March 29, 1927. 1,622,298

L. J. WAHL

VIBRATOR MECHANISM

Filed June 28, 1926

Fig. 1

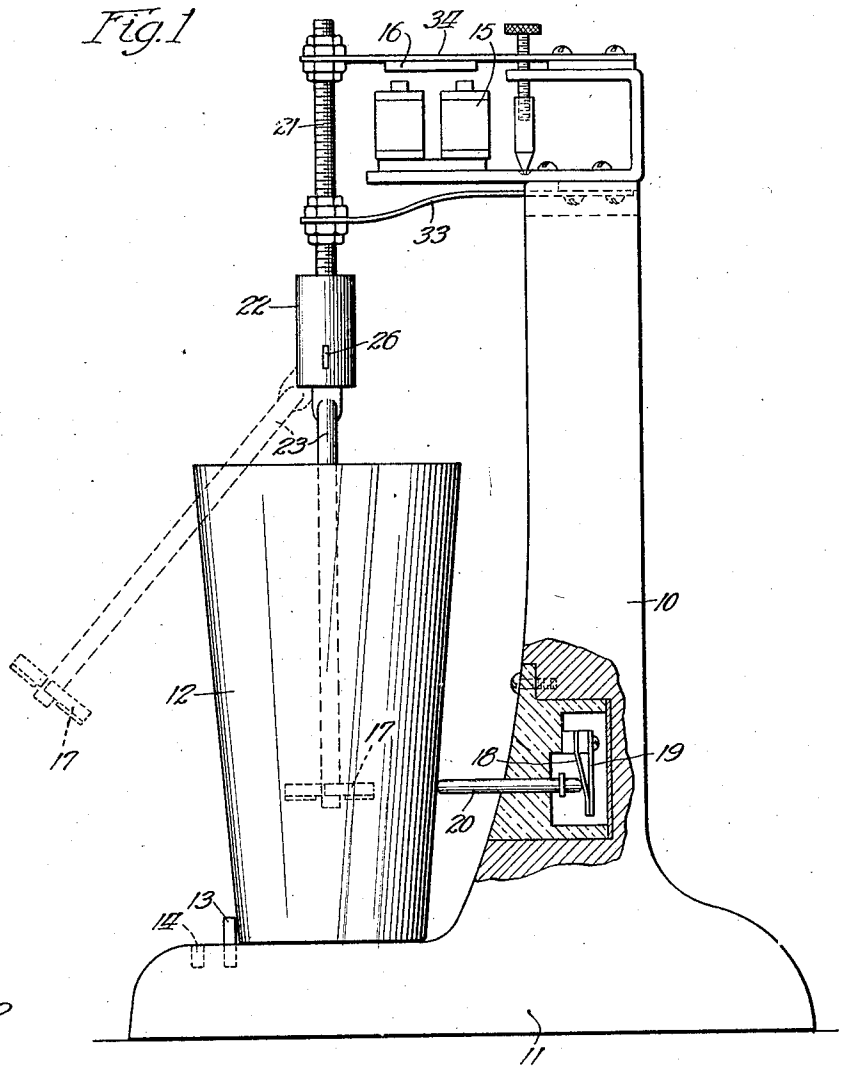


Fig. 2

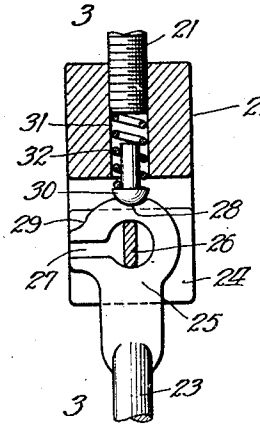
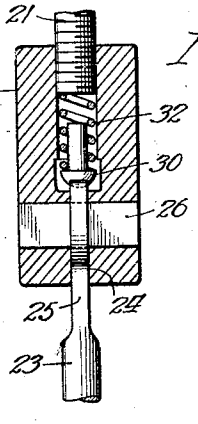


Fig. 3



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UNITED STATES PATENT OFFICE.

LEO J. WAHL, OF STERLING, ILLINOIS, ASSIGNOR TO WAHL CLIPPER CORPORATION, OF STERLING, ILLINOIS, A CORPORATION OF ILLINOIS.

VIBRATOR MECHANISM.

Application filed June 28, 1926. Serial No. 119,050.

My invention relates to vibratory mechanism and has for its object the provision of means whereby the contents of a receptacle may be suitably agitated.

My invention is of particular advantage in connection with devices used in the preparation of mixed drinks such, for instance, as are sold at soda fountains. It is customary to place various ingredients, some of which are in liquid form, into a receptacle and to thereafter agitate said contents so that these ingredients become thoroughly mixed and form a more or less homogeneous whole.

In my copending applications, Serial Nos. 107,513 and 107,514, I show devices of this general nature upon which the mechanism of my present invention is an improvement. In my copending application Serial No. 119,049 filed of even date herewith, I claim the actuating mechanism for the vibratory element which is shown in this present application.

