(No Model.)

A. DAUL.

CHURN.

No. 424,600. Patented Apr. 1, 1890.

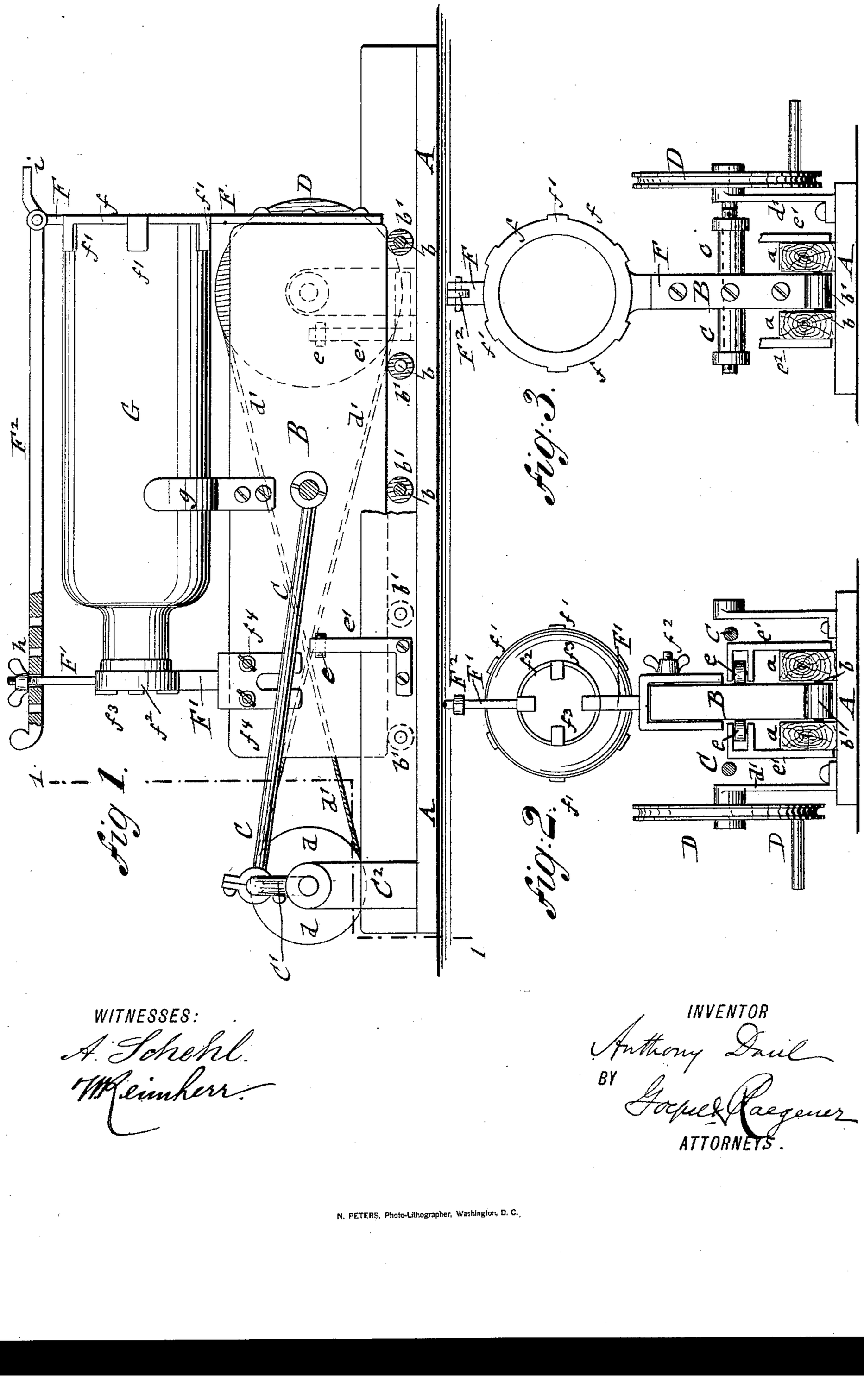

Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES:

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CHURN.

SPECIFICATION forming part of Letters Patent No. 424,600, dated April 1, 1890.

Application filed August 31, 1889. Serial No. 322,576. (No model.)

To all whom it may concern:

Be it known that I, ANTHONY DAUL, a citizen of the United States of America, residing at this time at Stuttgart, Germany, have invented certain new and useful Improvements in an Apparatus for Producing Butter for Household Purposes, of which the following is a specification.

This invention relates to an improved churn which is specially adapted for family use, as butter may be readily made by the same in a comparatively short time from small quantities of cream, so that families can supply their own want and obtain thereby a good quality of butter at a considerable saving in price.

