G. BROWN.

Churn.

No. 214,877. Patented April 29, 1879.

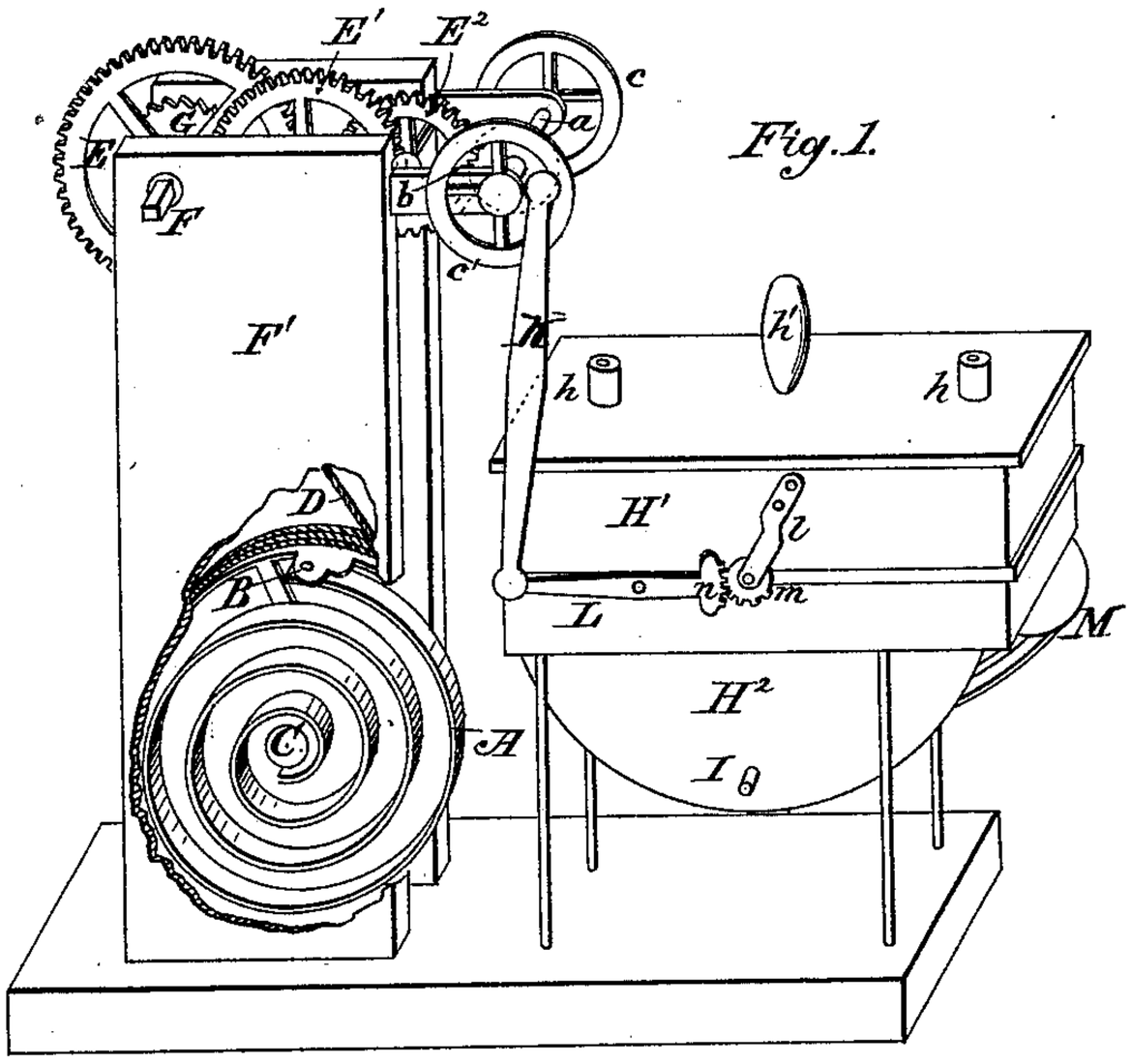


Fig. 1.

