W. KENLEY.

AGITATOR FOR CHURNS, WASHERS, &c.

APPLICATION FILED NOV. 14, 1917.

1,290,231. Patented Jan. 7, 1919.

Fig. 1.

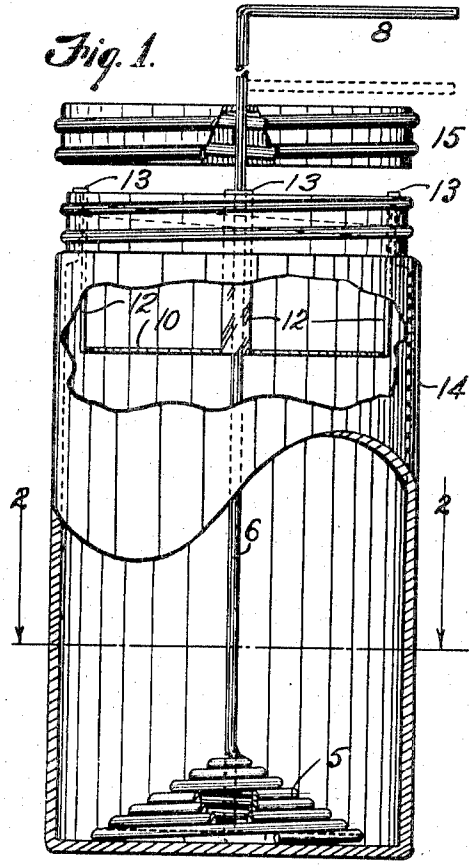
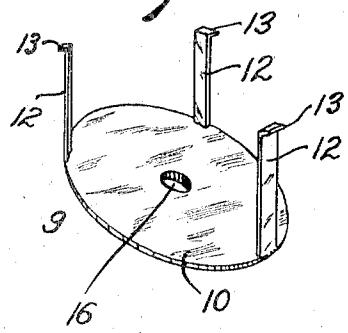


Fig. 3.



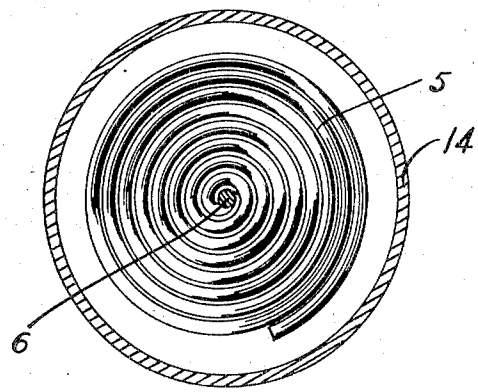


Fig. 2.

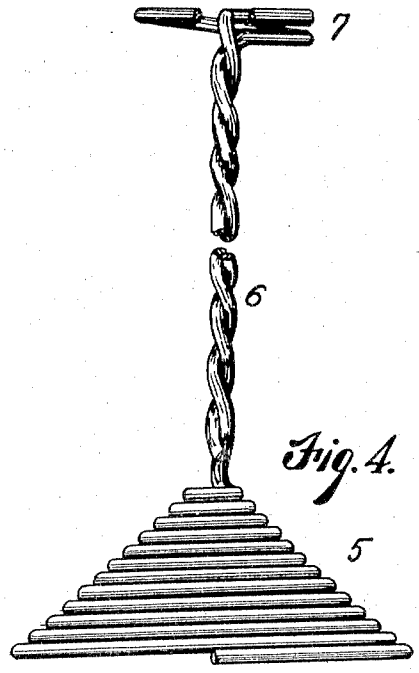


Fig. 4.

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AGITATOR FOR CHURNS, WASHERS, &c.

1,290,231. Specification of Letters Patent. Patented Jan. 7, 1919.

Application filed November 14, 1917. Serial No. 201,898.

To all whom it may concern:

Be it known that I, WILLIAM KENLEY, a citizen of the United States, residing at the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Agitators for Churns, Washers, &c.; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in agitators for use in connection with churns, washers, and in other relations where a similar function is required. The agitating member consists of a dasher composed of a spring coil whose convolutions decrease in radius as they approach the center, the same being of conical shape, whereby the convolutions successively occupy higher planes from the outermost to the innermost, the difference in the diameter of the convolutions being such that the dasher will collapse by downward pressure, causing the convolutions to occupy substantially the same plane or level. The dasher is provided with a suitable stem extending upwardly and exposed beyond the container in which the material to be agitated is placed in order to facilitate manipulation.

