

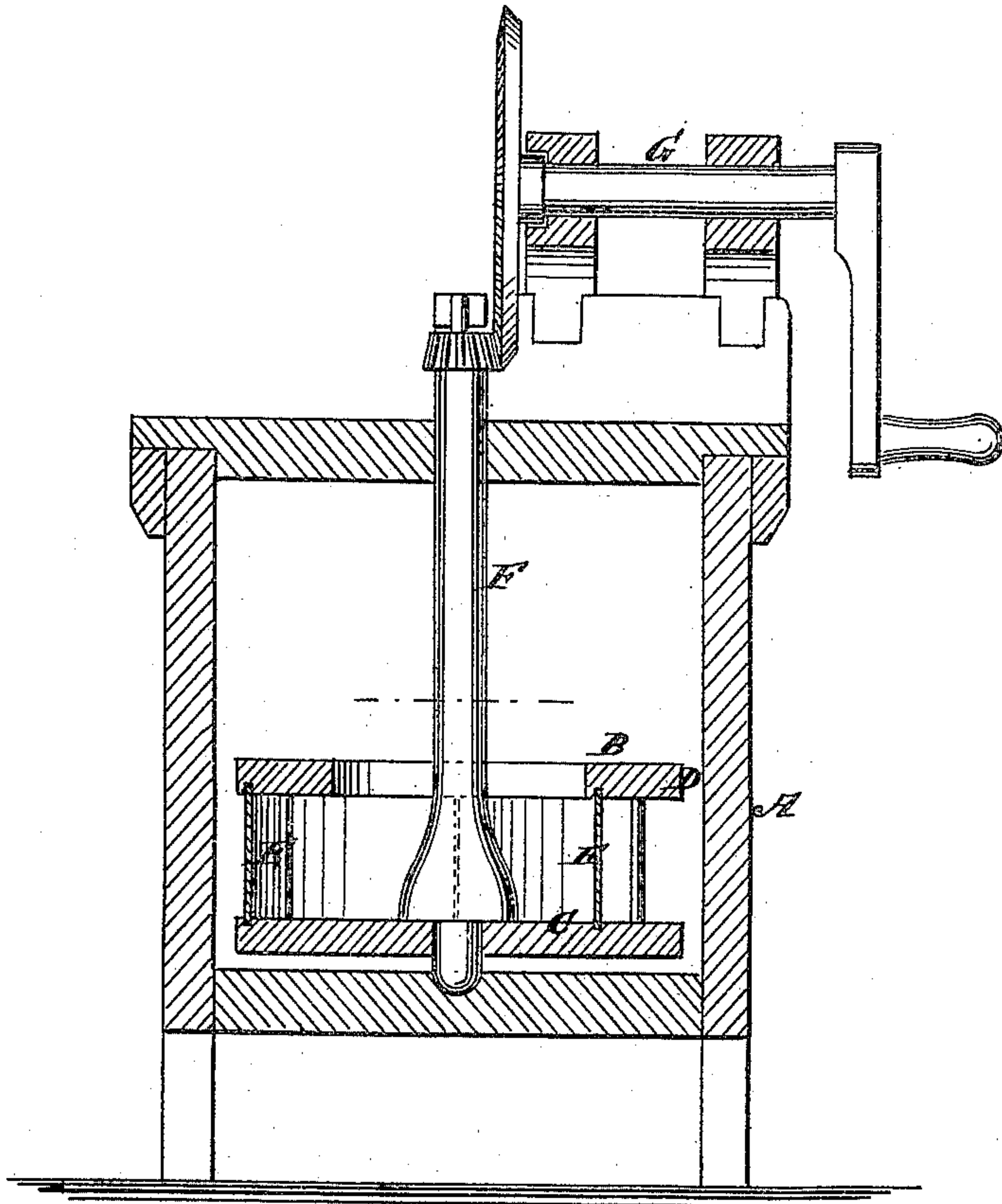
D. L. EPPERSON.

CHURN.