Fig. 2.

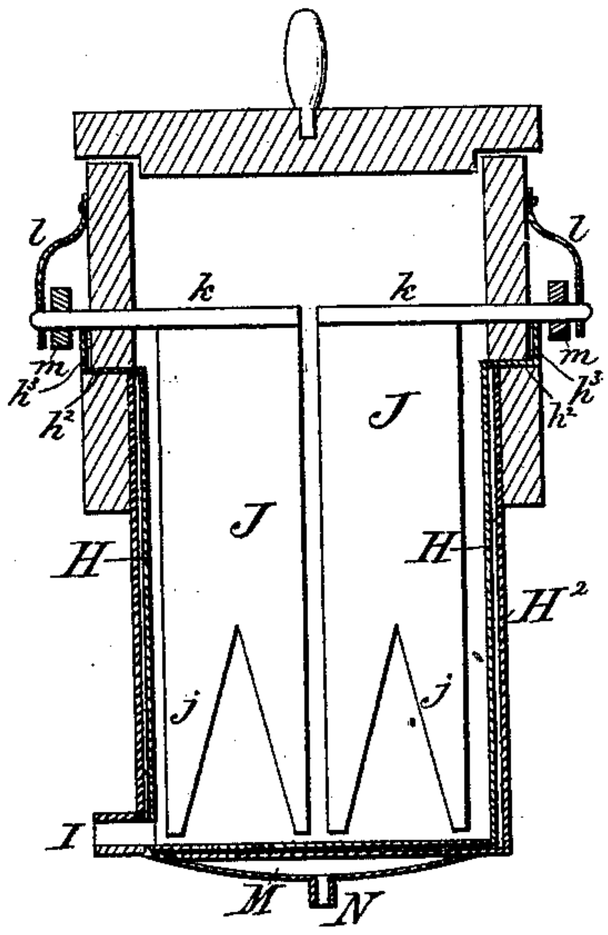
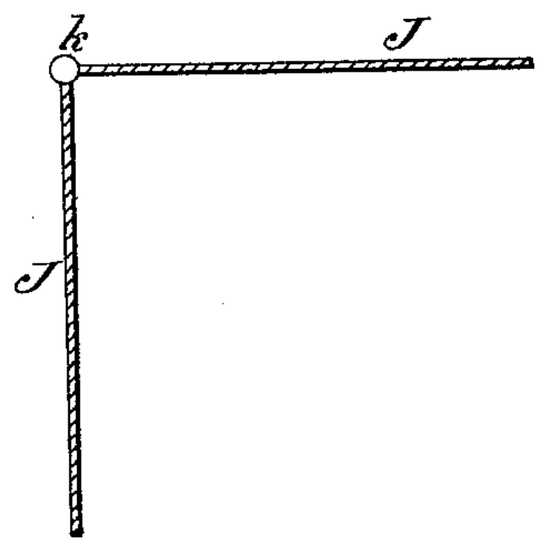


Fig. 3



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UNITED STATES PATENT OFFICE.

GILBERT BROWN, OF WEST PITTSTON, PENNSYLVANIA.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **214,877**, dated April 29, 1879; application filed August 14, 1878.

To all whom it may concern:

Be it known that I, GILBERT BROWN, of West Pittston, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Improvement in Churning-Machines, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, and in which—

Figure 1 is a perspective view of my improved churn with the motor-spring removed. Fig. 2 is a vertical section through the churn proper; and Fig. 3 is a detailed perspective view of one of the dashers.

Corresponding parts in the several figures are denoted by like letters.

This invention has reference to certain improvements in churns; and it consists in the combination and arrangement of parts, substantially as hereinafter described, and pointed out in the claim.

