(Model.)

D. T. BRUCK.

CHURN.

No. 282,047. Patented July 31, 1883.

Fig. 1.

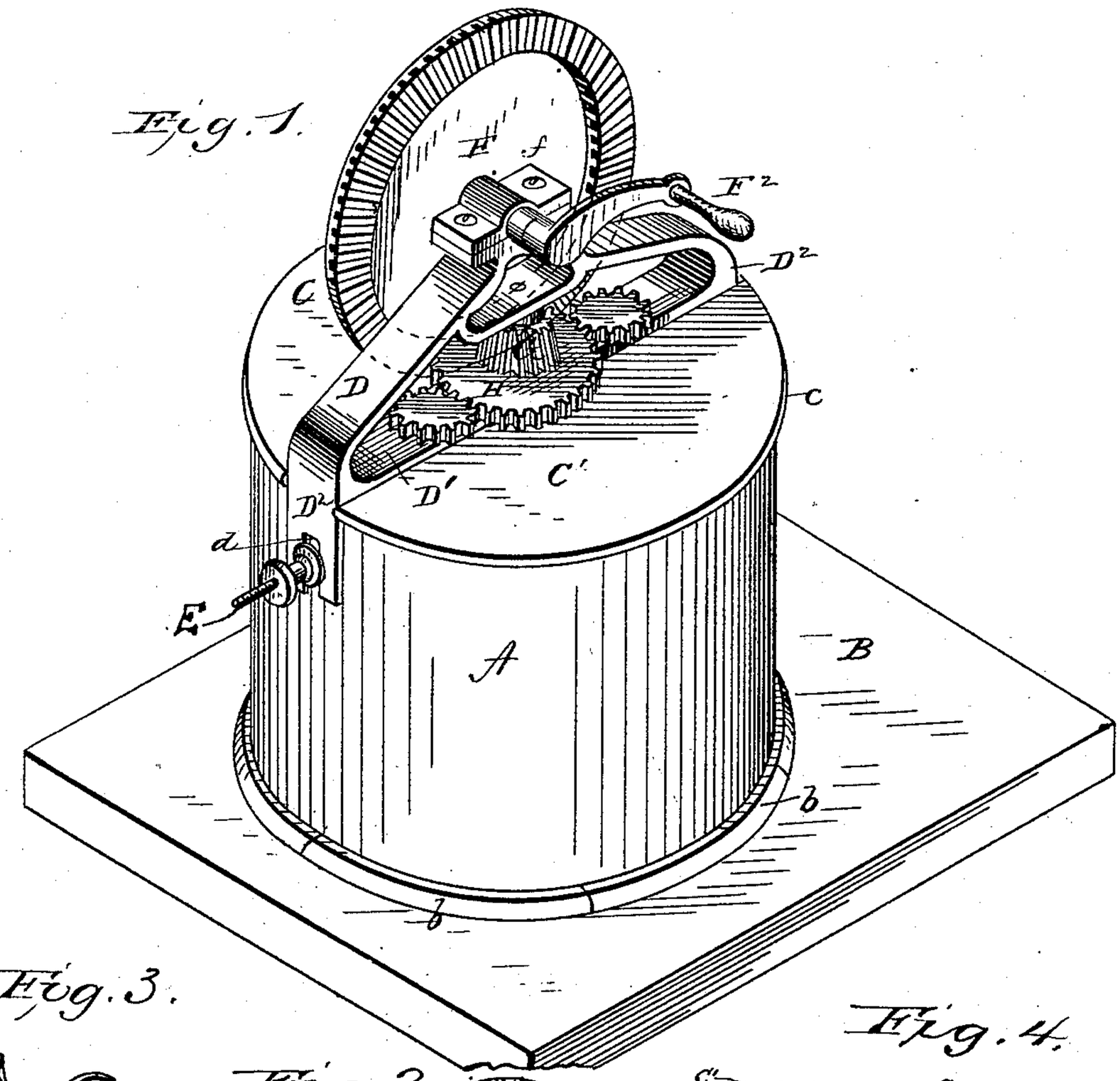


Fig. 3.

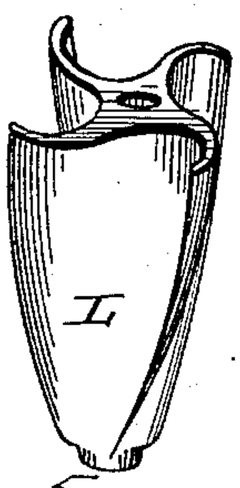


Fig. 5.

