1,166,568.

R. P. WILTON.

MIXING MACHINE.

APPLICATION FILED OCT. 30, 1914.

Patented Jan. 4, 1916.

2 SHEETS—SHEET 1.

Fig 2

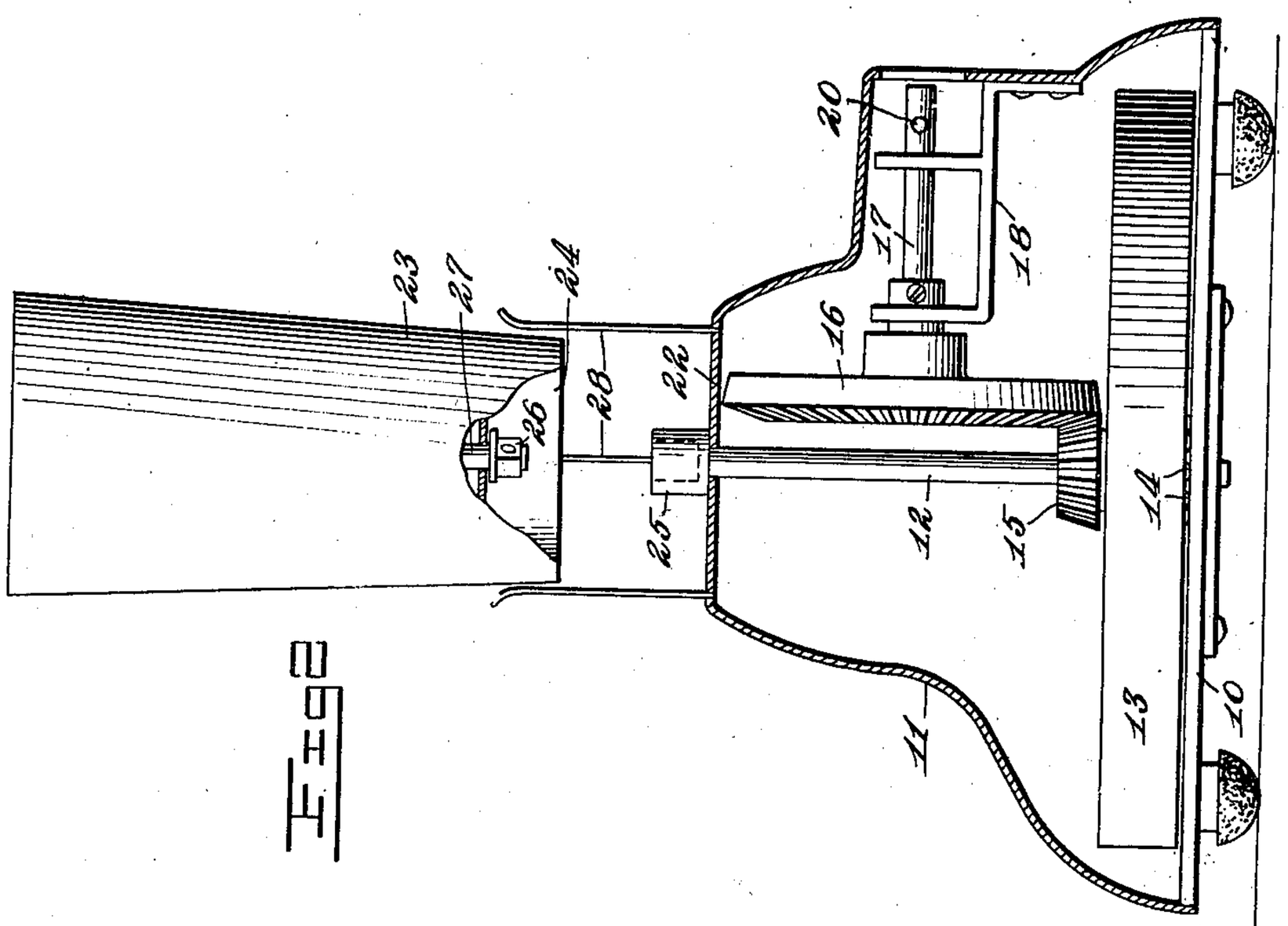