In the annexed drawings, A refers to a powerful coiled spring, with its inner end secured to a central shaft, C, fastened to and between uprights F′, or a frame, if desired. The outer expanding end of the spring A is fastened to the rim of the periphery of a drum, B, as shown in Fig. 1.

By this arrangement it will be seen that when the spring expands or uncoils after having been tightly compressed or contracted, it will act upon and turn the drum B, which transmits motion to the other part of the motor, consisting, essentially, of the mechanism presently described. From the drum B extends a cord or wire, D, which is wound around the shaft F, hung in the upper ends of the uprights F′, and carrying a wheel, E, driving a train of other wheels, E^1 E^2, suitably hung in position in the upper or same end of the uprights F′. The shaft F is provided with a ratchet, G, with which engages a pawl, the object of which is to prevent slack in the unwinding of the cord or wire D from said shaft as it (the cord or wire) is wound upon the drum B during the expanding of the spring, by which the train of the wheels or gearing E^1 E^2 (the wheel E included) is driven. In the outer ends of two supports fastened to the upper ends of the uprights F′ is hung a shaft, *a*, having a pinion, *b*, engaged by one of the train of wheels or gearing E^1 E^2. This shaft *a* is also provided with a balance or fly wheel, *c*, and a crank-wheel, *c′*, to which is eccentrically connected a pitman, K, which, with other mechanism presently referred to, drives or operates the dashers of the churn. H is the cream-receptacle, preferably semicircular in form, and H^2 is a jacket, along the under side of which extends the water-receptacle M, into which may be placed either warm or cold water, to produce the proper temperature in the cream or churning receptacle. When desired, the water, after using, is drawn off or discharged from the water-receptacle M through the outlet N, supplied to the latter. The outlet N is plugged up or closed to prevent the escape of the water from the receptacle M when the contents of the receptacle H are being tempered. The water is poured into the open end of the receptacle M, or into that end exposed to view in Fig. 1.

The receptacle may be elevated upon legs or otherwise, and is fitted with a deep cover, H^1, in the form of a box, which, for the sake of ventilation, &c., is provided with vent-passages or air-openings *h h*, and to permit of its convenient removal and replacement it is provided with a handle or knob, h^1. An outlet, I, is supplied to the jacket H^2 for the discharge of water.

J J are the dashers or beaters, having their lower ends forked or provided with arms or beaters *j j*, and hung from horizontal shafts *k k*, bearing in and projecting from the sides of the receptacle-cover H^1, with their projecting ends held or supported in or by pendants or brackets *l l*, fastened to the sides of the said cover. The dashers J J consist, each, of two paddles or beaters, forked or bifurcated, as above stated, and secured to their shaft at about right angles to each other, as seen in Fig. 3, by which the cream is operated upon at each stroke or the backward-and-forward movement of the dasher, and at the same time comminuted by the prongs *j j* thereon, thus augmenting the operation of churning the cream. The ends of the shafts *k k* are provided with segmental pinions *m m*, which gear with toothed segments or racks *n* on one end of levers L, pivoted to the sides of the receptacle, and having their other ends connected

to the lower ends of the pitmen K, before referred to.

It will be seen that the dashers J J receive, through the operating mechanism above described, a reciprocating motion in the receptacles, and thereby act upon and thoroughly churn the cream and convert it into butter, and increase the yielding of the latter from a given amount of cream.

Within the jacket H^2 is placed the removable receptacle H, whose upper end is flanged outwardly, as at h^2, which flange rests upon the same end or edge of the jacket H^2, and is extended upwardly, as at h^3, forming a rim around the said flange to hold the cover H^1 in position, as seen in Fig. 2.

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

The combination, in the manner herein described and shown, of the churn-body H, cover H^1, and the two pairs of flat and bifurcated dasher-blades, connected to separate shafts, and mechanism for imparting vibratory movements to said pairs of dasher-blades.

GILBERT BROWN.

Witnesses:
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