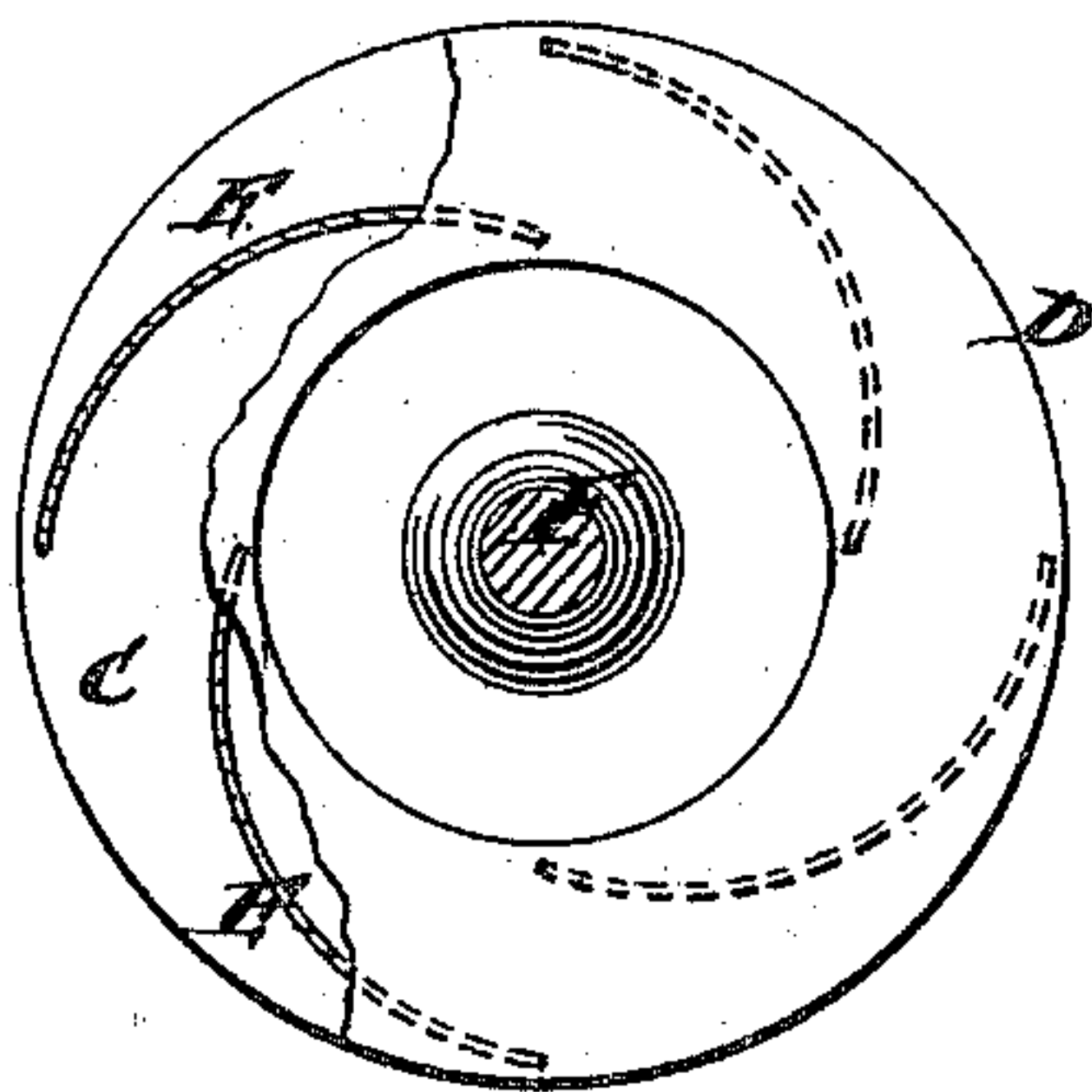
No. 172,405.

Patented Jan. 18, 1876.

*Fig. 1*



*Fig. 2*



WITNESSES:

*E. W. H. J.*  
*A. H. Terry*

INVENTOR:

*D. L. Epperson*

BY

*M. W. H. J.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

DAVID L. EPPERSON, OF MILL SHOALS, ILLINOIS.

## IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. 172,405, dated January 18, 1876; application filed May 15, 1875.

*To all whom it may concern:*

Be it known that I, DAVID L. EPPERSON, of Mill Shoals, White county, Illinois, have invented a new and Improved Churn, of which the following is a specification:

This invention consists of a dasher in the form of a reaction water-wheel, which receives the water at the center of the top and discharges it at the periphery, the dasher being geared with a crank-shaft, so as to be rapidly revolved, and thus cause the cream to flow rapidly and continuously into the wheel at the top, through and out of it at the periphery, and back to the top, by which it churns the cream into butter in a very short time.

Figure 1 is a sectional elevation of my improved churn, and Fig. 2 is a horizontal section of the wheel.

Similar letters of reference indicate corresponding parts.

A is a case of any approved form, in which is the dasher B, which consists of a disk, C, at the bottom of the shaft, a ring, D, a short distance above it, and the cycloidal buckets E, between the ring and the disk, all connected to the shaft F, which is geared with the hand-crank G, to be revolved.

I am aware that a dasher drawing up milk at the bottom by suction, and then expelling

it centrifugally from the rod out through the sides, is not new; but the effect of my device is very different from this. As the globules of butter are lighter than milk, they must take position in the upper portion of liquid, and, in the case referred to, cause a current to be drawn down over the sides of dasher to the bottom. Thus a current from the sides of dasher is brought out at right angles to a vertical current, the two thus interfering with, retarding, and neutralizing each other. On the other hand, I draw the upper stratum of milk, containing the butter-globules, into a central hole at top, and eject it centrifugally at the sides, from whence it rises again to the top, and is again drawn down, thus entirely avoiding cross-currents. I have tried suction both at top and bottom experimentally, and found that the result was markedly different; hence

What I claim is—

A rotary churn-dasher formed of disk C, curved buckets E, and the top ring D, to indraw the cream centrally at top and force it through curved side apertures at the side, as and for the purpose specified.

DAVID L. EPPERSON.

Witnesses:

D. T. SMITH,  
WM. J. SMITH.