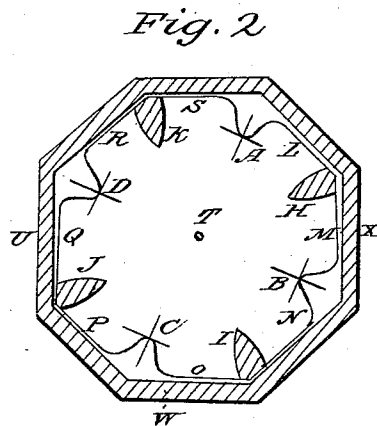
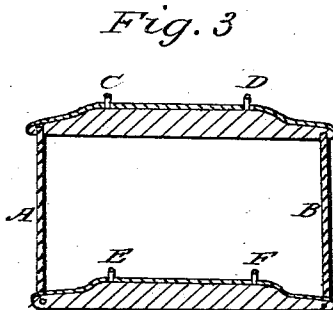
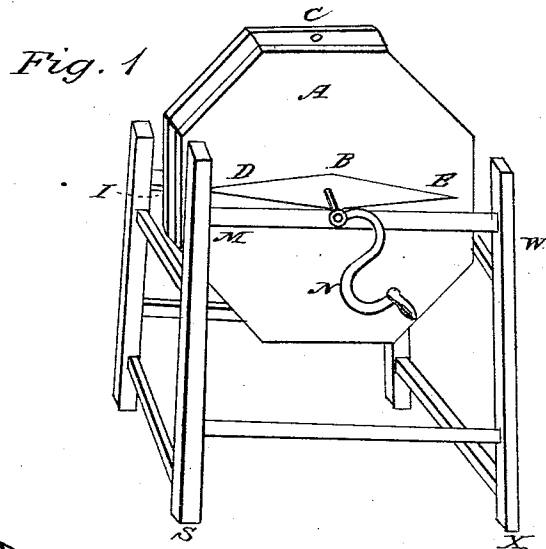


G. W. EMERSON.

Churn.

No. 64,210.

Patented April 30, 1867.



Witnesses:

G. H. Smead.  
David Lininger

Inventor:

G. W. Emerson

# United States Patent Office.

GEORGE W. EMERSON, OF PERU, ILLINOIS.

Letters Patent No. 64,210, dated April 30, 1867.

## CHURN.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE W. EMERSON, of Peru, in the county of La Salle, and State of Illinois, have made certain new and useful Improvements in Churns; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a view of the churn and frame in perspective.

Figure 2 is a section of the churn parallel with the two ends, or it may be said to show the inside of the churn when the cover A N, fig. 1, is taken off.

