

J. S. HARRIS.
CHURN.

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932,274.

Patented Aug. 24, 1909.

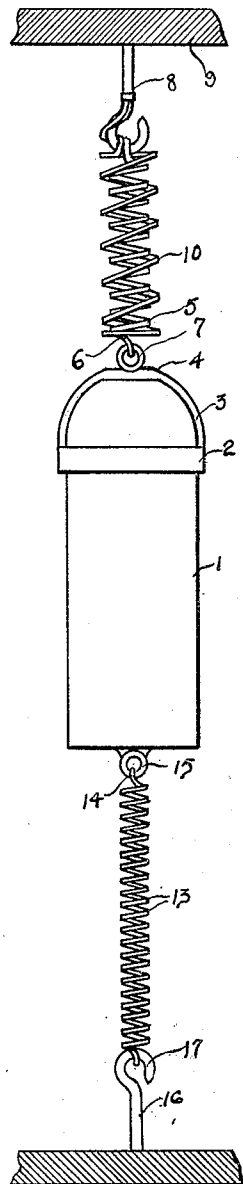


Fig. 1.

WITNESSES:
Ernest H. King.
La Vera Miller.

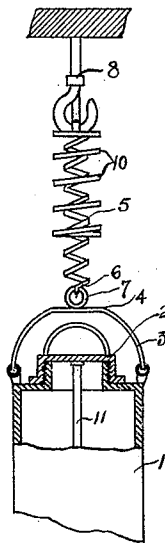


Fig. 4.



Fig. 3.

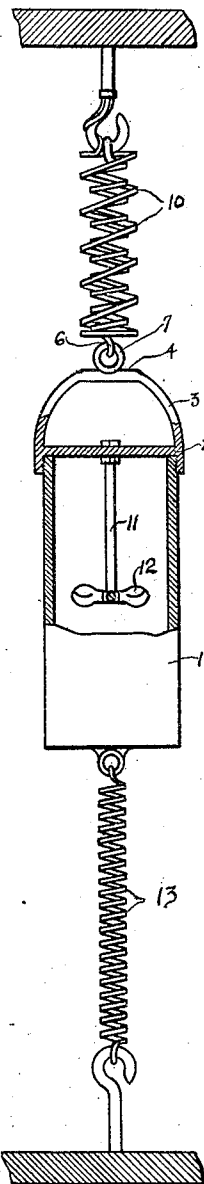


Fig. 2.

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JACOB S. HARRIS, OF HOUSTON, TEXAS.

CHURN.

932,274.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JACOB S. HARRIS, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Churns, of which the following is a specification.

My invention relates to new and useful improvements in churns and more particularly to that class of churns in which other than manual means are employed to assist in the operation of the churn.

The object of this particular invention is to provide a simple vertically reciprocating churn which may be easily operated and which will violently agitate the cream and quickly convert the same into butter.

Another feature of my invention is the simple construction which allows the churn to be readily cleaned after use.

Finally the object of the invention is to produce a device of the character described that will be strong, durable, efficient, easily operated and comparatively inexpensive to construct and one in which the several parts will not be likely to get out of working order.

With the above and other objects in view the invention has relation to certain novel features of construction and operation, an example of which is given in this specification and illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of the churn suspended between two points of attachment. Fig. 2 is a sectional side elevation of Fig. 1. Fig. 3 is a plan view of the dasher. Fig. 4 shows another form of top and bail attachment.

Referring now more particularly to the drawings, the numeral 1 designates the churn proper, 2 the lid which screws down on the churn, 3 a bail which is rigidly secured to the lid of the churn and has a flat surface 4 on top in the center of which is an eye 7 for the purpose of receiving a spring 5 which is secured to the spring snap 6 which in turn is secured to eye 7 at one end and the other end of the said spring is secured in a similar manner to a hook or eye bolt 8 which has been screwed in or to any suitable place as a beam or the ceiling 9. The bail may be non-rigidly secured to the churn proper as shown in Fig. 4.

A second spring 10 is placed over the spring 5 and secured rigidly at its upper end

to the eye bolt 8 by means of a collar or other suitable means or it may be screwed to the beam or ceiling direct, if so desired, while its lower end is free and its inner circumference is greater than the outer circumference of spring 5 thus allowing a free play between the two springs.

