G. A. BLANCHARD.
Butter-Worker.

No. 217,982. Patented July 29, 1879.

Fig:1.

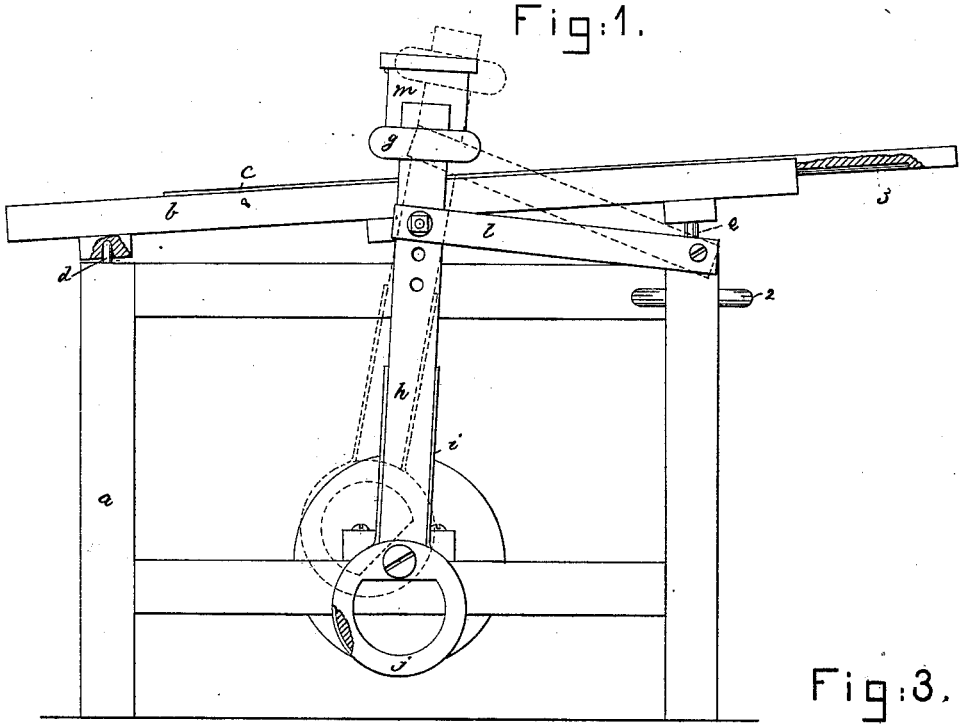

Fig:3.

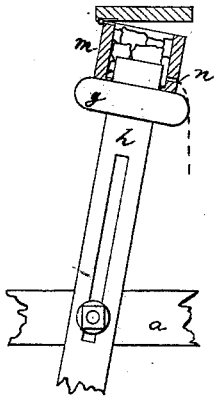

Fig:2.

Witnesses.
Jos. P. Livermore
Lawrence F. Connor.

Inventor.
George A. Blanchard.
by Crosby Gregory Attys

UNITED STATES PATENT OFFICE.

GEORGE A. BLANCHARD, OF CONCORD, NEW HAMPSHIRE.

IMPROVEMENT IN BUTTER-WORKERS.

Specification forming part of Letters Patent No. **217,982**, dated July 29, 1879; application filed May 5, 1879.

To all whom it may concern:

Be it known that I, GEO. A. BLANCHARD, of Concord, county of Merrimack, State of New Hampshire, have invented an Improvement in Butter-Workers, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to mechanism for working butter; and consists, essentially, in the combination, with a movable butter-board, of a wooden or other rigid presser or beam operated by an eccentric, cam, or crank, to bring the under surface of the presser down positively upon the butter on the said butter-board, and to a certain defined distance from the said butter-board, according to the throw of the eccentrics, cams, or cranks which operate the presser, the presser preferably having, in addition to its rising-and-falling motion, a rocking or oscillating movement when in contact with the butter, thereby adding materially to its efficiency, and enabling it to press and work out the buttermilk more thoroughly than by direct or rectilinear pressure alone.

