J. L. SAXE.

CHURN.

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1,224,798.

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Fig. 1.

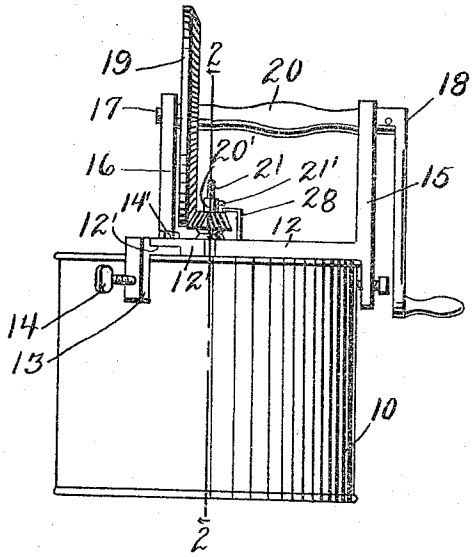


Fig. 2.

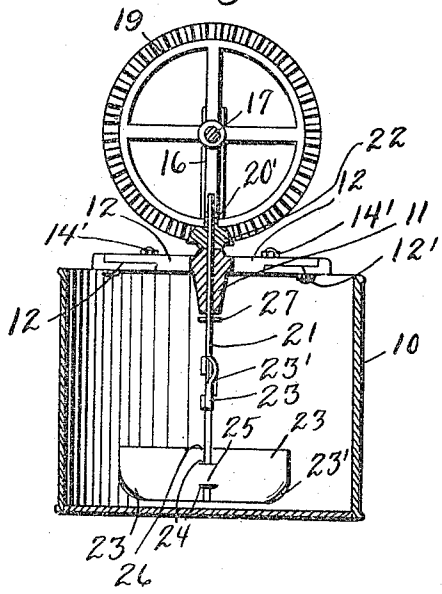


Fig. 3.

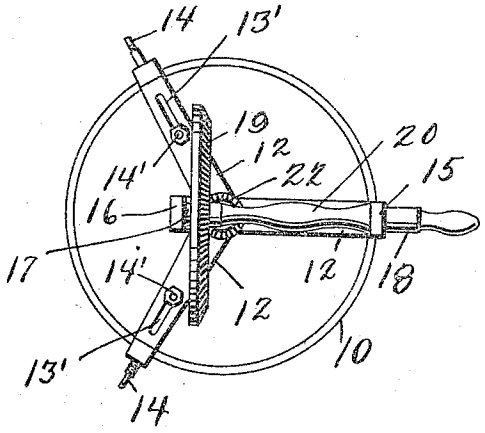
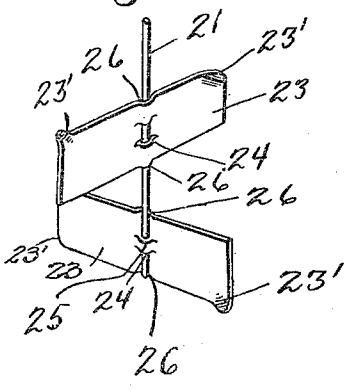


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CHURN.

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To all whom it may concern:

Be it known that I, JOHN L. SAXE, a citizen of the United States, residing at Waterbury, in the county of New Haven, State of Connecticut, have invented certain new and useful Improvements in Churns; and I do hereby 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.

This invention appertains to new and useful improvements in churns and more particularly to an improved dasher for rotary churns and also a detachable bracket support for the drive mechanism of the churn whereby the dasher can be conveniently attached to a jar or similar receptacle for use.

With the above and other objects in view, the invention consists of certain other combinations and arrangements of parts as will be hereinafter more fully described, claimed and illustrated in the accompanying drawings, in which:

Figure 1 is an elevation of the invention;

Fig. 2 is a vertical section on the line 2—2 of Fig. 1;

Fig. 3 is a top plan view; and

Fig. 4 is a detail perspective view of the dasher.