The lid 2 is provided with means for retaining a dasher 11 which may or may not be integral with the lid and at the lower extremity of this dasher is an agitator 12, which in my preferred form, is of such shape that when the churn is lowered quickly the cream will be whirled in one direction and when the churn is raised the cream will be whirled in the opposite direction. This result may be obtained by having the agitator constructed of spiral shaped wings, the whirls of which spiral in the same direction. This agitator may be detachably secured to the dasher rod 11 if so desired and may be adjusted on dasher rod 11 at any desired distance from the lid.

A spring 13 is provided with detachable means for securing it to the lower end of the churn 1 which is provided with an eye 15 made integral with the churn and the said spring is secured to any suitable place, as the floor, in any suitable way as by means of a screw 16 carrying an eye 17 for receiving a detachable snap carried by the lower end of said spring.

The operation of my device is as follows: Place the cream in the churn, screw the lid on securely and hook the spring 5 into the eyebolt 8 and eye 7 press down on the churn by placing the hand in the space between the bail and lid until hook 14 of spring 13 may be hooked into eye 15, the spring having formerly been fastened to eye bolt 16. Then by a gentle pressure of the hand the churn may be lowered and the spring 5 being stronger than spring 13 the churn will be raised quickly and the bail of the lid will come in contact with spring 10 at its base, the last whirls of which form a hoop. This spring being stronger than 5 assisted by the aid of the pulling force of spring 13 gives the churn a downward motion. This is repeated with practically no exertion of the operator and so agitates the cream as to prove very effective in the production of butter.

Particular attention is called to the method of constructing the churn and although a dasher is provided it is at rest with

relation to the churn and is practically integral with the lid of the churn and may be entirely so if desired.

Attention is called to the springs 10 and 5. 5
10 surrounds 5 and is enough larger than 5 to allow a free movement of each and 10 is loosely spiraled so that when the churn strikes it it will be compressed to a considerable degree and will rebound with great 10
force giving a downward motion to the churn while the spring 5 is closely spiraled for withstanding the strain of the weight of the churn and its contents and so that it will quickly resume its normal position when it 15
has been stretched.

While I have shown this specific form and described this method of operation I do not desire to be limited to either the form or construction set forth herein but wish to vary 20
same so long as the principle is not departed from.

What I claim is:—

1. In a churn, the combination with a churn body carrying outward threads at the 25
top thereof, of a lid carrying inward threads adapted to engage with the outward threads of the churn body, a bail carried by said body, an eye carried by said bail for receiving a spring, a spring secured to said eye and having 30
its other end secured to a support, a reinforcing spring also rigidly secured to said support and having its other end free within which spring said first mentioned spring operates, an eye at the base of said churn body, 35
and a spring adapted to engage said eye and having detachable engagement at its other end to an immovable body, all substantially as described.

2. In a churn, the combination with a 40
churn body, of a lid adapted to engage with said body, a bail being integral with said churn and carrying means for receiving a spring, a spring secured to said means and fixed to a support, a second spring secured 45
to said support rigidly and surrounding the first mentioned spring and having its lower end free to contact with the said churn, an

eye at the base of said churn body, a spring adapted to engage with said eye having detachable engagement at its other end substantially as described. 50

3. In a churn, the combination with a churn body, of a lid adapted to engage with the body, a bail being integral with said churn and adapted to engage with a detachable spring, a second spring surrounding the first mentioned spring attached at one end to a support and having its lower end free to contact with said churn, an eye at the base of said churn body, a spring adapted to engage 60
with said eye having detachable engagement at its lower end, all substantially as described.

4. In a churn, the combination with a churn body, of a lid adapted to engage with said body, a bail carrying means for receiving a spring, a spring secured to said means and fixed to a support, a second spring secured to said support rigidly and surrounding the first mentioned spring and having its 70
lower end free to contact with said churn, an eye at the base of said churn body, a spring adapted to engage with said eye having detachable engagement at its other end, substantially as described. 75

5. In a churn, the combination with a churn body, of a lid adapted to engage with said body, a means carried by said lid for receiving a spring, a spring secured to said means and fixed to a support, a reinforcing spring also carried by said support and disposed to operate against said lid, a means carried by the base of said churn body for securing the same to an operating device, and a means secured to the last mentioned 85
means whereby the said churn may be reciprocated vertically.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB S. HARRIS.

Witnesses:

E. E. Cook,
GEO. A. LEIGH.