

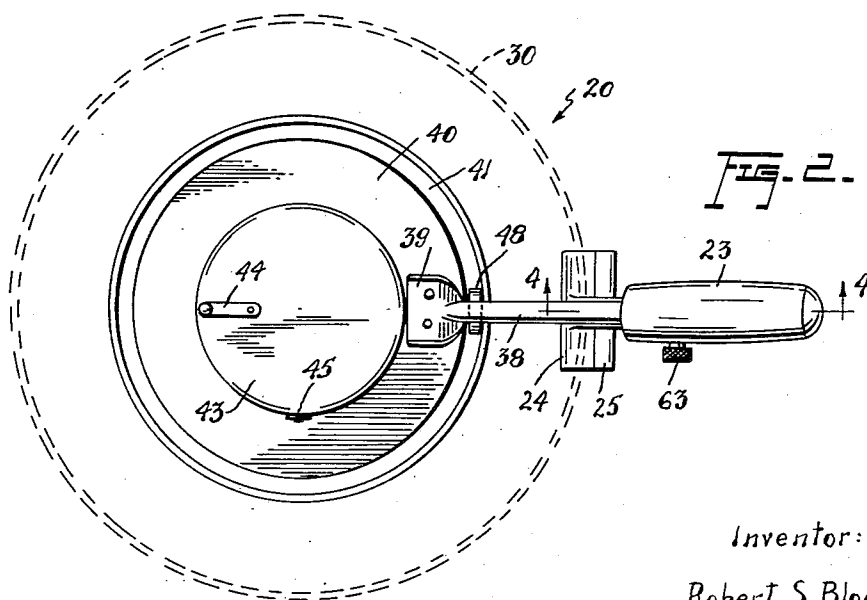
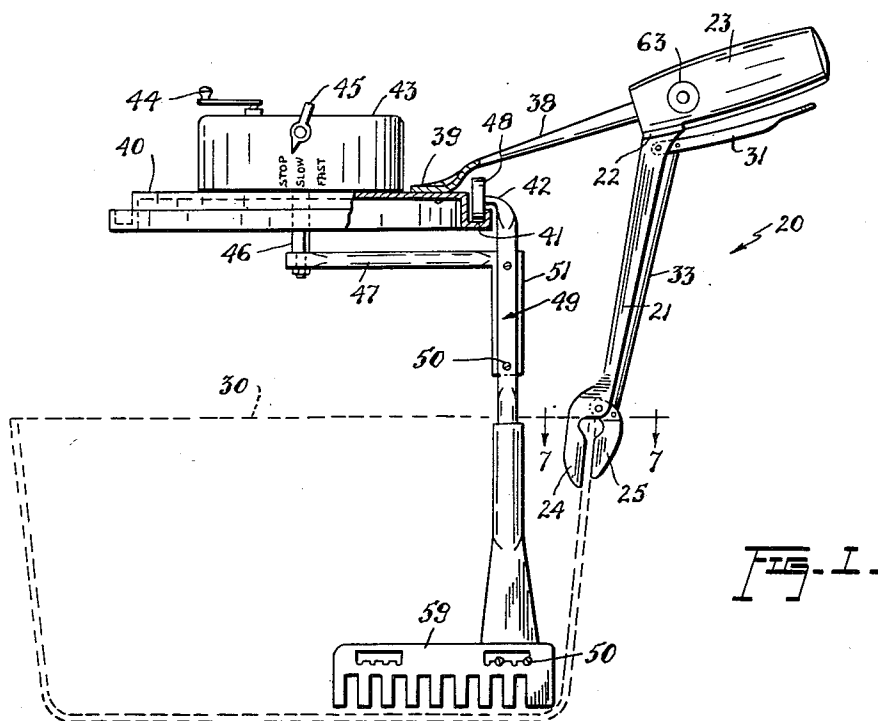
Sept. 10, 1957

