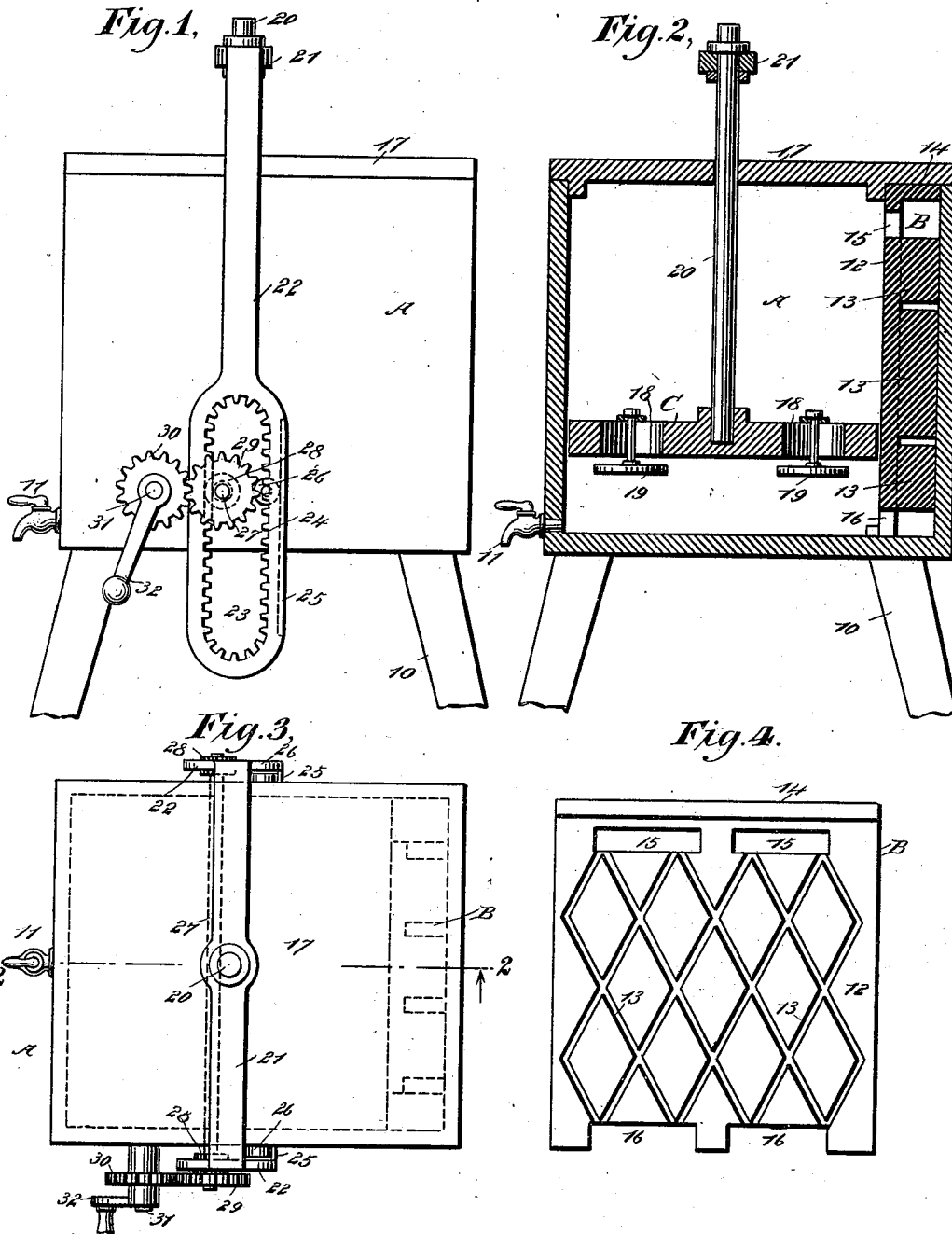


(No Model.)

H. OBERMEYER.  
CHURN.

No. 560,528.

Patented May 19, 1896.



WITNESSES:

Edward Thorpe,  
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# UNITED STATES PATENT OFFICE.

HENRY OBERMEYER, OF BEATRICE, NEBRASKA.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 560,528, dated May 19, 1896.

Application filed June 7, 1895. Serial No. 552,016. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY OBERMEYER, of Beatrice, in the county of Gage and State of Nebraska, have invented a new and useful Improvement in Churns, of which the following is a full, clear, and exact description.

My invention relates to an improvement in churns; and the object of the invention is to provide a churn of exceedingly simple, durable, and economic construction, and one wherein a vertically-reciprocating dash will be employed, the dash being provided with valves closing on its downstroke; and a further object of the invention is to provide within the churn an agitating-compartment, from which the liquid will be forced and by means of which the butter when it is made will be assembled upon the upper face of the dash, thereby enabling it to be readily removed.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved churn. Fig. 2 is a vertical section through the same, taken practically on the line 2 2 of Fig. 3. Fig. 3 is a plan view of the churn, and Fig. 4 is an inner face view of the wall of the agitating-compartment detached from the body of the churn.

