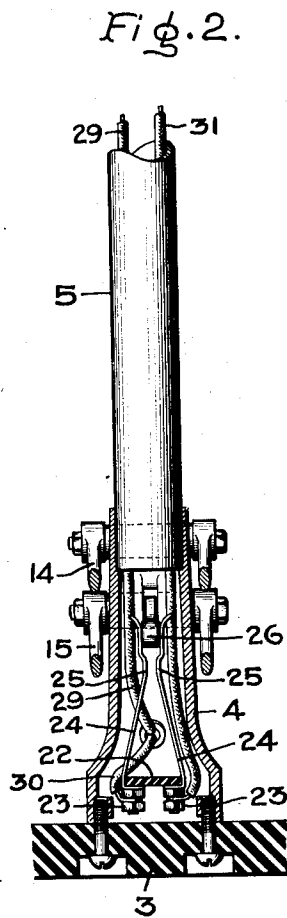
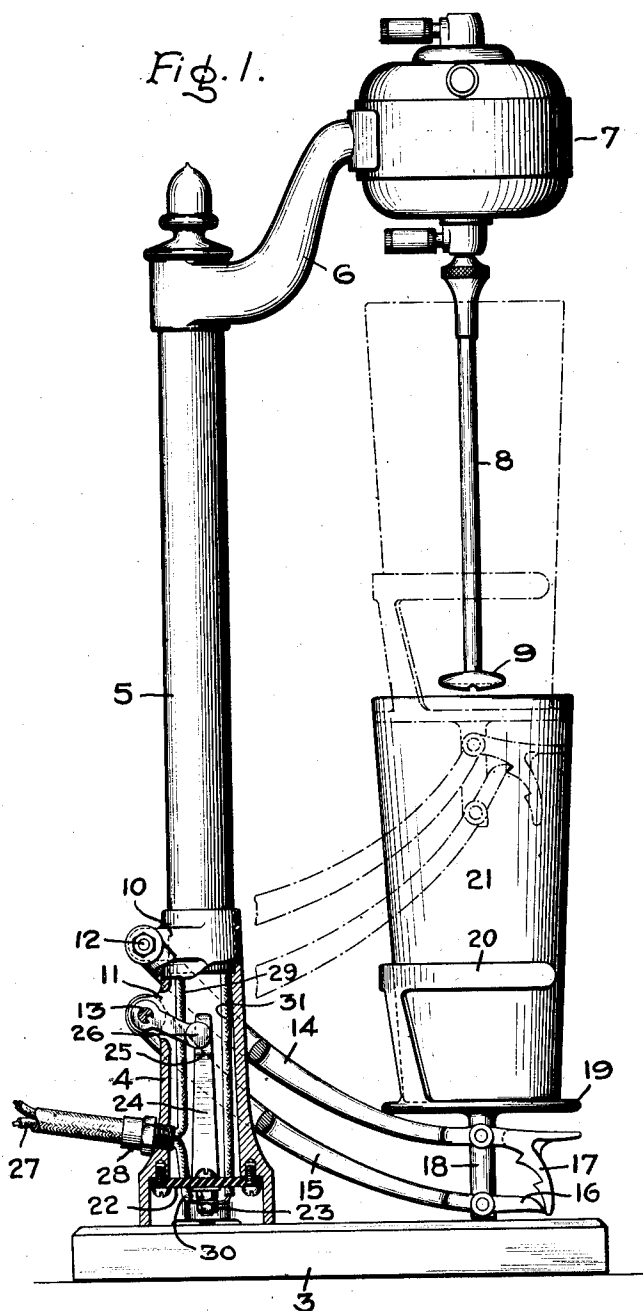


J. J. WOOD.
LIQUID MIXER.
APPLICATION FILED FEB. 2, 1912.

1,057,024.

Patented Mar. 25, 1913.



Witnesses:
Adolph Grimm
J. Ellis Allen

Inventor:
James J. Wood,
by: *Wm. H. Davis*
His Attorney.

UNITED STATES PATENT OFFICE.

JAMES J. WOOD, OF FORT WAYNE, INDIANA, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

LIQUID-MIXER.

1,057,024.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed February 2, 1912. Serial No. 674,972.

To all whom it may concern:

Be it known that I, JAMES J. WOOD, a citizen of the United States, residing at Fort Wayne, county of Allen, State of Indiana, have invented certain new and useful Improvements in Liquid-Mixers, of which the following is a specification.

My invention relates to that type of apparatus which is adapted to violently agitate the contents of a liquid containing receptacle, and is more particularly designed for mixing drinks.

The objects of my invention are generally to improve and simplify the present construction of such apparatus, and more specifically to provide means for readily and easily moving all parts of the apparatus simultaneously from an inoperative to an operative position, and similarly back to the inoperative position.

A further object of my invention is to provide positive means for holding the several parts of the apparatus in an operative position, so that the agitation may proceed without the attention of an attendant, and further to provide means for holding the liquid receptacle at several heights so that the time required for mixing the liquid may be varied to suit the convenience of the attendant.

The invention comprises a relatively fixed motor-driven agitator or mixer cooperating with a support for a liquid containing receptacle, the latter adapted to move into and out of operative relation with the agitator. The motor is similarly and simultaneously controlled by my improved and simplified construction, so that while the liquid receptacle is in a raised or operative position, the agitator is rapidly rotating, and conversely, when the receptacle is lowered, the agitator is at rest. By my improved construction, the motor-driven agitator is relatively fixed, and the receptacle holding the liquid to be mixed is moved into operative relation with the agitator, thus materially diminishing the wear and tear on the rapidly moving parts.

