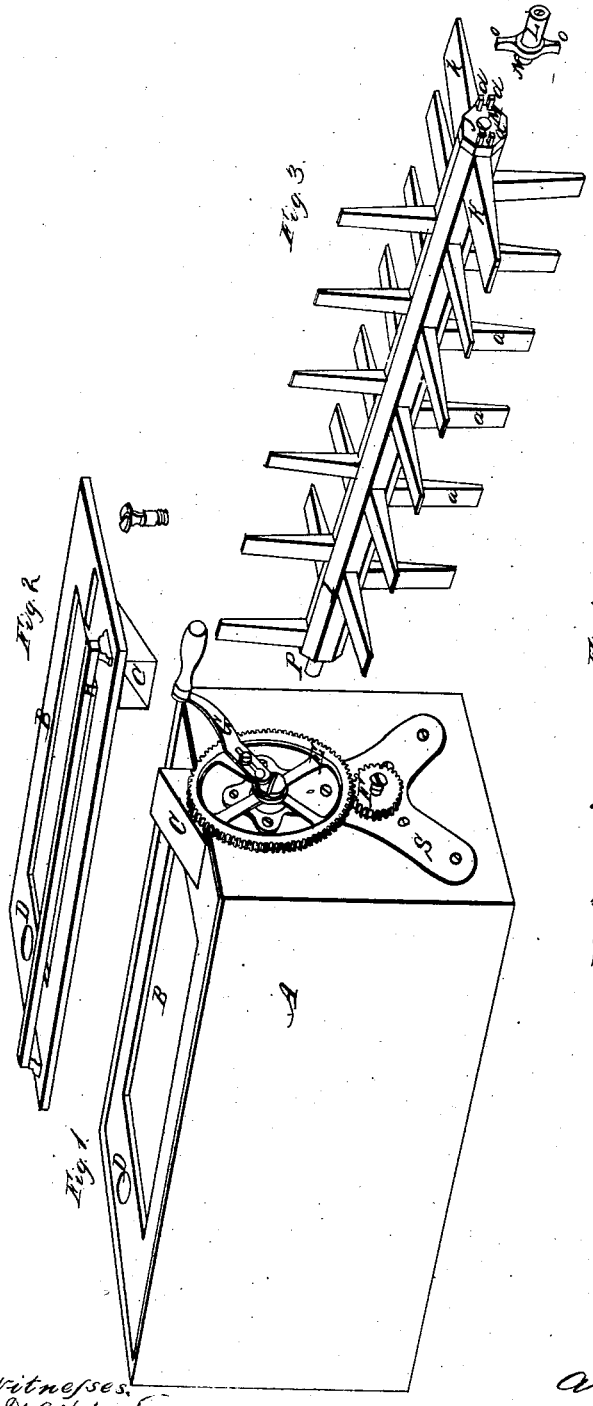
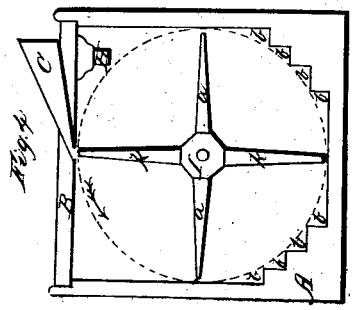
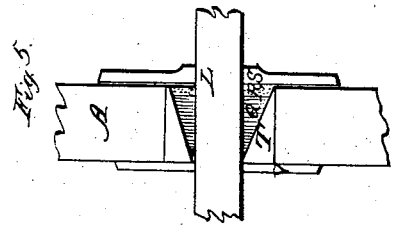
A. Westcott.

Churn.

No. 46,739. Patented Mar. 7, 1865.







Witnesses.
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UNITED STATES PATENT OFFICE.

AMOS WESTCOTT, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **46,739**, dated March 7, 1865.

To all whom it may concern:

Be it known that I, AMOS WESTCOTT, of the city of Syracuse, in the county of Onondaga and State of New York, have invented a new and Improved Churn; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings and the letters of reference marked thereon.

In Figure 1, A represents the body of the churn in any of the ordinary forms; B, the lid, which is also shown reversed in Fig. 2; E, the gear-wheel attached to the end of the body of the churn, and gearing into the pinion-wheel F, which connects with and communicates motion to the shaft inside the churn. *c* represents the upper side of a funnel-shaped hole for the admission of air into the body of the churn, and D a round hole in the other end of the lid for the escape of air from the churn when the process of churning is going on. These two holes are more clearly shown in Fig. 2 when the lid B is seen reversed.

H, Fig. 2, represents a square strip or bar the length of the inside of the body of the churn, and let down from the under surface of the lid by a block under each end, about its own width, and over the edges of this strip or bar the cream is whipped by the dasher-paddles in churning, thus facilitating the process. This strip or bar is also shown at H, Fig. 4.

In Fig. 3, I represents the main shaft of the churn, around which, in a spiral, are set the dasher-paddles *a a a*, &c., which are in all these parts of the same width, but in their thickness tapering gradually from where they enter the shaft to their outer ends.