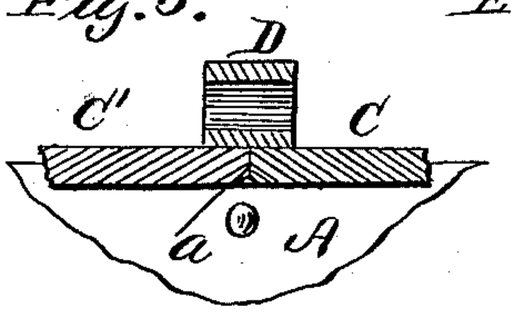


Fig. 2.

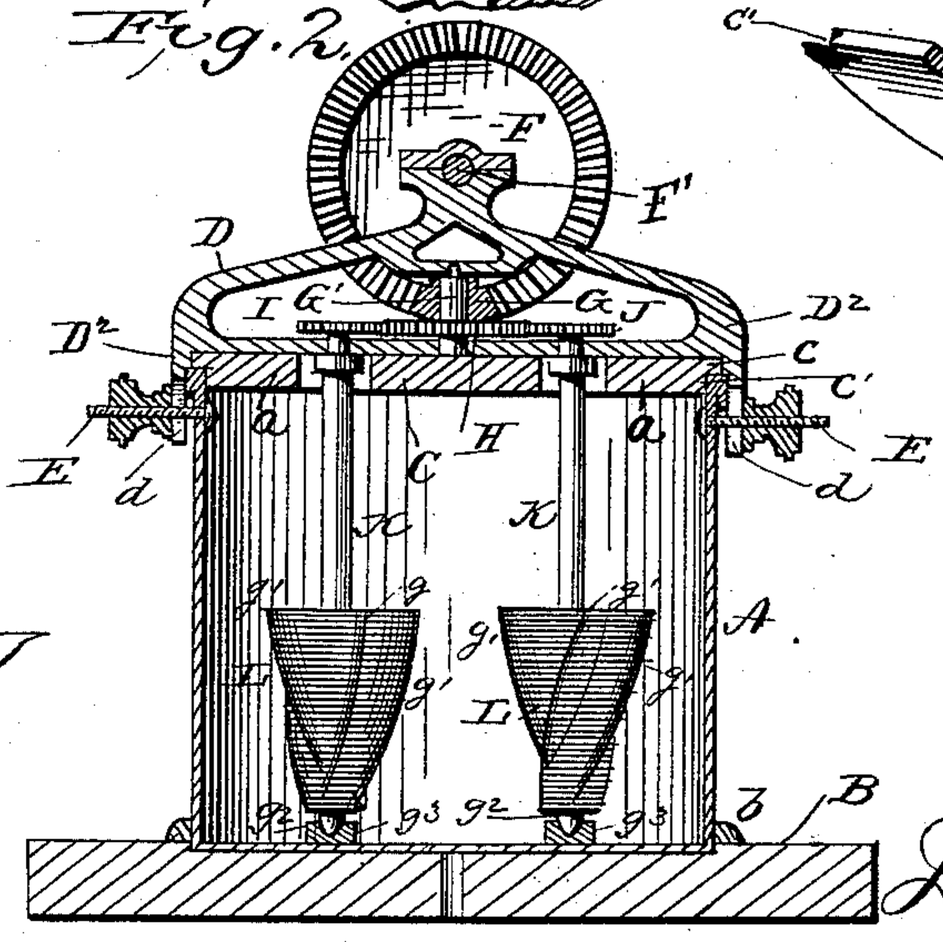
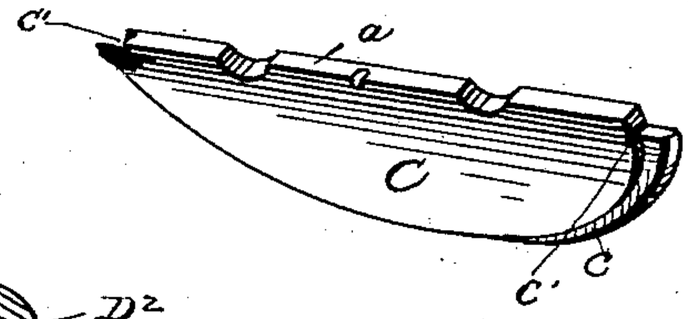


Fig. 4.



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UNITED STATES PATENT OFFICE.