My present invention relates in general to agitating devices of the character above described which use a rapidly oscillating element, which oscillating element is actuated by an electro-magnet supplied with intermittent current. In the preferred form of the device, this electro-magnet is supplied with alternating current which may be of the customary frequency of sixty (60) cycles per second so that the agitating element under the control of this electro-magnet makes one hundred and twenty (120) oscillations per second. This relatively high speed of agitation I find serves the purpose of producing an adequate mixture of the ingredients such as those outlined.

In my present invention I utilize in general the actuating mechanism shown in one or the other of my said copending applications, but I so mount the agitating element that it is movable with respect to its support so that the receptacle or container may be moved into and out of its position upon a suitable base without being lifted in the manner customary in devices of the prior art. My agitating element is swingingly mounted and as the container is removed from its place upon the support it carries the agitating element with it and again restores it to operative position when the container is again replaced.

I will describe one form which my invention may take more in detail by referring to the accompanying drawings in which—

Fig. 1 shows a device constructed in accordance with my invention, certain parts being broken away to more clearly reveal features of construction;

Fig. 2 is a vertical sectional view of the agitator mounting means; and

Fig. 3 is a sectional view on line 3—3 of Fig. 2.

My improved device consists of a stand 10 having a base 11 which is adapted to support a suitable receptacle 12. A limit pin 13 is provided to hold the receptacle 12 in position, this limit pin being adjustable as for instance by having a plurality of openings such as the opening 14 into which the pin 13 may be fitted. The devices controlled through the agency of the magnet 15 having a vibratory armature 16 to cause a vertical reciprocatory motion of an agitating element 17 is all explained in my said copending applications. The circuit through the electro-magnet is controlled through the agency of two springs, respectively the springs 18 and 19 insulatingly mounted, which springs are under the control of a plunger 20. This plunger in turn is controlled by the receptacle 12 and when the receptacle is in place, the circuit is closed as shown, but when the receptacle is removed, the spring action of the spring 18 serves to free it from engagement with the spring 19. The armature 16 controls a vertically movable reciprocatory element 21 which motion is transferred to the agitator 17 as will be clear.

My invention concerns itself with the provision of suitable mechanism such as embodied in connection with the element 22 presently to be explained whereby the agitator rod 23 may be swung from the position shown in full lines in Fig. 1 to the position shown in dotted lines in Fig. 1. By reason of this construction the receptacle 12 can be very easily removed from its place upon the base 11. It need merely be lifted to clear the position of the pin 3 and can then be withdrawn. As it is taken away from its support it engages the agitator rod 23 and swings it into its dotted line position so that the receptacle can then very easily be disengaged from the agitator rod. When the receptacle is filled with unmixed ingredients to be again subjected to the actuations of the device, then the receptacle

is moved back into the position shown in Fig. 1 having first engaged the agitator 17 and swung it partially into its vertical position, suitable means which are provided in connection with the element 22 serving by snap action to swing the agitator rod 23 the remaining distance so that it again assumes its vertical position.

I will now describe more in detail one form of mechanism which can bring about this result. The element 22 is preferably of circular form having a slot 24 cut across its lower extremity. This slot is sufficient to loosely accommodate the flat head 25 formed at the upper extremity of the otherwise circular agitator carrying rod 23. There is also provided across this slot 24 a cross piece 26 which is flat, but has upper and lower rounded surfaces as more clearly apparent from Fig. 2. This cross piece is designed to hold the head 25 in position but to at times permit the entire removal of the rod 23 from connection with the device 22. This removal of the rod 23 together with its agitator is very desirable and forms one of the advantageous features of my invention. The agitator 17 is utilized for agitating various different kinds of ingredients in a receptacle and it is desirable to at times clean this agitator, not only to prevent the mixture of undesirable ingredients into a predetermined drink, but for sanitary reasons so that this agitator and rod may be kept in a sanitary condition such as is necessary and highly desirable.

The head 25 when introduced in place as shown in Figs. 2 and 3, is properly held in position by the cross piece 26 but it may be rotated to a distance of 30° or more without interfering with its support upon said cross piece. Should the rod 23 be rotated to a greater distance, say 90°, then the slot 27 provided in said head permits the entire removal of the rod by sliding it downwardly as the slot 27 will then be aligned to clear the cross piece 26. The head 25 is provided with two notches, respectively the notch 28 and the notch 29. These notches are designed to cooperate with a spring pressed plunger 30 so that the rod 23 is either held in the vertical position shown in Fig. 1, or its angular position shown in the same illustration. That is, the notch 28 corresponds to the vertical position of the rod 23 and the notch 29 corresponds to the dotted position of this rod 23 in Fig. 1. The plunger 30 is mounted in a hole 31 provided through the element 22 and is held in position by means of the compression spring 32. This compression spring normally tends to push this head 30 downwardly. Suitable backing for the spring is provided by the screwthreaded rod 21 which has screwthreaded engagement with the screwthread provided in the hole 31 and this rod 21 in turn is suitably supported by the springs 33 and 34, the spring 34 carrying the armature 16. The rod 21 is screwed into position sufficiently to give the required compression to the spring 32. The notch 28 is of such a character that if the rod 23 is partially moved toward its vertical position by the container 12 when in position, that the inclination of this notch in connection with the spring pressed head 30 is sufficient to complete the movement of the rod 23 into its vertical position. When the rod is in its inclined position, the head 30 serves to hold it in that position by virtue of its engagement with the notch 29.