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STIRRING APPLIANCES

2,805,843

Filed Nov. 3, 1955

3 Sheets-Sheet 1



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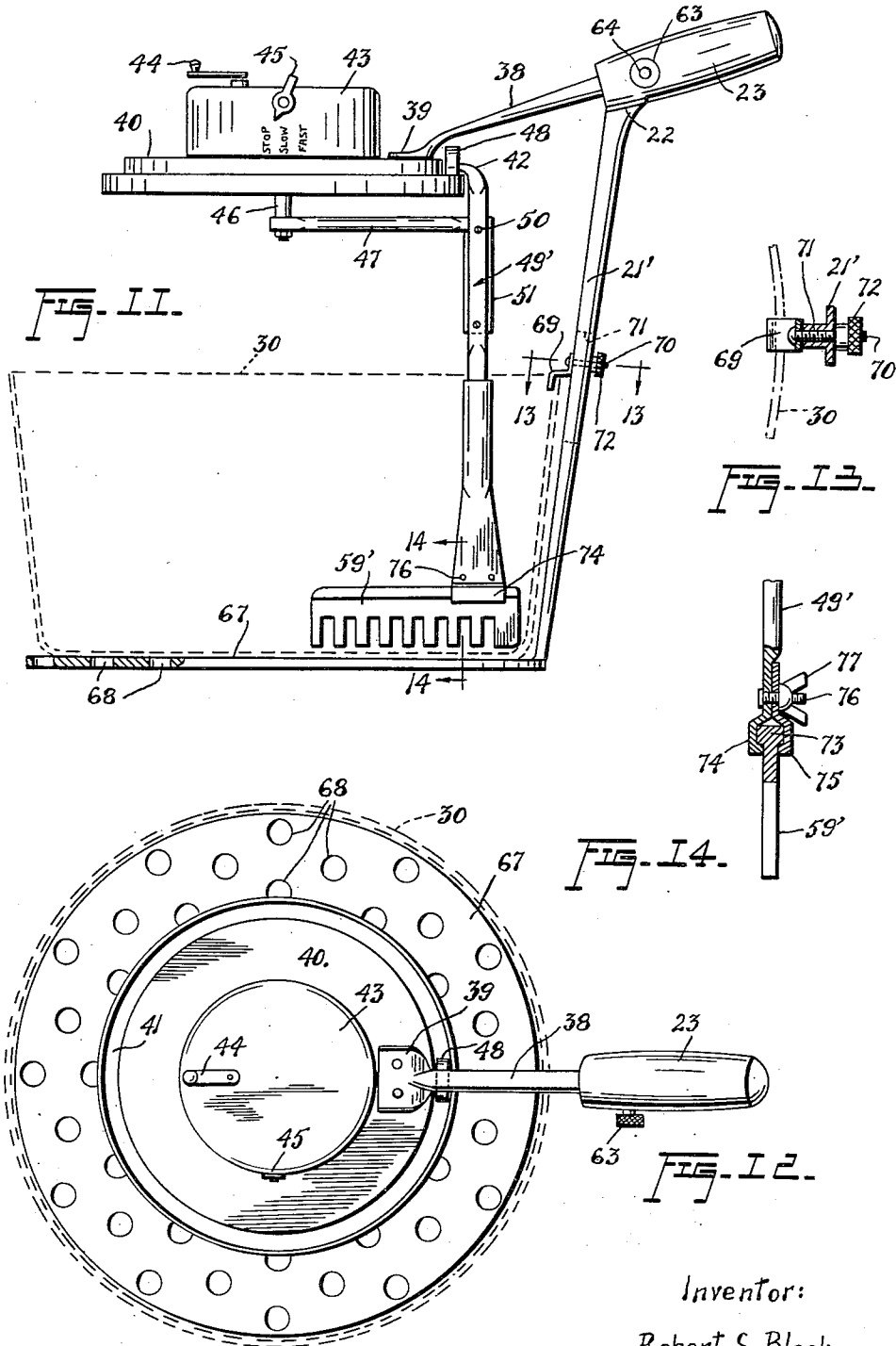
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Application November 3, 1955, Serial No. 544,719

8 Claims. (Cl. 259—135)

This invention relates to new and useful improvements and structural refinements in stirring machines or appliances of the type commonly used as commercial and domestic food mixers, and the principal object of the invention is to provide an appliance of this nature which may be quickly and easily applied to or removed from a receptacle or utensil with contents to be stirred.

An important feature of the invention resides in the provision of means for conveniently adjusting the appliance so as to fit receptacles of different sizes, while another important feature involves the provision of means for positively clamping the appliance to the rim of the receptacle to prevent any possible displacement.

A further feature of the invention resides in the provision of a self-contained driving mechanism for the appliance, which does not require connection to a source of electric current or other external power supply.

Some of the advantages of the invention reside in its simplicity of construction, in its efficient operation, in its adaptability to expeditious disassembly for purposes of cleaning, and in its adaptability to economical manufacture.

With the foregoing more important objects and features in view and such other objects and features as may become apparent as this specification proceeds, the invention resides in the details of construction and arrangement of parts substantially as shown in the accompanying drawings, wherein like characters of reference are employed to designate like parts and wherein:

Figure 1 is a side elevational view of the invention, shown partly in section and illustrating by dotted lines a receptacle to which the invention is applied;

Figure 2 is a top plan view thereof;

Figure 3 is an elevational view, on an enlarged scale and partly in section, showing the carriage, arm and stirrer blade;

Figure 4 is a sectional detail, taken substantially in the plane of the line 4—4 in Figure 2;

Figure 5 is a sectional detail, taken substantially in the plane of the line 5—5 in Figure 4;

Figure 6 is a group perspective view of the receptacle clamping means;

Figure 7 is a sectional view, on an enlarged scale, taken substantially in the plane of the line 7—7 in Figure 1;

Figure 8 is a fragmentary elevational view showing the attachment of the stirring blade to its supporting arm;

Figure 9 is a perspective view of one of the fastener elements;

Figure 10 is an end view of a modified form of the stirring blade;

Figure 11 is a side elevational view of a modified embodiment of the invention;

Figure 12 is a top plan view of the invention as shown in Figure 11;

Figure 13 is a sectional detail, taken substantially in the plane of the line 13—13 in Figure 11; and

Figure 14 is a sectional detail, taken substantially in the plane of the line 14—14 in Figure 11.