The invention consists of a churn which comprises a horizontal reciprocating carriage that is guided on rollers in longitudinal ways of the base-plate of the churn. To the carriage are applied upright standards, with ring-shaped frames having bent-up lugs for supporting the base and head of the cream-holding vessel. One of the standards that support the vessel is applied adjustably to the carriage and locked by a strap hinged to the base-standard and adapted to engage the upper threaded end of the head-supporting standard, to which a retaining screw-nut is applied, as will be more fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my improved churn with parts broken away. Fig. 2 is a vertical transverse section of the same on line 1 1, Fig. 1. Fig. 3 is an end elevation of the machine.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the supporting base-plate of my improved churn, which is provided with longitudinal ways *a*, between which are arranged on fixed transverse pivots *b* a number of anti-friction rollers *b' b'*. A carriage B, which is formed of an upright oblong block of wood or other suitable material, is guided on the anti-friction rollers *b' b'* and reciprocated on the same by means of a forked pitman C, the ends of which are pivoted to a center pin of the carriage B, while the opposite end is applied to a crank-shaft C', which is supported in bearings of standards C^2, located at one end of the base-plate A. The crank-shaft C' is rotated by means of a pulley *d* and cross-belt *d'* from a fly-wheel D, which is supported in bearings of an upright standard D' and provided with a crank-handle for turning the same. By taking hold of the crank-handle and turning the fly-wheel D the pulley-and-belt transmission *d' d* imparts rotary motion to the crank-shaft C' and thereby a horizontally-reciprocating motion to the carriage B. The carriage is furthermore guided by horizontal steadying-rollers *e*, which are supported in forked standards *e'*, attached at opposite sides to longitudinal ways *a*, said rollers being above the bottom rollers *b* and serving to steady the reciprocating motion of the carriage B.

In place of the mechanism described for imparting reciprocating motion to the carriage B any other equivalent mechanism may be used, as I do not confine myself to the specific construction of the reciprocating mechanism shown.

To one end of the reciprocating carriage B is attached an upright standard F, which is provided with a ring-shaped frame *f*, having bent-up lugs *f'*, that serve to support the base of the cream-holding vessel G. The cream-vessel G is preferably made of glass or other suitable material, its body being supported on a U-shaped rest *g*, which is firmly attached to the reciprocating carriage. To the opposite end of the carriage B is applied an adjustable standard F', which has also a ring-shaped frame f^2 and inwardly-bent radial lugs f^3, against which the closed head of the cream-holding vessel G rests. The lower end of the standard F' is made of U shape and firmly secured thereto by clamping-screws f^4. The standards F and F' extend upwardly above the ring-shaped frames *f* f^2, and are connected by a strap F^2, that is hinged to the standard F and provided with holes at the opposite end for being placed over the upper end of the standard F', the strap being retained in position thereon by a thumb-nut *h*, that screws over the upper threaded end of the standard F'. An inclined heel *i* at the upper end of the standard F serves for supporting the connecting-strap F^2 in inclined position when the same is detached from the standard F' and swung out of the way of the cream-holding vessel, so as to permit the removing of the same

when the churning operation is completed. The standard F′ is adjusted on the reciprocating carriage B for the exact length of the cream-holding vessel and firmly and reliably applied thereto in connection with a connecting-strap F^2. The cream in the glass vessel B is thoroughly shaken up by the quick reciprocating motion to which it is subjected when the apparatus is operated. By this motion the butter globules are quickly separated from the buttermilk, so that a fine quality of butter is obtained in from five to ten minutes. When the churning operation is completed, the cream-vessel is removed from the supporting standards and the contents of the same emptied onto a straining-cloth, which is placed over a receptacle in which the buttermilk is collected. The cream-vessel is then cleaned in hot water and the apparatus charged again with cream and placed in position on the standards F F′ of the reciprocating carriage, so that the churn is ready for the next churning operation, and so on.

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

1. The combination, with a base-plate having longitudinal guideways and anti-friction rollers between said ways, of a carriage supported on said rollers, means for imparting a reciprocating motion to said carriage, standards applied to the reciprocating carriage, said standards having ring-shaped frames with lugs bent up from the same, a cream-holding vessel supported by said ring-shaped frames, and a strap hinged to the upper end of one standard and secured to the upper end of the other standard, substantially as set forth.

2. The combination, with a reciprocating carriage, of a standard attached to one end of the same, said standard having a ring-shaped frame with bent-up lugs, a second standard having a forked lower end applied by clamping-screws to the opposite end of the carriage, said adjustable standard having also a ring-shaped frame and lugs, an intermediate rest-piece attached to the middle part of the carriage, a cream-holding vessel supported by the ring-shaped frames of the standards, and a connecting-strap hinged to the upper end of the fixed standard and provided with holes and secured to the upper end of the adjustable standard, substantially as set forth.

3. The combination of a base-plate having longitudinal guideways and anti-friction rollers between said ways, a carriage supported by said rollers, means for imparting reciprocating motion to said carriage, upright supporting-frames attached to the carriage, and a cream-holding vessel supported on said frames, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ANTHONY DAUL.

Witnesses:
AMALIE LEIST,
MARIE KÜHNEISEN.