(Model.)

E. GERMAN.

Cchurn.

No. 284,625. Patented Sept. 11, 1883.

Fig. 1.

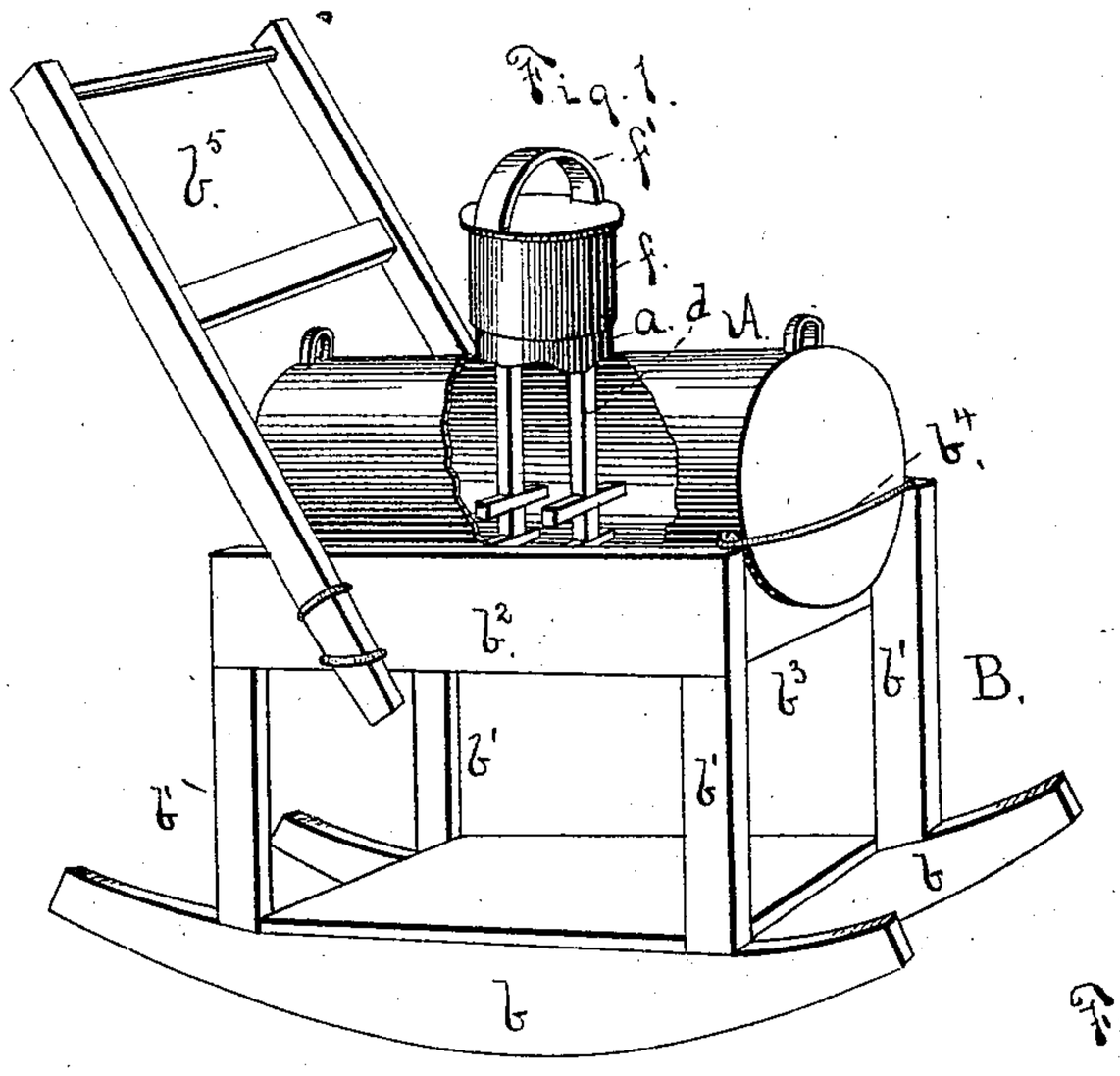


Fig. 5.

Fig. 4.

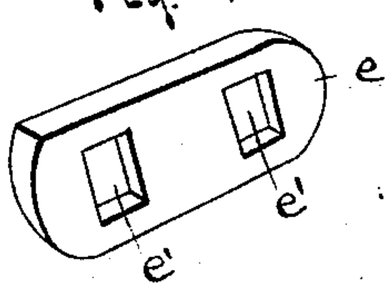


Fig. 2.

