

(No Model.)

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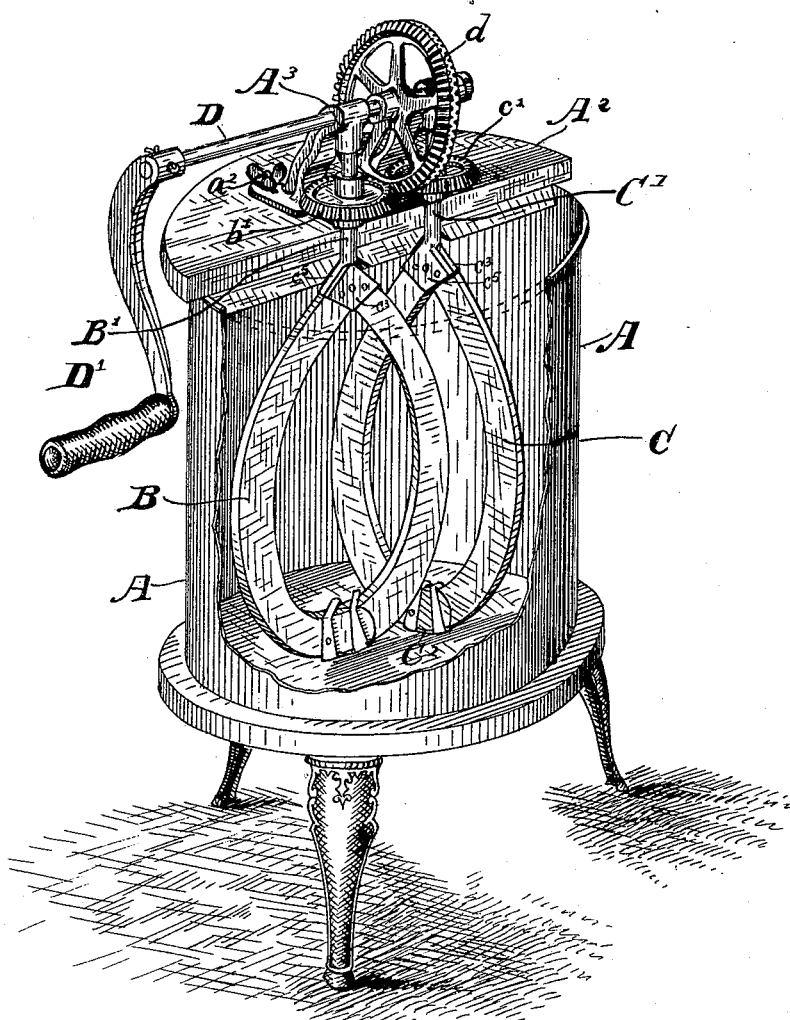
W. F. CORNELIUS.

CHURN.

No. 386,575.

Patented July 24, 1888.

*Fig. 1.*



WITNESSES.

*Cha<sup>s</sup> N. Leonard,*  
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PER

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(No Model.)

