J. S. SMITH.

CHURN.

No. 186,173. Patented Jan. 9, 1877.

Fig. 1.

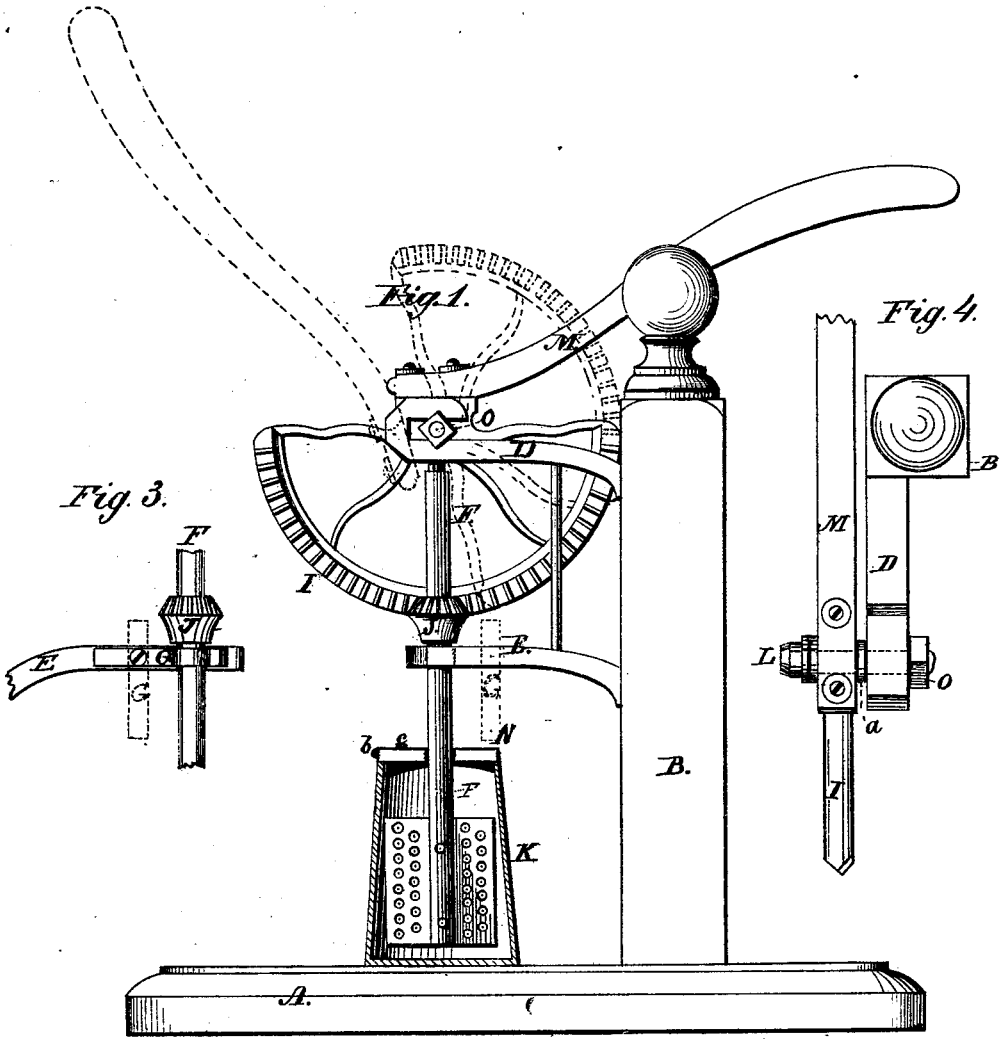
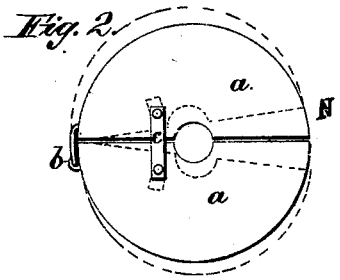


Fig. 3.

