

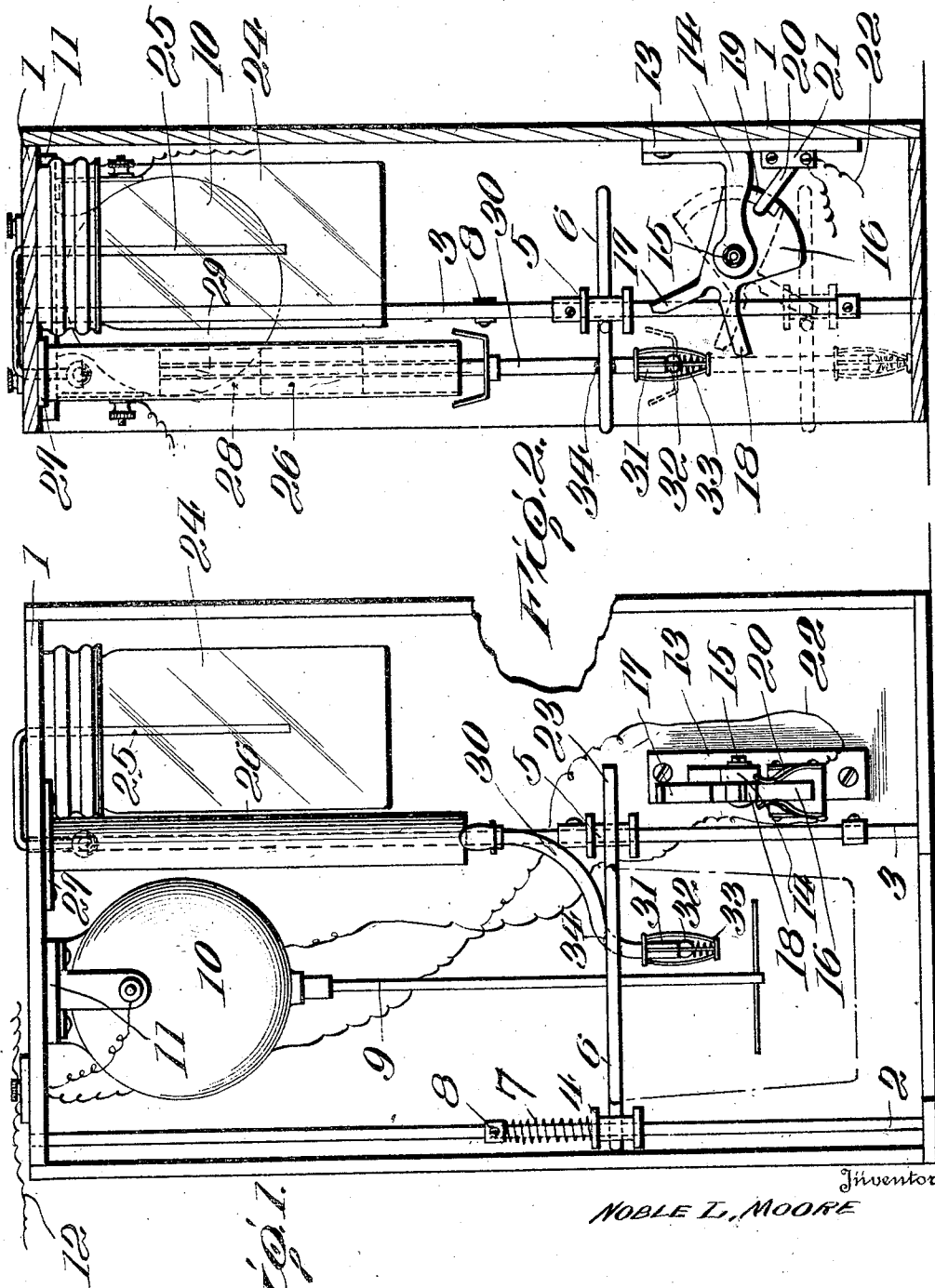
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MIXING AND AGITATING DEVICE

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UNITED STATES PATENT OFFICE.

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MIXING AND AGITATING DEVICE.

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To all whom it may concern:

Be it known that I, NOBLE L. MOORE, a citizen of the United States, residing at Mitchell, in the county of Lawrence, State of Indiana, have invented certain new and useful Improvements in Mixing and Agitating Devices, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

This invention relates to devices for introducing one or more substances into a receptacle, and for agitating or mixing said substance or substances.

The invention is of general application, and may be used, for instance, in drink mixers for inserting one or more charges of ingredients into the receptacle, and for agitating the contents so introduced, or, for instance, may be used in barber shops and the like for injecting a charge of soap in liquid or powdered form into the shaving mug or receptacle, and for agitating the charge to produce the required lather.