K K, Fig. 3, represents two paddles of about double the width of the others, but in other respects of the same form, which are set into the shaft I near the end next the pinion-wheel F, Fig. 1, and opposite to each other, as shown in Fig. 3. These are made of greater width than the others, so that when the shaft I is in rapid motion, as in churning, they in passing over the inner lips of the funnel-shaped hole C, Fig. 1, more clearly shown at C, Fig. 4, will by creating a partial vacuum draw air into the body of the churn.

J, Fig. 3, represents an iron ferrule, having a hole in its center, (marked M,) which is fastened upon the end of the shaft I next the end of the body of the churn, to which is attached the pinion-wheel F, Fig. 1, when the shaft is in place in the body of the churn. This ferrule J, Fig. 3, upon its outer face or end has four projections, two upon each side, about one-fourth of an inch apart.

L, Fig. 3, represents the shaft of the pinion-wheel F, Fig. 1, and is of a length just sufficient to reach through the end of the body of the churn, and through the pinion-wheel. The inner end of this shaft L has an acorn-shaped head, (marked N, Fig. 3,) and from opposite sides of the base of this head, there project two arms, (marked *o o*,) one upon each side, and of a length just sufficient to reach to the outside of the main shaft I, where the acorn-shaped head is placed in the hole M, and the arms *o o* between the projections *d d d d* of the ferrule J upon the end of the main shaft.

The shaft L, Fig. 3, is put into place from the inside of the churn, the arms *o o* moving close to the inner surface of the end of the body of the churn, and the outer end of the shaft, L, passing just through the pinion-wheel F, Fig. 1, which is firmly fastened to it.

P, Fig. 3, represents a simple projection or pin, forming a journal upon which that end of the shaft I turns.

Fig. 4 represents a transverse section of the churn, of which A is the body, B the lid, C the funnel-shaped hole for admitting air, H the rectangular bar let down about its own width from the under surface of the lid, K K the two broad paddles near the gear end of the churn, *a a* two of the other paddles which are set in a spiral about the shaft I, and *b b b*, &c., are steps which fill up the two lower corners of the body of the churn and over the edges of which the cream is broken in churning.

Fig. 5 represents the manner in which the shaft L of the pinion-wheel F, Fig. 1, is carried through the end of the body of the churn and all leakage prevented. T is a metal box with a funnel-shaped hole through it, (marked Q,) and a flange, V, which rests against the inner surface of the end of the body of the churn and is firmly secured to it. The funnel-shaped hole is then filled with some suitable packing material, as shown at Q, and the circular washer of cork, (marked K,) and the pack-

ing is pressed firmly in place and held by the plate S, screwed upon the outside of the end of the churn, as shown more clearly by S, Fig. 1.

C, Fig. 1, represents a crank which can be removed from the gear-wheel E and attached to the shaft of the pinion-wheel F, Fig. 1, whenever necessary.

Having now described the construction of my churn, I will now proceed to describe the operation of the same.

The body of the churn being well rinsed, I place the shaft containing the dasher-paddles into the body of the churn, so that the hole M, Fig. 3, shall receive the acorn-shaped head of the short shaft L, Fig. 3, and the arms *o o* be held between the projections *d d d d*, Fig. 3, when the journal P, Fig. 3, can be dropped into its bearings, where it is held by a slide at the other end of the body of the churn. The cream is then poured in, so as to fill the body of the churn somewhat less than half full, and the lid put on, with the funnel-shaped hole C, Fig. 1, next the gear end of the churn. The shaft is then turned so that the dasher-paddles will move in the direction shown by the arrow, Fig. 4, and the broad paddles, in passing rapidly over the inner lips of the funnel shaped hole C, Fig. 4, will create a partial vacumm there, to fill which the air will rush in from the outside.

It will be seen that when the crank is turned, so as to move the dasher-paddles rapidly, as indicated above, the cream will be broken over the edges of the steps *b b b*, &c., Fig. 4, and whipped over the edges of the rectangular bar H, Fig. 4, and the process of churning be thereby much more rapidly performed.

When the cream has so thickened up in churning that the labor of turning the crank is wearisome, the crank should be removed from the gear-wheel E and attached to the shaft of the pinion-wheel F, Fig. 1, and the operation continued until the butter has come, which is usually from three to five minutes.

I do not claim as my invention the body of the churn, nor the use of gear-wheels, nor the shafts and its dasher-paddles; but

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

1. The use of the funnel-shaped box T, Fig. 5, with the method of packing the same, essentially as above described, in combination with the rectangular bar H, the body of the churn and the shaft and dasher-paddles, as above described.

2. The method of attaching and securing the shaft I, Fig. 3, in the body of the churn, as above described, in combination with the body, rectangular bar, pinion-wheel, and shaft, as above described.

3. The method of introducing air into the body of the churn, essentially as above described, in combination with the shaft and dasher-paddles, body, and rectangular bar, as above described.

Dated Syracuse, September, 1864.

AMOS WESTCOTT.

Witnesses.

GEO. D. COWLES,
W. H. GIFFORD.