As illustrated, my improved churn is used in conjunction with a jar or similar bowl or receptacle 10 of proper size and comprises a central circular bearing member 11 having a plurality of radial arms 12 having their outer extremities provided with downwardly directed apertured portions 13 receiving adjustable set screws 14 therethrough for clamping engagement with the peripheral face of the jar or receptacle to be readily attached to or detached therefrom. One of the arms 12 is provided with an upright bearing member 15 and the bearing member 11 is provided with an upright 16, which latter bearing member rotatably receives a horizontal shaft 17 carrying on one end a removable hand grip 18 for rotating the shaft.

Carried on the inner end of the shaft 17 adjacent to the upright 16 is a large beveled gear wheel 19 and the machine is held firm by a handle 20 mounted on the shaft between the gear wheel and the upright 15. A vertical shaft 21 is rotatably mounted in the central vertical bearing member 11 and carries on its upper end a beveled pinion 22 which meshes with the gear 19 so that rotation of the latter gear through the medium of the hand crank will cause the said shaft to be rotated at an increased speed.

Mounted on the lower end of the dasher shaft 21 are a pair of dasher blades 23 the same being disposed at right angles to each other or nearly so and each comprising an elongated rectangular section of material formed with a pair of vertically spaced horizontal slots 24 producing a central clamping section 25 and upper and lower clamping sections 26 which are bowed in opposite directions to rigidly engage the shaft and to rotate therewith. In the ordinary form of wheel the turning thereof causes a rotary motion of the cream which causes disintegration of the butter-fat and in order to avoid this and impart a rolling motion to the cream in addition to the rotary motion which separates the cream from the whey and thereby cause quicker separation and to roll the butter-fat together to accomplish quicker churning of the butter, the top corners of the upper dasher blade are bent downwardly in opposite directions while the lower corners of the lower dasher blade are bent upwardly in opposite directions at 23′. By this construction, it will be readily understood that the upper dasher will throw the cream downwardly, while the lower dasher will throw the cream upwardly, thereby thoroughly agitating the cream to more effectively separate the butter fat therefrom. In order to prevent vertical displacement of the shaft 21 but still permit removal thereof, a pin 27 is inserted through the shaft below the bearing member 11.

From the foregoing description in connection with the accompanying drawings, it will be seen that I have provided a very desirable churn structure which, owing to the particular formation of the attachment parts, can be used with receptacles varying in diameter to a considerable degree while the particular formation of the dasher blades greatly facilitates the churning operation.

It will also be evident by reason of the fact that the top of the jar or receptacle is open at all times while churning, the cream can be forced into the whole mass which collects on the inner wall of the jar by the force of the dasher while churning thereby obviating the necessity of removing the churn mechanism from the jar or receptacle

until done churning and it will be apparent that there is no tub, barrel or especially constructed receptacle required.

In order to increase or provide greater adjustment for the arms 12 to meet both the different depths and diameters of cream pots, said arms are reduced in thickness at their free ends and undersurfaces as shown at 12′, while said ends are further longitudinally slotted as shown at 13′ to receive adjusting bolts 14′ at the inner ends of the adjustable portions 13 so as to lengthen or shorten the arms. The shaft 21 is also extended vertically above the pinion 22, so as to adjust the shaft and insure of the dasher being positioned close to the bottom. A keeper 28 is also carried by the bearing 11 to engage above the pinion 22 and prevent upward movement thereof and consequent jamming with the gear 19. The pinion 22 is also provided with a hub 20′ having a set screw 21′ engaged therethrough and with the shaft to hold the pinion rigid on the shaft. The pin 27 also prevents upward displacement of the shaft and dasher against the bottom of the bearing and consequent elevation of the dasher above a proper height for efficient churning of the butter.

I claim:

A churn dasher comprising a vertical shaft, a pair of flat, rectangular plates secured to said shaft intermediate their lengths and extending transversely at right angles thereto, said plates being arranged at right angles to each other and in superposed relation, the upper corners of the upper plate being bent at approximately right angles to the plane of the plate and in opposite directions, and the lower corners of the lower plate being bent at approximately right angles to the plane of the plate and in opposite directions.

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

JOHN L. SAXE.

Witnesses:

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