J. MASTEN.

Churns.

No. 143,919. Patented Oct. 21, 1873.

Fig. 1.

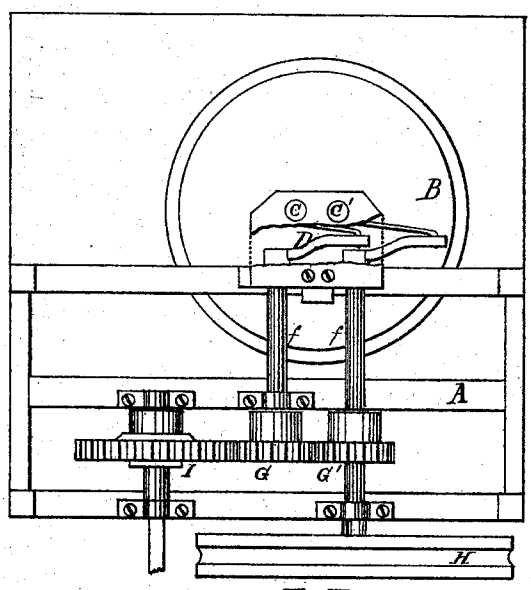
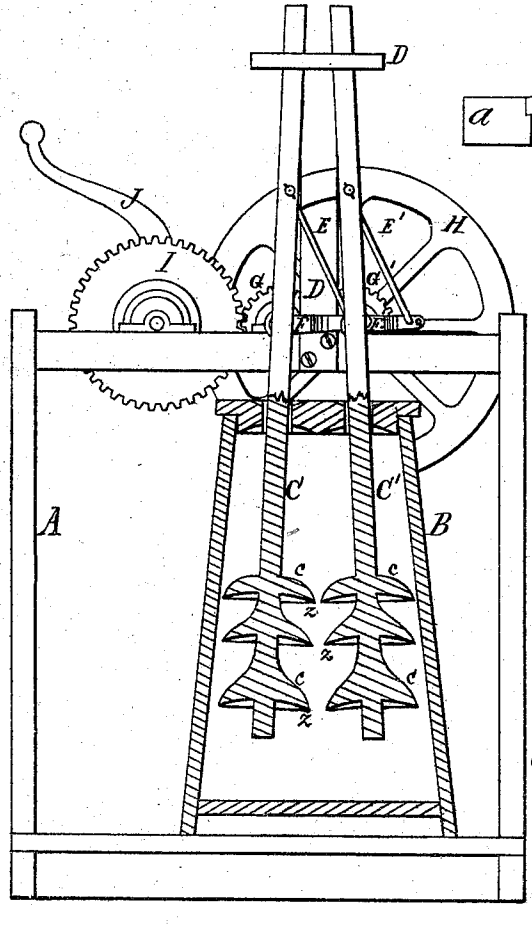


Fig. 3.

Fig. 2.



Witnesses.

Chas. B. Steele

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UNITED STATES PATENT OFFICE.

JOHN MASTEN, OF LEE, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO J. P. COE, OF SAME PLACE.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **143,919**, dated October 21, 1873; application filed June 14, 1873.

To all whom it may concern:

Be it known that I, JOHN MASTEN, of Lee, in the county of Athens and State of Ohio, have invented a new and valuable Improvement in Churns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of my improved churn by a plan view. Fig. 2 is a vertical central section through the churn.

This invention has relation to churns; and it consists in the construction and novel arrangement of the oblique dasher-rods, inclined toward each other at the top, and from each other at the bottom, whereby the dashers are better spaced, and accommodated in an ordinary tapering churn-barrel; of the series of concavo-convex disks on each rod, forming the dashers; of the bent crank-arms, whereby the pitmen connecting with the dash-rods are brought into the vertical position; and of the gearing and fly-wheel, in connection with the double dash, as hereinafter more fully described.

In the accompanying drawings, the letter A indicates a frame, on the floor of which a churn, B, of the ordinary tapering form is placed. C C′ indicate the two dash-rods, inclined toward each other upward, and provided at their lower or divergent ends with the concavo-convex disks *c*, arranged one above another, with the convex sides upward, and with sharply-beveled edges *z* directed somewhat downward—a form especially adapted for the rupture of the butter capsules or cells. The dash-rods C C′ pass through the top of the churn, and above through a guide-stand, D, on the frame A. On the stand D journal-seats are provided for the shafts *f f′* of the wheels G G′, which gear with each other, and for the shaft of the large gear-wheel I, which gears with the wheel G. These three wheels are arranged in line, the shaft of the first, I, being provided with the power-crank J, and that of the last, G′, having the fly-wheel H connected therewith. This arrangement of the small gearing between the fly and the large power-wheel I, also a fly-wheel, is very advantageous for securing a steady movement. To the ends of the shafts *f f′* next the churn are secured the cranks F F′, each of which is steadied on the end of its shaft by means of a stout thimble or collar, *a*, and is bent in its shank outward toward the dash-rods. The ends of these cranks are connected to the dash-rods by the pitmen E E′, which are, by means of the bent cranks, brought into the vertical position, thereby avoiding an off-pressure, which would have a tendency to slant the dash-rods outward, creating undue friction, and interfering with the proper operation of the dashers.

The formation of the concavo-convex dasher-disks favors the rising of the same, and the introduction of air into the cream by their descent. The alternate up-and-down movement of the dashers prevents, in a great measure, the lifting and splashing, and at the same time creates a thorough agitation of the cream.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a churn, the two dasher-rods C C′, diverging from each other at their lower ends, and provided with dashers *c*, and operated by alternate up-and-down strokes, substantially as specified.

2. The arrangement of the wheels I G G′ with the bent cranks F F′, and connecting-rods E E′, working in a vertical plane, the fly H, and the double dash-rods C C′, all as herein shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN MASTEN.

Witnesses:
J. P. COE,
A. PALMER.