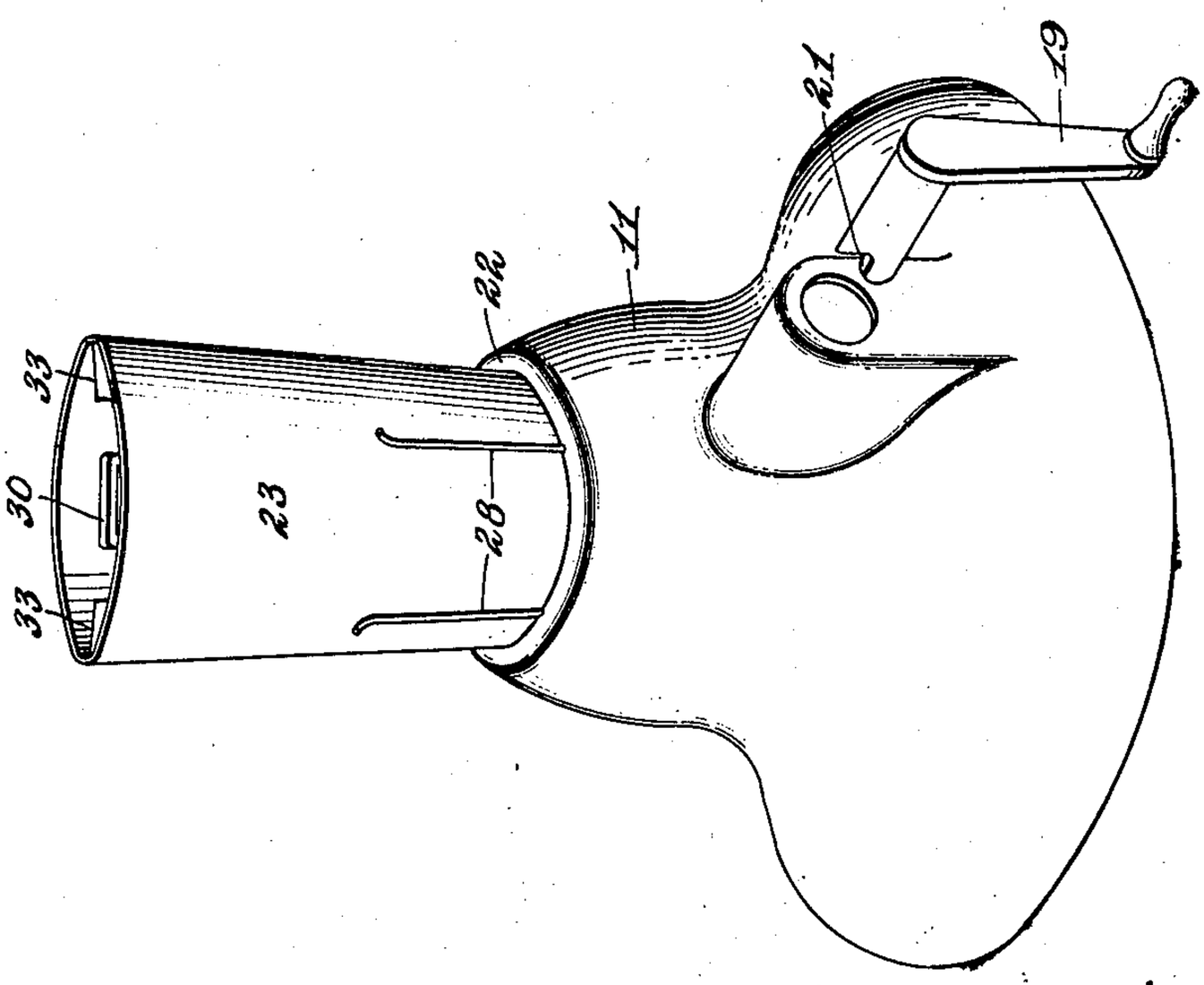


Fig 1



Witnesses

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2 SHEETS—SHEET 2.

