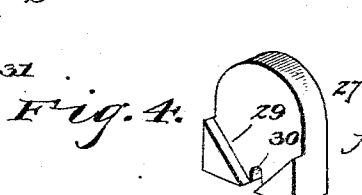
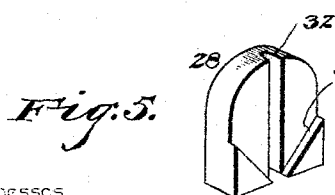
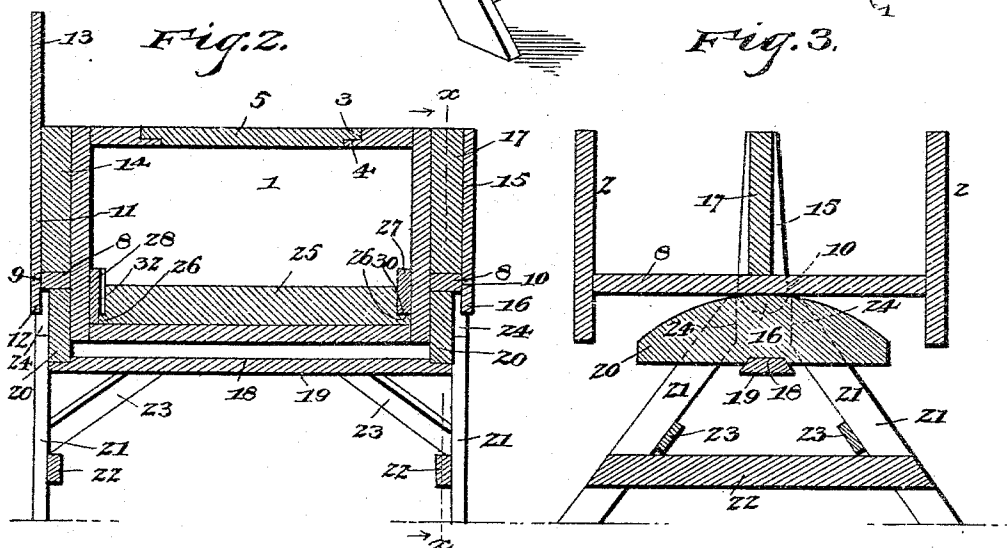
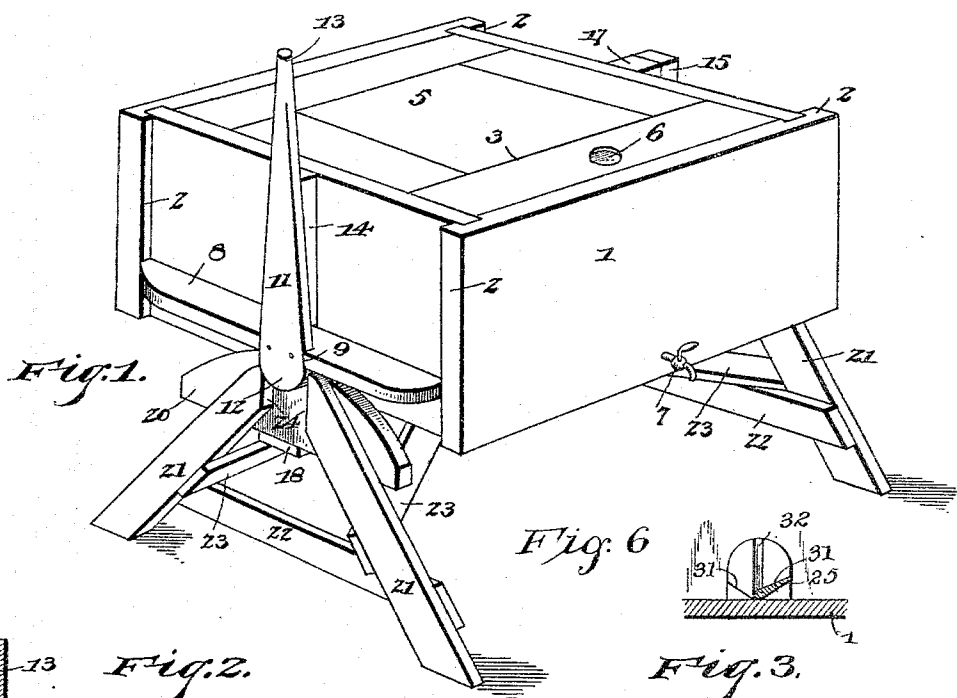


(No Model.)

M. HANSON.
CHURN.

No. 531,928.

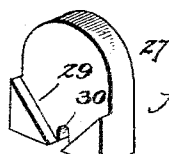
Patented Jan. 1, 1895.



Witnesses
O. S. Ober.

J. B. Omer.

By his Attorneys.



Inventor
Mads Hanson

Cashow & Co.

UNITED STATES PATENT OFFICE.

MADTS HANSON, OF BLAIR, WISCONSIN.

CHURN.

SPECIFICATION forming part of Letters Patent No. 531,928, dated January 1, 1895.

Application filed June 6, 1894. Serial No. 513,683. (No model.)

To all whom it may concern:

Be it known that I, MADTS HANSON, a citizen of the United States, residing at Blair, in the county of Trempealeau and State of Wisconsin, have invented a new and useful Churn, of which the following is a specification.

The invention relates to improvements in churns.

The object of the present invention is to simplify and improve the construction of churns, and to provide one capable of rapidly effecting the production of butter.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the accompanying drawings: Figure 1 represents a perspective view of a churn constructed after the manner of my invention. Fig. 2 is a longitudinal section. Fig. 3 is a cross-section on the line $x-x$ of Fig. 2. Fig. 4 is a detail perspective of one of the blocks for retaining the butter and cream agitating wing. Fig. 5 is a similar view of the remaining block. Fig. 6 is a detail sectional view, illustrating the manner of mounting the automatically oscillating wing or plate.