Arranged above and coöperating with the dasher is a splash arrester which is suspended from the top of the container and serves to prevent the escape of any of the liquid or semi-liquid contents of the container during the operation of the dasher in the performance of its function.

Having briefly outlined my improvement I will proceed to describe the same in detail, reference being made to the accompanying drawing in which is illustrated an embodiment thereof. In this drawing:

Figure 1 is a side view partly in elevation and partly in section illustrating my improvement in connection with a suitable container, the top of which is detached to facilitate clearness of illustration.

Fig. 2 is a horizontal section taken on the line 2—2, Fig. 1 looking downwardly.

Fig. 3 is a perspective view of the splash arrester.

Fig. 4 is an elevation of the dasher showing the stem partly broken away to indicate that it may be of any desired length.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the dasher proper of my improved agitating member, the same consisting of a spring coil whose convolutions decrease in circumference toward the center, the largest convolution being lowermost and the other convolutions increasing in height toward the center forming a spring coil of conical shape. As shown the convolutions are spaced only slightly, the spacing being sufficient however to permit the fitting of one convolution within the other when the coil is compressed into a single plane. This arrangement forms a nearly closed cone with a small spiral space extending throughout its surface through which the liquid or like material may pass in operation. From the center of the coil a stem 6 extends upwardly and may terminate in a hand piece 7 or 8 as the case may be. In Fig. 1 this stem consists of a single rod formed of relatively heavy wire, being the same as that used to form the dasher member 5, the upper exposed extremity being bent at right angles to form the hand piece 8. This construction is adapted for use with a splash arrester 9 which, as illustrated in the drawings, consists of a disk 10 having upwardly projecting arms 12 whose extremities are bent, as shown at 13, to engage the top of the container 14, so that when the cover 15 of the container is applied, the splash arrester is held securely in place. The disk member 10 of the splash arrester is provided with an opening 16, whereby it may be threaded upon the stem of the dasher. The top 15 of the container is also provided with an opening through which the stem passes. By virtue of these openings, the dasher may be operated by an up and down vertical movement for agitating purposes, whether the same be employed as a churn for making butter, in the making of ice cream, for washing clothes or for any other or similar purpose where agitation in the container is required. The device will be further valuable as an egg beater, as well as for mixing various substances which are in liquid or semi-liquid or plastic form.

In the form of construction shown in Fig.

4, the stem 6 is formed by twisting wire of the same size as that employed in forming the dasher, this twisted construction forming a relatively stiff stem, the top 7 being coiled to form a hand piece. Where this form of hand piece is employed there is, of course, no opportunity to apply the splash arrester of the construction shown in Fig. 3, but it is assumed that the dasher may be used in many instances, as for washing clothes, and in many other relations where the splash arrester is not needed. But it is evident that a splash arrester may be used that could be applied to the stem below the top and without threading the stem therethrough. Furthermore it must be understood that the stem connected with the dasher member 5 may be of any suitable construction that may be practicable in view of the work or function to be performed.

In the operation of the device the dasher is raised and lowered in substantially the same manner as the dasher of a churn or other similar device or article. It will be understood, however, that by virtue of the coil construction, my improved dasher is well calculated to break up the cream or other liquid or semi-liquid contents of the container, whereby the butter is separated and gathered, or the other required function performed. During the up and down movement of the dasher member 5 the liquid or semi-liquid contents of the container are allowed to pass between the various convolutions, while as soon as the lowermost convolution of the dasher reaches the bottom of the container the further downward movement of the stem forces the other convolutions downwardly to substantially the same level as the lowermost convolution, thus forcing the contents of the container out of the cone-shaped space inclosed by the dasher when in its normal position, then as the downward pressure is released, the stem automatically moves upwardly until the dasher has assumed its normal conical shape. This movement is well calculated as heretofore indicated to produce the agitation required in the performance of the various functions heretofore outlined and the slight spacing of the convolutions results in a more vigorous action.

In Fig. 1 of the drawing, I have shown a container provided with a screw cap or top 15 on the order of a Mason jar. It must be understood, however, that the invention is not limited to any shape, style, construction or size of container, as any receptacle suitable to the work which my improvement is required to do, may be employed.

Having thus described my invention, what I claim is:

The combination with a container, of a splash arrester depending within the container, and comprising a disk provided with upstanding arms having portions which engage over the top edge of the container, a cover for the container adapted to hold in position the edge-engaging portions of said arms, a centrally located aperture in said cover and a centrally located aperture in said disk, said apertures being adapted to receive the stem of a dasher to guide the same.

In testimony whereof I affix my signature.

WILLIAM KENLEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."