Fig 3

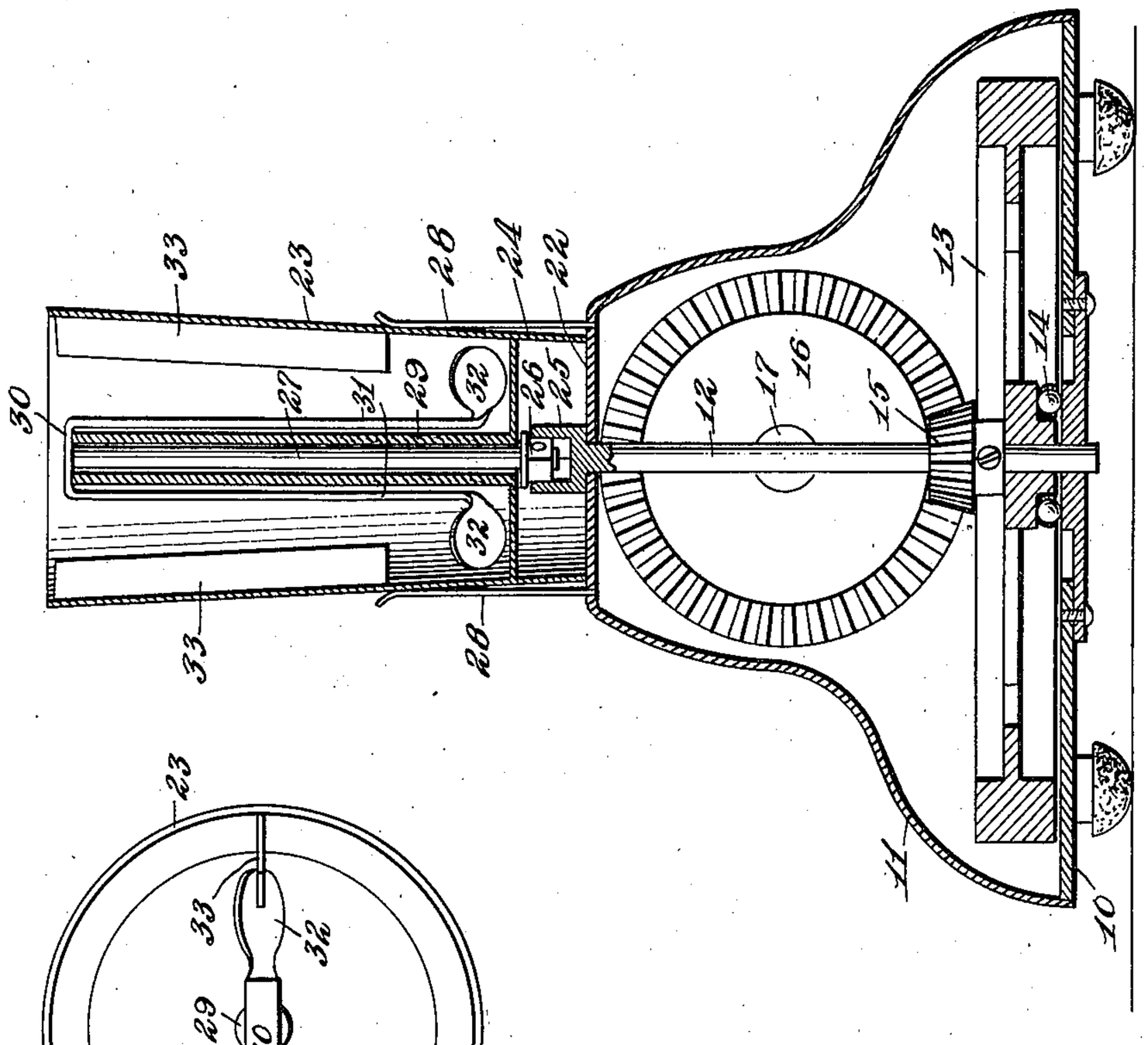


Fig 4

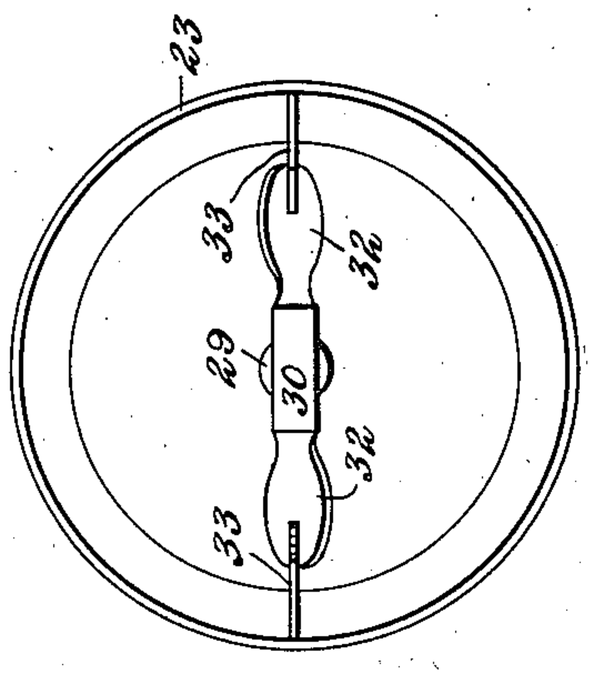
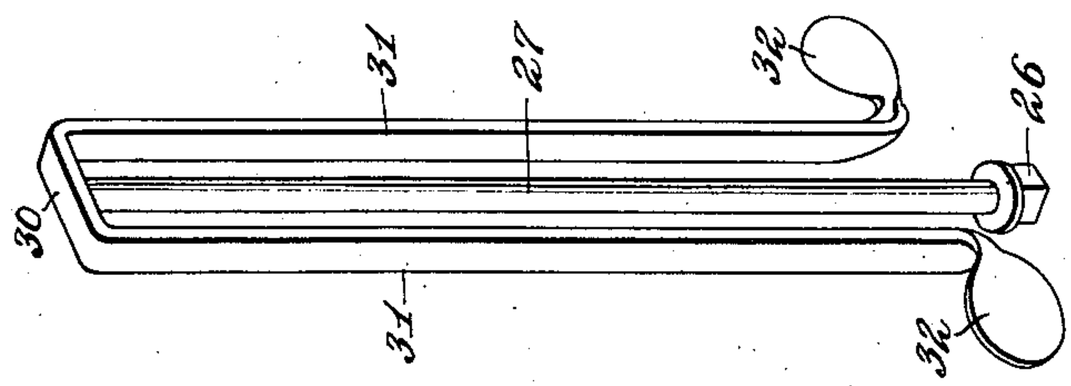


Fig 5



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UNITED STATES PATENT OFFICE.

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MIXING-MACHINE.

1,166,568. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed October 30, 1914. Serial No. 869,355.

To all whom it may concern:

Be it known that I, RALPH P. WILTON, a citizen of the United States, residing at Wrightsville, in the county of York and State of Pennsylvania, have invented new and useful Improvements in Mixing-Machines, of which the following is a specification.

This invention relates to a mixing machine, and has reference more particularly to a device for mixing beverages at soda fountains and other places where beverages are dispensed.

An object of the invention is to provide a simple mechanical structure for insuring the thorough mixing of the ingredients of the beverage without the use of an electric or other driving motor; a machine which may be set in motion by hand to operate the agitator, and which will, by its own momentum, continue in the state of motion for a considerable period of time after the hand operation ceases to insure the thorough mixing of the ingredients without constant attention on the part of the operator; a device which may be easily handled and operated; one which is of pleasing and ornamental construction so that it may be conveniently placed upon the counter or the like; a device having a mixing receptacle carrying the agitator which is so peculiarly arranged as to be operatively connected to the driving mechanism of the device by merely placing the receptacle upon the table or support in the usual manner; a device which comprises but relatively few and simple parts requiring no adjustment; and a device which may be readily and economically manufactured.

