W. H. BRILLHART.

MIXING APPARATUS.

APPLICATION FILED JULY 31, 1916.

1,218,623. Patented Mar. 13, 1917.

Fig. 4

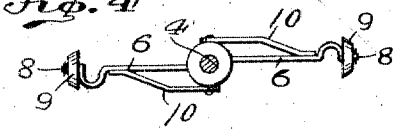


Fig. 1.

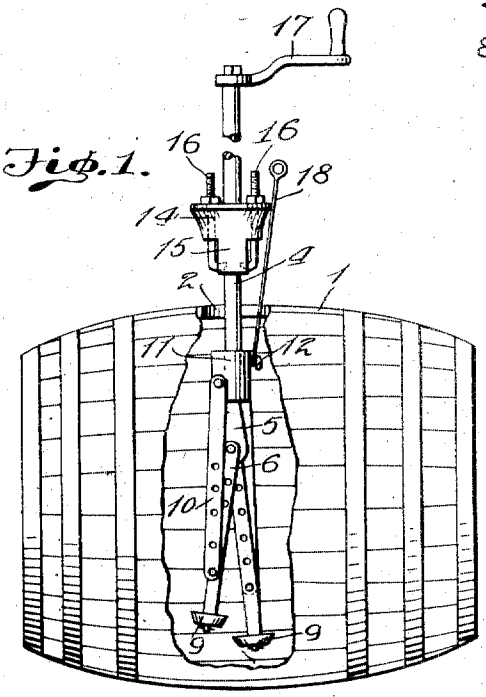


Fig. 2.

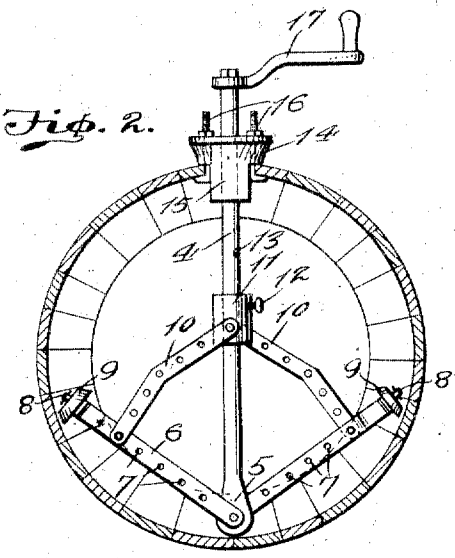


Fig. 3.

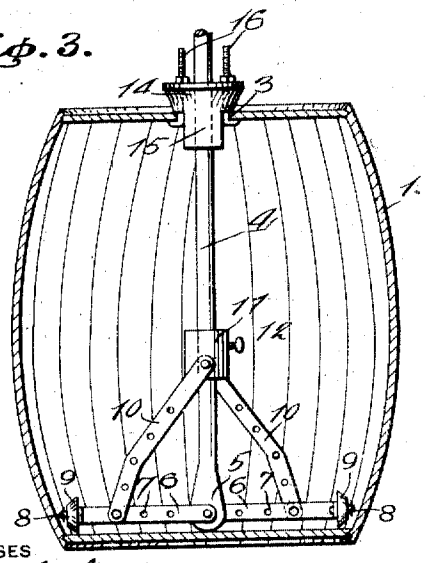
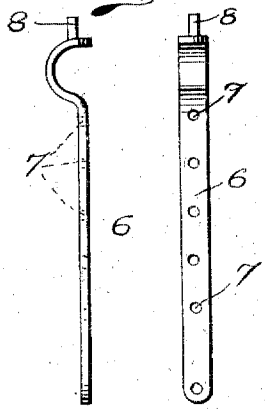


Fig. 5



WITNESSES

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MIXING APPARATUS.

1,218,623. Specification of Letters Patent. Patented Mar. 13, 1917

Application filed July 31, 1916. Serial No. 112,344.

To all whom it may concern:

Be it known that I, WILLIAM H. BRILLHART, a citizen of the United States, residing at Kendallville, in the county of Noble and State of Indiana, have invented certain new and useful Improvements in Mixing Apparatus, of which the following is a specification.

This invention relates to mixing apparatus, and primarily aims to provide a medium for mixing paints, oils, churning milk or use in analogous capacities where an agitation of liquids is desired, the device being applicable for use in receptacles of various configuration.

Another object is to provide a mechanism which is manually portable and manually operable, and one which may be folded, when not in use, to occupy a minimum amount of space.

Other objects as well as the nature, characteristic features and scope of my invention will be more readily understood from the following description taken in connection with the accompanying drawings and pointed out in the claims forming a part of this specification.

Figure 1 is a side elevational view of a mixing apparatus showing the same in a folded position, and illustrating the application of the same, a portion of the receptacle in which the apparatus is mounted, being broken away to disclose my improved device, and a portion of the shaft being shown in fragmentary sections,

Fig. 2 is a transverse sectional view of the receptacle illustrating the application of my improved device in an operative position,

Fig. 3 is a longitudinal sectional view of a receptacle illustrating the application of my improved mixing apparatus in a different manner, a portion of the apparatus being broken away,

Fig. 4 is a cross sectional view of the mixing apparatus *per se* showing the same in an operative position, and

Fig. 5 is a side and face elevational view respectively of one of the agitating arms used in this invention.