DAVID T. BRUCK, OF MARIONVILLE, MISSOURI, ASSIGNOR OF ONE-HALF TO GEORGE L. BROWN, OF MANSFIELD, OHIO.

CHURN.

SPECIFICATION forming part of Letters Patent No. 282,047, dated July 31, 1883.

Application filed March 29, 1883. (Model.)

To all whom it may concern:

Be it known that I, DAVID T. BRUCK, a citizen of the United States, residing at Marionville, in the county of Lawrence and State of Missouri, have invented a new and useful Churn, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to rotary churns; and it consists in certain improvements in the construction of the same, as will be hereinafter fully set forth, and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 represents a perspective view of a churn equipped with my improvements. Fig. 2 represents a vertical section of the same. Fig. 3 represents a view of one of the dashers detached. Fig. 4 represents a detail view of one of the cover-sections; and Fig. 5 represents a detail sectional view taken at right angles of Fig. 2, showing the manner in which the cover fits under the frame.

The same letters refer to corresponding parts in all the figures.

Referring to the drawings, A designates the churn-body, which is made cylindrical in form and of any desired size. The said churn-body is mounted on a suitable base, B, having circular pieces *b*, serving to protect and hold the churn in place. The churn is provided with a cover formed in two parts, C C′, and each part of the cover is formed with a semicircular flange, *c*, fitting over the rim of the churn-body, and a notch, *c′*, in opposite corners of said parts C C′, so as to allow the inner edge or side, *a*, of each part to fit under the bar D′ of frame D. By means of this construction the cover can be readily removed from the churn, and access to the interior on either side can be obtained by withdrawing or lifting the parts. The cover is placed in position on the churn by inserting the inner edge or side, *a*, of each part under the said bar D′, and then by allowing the parts to drop they fall correctly in position, the flange *c* fitting nicely over the rim of the churn-body.

D designates a curved frame or bracket spanning the churn-body at the top, and carrying the mechanism for operating the dashers. Said frame is provided with downward extensions D², slotted at *d* to clasp screw-threaded rods E, extending from the sides of the churn. Suitable nuts and washers are used to bind the said extensions D² tight against the churn-body, so as to hold the frame from moving when the churn is worked. By the employment of these devices the entire mechanism, and the dashers also, can be removed from the churn, and replaced in position with ease and rapidity.

F designates a bevel-gear wheel, secured on the driving-shaft F′, and provided with a crank, F², or other equivalent means for operating the driving-shaft. The driving-shaft rests in a socket of the frame D, and a plate, *f*, secured over said driving-shaft to the said frame. The large bevel-wheel F gears with a smaller bevel-wheel, G, mounted on a suitable shaft, G′, which carries a gear-wheel, H. Said gear-wheel meshes with cog-wheels I J on the ends of the dasher-shafts K, the latter extending through the bar D′, and formed at the lower end with conical tips *g²*, working in cup-shaped bearings *g³* in the bottom of the churn. The said dasher-shafts are provided with dashers L, which are formed by carving or cutting out of a cone-shaped block of wood the blades *g′*, said blades curving from the bottom upward, and arranged in a spiral form. As shown, the dasher has four blades, each of which is separate and distinct from the other. Thus the large portion of the dashers is at the upper ends, near the center of the churn, where the greatest agitation is required. The object of this spiral construction of curved blades is to throw the milk outward against the inner sides of the churn when the dashers are revolved.

The dashers are formed somewhat similar in shape to a screw-propeller, and is thus specially adapted as a churn-dasher.

The operation of my churn is obvious. The construction is simple, inexpensive, and efficient, and by my arrangement of gear-wheels a small amount of power will suffice to rotate the dashers at the requisite velocity. Every part of the mechanism can be detached from the churn and readily replaced, as desired.

Practice has demonstrated that my churn will produce butter in less time, and more butter at that, than the ordinary churns, the efficient working of the construction accounting for

this saving in time and results. Suitable openings are formed in the inner sides of each part of the cover to permit the passage of the dasher-shafts.

What I claim is—

In a churn, the bracket or frame D, provided with the horizontal bar D′ and downward extension D^2, a space being left between the upper part of the frame and the bar D′, in which space the wheels G H I J are suitably disposed, in combination with the churn-body A, having the screw-threaded rod E, extending from the side of the churn, a slot, *d*, being formed in said extension D^2, and fitting over said rod, and suitable nuts and washers for clamping or securing said extension against the side of the churn, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

DAVID TOWNSEND BRUCK.

Witnesses:

D. P. RUSSELL,

WILLIAM SMITH.