The above are merely two instances of the adaptation of the invention. Others will readily occur to those skilled in the art.

One of the objects of the present invention is to provide a commercial type of device for carrying out the above operations in a quick and convenient manner.

Another feature of the present invention resides in providing such device in which a charge injecting means and an agitating means are automatically controlled by the placing of the receptacle into its predetermined position.

Still a further feature of the invention resides in the construction of the device wherein the charge injecting means is recharged by the withdrawal of the receptacle from its predetermined position.

Yet a further feature of the invention resides in the novel construction and arrangement whereby when the receptacle is placed in position with the agitating member projecting into the receptacle, said positioning movement will raise the member and operate the charge injecting pump, and at the same time, an electrical contact to operate the agitator, and reversely, when the receptacle is withdrawn from its position, the member is automatically lowered to cut out the agitator and re-charge the injecting cylinder.

These and other objects will be apparent from a perusal of the following specification when taken in connection with the accompanying drawings, wherein—

Figure 1 is a front view of the device, 60 and

Fig. 2 is a side view thereof.

Referring now to the drawings in detail, the device comprises a standard or support 1 of any desired construction. For the sake of illustration, this support is shown as a box-like housing having an open front. The housing supports two spaced rods or guides 2 and 3 on which slide freely two sleeves 4 and 5 carrying a ring 6. A spring 7 is coiled about rod 2 and is confined between the sleeve 4 and an abutment 8 on the rod so as to normally press ring 6 downward. In the present instance, the ring 6 is adapted to be pushed upwardly by the act of placing the receptacle in agitating position directly beneath the agitating shaft 9. This depending agitating shaft 9 is arranged centrally of the ring 6 and depends from a motor 10 attached as at 11 to the top wall of the housing. Suitable electric connections 12 run to the proper source of current. Arranged at one side of the rod 3 and attached to the rear wall of the housing is a contact block 13 made up of a bracket 14 projecting outwardly from the rear of the box and provided at its front end with a pivotal pin 15 on which is mounted a sector 16 provided with V-shaped arms 17 and 18. A copper contact 19 is fastened to the rear of the sector and makes wiping contact with two spaced contacts 20 fixed on a block 21 electrically connected by means of wires 22 to the motor circuit. The arms 17 and 18 are adapted to be actuated by a rod 23, which projects laterally from the ring 6. By means of this construction, when the ring 6 is raised or lowered, the motor circuit will be correspondingly made or broken.

For purposes of illustrating this invention, the device herein is shown as a means for injecting liquid soap into a shaving mug and for agitating the soap to produce shaving lather. To this end, there is provided a suitable liquid soap injector for introducing the soap into the container. In the present instance, this means comprises a liquid soap container 24 of any desired type, preferably fastened to the under side of the top of the

housing. The liquid soap pipe 25 has one end projecting into the soap container and another end passing into the cylinder 26 of a pump which is likewise fastened as at 27 to the under side of the housing top. This end of the pipe 25 terminates in a ball valve which works in one direction only, so that when the pump piston is moved downwardly, a charge of liquid soap will be drawn into the pump cylinder, and when the piston moves upwardly, the ball will seat and the charge will be confined in the pump cylinder. The pump piston 28 is preferably constructed as a solid block with a central bore 29 therethrough, which bore connects with a downwardly depending pipe 30 rigidly carried by the pump piston. This pipe 30 at its lower portion bends inwardly to a point within the ring 6 and is provided at its lowermost end with a nozzle 31 normally closed by a ball 32 held in position by a spring 33. This forms a soap injecting nozzle and is so constructed that liquid is forced out of the nozzle only when the pump piston is moved upwardly. In this position, the nozzle will inject the charge of material into the receptacle positioned under the ring 6.

In using the device as just described, it will be apparent that when it is desired to place the receptacle, such as a shaving mug in position, it will be necessary to raise the ring 6. This is easily done by holding the receptacle in one hand, inserting the rim thereof under the ring 6 and pushing the ring upwardly. The guides 2 and 3 permit the easy sliding of the ring 6 to raised position. As the ring 6 moves upwardly, rigid connection is made of the nozzle 31 of pipe 30 to the ring 6, at the point 34, which connection may be provided by soldering or clamping, the piston 28 of the pump cylinder will be accordingly raised and the charge of liquid soap which is confined between the pump and the upper end of the pump cylinder will be forced downwardly through the bore 29 of the piston and out through an injecting nozzle 31 into the receptacle.