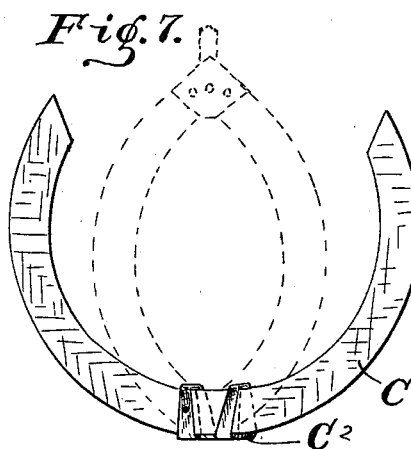
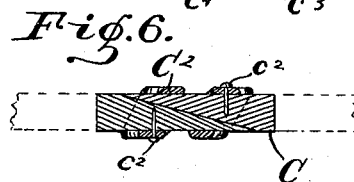
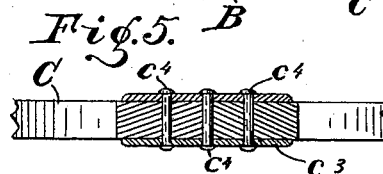
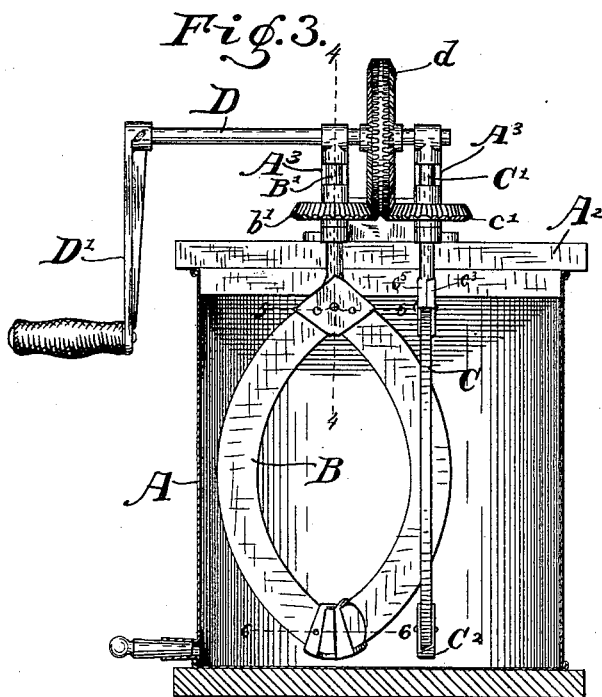
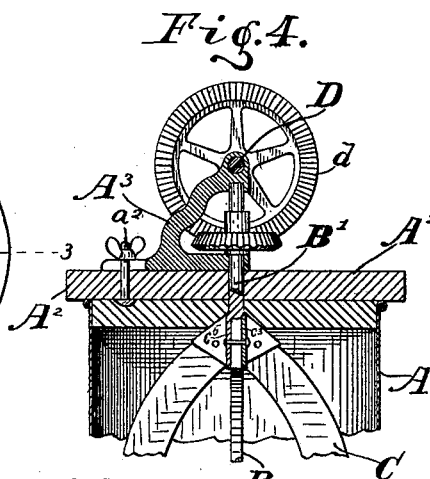
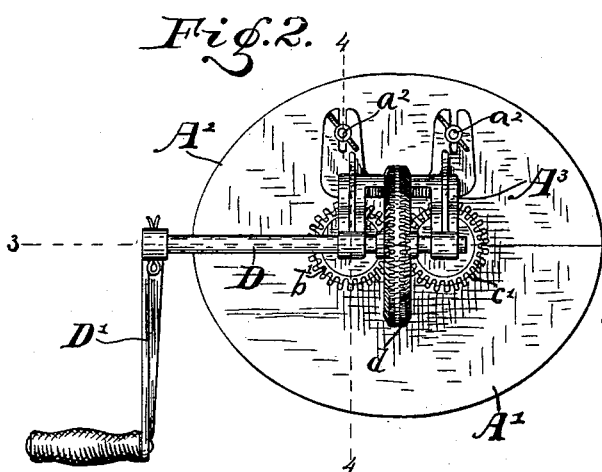
2 Sheets—Sheet 2.

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WITNESSES.

Cha<sup>s</sup> Leonard.  
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*Fig. 8.*



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# UNITED STATES PATENT OFFICE.

WILBER F. CORNELIUS, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO DAVID  
L. WHITTIER, OF SAME PLACE.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 386,575, dated July 24, 1888.

Application filed August 27, 1887. Serial No. 248,025. (No model.)

*To all whom it may concern:*

Be it known that I, WILBER F. CORNELIUS, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain  
5 new and useful Improvements in Churns, of which the following is a specification.

My said invention consists in various improvements in the construction and arrangement of details, whereby a very convenient and  
10 efficient churn is provided, as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar  
15 parts, Figure 1 is a perspective view of a churn embodying my said invention, one side of the body being broken away and the cover portion of the top removed to show the interior; Fig.  
2, a top or plan view; Fig. 3, a central vertical  
20 sectional view looking upwardly from the dotted line 3 3 in Fig. 2; Fig. 4, a transverse vertical sectional view looking toward the right from the dotted line 4 4 in Figs. 2 and 3;  
Fig. 5, a detail horizontal view looking downwardly from the dotted line 5 5 in Fig. 3; Fig.  
25 6, a similar view looking downwardly from the dotted line 6 6; Fig. 7, a view of one of the dashers separately, illustrating the method of its construction; and Fig. 8, a perspective  
30 view of the clip by which the bottom ends of the two sides thereof are held together.

In said drawings, the portions marked A represent the churn-body, B C the dashers,  
and D the crank-shaft.