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Referring now to the accompanying drawings in detail, the stirring appliance is designated generally by the reference numeral 20 and comprises a frame or support member 21 having a flanged upper portion 22 secured to one end portion of an elongated handle 23, while the lower end of the member 21 is equipped with a pair of coacting jaws 24, 25. The jaw 24 is stationary and formed integrally with the member 21, while the jaw 25 is provided with an arcuate extension 26 which is disposed in a recess 27 of the jaw 24 and is hingedly connected thereto by a suitable pin 28, as is best shown in Figure 6. A coil spring 29 is mounted on the pin 28 whereby to urge the jaw 25 toward the jaw 24, the two jaws being adapted to clampingly receive therebetween the rim or upper edge portion of a suitable receptacle 30 having contents to be stirred. The two jaws are preferably complementally curved to conform to the curvature of the rim of the receptacle, as illustrated.

Means are provided for opening or spreading the jaws so as to facilitate engagement and disengagement thereof with the rim of the receptacle, these means comprising an actuating lever 31 which is pivoted to the upper portion of the member 21 by a pin 32 and underlies the handle 23. The lever 31 is operatively connected to the jaw 25 by a link 33, the lower end of the link 33 being formed with an eye 34 disposed in a recess 35 of the jaw 25 and engaging a pin 36 in the recess of the jaw. Accordingly, by simply pressing the lever 31 toward the handle 23, the jaw 25 may be moved away from the jaw 24.

The handle 23 is provided with a longitudinal bore 37 having a projectable and retractable stem 38 slidable therein, the outer end portion of this stem being flattened as shown at 39 and secured to a substantially circular platform 40. The marginal edge portion of the latter is angulated so as to provide an annular track 41 for a carriage 42, hereinafter more fully described. A motor 43, preferably a spring-driven, clockwork motor equipped with a winding handle 44 and a control handle 45, is mounted on the platform 40 and includes a drive shaft 46 which extends centrally downwardly through the platform and has a radially projecting propelling member 47 suitably secured thereto.

The aforementioned carriage 42 is equipped with one or more travelling wheels or rollers 48 movable in the track 41 and also includes a downwardly extending arm 49 fastened by separable fasteners 50 to a downwardly turned portion 51 at the outer end of the propelling member 47. As is best shown in Figure 9, the fasteners 50 include a shank portion 52 and a head portion 53 provided with a transverse slot 54. The fasteners are positioned in suitable apertures in the parts 47, 49 and are formed from rubber or some other deformable material, whereby the slotted head portion 53 thereof may be compressed and passed through matching apertures in the parts 47, 49 to separably connect the same together.

The arm 49 comprises an upper portion 49a slidably telescoped in a bore 55 of a lower portion 49b and a coil spring 56 is interposed between the two arm portions for urging the same apart. In other words, the arm 49 is longitudinally extensible and is urged by the spring 56 to its longitudinally extended position. Coacting shoulders 57, 58 are provided on the respective arm portions 49a, 49b to prevent the same from becoming separated.

A stirring blade 59 is removably attached to the lower end of the arm 49 by a plurality of the fasteners 50, the latter being disposed in notched openings 60 with which the blade is formed. The blade extends radially inwardly from the arm 49 and by variably positioning the fasteners 50 in the various notches of the openings 60, the blade may be adjusted radially inwardly and outwardly in relation to the arm 49, so as to accommodate receptacles 30 of different diameters. If desired, the blade 59

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may be reversed so that it extends radially outwardly from the arm 49.

For general stirring purposes the blade 59 may be of a substantially comb-shaped configuration as shown, or alternatively, it may assume the form of a top or back member 61 carrying a depending sheet or strip of wire mesh material 62, as illustrated in Figure 10.

It will be apparent from the foregoing that when the invention is applied to the receptacle 30 by clamping the receptacle rim between the jaws 24, 25, the motor 43 may be energized so as to propel the carriage 42 along the track 41, thus correspondingly moving the arm 49 in a circular path in the receptacle and stirring the contents of the latter by the blade 59. The latter is constantly urged against the bottom of the receptacle by the extensibility of the arm 49 under the action of the spring 56 and since the blade 59 is of sufficient length to reach substantially to the center of the receptacle, the entire contents of the receptacle will be effectively stirred.