Referring to the drawings, Figure 1 is a side elevation partly in section and showing my improved form of motor controlling mechanism. Fig. 2 is a front elevation, certain parts being broken away and shown in section and other parts entirely omitted for the sake of clearness.

The apparatus is supported by a base 3 of insulating material to which is secured by screws, or other suitable fastening means, a short hollow standard 4. In the top of this standard there is fitted a hollow vertical supporting member 5, provided at its top with a hollow arm 6, to which is secured a small electric motor 7. The armature shaft of this motor is in a vertical position and has secured to and depending from it a rod 8 carrying an agitator or mixing member 9.

The hollow standard 4 is provided with lugs 10 and 11 which form bearings for short horizontal shafts 12 and 13. Arms 14 and 15, each having bifurcated or yoke ends, are secured at one end to the shafts 12 and 13 respectively, and the other bifurcated ends of these arms are pivoted to a vertical rod 18 depending from a flat circular support 19. The arm 15 has an integral projection 16 extending beyond the rod 18 and adapted to act as a pawl in cooperation with a pivoted ratchet member 17, the pivot of such ratchet member being the same as the pivot of the arm 14 to the rod 18. A guard 20 is fastened to the support 19, and together these members are adapted to cooperate in holding an ordinary tumbler or mixing glass 21.

A ratchet 17 is formed with several notches, two being shown for convenience in the drawings. The height to which the glass or liquid receptacle is lifted and held locked may be, therefore, varied, and likewise the time required for mixing the liquid may be varied to suit the attendant's convenience, for if the glass is in mid position, the liquid is not mixed so well in a given time, as it would be if held in the top-most position.

A rigid strip of insulating material 22 is fastened near the bottom of the standard 4, and secured to this strip are two similar binding posts 23. Spring contacts 24, having flat contact surfaces 25, are mechanically and electrically connected to the binding posts. The spring contacts are adapted to be separated by an arm 26 keyed to the shaft 13, and provided with a round piece of insulation through the end where it presses the two spring contacts apart. The upper ends of the spring contacts are made flaring for the easy entrance of the arm 26 between them.

The current supply wires 27 enter the hol-

low standard near the bottom thereof through a bushing 28. One of these wires 29 passes through the hollow members 5 and 6 and is connected to one terminal of the motor. The other current supply wire 30 is connected to one of the binding posts 23. A third wire 31 passes from the second binding post to the other terminal of the motor. It will thus be seen that the raising 10 of the arm 26 from engagement with the spring contact 24 permits the latter to form an electrical contact, and thus completes the electric circuit through the motor.

The operation of my device is as follows:
 15 When the parts are in the position shown in Fig. 1, the rod 18 is resting upon the base 3 and the glass 21 is in its lowest position, this position being such that the glass can be readily moved from its support without
 20 spilling its contents. The insulating arm 26 is in engagement with the contacts 24 and the electric circuit to the motor is therefore broken. When it is desired to agitate the contents of the glass 21, the operator grasps
 25 the thumb piece of the ratchet member 17 and the support 19 and raises the glass 21. The arm 26 is simultaneously raised and no longer acts to hold the contacts 24 apart. The electric circuit through the motor is
 30 therefore completed and the rod 8 and agitator 9 are rapidly rotated, thereby thoroughly mixing the contents of the glass. When the glass is in a raised position, the pawl 16 is adapted to engage one of the
 35 notches of the ratchet 17 and will thus hold the apparatus in an operative position, as shown in dotted lines in Fig. 1. When the mixing is completed, the ratchet is released from engagement with its pawl and
 40 the apparatus restored to its original or inoperative position.

What I claim as new and desire to secure by Letters Patent of the United States, is:—

1. A liquid mixer comprising an agitator,
 45 a movable member adapted to support a liquid containing receptacle and to be moved into and out of operative relation with said agitator, and means operated by the move-

ment of said member for controlling the operation of the agitator.

2. A liquid mixer comprising an agitator, a movable member forming a support for a liquid containing receptacle and adapted to be moved into and out of operative relation with said agitator, means 55 operated by the movement of said member for controlling the operation of the agitator, and positive means for locking said parts in operative position.

3. A liquid mixer comprising an agitator, 60 a movable member forming a support for a liquid containing receptacle and adapted to be moved into and out of operative relation with said agitator, and positive means for locking said liquid receptacle in one of sev- 65 eral operative positions.

4. A liquid mixer comprising a relatively fixed agitator, a motor for rotating the agitator, a movable support for holding the liquid containing receptacle, said support 70 and receptacle adapted to be moved into operative relation with said agitator, means operated by the movement of the support and the receptacle for controlling the motor and placing it in operation, and positive 75 means for holding said parts in operative relation.

5. A drink mixer comprising a support, an electric motor rigidly secured thereto, an agitator fixed to and depending from the 80 shaft of said motor, a movable member comprising a support for a liquid containing receptacle and an insulating arm, spring contacts adapted to be separated by said arm when the mixer is in an inoperative position 85 and to close the electric circuit through the motor when the mixer is in an operative position, and means for positively holding the parts in an operative position.

In witness whereof, I have hereunto set 90 my hand this 30th day of January, 1912.

JAMES J. WOOD.

Witnesses:

A. L. HADLEY,
 H. E. CRANE.