The above and other objects and advantages of this invention will be brought out more specifically in the following detail description of the present preferred embodiment of the invention, and which is illustrated in the accompanying drawings wherein,—

Figure 1 is a perspective view of the complete machine, the mixing receptacle being in place. Fig. 2 is a vertical central section taken longitudinally through the machine, the receptacle being partly raised. Fig. 3 is a vertical central section taken transversely through the machine, parts of the same being shown in elevation. Fig. 4 is a top plan view of the removable receptacle into which the ingredients are adapted to be poured. Fig. 5 is a detail perspective view of the dasher or agitator permanently mounted within the receptacle.

Referring to these drawings it will be seen that the machine is made up of a frame or casing supporting the operating mechanism, and a receptacle detachably mounted on the frame for receiving the ingredients to be mixed and having an agitator or dasher therein which has a novel connection for engagement with the operating mechanism when the receptacle is resting on the frame or casing.

The frame of the machine comprises a base 10 of any suitable construction and configuration but disclosed in the present instance as being circular, and preferably supported upon pads or feet as shown. Mounted concentrically on the base 10 is a casing 11 of substantially bell form adapted to house the operating mechanism of the machine. A vertical operating shaft or spindle 12 is journaled at its lower end in the central portion of the base 10 and at its upper end in the top of the bell shape casing 11. Fixed upon the shaft or spindle 12 is a momentum wheel 13, the same lying in a horizontal plane preferably immediately over the base and being supported upon bearings 14 mounted in raceways provided therefor in the usual manner.

The shaft or spindle 12 is also provided preferably near its lower end, but immediately above the momentum wheel 13, with a pinion 15 beveled to intermesh with a correspondingly beveled gear 16 fixed upon the inner end of a driving shaft 17 radially disposed above the base. The shaft 17 is mounted in a bracket 18 fixed to one side of the casing 11 and extends inwardly toward the shaft or spindle 12.

The driving shaft 17 is adapted to receive upon its outer end a detachable crank handle 19 and is provided with one element of a clutch member, while the handle 19 is adapted to carry the opposite element of the clutch member. In the present instance the clutch element of the shaft 17 is in the form of a diametrically extending pin 20 which projects through and beyond the opposite sides of the shaft 17, while the other element of the clutch member is in the form of ratchet teeth 21 formed upon the inner end of the crank handle 19. The teeth 21 are adapted to engage the projecting ends of the pin 20, when the crank handle 19 is turned in one direction, but which are adapted to be

thrown out of engagement with the pin when the crank handle is held from turning and the shaft 17 continues to rotate.

The top of the casing 11 is flattened to provide a table or support 22 surrounding the upper end of the operating shaft or spindle 12, and upon which rests the detachable receptacle 23. It will be noted that the receptacle 23 has a depending flange 24 at its lower end for engagement with the table 22 to support the receptacle and hold the bottom thereof a slight distance above the table or support. The shaft or spindle 12 is provided with an angular socket 25 upon its upper end above the table or support 22, the socket receiving a correspondingly shaped shank 26, in the present instance in the form of a nut, fixed upon the lower end of an agitator shaft 27. Circularly arranged upon the support or table 22 are a number of spaced apart guides 28, in the present instance in the form of spring fingers, to receive the lower end of the receptacle 23 and direct it into proper registry with the operating shaft 12. The agitator shaft 27 extends up through the bottom of the receptacle 23, and through a tube 29 fixed to the bottom about the shaft 28, and in which the shaft is free to revolve without contact with the contents of the receptacle.

