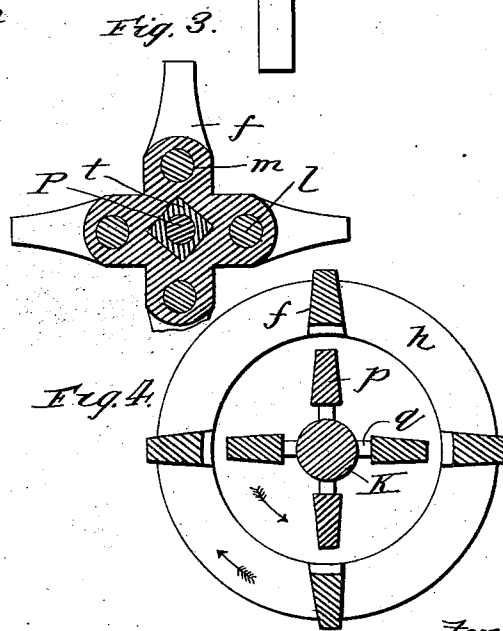
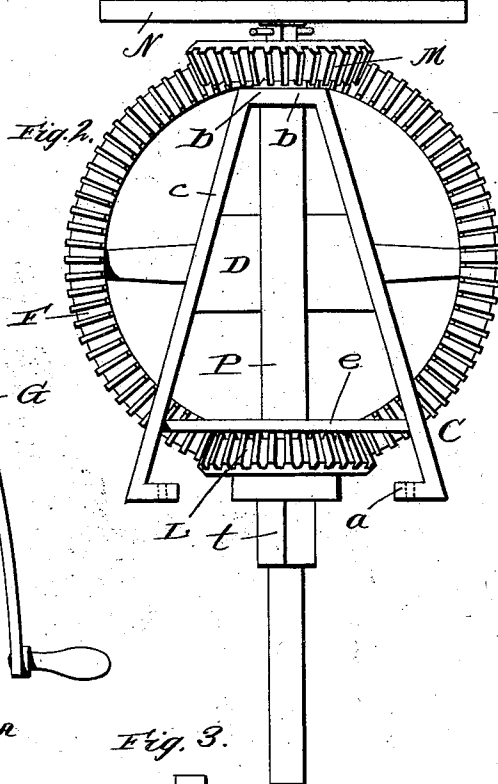
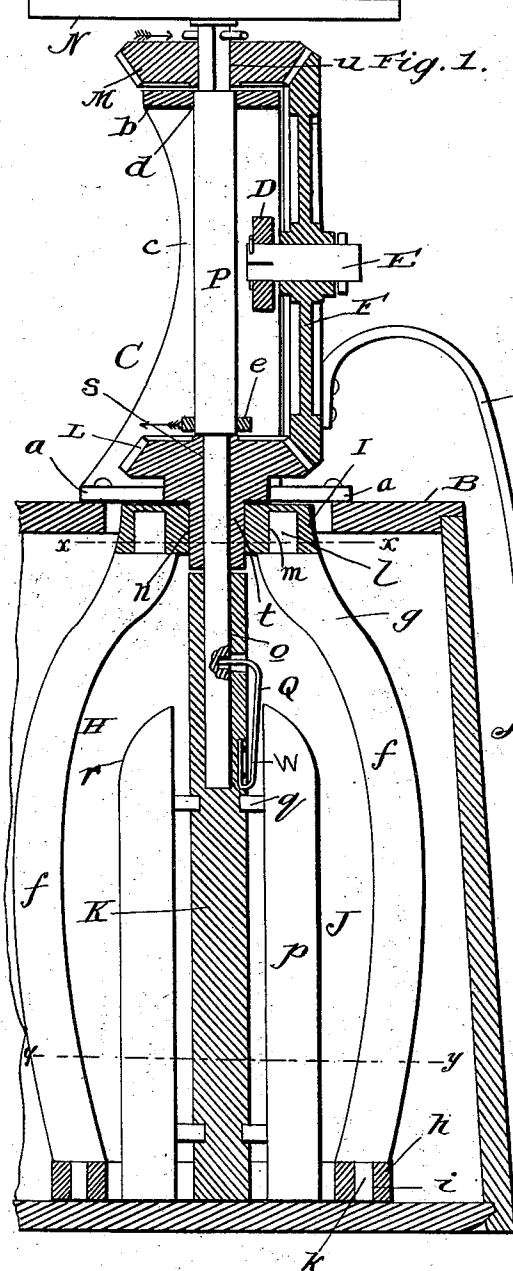


(No Model.)

C. A. LORENZ.
CHURN.

No. 531,440.

Patented Dec. 25, 1894.



Witnesses:
Chas. P. Ruder
W. F. Matthews.

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UNITED STATES PATENT OFFICE.

CHARLES A. LORENZ, OF REYNOLDSVILLE, PENNSYLVANIA.

CHURN.

SPECIFICATION forming part of Letters Patent No. 531,440, dated December 25, 1894.