Further means are provided for adjusting the appliance to the diameter of the receptacle 30 as facilitated by the slidable disposition of the stem 38 in the bore 37 of the handle 23. These adjusting means may be locked in a predetermined position by a clamping nut 63 on a clamping screw 64 extending through a slot 65 in the inner portion of the stem 38, as is best shown in Figures 4 and 5. The stem 38 may be equipped with suitable markings 66 readable against the inner end 23a of the handle and corresponding to the size of the receptacle 30 which the device, in a given adjusted position, will fit.

The accompanying Figures 11-14 illustrate a modified embodiment of the invention wherein the receptacle 30 is adapted to be positioned on a base plate 67 secured to the lower end of the support member 21' corresponding to the aforementioned member 21. The base plate 67 is preferably provided with a plurality of openings 68 to facilitate passage of heat therethrough in the event the appliance is positioned on a stove, or the like, for purposes of heating while stirring. Alternatively, a suitable heating element may be embodied directly in the base plate 67, if so desired.

The receptacle 30 is sustained against displacement on the plate 67 by a keeper clip 69, adjustably secured to the support member 21' by a clamping screw 70. The latter extends through a slot 71 in the member 21' and is provided with a nut 72, whereby the clip 69 may be adjusted upwardly and downwardly on the member 21' to accommodate receptacles of different heights.

Modified means for attaching the blade 59' to the lower end of the arm 49' are disclosed in Figure 14, wherein the blade 59' is formed at the upper edge thereof with an enlarged, elongated head or flange 73 and the lower end of the arm 49' is equipped with a stationary jaw 74 and a movable jaw 75 to frictionally grip the head 73 of the blade. The jaw 75 is attached to the jaw 74 by a plurality of clamping screws 76 equipped with nuts 77, it being understood that this form of blade attaching means may be used in the embodiment of the invention shown in Figure 11 as well as that in Figure 1.

While in the foregoing there have been shown and described the preferred embodiments of the invention, various modifications may become apparent to those skilled in the art to which the invention relates. Accordingly, it is not desired to limit the invention to this disclosure, and various modifications may be resorted to, such as may lie within the spirit and scope of the appended claims.

What is claimed as new is:

1. A stirring appliance comprising a frame adapted for supportable engagement with a conventional receptacle having contents to be stirred, an elevated platform

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carried by said frame and having an endless track provided thereon, a carriage movable on said track and supported entirely by said frame, said carriage having a downwardly extending arm, a stirring blade provided at the lower end of said arm, and a motor mounted on said platform and operatively connected to said carriage for propelling the same.

2. The device as defined in claim 1 together with means provided on said frame for clamping the rim of a conventional receptacle.

3. A stirring appliance comprising a frame adapted for supportable engagement with a conventional receptacle having contents to be stirred, an elevated substantially circular platform carried by said frame, an annular track provided at the marginal edge of said platform, a wheeled carriage movable on said track and supported entirely by said frame, said carriage including a downwardly extending arm, a stirring blade provided at the lower end of said arm, a motor mounted on said platform and including a drive shaft extending downwardly through the platform, and a propelling member extending from said drive shaft to said arm for propelling said carriage along said track.

4. The device as defined in claim 3 together with means for separably attaching said stirring blade to said arm.

5. The device as defined in claim 3 wherein said arm is longitudinally adjustable, and means for longitudinally adjusting said arm.

6. The device as defined in claim 3 together with means for adjusting said frame radially toward and away from said platform.

7. A stirring appliance comprising a frame adapted for supportable engagement with a receptacle having contents to be stirred and including a handle, a support member secured to and extending downwardly from said handle, receptacle clamping means provided at the lower end of said support member, a projectable and retractable stem extending from said handle, an elevated platform secured to said stem, means for adjusting the stem relative to the handle whereby to adjust said clamping means radially inwardly and outwardly from said platform, an endless track provided on said platform, a carriage movable on said track and including a downwardly extending arm, a stirring blade provided at the lower end of said arm, and a motor mounted on said platform and operatively connected to said carriage for propelling the same.

8. A stirring appliance comprising a frame adapted for supportable engagement with a receptacle having contents to be stirred and including a receptacle supporting base, a support member secured to and extending upwardly from said base, receptacle rim clamping means provided intermediate the ends of said support member, a handle provided at the upper end of the support member, a projectable and retractable stem extending from said handle, means for adjusting the stem relative to the handle whereby to adjust the outer end of the stem radially inwardly and outwardly from the center of said base, an elevated platform secured to the outer end of said stem, an endless track provided on said platform, a carriage movable on said track and including a downwardly extending arm, a stirring blade provided at the lower end of said arm, and a motor mounted on said platform and operatively connected to said carriage for propelling the same.

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