From what has thus been described, the nature of my invention will be readily clear to those skilled in the art and it will also be seen that modifications may be made without departing from the spirit thereof.

Having, however, thus described one form which my invention may take, what I claim as new and desire to secure by Letters Patent is:

1. A device of the character described comprising a stand having means to support a receptacle, an agitator support adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, and means for swingingly mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to engage and move said agitator support toward and away from its operative position.

2. A device of the character described comprising a stand having means to support a receptacle, an agitator support adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, and means for swingingly mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to control the movement of said agitator support toward and away from its operation position independently of said movement causing means, said mounting means for said agitator support having means to permit removal of said agitator support from said mounting.

3. A device of the character described comprising a stand, means for supporting a receptacle adjacent said stand, an agitator support adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, means for swingingly mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to control the movement of said agitator support toward and away from its operative position, and automatic means operating independently of said movement causing means for completing the final movement of said agitator support to its operative position.

4. A device of the character described

comprising means to support a receptacle, a stand having an agitator support thereon adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, means for swingingly mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to control the movement of said agitator support toward and away from its operative position, and spring controlled means for locking said agitator support in its operative and inoperative positions.

5. A device of the character described comprising means to support a receptacle, a stand having an agitator support thereon adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, means for swingingly mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to swing said agitator support toward and away from its operative position, and automatic means operating independently of said movement causing means for completing the final movement of said agitator support to its operative position.

6. A device of the character described comprising a stand having means to support a receptacle, an agitator support adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, means for swingingly mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to swing said agitator support toward and away from its operative position, and spring controlled means for locking said agitator support in its operative and inoperative positions.

7. A device of the character described comprising a stand having means to support a receptacle, an agitator support adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, means for adjustably mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to control the movement of said agitator support toward and away from its operative position, and spring controlled means for locking said agitator support in its operative and inoperative positions.

8. A device of the character described comprising means to support a receptacle, a stand having an agitator support thereon adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, and means for swingingly mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to swing said agitator support toward and away from its operative position, said mounting means for said agitator support having means to permit removal of said agitator support from said mounting by manipulation of said support.

9. A device of the character described comprising a stand having means to support a receptacle, an agitator support adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, means for swingingly mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to swing said agitator support toward and away from its operative position, and automatic means for completing the final movement of said agitator support to its operative position, said mounting means for said agitator support having means to permit removal of said agitator support from said mounting by manipulation of said support.

10. A device of the character described comprising a stand having means to support a receptacle, an agitator support adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, means for adjustably mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to control the movement of said agitator support toward and away from its operative position, and automatic means for completing the final movement of said agitator support to its operative position independently of said movement causing means, said mounting means for said agitator support having means to permit removal of said agitator support from said mounting.

11. A device of the character described comprising a stand having means to support a receptacle, an agitator support adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, means for swingingly mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to swing said agitator support toward and away from its operative position, and spring controlled means for locking said agitator support in its operative and inoperative positions, said mounting means for said agitator support having means to permit removal of said agitator support from said mounting.

12. A device of the character described comprising a stand having means to support a receptacle, an agitator support adapted to project into said receptacle, means for causing a to-and-fro movement of said agitator, means for adjustably mounting said agitator support so that said receptacle when being mounted in place or taken away is adapted to control the movement of said agitator support toward and away from its operative position, and spring controlled means for locking said agitator support in its operative and inoperative positions, said mounting

means for said agitator support having means to permit removal of said agitator support from said mounting.

13. A device of the character described including a stand having an agitator support depending therefrom adapted to project into a receptacle, means for actuating said agitator and means for swingingly mounting said agitator support comprising a member carried by said stand, a head on said agitator support pivotally secured to said member, and co-operating means on said head and member for locking said head and member in a plurality of positions relative to each other.

14. A device of the character described including a stand having an agitator support depending therefrom adapted to project into a receptacle, means for actuating said agitator and means for swingingly mounting said agitator support comprising a member carried by said stand, a head on said agitator support pivotally secured to said member, said head having a plurality of recesses therein and means carried by said member adapted to extend into either of said recesses to hold said agitator support in different positions.

15. A device of the character described including a stand having an agitator support depending therefrom adapted to project into a receptacle, means for actuating said agitator and means for swingingly mounting said agitator support comprising a member carried by said stand, a head on said agitator support pivotally and detachably secured to said member, and co-operating means on said head and member for locking said head and member in a plurality of positions relative to each other.

In witness whereof, I hereunto subscribe my name this 18th day of June A. D., 1926.

LEO J. WAHL.