In carrying out the invention the body A of the churn is of box-like construction, being of any desired dimensions. Usually it is rectangular in general contour and is supported by legs 10, being provided at its bottom with a faucet 11 for drawing the milk therefrom, and within the said body at one side an agitating-compartment B is constructed, and the said compartment consists of a vertical wall 12, adapted to extend from one side of the churn-body to the other, having strips or ribs 13 upon its inner face arranged to form, substantially, a series of diamond or baffle partitions forming the side walls of a series of intersecting channels, as shown in Fig. 4, and at the top of this wall a horizontal flange 14 is constructed, which is adapted for engagement with the inner wall

of the body of the churn, as shown in Fig. 2, while at the top, preferably at each side of the center of the said wall 12, openings 15 are made, which communicate with the spaces or channels between the ribs 13 of the said wall, and corresponding openings 16 are produced in the bottom portion of this wall, being at the floor of the body of the churn. A cover 17 is fitted on the top of the body, being removable therefrom, and within the said body a dash C is held to reciprocate, being loosely fitted to the walls of the body, as shown best in Fig. 2. This dash is provided with two or more openings 18, fitted each with a valve 19, the valves closing on the downstroke of the dash and opening on the upstroke. The dash is provided with a stem 20, which is carried up loosely through an opening in the cover 17 and through a cross-bar 21, the said cross-bar being a predetermined distance above the cover of the body, and it is secured at each end to a pitman 22. These pitmen extend downward, one at each side of the body of the churn, and are enlarged at their lower ends, the enlarged portions having longitudinal openings 23 made therein, the upper and lower walls of the openings being circular or concaved, and in the entire wall of each opening teeth 24 are constructed, while at one side of the enlarged portion of the pitmen upon their inner faces a vertical rib or flange 25 is built, the said flange or rib being near one side edge of each pitman, as best shown in Figs. 1 and 3.

Friction-rollers 26 are made to engage with the flanges 25 of the pitmen, and the said flanges are of less length than the slots or openings in the pitmen. A shaft 27 is journaled, preferably, upon the bottom of the churn-body, extending from side to side, and the said shaft is provided at each end with a pinion 28; the pinions being in mesh with the teeth 24 in the pitmen, and the shaft at one end is further provided with an attached gear 29, meshing with a gear 30, secured upon a short shaft 31, located at one side of the churn, and this shaft is rotated by means of a crank-arm 32 or the equivalent thereof.

In the operation of this churn, by turning the crank 32 the pinions will travel in the teeth of the pitmen-slots 23, making the circuit of said slots, and consequently the pit-

men have a side movement as well as a vertical movement when the teeth of the pinions are traveling in the teeth at the ends of the said openings 23, and since the flanges 25 are  
5 of less length than the openings 23 the flanges will pass the friction-rollers 26 both at the extreme upstroke of the pitmen and likewise at the termination of the downstroke, the  
10 friction-rollers engaging alternately with opposite sides of the flanges, serving to guide the pitmen in their vertical movement. Under this construction it is evident that a continuous vertically-reciprocating movement is  
15 imparted to the dash, and that but little exertion will be required to operate the churn. On the downstroke of the dash the liquid will be forced through the agitating compartment or chamber B, and when the butter comes at  
20 the said downstroke of the dash it will be forced with the milk out through the upper openings 15 in the agitating-compartment and will form on the dash, accumulating thereon, while the milk will pass down through the  
25 valved openings on the upstroke of the dash, at which time these valves are opened.

It is evident that the actuating mechanism herein set forth is applicable to various forms of machines and need not necessarily be restricted to a churn.

Having thus described my invention, I 30  
claim as new and desire to secure by Letters Patent—

1. A churn provided with a vertically-reciprocating dash, and an agitating-compartment formed within the body of the churn, 35  
having baffle-partitions forming the side walls of a series of intersecting channels and upper and lower openings communicating with said channels, substantially as set forth.

2. A churn the body of which is provided 40  
with an agitating-compartment extending practically from side to side and from top to bottom of the body, the said agitating-compartment being provided with baffle-partitions upon its inner face forming the side walls 45  
of a series of intersecting channels, and upper and lower openings communicating with said channels, a dash held to vertically reciprocate within the said body, provided with valves closing on the downstroke of the dash, and 50  
means, substantially as shown and described, for imparting vertical movement to the dash by exteriorly-located mechanism, as and for the purpose specified.

HENRY OBERMEYER.

Witnesses:

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HERMANN F. STUTHEIT.