The tube 29 rises to a point at least near the top of the receptacle so as to insure the exclusion of the contents from within the tube. The shaft 27 projects slightly above the tube 29 and is suitably fixed to an agitator or dasher 30. The agitator or dasher 30 may be of any suitable construction, but is preferably U-shape, as shown in Fig. 5, is fixed at its middle portion to the upper end of the agitator shaft 27, and has its opposite arms 31 projecting down into the receptacle at the opposite sides of the tube 29. The arms 31 terminate near the bottom of the receptacle 23 in radially extending blades or propellers 32, preferably curved, to create an upward current of the contents of the receptacle. The receptacle 23 is preferably provided with inwardly projecting baffles or fins 33 at its opposite sides, arranged vertically and extending downwardly from the top of the receptacle to assist in the thorough mixing of the contents of the receptacle.

As may be seen from Fig. 2 of the drawings the large bevel gear 16 is located close to the operating shaft 12 and the relatively high central portion of the bell shape casing 11 completely houses the gear. The casing 11, however is provided with an arched radially offset portion at one side inclosing the driving shaft 17 and its bracket 18, the offset portion 34 having an opening 35 in its outer end through which the handle 19 extends for engagement with the shaft 17.

From the above description it will be clear that in the operation of the device the ingredients to be mixed are placed in the receptacle 23 and the receptacle positioned upon the table or support 22, the guides 28 directing the shank 26 into the socket 25 so as to couple the agitator shaft 27 with the operating shaft or spindle 12 of the operating mechanism. The crank handle 19 is now inserted through the opening in the casing into engagement with the driving shaft 17 and turned in one direction to interlock the complementary elements of the clutch member whereby the driving shaft 17 is turned with the handle. As the shaft 17 turns, it turns the bevel gear 16 therewith, which in turn rotates, through the pinion 15, the main shaft 12 of the operating mechanism and consequently the momentum wheel 13 fixed thereto. The operating mechanism is set into rapid motion and then the crank handle 19 is stopped or released whereupon the momentum wheel 13, which is of relatively great weight, maintains the machine in motion or operation for a considerable period of time to thoroughly mix the ingredients in the receptacle without further attention by the operator. After the ingredients have been properly mixed the receptacle may be readily lifted by hand from the table or support 22, and the contents of the receptacle may be poured into suitable drink dispensing vessels. By this peculiar construction and arrangement it is readily seen that the receptacle is mounted on top of the casing 11 so that the same may be readily lifted from the casing without the preliminary releasing or adjusting of any of the parts of the mechanism, and that the receptacle may be quickly replaced upon the table or casing for further operation.

While the above description sets forth specifically one form of this invention, it must be understood, however, that this is only one construction which may be made within the spirit of this invention, and that variations in the structure, or in the parts thereof, are to be limited only by the scope of the following claims.

What is claimed is—

1. In a mixing device; a base; a vertical shaft rising centrally from the base; a momentum wheel secured to the lower end of the shaft above the base; a pinion on the shaft; a radially disposed operating shaft; a gear on said operating shaft meshing with said pinion; a handle for operating said shaft; a casing carried by the base inclosing said shaft, gears and momentum wheel, and having a flat top providing a table on the upper end of the casing; a receptacle adapted to seat on said table; an agitator in said receptacle, and a separable connection between said vertical shaft and the receptacle.

2. In a mixing device; an inclosing cas-

ing having a flat top; a vertical shaft in the casing; a momentum wheel on the shaft; an operating shaft in one side of the casing; gears connecting the operating shaft to the vertical shaft; a handle projecting into the side of the casing; a one-way clutch between the handle and the operating shaft whereby to admit the free turning of the operating shaft subsequent to being set in motion; a receptacle detachably resting on the flat top of the casing; an agitator in the receptacle, a separable connection between the vertical shaft and the agitator, and guides projecting from the flat top of the casing to engage the receptacle and direct it into position over the vertical shaft.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

RALPH P. WILTON.

Witnesses:
S. S. WILTON,
W. B. CRUMBLING.