In operation, the butter from the churn is placed upon the butter-board in a suitable mass, and as the presser is actuated each descent thereof causes it to strike and press a portion of the butter, according to the width of the presser, and by moving the butter-board under the presser all portions of the butter may be acted upon by the presser.

The under surface of the butter-board is grooved, to lessen the adhesion between it and the table, which otherwise might be excessive, the parts being wet.

The table, over which the butter-board is moved, is set at an inclination, to enable the buttermilk to run off freely, and the degree of its inclination is made variable by an adjusting device, (shown as a screw,) this adjusting device also regulating the thickness of the sheet of butter being worked.

In hot weather the presser may have upon it a box containing ice, and provided at its lower edge with holes, to permit water to drip upon the butter as it is being worked, to keep it at the proper temperature.

Figure 1 represents, in side elevation, one of my improved butter-workers, the dotted lines showing the presser elevated, while the full lines show it down. Fig. 2 is an end elevation thereof, and Fig. 3 is a modification to be referred to.

The frame *a* of the apparatus is of proper shape to support the working parts. The table *b*, which receives and guides the butter-board *c*, is suitably pivoted at one end, as at *d*, and preferably at its other end is sustained by an adjusting device, (shown as a screw, *e*,) operated by a proper hand-wheel, 2, the screw co-operating with a nut, *f*, in a cross-bar of the frame-work.

The butter-board is shown as grooved upon its under side, as at 3, to reduce the adhesion between it and the table, which is considerable when wet flat surfaces come in contact.

The presser *g* is shown as a wooden beam, which, in practice, will be from six to eight inches wide, about two inches thick, and about two feet long, more or less, thereby making a rigid presser with a hard smooth surface. This presser is mounted upon arms *h* (shown as connected by straps *i*) with eccentrics *j* on the main shaft *k*, rotated in any usual manner; but instead of the eccentrics I may employ cams or cranks to operate the said arms and presser.

The arms are joined with pivoted links *l*, which may be adjustably connected with the said arms in any usual way, the said links operating to cause the arms in their reciprocations by the eccentrics to impart to the presser a rising-and-falling and an oscillating or rocking motion at the extreme highest and lowest points of the said presser, thereby enabling it while pressing the butter to rock and increase that kind of pressure which experience teaches is the best kind of pressure to effectually remove the buttermilk.

It is, however, obvious, instead of links, that I may slot the arms *h* and rock them over a pin, as in Fig. 3, or might reciprocate the arms in a pivoted guide-block, all of which is well known to mechanics.

If the quantity of butter is small, or a large quantity is to be worked into a thin sheet, this will be provided for by elevating the table and butter-board at one end by means of the adjusting device.

It will be observed that my presser comes down upon and without yielding to the butter

as it strikes it, pressing the butter to a determined thickness without severing or separating it, and the presser has no operation such as would be equivalent to separating a portion of the butter from the mass of butter upon the butter-board, and then by a horizontal movement pressing it. At the proper time the salt may be worked into the butter by this same machine.

This machine may be used to advantage for kneading dough or similar substances.

The ice-box *m* rests upon the presser, and is provided with holes *n*, for the ice-water to drop upon the butter.

I claim—

1. In a butter-worker, a movable butter-board combined with a rigid reciprocating presser, adapted to operate upon and work the butter into a sheet, substantially as described.

2. The combination, with the table and butter-board, of the rigid presser *g*, its carrying and actuating arms *h*, guides to direct them, and eccentrics or equivalents, substantially as described, to reciprocate and rock the presser and work the butter into a sheet, as and for the purpose set forth.

3. The presser and its actuating-arms *h* and eccentrics *j*, guides therefor, and table and butter-board, combined with an adjusting device to elevate or depress one end of the table and butter-board with relation to the presser, substantially as and for the purpose set forth.

4. In a butter-worker, the corrugated butter-board, adapted to rest upon and reduce the adhesion between it and the table, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE A. BLANCHARD.

Witnesses:
GEO. W. GREGORY,
JOS. P. LIVERMORE.