75 includes an annular member 77 provided with four outwardly extending arms 79, portion 77 having secured thereto the motor 75 as by a plurality of short-machine screws 81, while the upper ends of arms 79 are secured against downwardly projecting lugs by machine screws 83.

The motor shaft 85 has mounted thereon a driving member 87 which is provided with a central opening therethrough to receive shaft 85 as well as two horizontally extending arms 87 which are provided with recessed upper projections 89. A permanent magnet 91, which may be made of Alnico, has two depending lugs 93 which are adapted to extend into the recesses in lugs 89 to cause rotation of the permanent magnet 91 by the motor 75. The upper end of housing 69 is covered and closed by a metal of plastic housing 95 which is provided with a depending portion 97 which is substantially flat and is provided with a central aperture 99, which

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aperture is adapted to receive the upper end of a short shaft 101, which extends through magnet 91, which latter is held in proper operative position relatively to the lower portion 97 as by a nut 103 having screw-threaded engagement with the lower end portion of shaft 101. Permanent magnet 91 may rotate on a bearing washer 105 which is held by nut 103. A spacing washer 100 around shaft 101 is located between the upper surface of magnet 91 and the lower surface of member 97.

Container 67 is provided with an agitator which comprises vanes 107 and a permanent magnet 109. Permanent magnet 109 is adapted to rest upon a support 111 which is of substantially inverted saucer shape. A nut 108 and washer 106 hold the vanes 107 and magnet 109 on shaft 113, a tubular bushing 110 being provided around shaft 113.

I provide an upwardly extending shaft 113 which has a knob 115 at its upper end and which has at its lowermost end an enlargement 117 effective to hold the combined vane and permanent magnet structure in proper operative position within the container 67. I provide in the container 67 two radially inwardly extending spring members 119, the design and construction of the lower end 117 of vertical shaft 113 and of the spring members 119 being such that it is easy for the operator to pull out the structure comprising shaft 113, vanes 107 and permanent magnet 109 as well as to re-insert the same whenever desired or necessary. Further, the container 67 may be removed from the base and reinserted easily and conveniently whenever desired.

The device embodying my invention thus provides a relatively simple means for driving an agitator comprising permanent motor driven magnets and is not dependent upon the use of a winding substantially supported and effective to create a so-called rotating field.

Various modifications may be made in the device embodying my invention without departing from the spirit and scope thereof, and all such modifications coming clearly within the scope of the appended claims shall be considered as part of my invention.

I claim as my invention:

1. In an electric-motor-driven, magnetic mixer, in combination, a base having a seat for supporting and locating a container thereon, an electric motor in said base, a first permanent magnet mounted in said base for rotation by said motor about substantially a vertical axis through the center of a container located on

said seat, the poles of said first magnet being positioned to flank the lower portion of such container, and an agitator comprising a second permanent magnet with spaced poles adapted to be rotated in such container between said poles of said first magnet by the magnetic force exerted by said first magnet as it rotates and thereby carries its poles around the container.

2. The combination of claim 1 wherein said first magnet is a bar having a horizontal portion below said seat connected to said motor, and end portions extending upward therefrom to flank the position of a container on said seat.

CLARK M. OSTERHELD.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,242,493	Stringham	Oct. 9, 1917
1,420,774	Stainbrook	June 27, 1922
1,984,975	Lodder	Dec. 18, 1934
2,175,321	Saffir	Oct. 10, 1939
2,356,784	Graham	Aug. 29, 1944