D. N. EGBERT.

Churn.

No. 6,727. Patented Sept. 18, 1849.

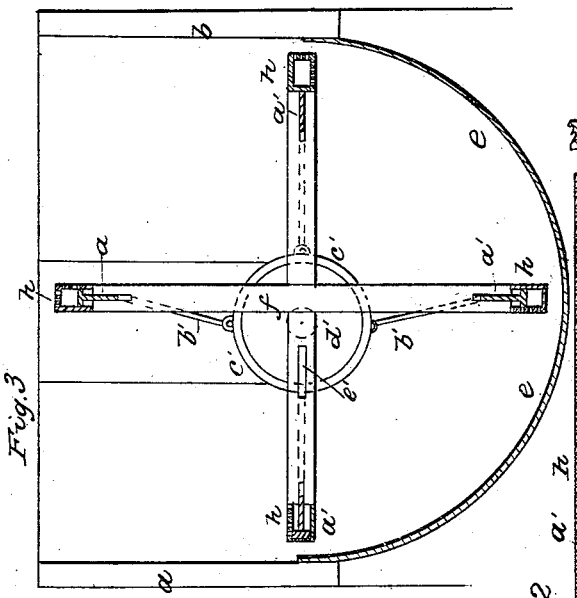

Fig. 3

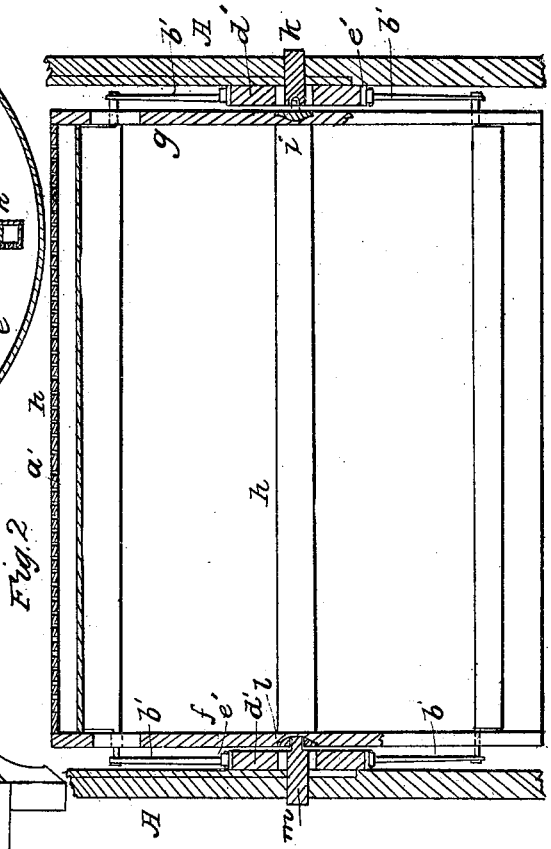

Fig. 2

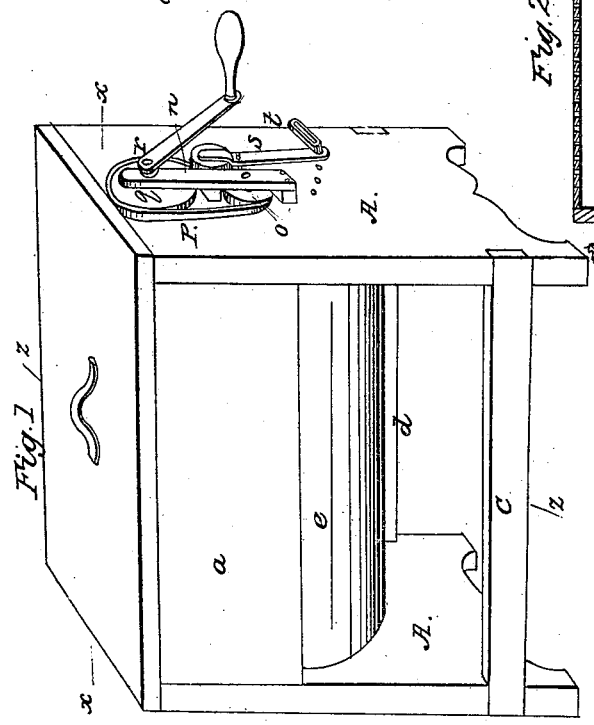

Fig. 1

UNITED STATES PATENT OFFICE.

D. N. EGBERT, OF HUDSON, OHIO.

ROTARY CHURN-DASHER.

Specification of Letters Patent No. 6,727, dated September 18, 1849.

To all whom it may concern:

Be it known that I, D. N. EGBERT, of Hudson, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Atmospheric Churns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a perspective view of the churn complete; Fig. 2, a longitudinal section at the line *x x* of Fig. 1, and Fig. 3 a transverse section at the line *z z* of Fig. 1 showing the arrangement of the pistons.

The same letters indicate the same parts in all the figures.

The nature of my invention consists in making the floats of the revolving dasher hollow, and fitting them with pistons to which motion is imparted by eccentrics in such manner that the air drawn in during the ascent of the floats is forcibly ejected beneath the surface of the liquid.

The case or body of the churn is composed of the two end pieces A A which serve as supports and are of such height as is most convenient. These end pieces are rabbeted to receive the front *a*, the back *b*, and the stays *c d;* a semi-circular groove uniting the two sides is cut on the inner side of each end piece to receive the zinc bottom *e*. The dasher is composed of two sets of arms *f*, *g*, united by the floats *h* (hereinafter described); to the center of one set of arms is attached the gudgeon *i* running in the socket *k* on the end piece of the case; to the center of the other set of arms is attached the socket *l* to receive the gudgeon of the shaft *m;* this shaft passes through the end of the case and has its outer journal in the support *n;* and to it a small pulley *o* is atached, between the support *n* and the end piece of the case. A rotary motion is given to the pulley *o* by means of the strap *p* passing over the larger pulley *q*, this larger pulley is mounted upon the crank shaft *r* so that by turning the crank a rapid rotary motion is communicated to the dasher. To increase the adhesion of the strap *p* to pulleys *o*, *g*, a tightening pulley is adapted to it; this tightener is mounted upon one arm of the lever *s* to the lower end of which is attached the spring *t* by which the requisite tightness is obtained.

The floats *h* are hollow as represented in the section, their sides being pierced with small holes for the escape of the air. Each float is fitted with a piston *d′*; to both ends of each piston the connecting rods *b′* are attached by pins working in slots in the arms of the floats. The inner ends of these connecting rods are fastened to the eccentric rings *c′* which run on the eccentric *d′* secured to the end pieces of the case. In order to carry each eccentric ring along with the arms of the floats, a pin is attached to it which works in a slot *e′* on one of the arms. It will now be perceived that as the floats ascend above their horizontal position by the revolution of the dasher, each piston is in turn withdrawn in its appropriate float and the hollow cavity filled with air; as the floats descend below their horizontal position this air is forcibly discharged through the perforations of the floats, below the surface of the liquid.

The advantages of mingling air with cream or milk in the operation of churning are too well known to require a description here; but my machine differs from all others in this, that the air is forcibly discharged in small jets at the very point where it is most required, viz, the moving surface of the dasher, by which means the operation of churning is greatly accelerated, and a considerable saving effected in the power required.

What I claim as my invention and desire to secure by Letters Patent is—

The combination of the pistons (*a′*) moved by stationary eccentrics (*d′*) with the floats (*h*) of a revolving dasher in the manner and for the purpose herein set forth.

D. N. EGBERT.

Witnesses:

GEORGE VEDDER,

L. W. CURTISS.