Application filed May 9, 1894. Serial No. 510,604. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. LORENZ, a citizen of the United States, residing at Reynolds-ville, in the county of Jefferson and State of Pennsylvania, have invented certain new and useful Improvements in Churns; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
10 pertains to make and use the same.

This invention relates to improvements in that class of churns known as rotary double dasher, and the novelty will be fully under-
15 stood from the following description and claim when taken in connection with the annexed drawings, in which—

Figure 1, is a vertical, central, sectional view of my improved churn. Fig. 2, is a side view of the operating mechanism and supporting
20 frame removed from the churn body. Fig. 3, is a horizontal sectional view taken in the plane indicated by the dotted line *x, x*, on Fig. 1. Fig. 4, is a similar view taken in the plane indicated by the dotted line *y, y*, on same
25 figure.

Referring by letter to said drawings:—A, indicates a churn body, which may be of a cylindrical or other suitable form in cross sec-
30 tion, and is provided with a cover B.

C, indicates a frame for sustaining the oper-
35 ating mechanism: This frame is of a form substantially as shown, and comprises the horizontal base *a*, the horizontal top or cross bar *b*, and the two vertically oblique bars *c*,
40 connecting the base and top. This frame may be secured to the churn top B, in any suitable manner. The top B, of the supporting frame is provided with a vertically disposed circular aperture *d*, and the base is also provided
45 with an aperture for the passage of the dasher rod, and the frame is provided at a suitable altitude with a cross bar *e*, which is also pro-
50 vided with an aperture to receive and guide said rod or shaft.

D, indicates a horizontal bar arranged on one side of the frame C, and about the center thereof. This cross bar has secured to it, a laterally disposed, horizontal shaft E, and on this shaft is the master wheel F, which is
55 of a beveled-toothed construction and carries an operating crank handle G.

H, indicates the outer dasher. This dasher comprises four, more or less, blades *f*, which are parallel for the greater portion of their length and are curved inwardly at their up-
60 per ends as shown at *g*. These blades are let into a ring *h*, at their lower ends as shown by providing the ring with holes *i*, and the blades with tenons *k*. The blades are also tenoned at their upper ends as shown at *l*, and are let
65 into apertures *m*, formed in a head I. This head I, which receives the upper end of the outer dasher blade, is provided with a central, vertical, angular aperture *n*, for a purpose which will presently appear.

J, indicates the inner dasher. This inner dasher comprises a central stem K, having a vertically-disposed socket *o*, at its upper end, and four, more or less, dasher blades *p*, se-
70 cured to the stem by short arms *q*. These inner blades are arranged opposite each other in pairs and their upper ends are curved or beveled on their outer sides as shown at *r*, and preferably in a manner corresponding to the inner curvature of the outer dasher blades.
75 The dasher J, is designed to be placed within the dasher H, and may be passed into the same from below upwardly through the ring *h*. The ring of the outer dasher may bear upon the bottom of the churn, and the inner
80 one will move within said ring.

L, indicates a beveled pinion or gear. This gear is arranged horizontally and in mesh with the operating or master gear F. The gear L, is provided with a central circular ap-
85 erture *s*, for the passage of a dasher shaft, and it is furthermore provided with a depending angular portion or boss *t*, which takes through the angular aperture *n*, of the outer dasher head I.

M, indicates the upper horizontal bevel gear. This upper gear is placed above the cross bar
90 *b*, of the frame C, and is provided with a central angular aperture *u*, to receive the upper end of the dasher shaft P. This dasher shaft
95 which has the bevel gear M, secured to it, is of a circular form in cross section where it passes through the lower bevel gear so as to rotate therein, and the upper bevel gear is also in mesh with the drive gear F. On the
100 upper end of the dasher rod is secured a balance wheel N, which may be connected there-

with in any suitable manner. The stem of the inner dasher is provided with a lateral aperture through the socket portion and through this aperture passes a spring Q, which is designed to also enter a recess in the dasher rod and secure the inner dasher thereto. The spring is secured at its opposite end to the dasher rod K, as shown at H.

A churn constructed as described has been found very effective in operation. There is nothing about it to get out of order and the parts are so combined that they will permit of being readily disconnected so as to be easily taken apart and cleaned.

Having described my invention, what I claim is—

The improved churn described, comprising a suitable body, the frame C, constructed as shown, the drive gear F, arranged vertically and journaled in said frame and having the operating handle, the dasher rod, the upper horizontal bevel gear secured to said rod, the lower horizontal bevel gear receiving the dasher rod, and having an angular depending

portion and both gears in engagement with the drive gear, the outer dasher, having the ring at its lower end, the blades rising from the ring and curved at their upper ends, and the head secured to the upper curved ends of said blades and having an angular aperture to receive the angular depending portion of the lower horizontal gear, the inner dasher having the central stem provided with a socket at its upper end and a lateral aperture, and also having the blades beveled at their outer upper ends, and arranged within the outer dasher, the dasher rod secured to the inner dasher by the spring and the balance wheel on the upper end of the dasher shaft, all combined and adapted to operate, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. LORENZ.

Witnesses:

M. M. DAVIS,
E. NEFF.