35 The body A may be of any desired construction. It is, however, preferably oval in horizontal section, as shown, as this form brings the dashers nearer to its sides in operation than any other which is practicable. Its top is divided into two parts, one of which, A', is  
40 removable for the usual purposes of a cover, and upon the other one of which, A'', is mounted the casting A<sup>3</sup>, in which are bearings for the shafts of the dashers and the crank-shaft. This  
45 casting is secured to the top portion, A'', by bolts a<sup>2</sup>, which are secured in said top portion and pass up through slots in feet on this casting, as shown. (See particularly Figs. 2 and  
50 4.) This casting and all the gearing, as will be noticed, are entirely above the top of the churn and away from all liability of contact

with the cream, and being all secured to a single and independent part of the cover or top, is easily removed and handled when desired.

The dashers B and C are hollow ovals mounted upon vertical shafts B' C', which pass up through the churn top and rest in bearings in the casting A<sup>3</sup>. On these shafts B' C' are the bevel-pinions b' c', which mesh with a double-  
55 faced bevel gear-wheel, d, on the crank-shaft D, and are driven thereby. The dashers are so arranged relatively to each other that as they turn the edge of one will pass into the open central space in the other, thus permit-  
60 ting them to work closer together than they otherwise could, and insuring the greatest possible amount of agitation within the limits of the structure. The dashers themselves are of peculiar construction. Illustrating, now, the  
65 dasher C, (and the dasher B is precisely the same,) and referring particularly to Figs. 5, 6, 7, and 8, two curved bars (preferably bent wood) are first taken, their lower ends mitered,  
as shown in Fig. 6, and then inserted alongside  
70 of each other in the clip C<sup>2</sup>, as shown by the full lines in Fig. 7. The small pins or nails c<sup>2</sup> are driven in and the upper ends are forced together, as shown by the dotted lines in said  
75 Fig. 7 and by the full lines in the other figures, and then secured to the shaft C'. This shaft C' is extended into a plate, c<sup>3</sup>, at its lower end, and a corresponding plate, c<sup>3</sup>, is provided to fit against the other side of said upper ends  
80 of the curved bars, as shown, and the whole is secured together by bolts or rivets c<sup>4</sup>. As the  
85 upper ends of the bars are forced together after their lower ends have been inserted in the clip C<sup>2</sup>, said clip is bent up to bind against and securely clamp said lower ends together, as  
90 will be readily understood. This construction is not only cheap and simple, but also firm and rigid, and the dashers being set at right angles to each other permits the dash-shafts to be  
95 brought nearer to each other than the diameter of one of said dashers.

The crank-shaft D is mounted in its bearings in the casting A<sup>3</sup>, and has mounted thereon, between said bearings, the double-faced gear-wheel d, and on its outer end the crank D'.  
100 There should be no collars on this shaft to limit its movement endwise through the bear-

ings, it being sufficiently held to position by its contact with the bevel-pinions *b' c'*, for, the design being to leave the gear-wheels without accurate finish, a slight play is desirable, so  
5 that they may accommodate themselves to each other should there be any slight irregularities, as there commonly are in castings.

The operation is as follows: The several parts being in operative position, as shown in  
10 the principal figures of the drawings, the part *A'* of the top is removed and the cream poured into the churn. The dashers are then rapidly revolved by means of the crank *D'* and intermediate mechanism. When the operation of  
15 churning has been finished, the contents are removed from the churn, as usual, the dashers and operating mechanism being first removed, if desired, by simply lifting off the part *A'* of the top, which leaves the churn  
20 entirely free from all mechanism either upon the inside or outside.

I am aware that churns of a similar general construction have been made before, and I  
25 therefore limit myself to the particular construction and arrangement of parts herein shown and claimed.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a churn, of a dasher 30 consisting of two curved pieces secured together at the bottom by a clip, *C'*, which they enter alongside of each other and at the top to a plate, *c'*, formed on the end of a shaft, and the means, substantially as described, for driv- 35 ing said shaft, whereby said churn is operated, substantially as set forth.

2. The combination, in a churn, of a dasher composed of two curved sides, and the clip *C'*, for securing their lower ends together, formed 40 to receive said lower ends when their tops are open and to clamp said lower ends when their tops are closed, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 45 28th day of June, A. D. 1887.

WILBER F. CORNELIUS. [L. S.]

Witnesses:

C. BRADFORD,  
CHARLES L. THURBER.