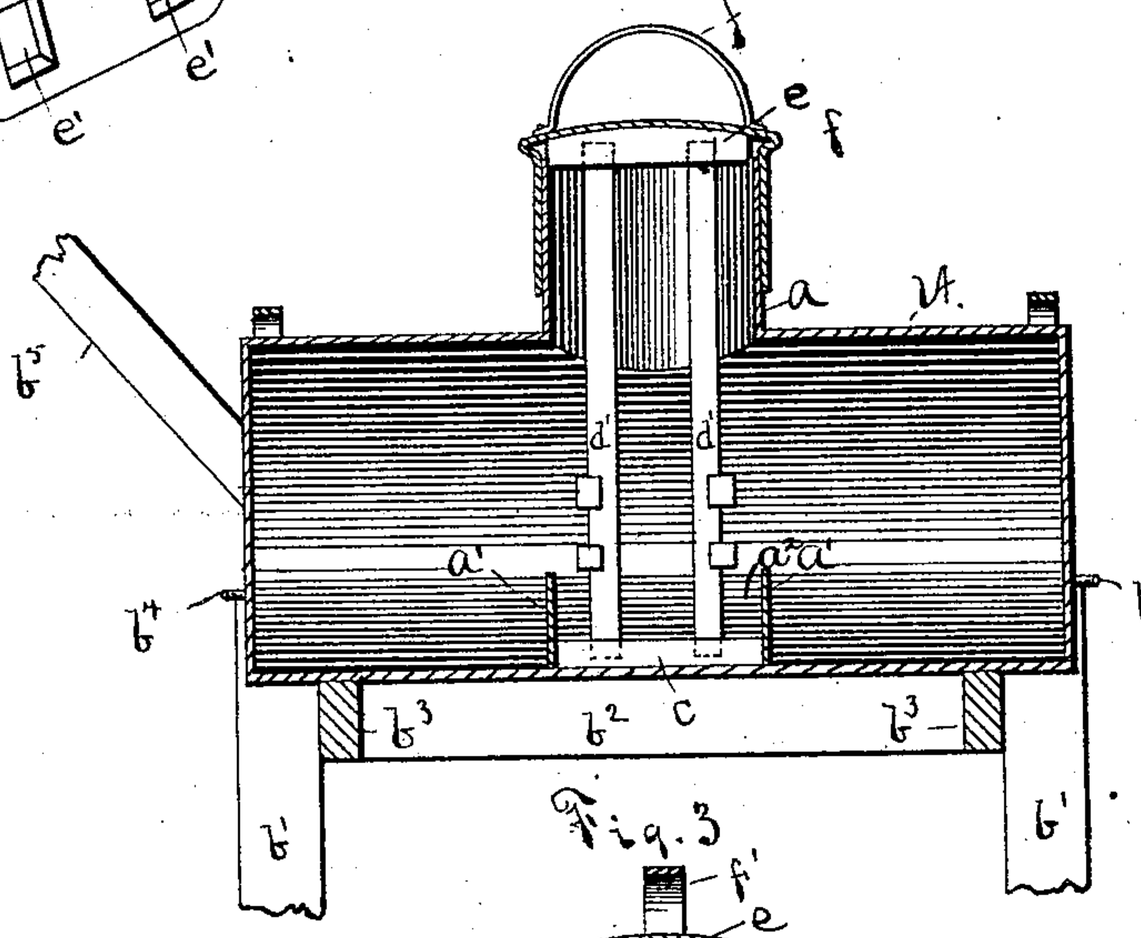
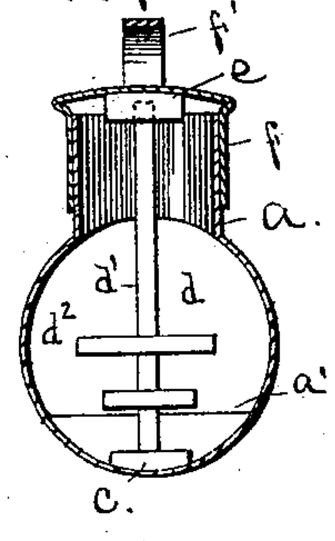


Fig. 3.



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UNITED STATES PATENT OFFICE.

ELIZA GERMAN, OF FANNIN COUNTY, TEXAS.

CHURN.

SPECIFICATION forming part of Letters Patent No. 284,625, dated September 11, 1883.

Application filed April 26, 1883. (Model.)

To all whom it may concern:

Be it known that I, ELIZA GERMAN, a citizen of the United States, residing in the county of Fannin and State of Texas, have invented certain new and useful Improvements in Churns; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in working-body churns; and it consists in the construction, combination, and arrangement of the several parts, as will be hereinafter more fully described and claimed.