Simultaneous with this upward movement of the ring 6, the lateral projection 23 thereof will engage the upper fork 17 of the sector 16 to swing the sector about its pivot 15 thereby making contact between the two contacts 20 and closing the motor circuit. This will set the agitator in motion and will at once agitate the liquid soap in the receptacle and produce the necessary lather. Reversely, when the receptacle is moved from under the ring 6, the spring 5' will immediately force the ring downwardly whereby the lateral projection 23 will operate the lower fork 18 of the sector and break the motor circuit. This will cut out the agitator. At the same time, the rigid connection 34 between the ring 6 and the liquid injector

will pull the pump plunger down and suck a new charge of liquid soap from the container 24 into the upper end of the pump cylinder past the ball valve located at the top thereof.

It must be manifest that instead of adapting this invention to the production of a lather, it can be equally used for the mixing of drinks at a soda fountain. In such cases, various ingredients may be kept in reservoirs connected to one or more liquid injectors mounted rigidly with the ring 6, so that when a glass receptacle is inserted under the ring, the necessary amount of liquid will be injected into the glass, either with or without a previous liquid inserted in the glass, and at the same time, the agitator will be set in motion to mix the drink. And reversely, when the glass is withdrawn, the agitator is cut out, and the liquid injector is recharged. So also, instead of injecting the liquid, it is equally within the bounds of this invention to inject the substance, such as soap, in a powdered form instead of a liquid, either with or without the simultaneous injection of water. It is also manifest that various arrangements of the agitating means and injecting means may be utilized instead of the construction illustrated in the present drawing, for instance, the injecting and (or) agitating may be accomplished on the reverse stroke instead of the upward stroke, as at present described.

It is obvious that minor changes in the details of construction and the arrangement of the parts may be made without departing from the spirit of the invention as set forth in the appended claims.

Having thus described the invention, what I claim as new and desire to secure by Letters-Patent, is:—

1. A device of the class described comprising a support adapted to receive a receptacle in position, an agitating member adapted to project into said receptacle when so positioned, means for injecting into said receptacle a predetermined charge of substance to be agitated, and means constructed and arranged by the positioning of the receptacle to operate said charge injecting means and to operate said agitator.

2. A device of the class described comprising a support adapted to receive a receptacle in position, an agitating member adapted to project into said receptacle when so positioned, means for injecting into said receptacle a charge of substance to be agitated, and means constructed and arranged by the positioning of the receptacle to operate said charge injecting means and to operate said agitator, said means being further constructed and arranged so that the withdrawal of said receptacle operates to stop the agitator and re-charge said injecting means.

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3. A device of the class described comprising a support adapted to receive a receptacle in position, agitating means to project into said receptacle when the latter is positioned, means for injecting a predetermined charge of substance to be agitated into said receptacle, means for operating said agitating means, and means for simultaneously operating said agitating means and charge injector, said latter means upon its return recharging said injecting means.

4. A device of the class described comprising a support adapted to receive a receptacle in position, an agitating shaft disposed above said receptacle receiving position so that when said receptacle is positioned, the shaft will project into said receptacle, spaced guides, a ringlike member concentrically surrounding said agitating means and adapted to slide vertically on said guides, a motor for driving said agitator means, an electrical switch in circuit with said motor, a toe projecting laterally from said ring for operating said switch on vertical movement of said ring, a pump cylinder having a charge injecting nozzle rigidly connected to said ring and arranged with the nozzle disposed within the ring so as to project into said receptacle, a liquid reservoir carried by said support, a conduit connecting said liquid reservoir to said pump cylinder, said pump being constructed and arranged to project a charge of liquid through said nozzle when said ring is raised and to draw a charge of liquid from said receptacle into said cylinder when said ring is lowered.

5. A device of the class described comprising a support, an agitating shaft carried thereby, a motor for rotating said shaft, an electrical switch connected in circuit with said motor, a charge injecting nozzle, means carrying said charge injecting nozzle and a member for operating said switch, a source of liquid supply connected

to said charge injecting nozzle, said means being constructed and arranged to operate said switch to actuate the motor and to actuate the charge injector when moved in one direction and to cut out the motor and to re-charge the charge injecting means when operated in the other direction.

6. A device of the class described comprising a support, an agitator depending therefrom so as to project into a container, means located adjacent said agitator for positively forcing a charge of substance into said container, and means constructed and arranged on the positioning of said container to first cause operation of said forcing means and thereupon operating said agitator while continuing the operation of said forcing means.

7. A device of the class described comprising a support, an agitator depending therefrom so as to project into a container, means located adjacent said agitator for introducing a charge of substance into said container, an electric motor for rotating said agitator, and means constructed and arranged to actuate said motor and to positively force the substance from said introducing means upon the positioning of said container.

8. A device of the class described comprising a support, an agitator depending therefrom so as to project into a container, means located adjacent said agitator for positively forcing a predetermined charge of substance into said container, and means constructed and arranged to cause the operation of said agitator and forcing means during its movement in one direction, and to discontinue the operation of said agitator and recharge said forcing means during its return movement.

In testimony whereof, I affix my signature.

NOBLE L. MOORE.