

O. F. MONFORT.

CHURN

PATENTED JUL 11 1871

116855

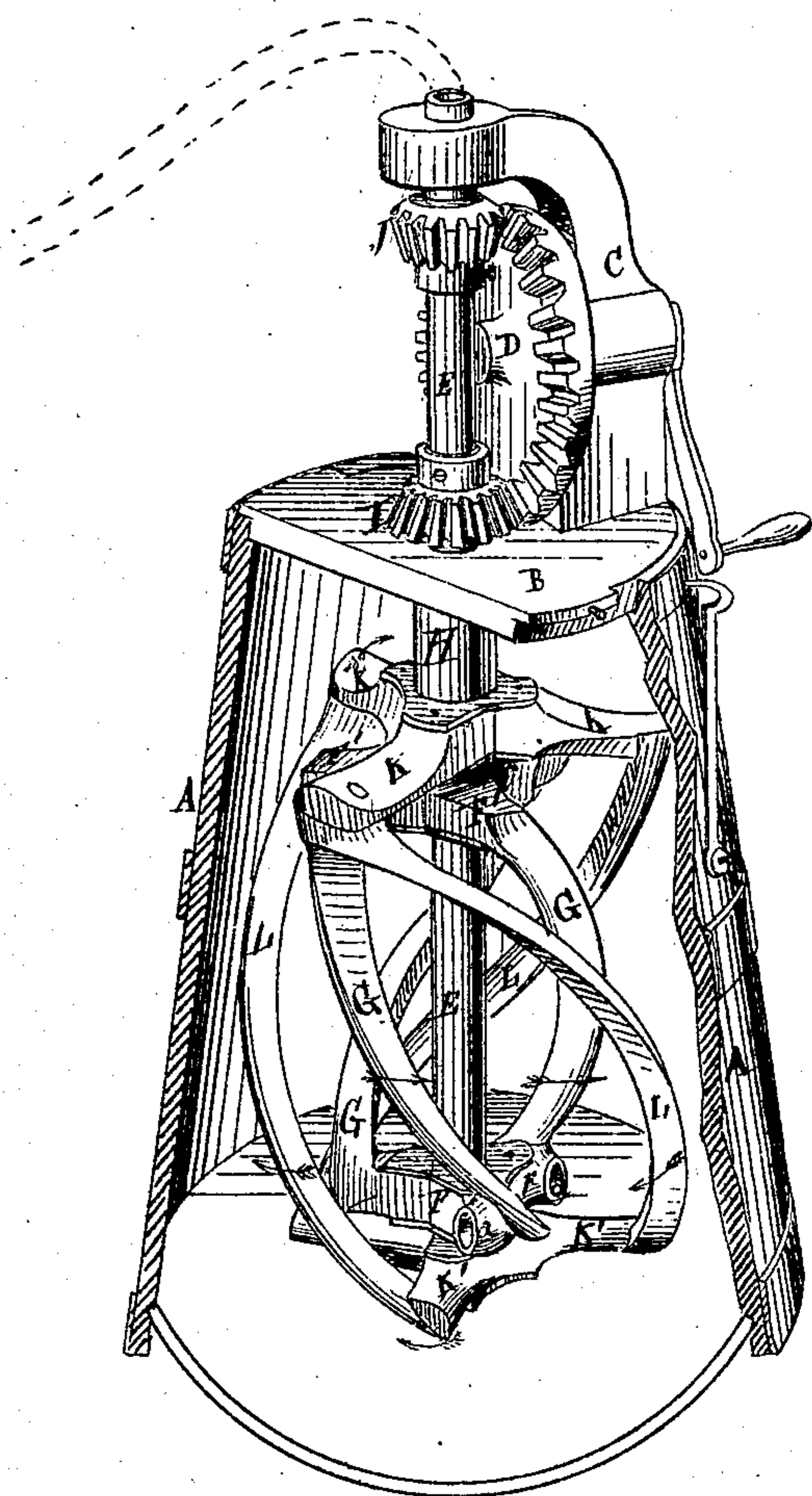


Fig. 1

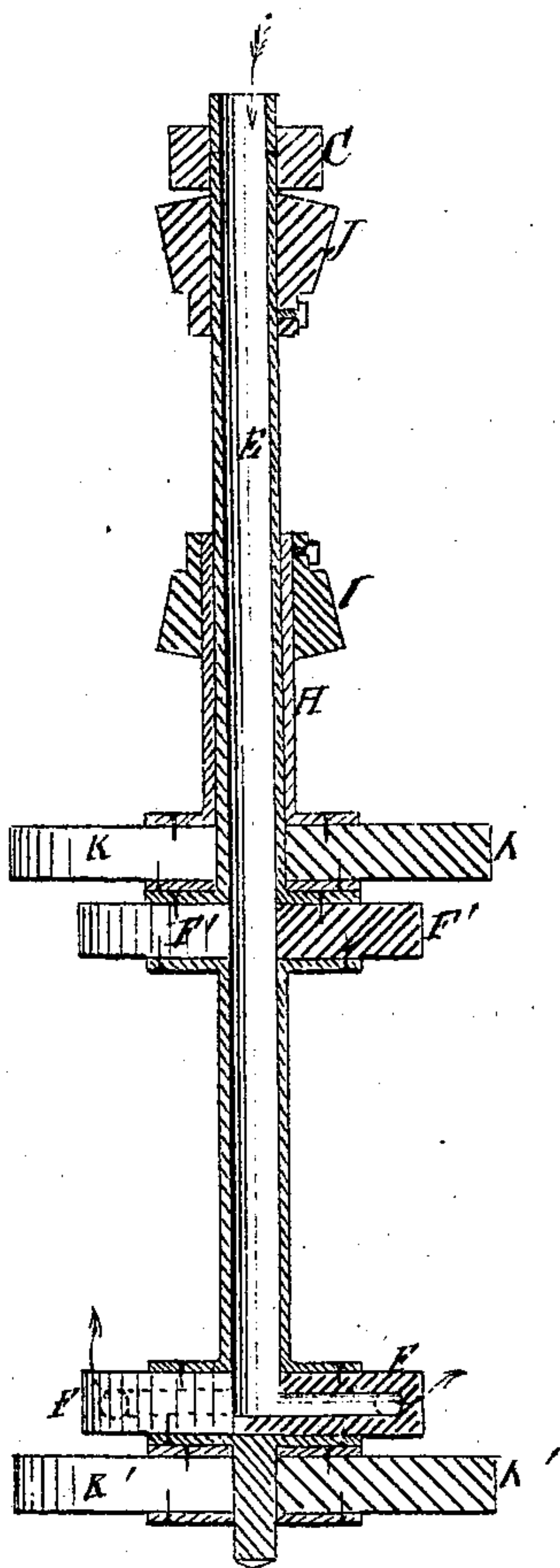


Fig. 2

ATTEST:

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# UNITED STATES PATENT OFFICE.

OSCAR F. MONFORT, OF DEARBORN, MICHIGAN.

## IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. 116,855, dated July 11, 1871.

*To all whom it may concern:*

Be it known that I, OSCAR F. MONFORT, of Dearborn, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Churns; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view of my improvement with portions of the churn-walls broken away, and Fig. 2 is a vertical section through the tube and sleeve and their connections.

Like letters refer to like parts in each figure.

The nature of this invention relates to an improvement in the construction of that class of churns wherein rotary dashers or beaters are employed to break up the fatty globules of the cream to liberate the butter; and it consists in the novel and peculiar arrangement of a pair of spiral beaters, and the mechanism for rotating them in opposite directions, combined with the peculiar construction of a hollow-armed beater-hub and its arrangement with relation to a tube which constitutes its shaft, whereby air is constantly drawn down and forced into the cream during the operation of churning, and the general arrangement of the various parts, as more fully hereinafter set forth.

In the drawing, A represents the churn-body, and B a cover, in sections, held down by suitable hooks. At the periphery of the larger section is erected a standard, C, having journaled through it a horizontal shaft provided with a crank on its outer end, and carrying at the inner a bevel-gear, D. E is a hollow shaft or tube, vertically journaled at the top through an overhang of the standard C, passing down through the cover to the bottom of the churn, its extremity being provided with a solid spindle, which is received in a suitable step in the center of the bottom of the churn. This tube has secured to it, near the lower end, a hub from which radiate three hollow arms, F, communicating with the interior of the tube. An orifice, *a*, is located on the rear side and near the extremity of each arm. Above is located another hub from which radiate three solid arms, F', the upper and lower arms being connected by spiral blades, G. H is