Fig. 4.

Fig. 2.



Witnesses:

E. B. Gist

F. C. Laws

Inventor:

Jos. S. Smith

UNITED STATES PATENT OFFICE.

JAMES S. SMITH, OF BEEBE STATION, ARKANSAS.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **186,173**, dated January 9, 1877; application filed July 22, 1876.

To all whom it may concern:

Be it known that I, JAMES S. SMITH, of Beebe Station, in the county of White and State of Arkansas, have invented a new and Improved Churn-Power; and I do hereby declare that the following is a full, clear, and exact description of the same.

The invention is an improvement in the class of churns having a vertical dasher, to which a rotary reciprocating motion is imparted by means of a circular or segmental gear operated by a crank or lever.

The improvement relates, first, to the construction and arrangement of parts, as hereinafter described, whereby the dasher-shaft and its operating-gear are adapted for convenient removal from their bearings.

The invention also relates to the construction of the top or cover of the tub or churn-body in two like-sized parts, which are connected by a hinge and elastic strap, to adapt the cover for convenient application to, and removal from, the tub.

In the accompanying drawing, forming part of this specification, Figure 1 is a side elevation of my improved churn with the tub in section. Fig. 2 is a plan view of the top or cover of the tub. Figs. 3 and 4 are detail views.

The flat base A, vertical standard B, and parallel arms or brackets D E (attached to and projecting from said standard) constitute the frame-work of the machine. The dasher-shaft F has two bearings—one a socket in the under side of the upper bracket D, the other a notch or open slot formed in the side of the lower bracket E. The shaft is secured in the notched bearing by means of a bar, G′, Fig. 3, which is pivoted to the bracket E. When the said bar has been adjusted vertically, as shown in dotted lines, Fig. 3, and the segmental gear I turned into the vertical position, as shown in dotted lines, Fig. 1, the dasher-shaft F may be moved laterally, together with the tub K, and thereby detached from its bearings. When the shaft F has been detached the dasher may be conveniently removed from the tub to facilitate the removal of the butter and buttermilk, and for cleaning the tub and dasher.

In place of adjusting the gear I vertically, to throw it out of mesh with the pinion J, and allow the dasher-shaft to be thus detached, the gear may be removed altogether. To this end it is mounted on a detachable wrist-pin or journal, L, which is secured in the recess or open slot, Fig. 1, formed in the outer end of the bracket D. The means of securing the journal L is a clamp-nut, O, which is screwed on the end of the journal and against the side of the arm D, thus drawing the collar *a* against the other side of the arm.

It is obvious that by loosening the nut O the journal L and the attached gear I may be removed. Aside from other advantages, this construction facilitates the packing of the apparatus in compact form for storage and transportation.

To facilitate the application and removal of the tub-cover N, it is made in two like-sized semicircular parts, *a a*, Fig. 2, which are connected by a hinge, *b*, and elastic strap *c*, the hinge being applied at one side, and the strap at a point between the hinge and the hole for the dasher-shaft.

It is apparent that by separating or drawing asunder the free ends of the parts *a a*, as shown in dotted lines, Fig. 2, the cover may be readily applied to a tub and dasher-shaft, or removed therefrom, as occasion requires. When the cover is in place on the tub the elasticity of the strap *c* holds the two parts *a a* together, so as to prevent the cream escaping between them during the churning operation.

What I claim is—

1. The dasher-shaft combined with the arm D, having the recessed bearing for journal of gear I, and the socket in its under side, and the lower arm E, having a notched bearing, and the pivot bar or button G, as shown and described, for the purpose specified.

2. In combination with the bracket D, having a recessed bearing, the gear I, wrist-pin L, clamp-nut O, dasher-shaft F, and pinion J, as shown and described, for the purpose specified.

3. The two-part tub-cover N, hinged at *b*, and having the elastic strap *c*, applied as shown and described.

JAS. S. SMITH.

Witnesses:
L. B. GIST,
F. C. LAWS.