In the drawings, Figure 1 is a perspective view of my improved churn, a portion of the body being broken away to show the inclosed breaking-frames. Fig. 2 is a vertical longitudinal section of my churn-body and a portion of the supporting-frame. Fig. 3 is a vertical cross-section of the body, cut through the turret; and Figs. 4 and 5 are detail views, respectively, of the head-block and the breaking-frames, all of which will be described.

The body A is mounted on a frame, B, consisting of rockers *b*, the standards *b'*, and the necessary upper side bars, b^2, and end bars, b^3. The upper side of the end bars, b^3, is cut to form a curved seat, in which the ends of the body A rest, and the said body is held in place by the rods b^4, which extend between the side bars, b^2, across the ends of the churn-body, as shown. This frame B is provided with the handle b^5, suitably arranged to permit the frame to be easily rocked to and fro in the operation of churning. The body A is made in cylindrical form, and in its upper side an opening is cut midway between the ends of the cylinder, which opening is surrounded by the turret *a*, which projects above the churn-body, as shown.

From the under side of the churn-body, and within the same, I project the breaking-plates *a'*. These plates are arranged in planes parallel to those of the end plates of the cylindrical churn-body, and are arranged directly under the forward and rear sides of the turret-opening, and a distance apart equal the diameter of the said opening. The height of these plates at their middle and highest portion is not quite one-third the diameter of the body A, though this may be varied as desired by the maker. A space, a^2, is formed between these plates *a'*, in which the breaker-frames are seated, and as the cylindrical body is rocked back and forth in churning the upper portion of the body of milk is forced against the front dasher with reference to the line of motion, and a part thereof is deflected into the space a^2 between the plates *a'*, and is thence forced against the other breaking-frame, and the body of milk is broken and agitated by this action, and the churning thereof is readily accomplished. Between these two plates *a'*, I secure the block *c*, in which are formed two sockets for the feet of the breaking-frames, hereinafter described.

I employ, preferably, two breaking-frames, *d d*, which are composed of the standards *d'* and the cross bars or arms d^2, which are so arranged that the lower cross-bars will be slightly above the top of the breaking-plates *a'*, as shown in Figs. 2 and 3. The lower ends or feet of the standards *d'* are seated in the sockets formed in the blocks *c*, while their upper ends are extended slightly above the turret *a* and into the sockets *e'*, formed in the under side of the head-block *e*, as shown in Fig. 2. The upper side of this head-block extends slightly above the turret. The cap or lid *f* is provided with a suitable handle, *f'*, and is placed down over the turret *a*, and bears against the head-block *e*, and holds the same and the breaking-frames *d* firmly in position.

In the operation of churning, the frame carrying the churn-body is rocked back and forth, and the milk and cream are thrown from end to end of the cylindrical churn-body, and in such motion the lower portion of the body of milk strikes against the breaking-plates *a'* and is detained, while the upper portion is forced through between the cross-bars of the breaking-frames *d*, and is followed, as the angle of inclination of the churn-body is increased, by the lower portion of the body of milk, which has been detained or stopped in the first motion of the body of milk by the breaking-plates. Thus the churning action on the milk is had not only by the breaking action of the plates *a'* and frames *d* as the milk is dashed against

them, but also by the friction of the different portions of the body of the milk against each other, as has been described. By this means a thorough agitation of the milk is obtained and the churning is rapidly and thoroughly accomplished.

It will be seen, also, that by securing the frames *d* in position in the churn-body by the means before described, consisting of the foot-blocks *c*, having mortises for the feet of the frames, and the head-blocks *e*, holding the frames, and clamped in position by the cap-piece or lid *f*, the said frames may be easily removed from the churn-body when butter is formed, or when it is desired to cleanse the churn. This is accomplished by lifting the cap *f*, when the head-block may be lifted off the frames, and the latter will be free to be removed from the body A.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a working-body churn, the combination, with the churn-body having centrally-disposed turret, and the breaking-frames having their lower ends resting in suitable seats in the bottom of the churn-body and their upper ends extended into the turret thereof, of the block *e*, having sockets *e'*, and placed on the breaking-frames with its lower side projected above the turret, and the cap or lid, placed on the turret and bearing against the block *e* and securing the same and the breaking-frames in position, substantially as and for the purposes set forth.

2. In a working-body churn, the combination, substantially as described, of the body A, having the turret *a*, the breaking-plates *a' a'*, the block *c*, having sockets for the breaking-frames, and arranged between the plates *a'* and under the turret-opening, the breaking-frames having their feet seated in the sockets in the block *c*, and the head-block *e*, having sockets *e'* formed in its under side and placed on the breaking-frames and projected above the turret, and the cap *f*, placed down on the turret and bearing against the head-block and holding the same in position, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ELIZA GERMAN.

Witnesses:
J. A. BATULL,
E. LINDSEY.