a sleeve on the shaft E, carrying on its upper end a bevel-pinion, I, meshing with the gear D, which also gives motion, but in the opposite direction, to the shaft E through a pinion, J, as shown. The sleeve passes through the cover, a hub being secured to its extremity from which radiate three arms, K, above those of the shaft E. From the extremities of the arms K a corresponding number of spiral blades, L, springs downward and has secured to its lower extremities the arms K' of a similar hub, which rotates on the spindle of the shaft E; in other words, the spiral blades L inclose the blades G, both receiving a simultaneous rotation in opposite directions, the effect of which is to produce a violent agitation of the cream, breaking up the fatty globules to set free the butter, which process is still further accelerated by the ebullition produced by the volumes of air discharged into the cream through the orifices in the arms F, the air rushing down the tube E to fill the vacuum behind the perforated arms in their rotation. In cold weather the churn may be set near a cook-stove and a bent pipe may be inserted in the top of the tube, and its other end carried into the oven of the stove, and thus deliver warmed air to the cream, if necessary. Such a pipe is shown in outline in the accompanying drawing. Warm water may be also added to the cream, while in the process of churning, through the tube E, to accommodate the whim of such as believe in its efficacy in butter-making.

I am well aware that churns have been used with two dashers or beaters rotating or reciprocating in opposite directions, and while I disclaim the invention of such,

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

The arrangement, in a churn, of the tubular shaft E, hollow arms F, solid arms F', and spiral beaters G, the sleeve H, arms K and K', spiral blades L, and pinions I and J, rotated by the gear D, all constructed and operating substantially as described and shown.

O. F. MONFORT.

Witnesses:

H. F. EBERTS,  
MYRON H. CHURCH.