In the drawings in order to illustrate the application of my improved device a barrel 1 is provided which in this instance is of the usual configuration and is provided with an opening 2 in the body thereof in Fig. 1 and with an opening 3 in its head in Fig. 3 for the purpose of illustrating the application of my improved mixing apparatus in two different ways.

The mixing apparatus comprises a cylindrical shaft or rod 4 one end 5 of which is flattened and enlarged and has pivotally engaged with its opposite faces the inner ends of agitator rods 6. Each of said arms in the present instance comprises a metallic strap which is provided with a plurality of perforations 7 therein in order to permit the contents of the receptacle 1 to pass through said arms as the latter are rotated on the interior of the receptacle. The outer end of each of the arms 6 is depressed into a substantially U-shaped contour and has a finger 8 formed on the outer face of the free end thereof which is in a line substantially coincident with the longitudinal axis of the body of the arm. Each of said fingers 8 has a roller 9 journaled thereon, the peripheries of said rollers being beveled so as to conform to the inner periphery of the barrel when the latter is disposed horizontally as illustrated in Figs. 1 and 2. It is of course understood that the peripheries of these rollers will be made smooth and straight when they are to contact with a straight even surface. The rollers 9 are held from casual displacement on the fingers 8 by cotter pins or any other suitable means which will permit the rollers to be expeditiously removed from said fingers when so desired.

Agitator arms 10 are provided, one end of each of which is pivotally engaged with one of the arms 6, adjacent the depressed outer end of the latter, while the opposite end of each is pivotally engaged with the outer periphery of a sleeve 11. The sleeve 11 is slidably mounted upon the shaft 4, so as to permit the agitator arms 6 and 10 to be placed in various positions, consistent with the configuration of the receptacle with which the agitating apparatus is associated. A set screw 12 is adjustably mounted within the sleeve 11 whereby the latter may be held at any predetermined point upon the shaft 4, recesses 13 being formed in said shaft, if desired, in order to preclude possibility of the sleeve being accidentally displaced, during movement of the agitator.

A bushing 14 is slidably mounted upon the shaft 4 in superposed relation to the sleeve 11, and has a gland dependent therefrom which is adapted for introduction through the opening 2 or 3 of the barrel, so as to prevent displacement of the contents of the

latter during movement of the agitator. The bushing 14 is held in a locked position on the barrel through the medium of locking bolts and nuts 16.

Said bolts are rotatably mounted in the bushing 14 so as to permit the heads thereon to be moved into the path of the openings 2 and 3, as shown in Fig. 1, so as to enable the removal of the bushing from the barrel.

A suitable handle 17 is detachably mounted upon the upper terminal of the shaft 4 whereby rotation of the latter is facilitated for imparting movement to the agitator arms 6 and 10. It will furthermore be noted that a hook member 18 is shown in Fig. 1, which is adapted for association with the set screw 12 to permit the apparatus to be removed from the barrel without placing the hand or hands on the interior of the latter, since the hook 18 may be used to bring the set screw into such close proximity to the openings 2 or 3, to permit manipulation of the screw by the hand of the user, thereby allowing the agitator arms to be folded into the position shown in Fig. 1

In operation therefore it will be appreciated that the apparatus may be associated with any type of receptacle, and may be conveniently used with the standard type of barrel, in which instance it may be used when the barrel is disposed either vertically or horizontally as illustrated to advantage in the drawings. In either instance, after the device has been secured in the manner above set forth, pressure is exerted upon the handle 17 so as to actuate the agitator arms, thereby stirring the contents of the barrel. It is of course understood that rollers 9 will greatly facilitate movement of the agitator arm.

It will be understood that the above description and accompanying drawings comprehend only the general and preferred embodiment of my invention and that various minor changes in detail of construction, proportion and arrangement of the parts may be made within the scope of the appended claims and without sacrificing any of the advantages of my invention.

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

1. The combination with a receptacle, a mixing apparatus including a shaft mounted in the receptacle, agitating arms mounted on said shaft and in adjustable connection with the latter for holding said arms at an angle, conforming to the contour of the receptacle, and means mounted on said arms to engage the receptacle for facilitating movement of said arms.

2. In combination with a receptacle, a mixing apparatus including a shaft mounted in the receptacle, agitating arms, certain of which are in pivotal engagement with the inner end of said shaft, other of said arms being pivotally engaged with the first mentioned arms, a sleeve slidably mounted on said shaft and in pivotal engagement with said second mentioned arm, whereby all of said arms may be simultaneously adjusted to conform to the contour of the receptacle, by movement of said sleeve, and rollers mounted upon certain of said arms, to facilitate movement of the latter.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. BRILLHART.

Witnesses:
A. H. HAYES,
A. C. HELMUTH.