As will be at once seen from the drawings, the body of the churn is barrel-shaped, and rests in a horizontal position upon the frame, on which it revolves on the axis B, fig. 1. As here shown it is octagonal, but I mean to confine myself to twelve sides or more, which on the whole I consider to be the best in practice, as the corners assist to break the cream, and the churn can be made better and cheaper, as the bottom and cover can be made round as well as the surface for the hoops. For ordinary use it may be fifteen inches in diameter and ten inches deep. A N, fig. 1, is the cover of the churn, fitting, as will be seen, the whole of one end. It is so made as to fit down a little way into the churn, and at the same time to overlap the edge U W' X', fig. 2, throughout its whole extent. This cover is strengthened by the iron bar D B E, fig. 1, running crossways of the grain of the wood, and firmly attached to the cover by screws or in any other convenient way. T, fig. 2, is the iron axle on which the churn revolves. The further end passes through the back of the churn, and forms the journal on which the churn is there supported. The axle is firmly attached to the churn at this point, so that both must turn together. The other end of the axle is cut into the form of a screw, and projects far enough through the cover A N, when that is put on, to take hold of the female screw B, which turns freely in the socket formed at B by a shoulder attached to the iron bar D B E. The female screw has a head at its inner end, between the bar D B E and its shoulder B, on which it turns. The shoulder or cap B is fastened to the bar D B E by dovetailing. Then, when this female screw is made to turn upon the male screw cut on the end of T, fig. 2, the cover A N will be drawn closely against the edge of the churn U W' X', fig. 2, and held firmly in that position all the time the churn is revolved. By putting a strip of rubber or similar elastic substance between the edge and the cover, the churn will be made tight. Marks corresponding to each other on the lid and on the churn will aid in fitting the lid properly. For ordinary use I attach a common crank or handle to the female screw B, in order to screw on the cover and to revolve the churn, but if desired a pulley or wheel may be attached instead of the handle, and the churn thus be driven by any convenient power. At the top of the churn in the drawings is a small opening, C, for greater convenience in introducing hot or cold water to temper the cream. This may be closed by a plug, made to screw in or secured in any other convenient way. We come now to the inside of the churn. On taking off the cover, we find just beneath it a narrow strip of metal running completely round the inside of the churn, in the form indicated in fig. 2, at A' L M' B' N', &c. At the other end of the churn there is a corresponding strip, which is attached to the first by the wooden bars H I' J K, running from one strip to the other, thus forming a frame to support the paddle or flutter-wheels A' B' C' D', which in like manner extend from one strip to the other, and turn loosely in sockets made in the strips at A' B' C' D'. The bars H I' J K have several holes bored through them, from side to side, of about three-fourths of an inch in diameter, the more effectually to break and agitate the cream. If these bars are not used, (and it is not absolutely essential that they should be,) the two strips of metal forming the frame may be attached to each other by narrow strips of wood or metal. The frame carrying with it the several flutter-wheels may be easily drawn out of the churn when necessary for washing or any other purpose. The object of the flutter-wheels is of course to break and agitate the cream, and this they do so effectually that butter may be made by using this churn, under ordinary circumstances, in the short space of ten minutes. The flutter-wheels, it may be added, are not revolved by any part of the machine, but derive their motion from the cream falling against them, and serve to gather or roll the butter together in the centre of the churn while in motion.

Figure 3 is a rack or frame which is suspended from the back of the frame that supports the churn on pivots, one of which is at I, fig. 1, and the other out of sight behind the churn. The frame is suspended on the pivots, with one of the bars A'' B'', fig. 3, at the top and the other at the bottom.

When the operator wishes to open the churn to remove the butter, or for any other purpose, he raises the churn by taking hold of the crank or the journal B with his left hand, while with his right he reaches under the churn and grasps the lower round of the frame or rack A'' B'', fig. 3, raising that at the same time with the crank till the rack is nearly horizontal; he then transfers his left hand to the round and raises the rack as far as it will go, that is till the ends strike against the under side of the bar M W, fig. 1, where they are secured by buttons fastened to the inner sides of the posts M S and W X, fig. 1. The churn can then be lifted up and placed with the end A N uppermost on the rack A'' B'', fig. 3, between the pins or pegs C'' D'' E'' F, fig. 3, which will keep it in place. To restore the churn to a horizontal position this operation of course will be reversed. The shaft T, fig. 2, may be tinned to prevent its rusting. Where it passes through the lid the shaft is tapered about one-sixteenth of an inch.

Having thus described the construction and operation, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The churn body constructed as described, in combination with the shaft T, shown in figs. 1 and 2, with the frame, (fig. 1,) and the rack, A'' B'', (fig. 3,) substantially as specified.
2. The flutter-wheels A' B' C' and D', (fig. 2,) one or more to be used in a churn, substantially as described.
3. The combination of the blocks or bars H I' J K, (fig. 2,) one or more, with the flutter-wheels, one or more, to be used in a churn substantially as described.
4. The movable frame, (fig. 2,) composed of the strips of metal L M' N' O P Q R, connecting-bars or rods H I' J K, or equivalent, to be used in a churn substantially as described.

GEO. W. EMERSON.

Witnesses:

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DAVID LININGER.