The body of the churn consists of an approximately square box 1, having its ends projecting slightly beyond its sides to form the flanges 2, while its top is provided with an opening 3, formed with a rabbet-groove 4 therein, in which groove the lid 5 is arranged so as to lie flush with the upper surface of the body.

6 indicates an observation opening, which is provided with a glass cover, through which opening the attendant may see into the churn and view the contents thereof.

By means of the usual cock 7 the liquid contents of the churn may be withdrawn.

Rigidly secured to the sides of the body 1, and at a point slightly above the bottom thereof, are the cleats or ledges 8, which are one for each side of the churn and which extend to the flanges 2, to which they are rigidly connected. Formed in the middle of the cleats 8, and at the outer edges thereof, are the openings 9 and 10, respectively. In the opening 9 the vertical bar 11 is arranged, and this bar has its lower end extended slightly

below the cleat 8 and rounded to form the semicircular projection 12; while its upper end projects above the top of the body to form the operating handle 13.

14 indicates a beam or block which is arranged between the bar 11 and the side of the churn, and which has for its purpose to assist in rigidly securing the bar in place.

The opening 10 is provided with the bar 15, which is similar to the bar 11, with the exception of the handle 13, which is not present in the bar 15. The bar 15 is provided with the rounded projection 16, similar to the projection 12, and with the block or beam 17, similar to the block or beam 14.

The body-portion of the churn is mounted upon the base 18, which consists of a transverse bar or beam 19, rigidly secured at its ends to the segmental plates 20. This connection is effected by mortising, as will be understood.

Rigidly secured to the outer sides of the plates 20, and two for each of said plates, are the legs 21, which extend downwardly and outwardly from the plates and are provided with the horizontally-extending braces 22. The braces 22 extend from one leg to another, and are rigidly connected to their respective legs.

23 indicates four additional brace-rods, which extend diagonally from the legs 21 to the beam 19, and which is rigidly connected to all. The upper ends of the legs 21 are provided with the bias faces 24, which, owing to the inclined position of the legs 21, extend approximately vertically and which are arranged a distance apart equal to about the width of the rounded projections 16 and 12. The spaces between these faces 24 are adapted, respectively, to receive the projections 16 and 12, while the convex upper faces of the segmental plates 20 are adapted to engage the under sides of the cleats 8. By this arrangement the body of the churn is mounted upon the base 18 so as to be capable of easy oscillatory movement, and this movement is limited by the operation of the extensions 12 and 16 in their respective spaces between the faces 24.

The butter and cream agitating wing, which I arrange within the body-portion 1, consists of a plate 25, formed with a thickened lower edge, and with the trunnions 26 formed at

each end thereof and at the said lower edge. These trunnions are respectively adapted to operate with the retaining blocks 27 and 28, rigidly secured to the sides of the body on the interior thereof and at its bottom.

The block 27 is formed with an angular recess 29 therein, and with an opening 30 arranged at the center point from which said recess 29 radiates. In this opening 30 one of the trunnions 26 is loosely seated. The block 28 is formed with an angular recess 31 therein, and with a vertical slot 32, said slot extending from the base of the recess 31 to the upper end of the block 28, and has for its purpose to permit securing the wing 25 in place, the lower end of the slot 32 being adapted to form a bearing for the remaining trunnion 26. The purpose of the recesses of the bearing blocks 29 and 31 is to provide opposite steps to limit the oscillations of the wing 25 within the sector described by said recesses and to maintain the wing or plate 25 at an inclination, in order to insure its automatic operation. To place the wing 25 in position, one of the trunnions 26 should first be inserted in the opening 30, whereupon the remaining trunnion should be moved down the slot 32 until the lower end thereof is reached. This will effect the mounting of the wing 25 which is characteristic thereof.

In the use of my invention, the body-portion 1 is mounted upon the base 18, and filled with the cream to be churned; after which the lid 5 is placed over the opening 3, and secured thereon by any approved means. The body should now be rocked by means of the handle 13, which will result in a movement of the cream from one side of the churn-body to the other, and over the wing 25, causing said wing to oscillate in unison with the movements of the cream. This operation of the churn will, as is well understood, result in transforming the cream into butter, whereupon the operation of churning is complete.

In the separation of the butter from the residue, buttermilk, the body should be rocked quickly, which will result in a violent agitation of the butter and in its contact with the wing 25, thus forcing the separated particles of butter to adhere and causing the buttermilk which may be therein to be forced out.

It is obvious that various changes in the form, proportion and structural details of the churn may be resorted to without departing from my invention. For example, it is not essential that the base 18 be given the peculiar detailed form shown in the drawings; all that is necessary being that the segmental plates 20 be provided and supported and attended by the bias faces 24 of the legs 21, or their equivalents. Many other such changes may be made and will readily suggest themselves to skilled mechanics, and I, therefore, wish it understood that I am entitled to all such variations.

Having described the invention, what I claim is—

In a churn, the combination with an oscillating churn body, of the opposite bearing blocks mounted therein and located at the bottom thereof and provided with angular recesses forming opposite inclined shoulders or stops, one of the blocks being provided with a bearing opening and the other having a vertical slot, and the automatically oscillating blade provided at its ends with trunnions removably arranged in the bearing opening and the groove of the bearing blocks, said plate having its ends located in the angular recesses between the opposite shoulders, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MADTS HANSON.

Witnesses:

A. J. HALVORSON,
PETER T. HERSEID.