

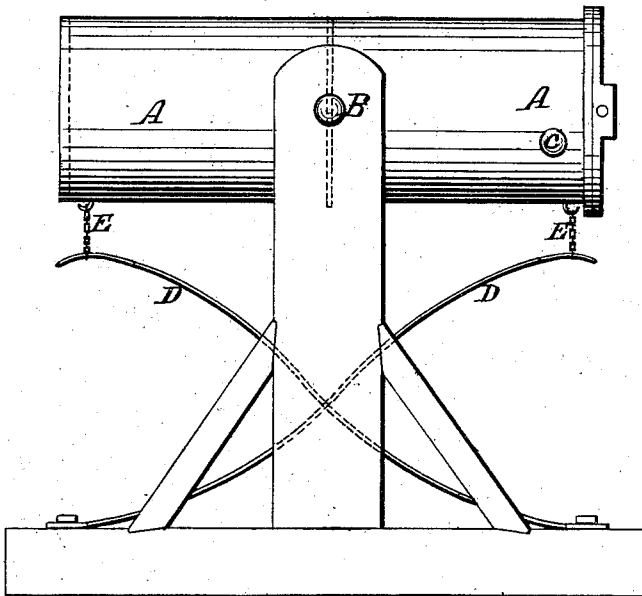
*D. F. Hitt.*

*Churn.*

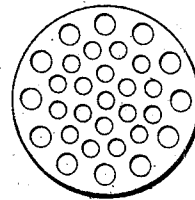
*N<sup>o</sup> 2,800.*

*Patented Oct. 7, 1842.*

*Fig. 1.*



*Fig. 2.*



# UNITED STATES PATENT OFFICE.

DANIEL F. HITT, OF GALENA, ILLINOIS.

## CHURN.

Specification of Letters Patent No. 2,800, dated October 7, 1842.

*To all whom it may concern:*

Be it known that I, DANIEL F. HITT, of Galena, in the county of Jo Daviess and State of Illinois, have invented certain Improvements in the Manner of Constructing a Churn for the Making of Butter; and I do hereby declare that the following is a full and exact description thereof.

I prepare a hollow trunk, box, or cylinder, of such capacity as may be requisite for containing the quantity of cream intended to be churned; and this I suspend, in a suitable frame, by means of gudgeons placed equidistant from the two ends of the above-named vessel, which is to receive a rocking motion on the gudgeons. Under each end of said vessel I place a spring, which may be varied in form, and may be made either of wood, or of metal. These springs are not to be in contact with the box, or vessel, that forms the body of the churn, when such vessel stands horizontally; but said body is to be brought into contact with them, alternately, when it is made to rock. By means of a strap, cord, chain, or other flexible material, I connect the ends of the body of the churn with the two springs, allowing such play, or slack, to such connecting straps, or cords, as may be found most advantageous, and which may be varied at pleasure; it is intended in general, however, that when one end of the body of the churn is brought into contact with the spring immediately under one end of it, and said spring is pressed downward, the other end shall begin to strain upon the opposite spring and draw it upward. The effect of these springs will be such as to aid the return motion of the churn after it has been depressed at one end as low as may be desired; and this is rendered the more necessary in consequence of the whole weight of the contents of the body of the churn being alternately thrown from end to end. Across the middle of the body of the churn, I place a perforated diaphragm, through the openings in which the cream is to pass in its way from end to end of the vessel; this diaphragm may be fastened in place by buttons, or in any other manner which will allow it to be readily removed and replaced.

One end, or head, of the body of the churn

is made capable of being removed, and of being securely confined in place, by wedges, screws, or otherwise, in the same way in which the covers, or lids, of barrel churns are sometimes fastened. Such openings may be made in the side, but it is deemed most convenient to make the end, or head, removable, as the contents of the body of the churn are thus left more completely at command.

In the accompanying drawing, Figure 1, is a side elevation of my churn; and Fig. 2, is a separate view of the diaphragm which is to be inserted in the middle of it.

A, A, is the cylindrical, or other formed, box, or body, for containing the cream, and this is hung on gudgeons B, on opposite sides. A handle may be placed at C, by means of which the rocking motion may be communicated to it.

D, D, are two springs, with which the two ends of the churn are to be brought into contact. These springs may be made in any form which may be preferred, and of any suitable material.

E, E, are straps, cords, or chains, by which the two springs are to be connected with the two ends of the body A, A; which straps, when brought into a state of tension will cause the two springs to coöperate in raising the depressed end of the churn.

I am aware that there is not any actual gain of power in the employment of springs in the manner designated, and they are not, therefore, used with any such view; but as the cream runs from end to end of the containing vessel, it acquires a momentum which would render the continuance of the rocking motion under the foregoing manner of suspending the containing vessel, one of much difficulty; but by means of the reaction of the springs, the momentum thus acquired is rendered available in obtaining the return motion.

Having thus fully described the manner in which I construct my churn, it is to be understood that I do not claim a rocking churn as of my invention, such having been frequently used; nor do I claim the suspending of the vessel which is to contain the cream, on gudgeons at its center; the bodies of revolving churns having been so suspended, and the contents having been

allowed to fall from end to end by the rotary motion given to such body; but—

What I do claim as constituting my invention, and desire to secure by Letters  
5 Patent, is—

The manner in which I have combined the respective springs with the body of a churn which is to receive a vibrating motion upon gudgeons, by so arranging them as that

they shall alternately be acted upon by such 10 vibratory motion, and shall by their conjoint reaction, in this combination, tend to raise the depressed end of the churn, as herein fully set forth.

D. F. HITT.

Witnesses:

THOS. P. JONES,  
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