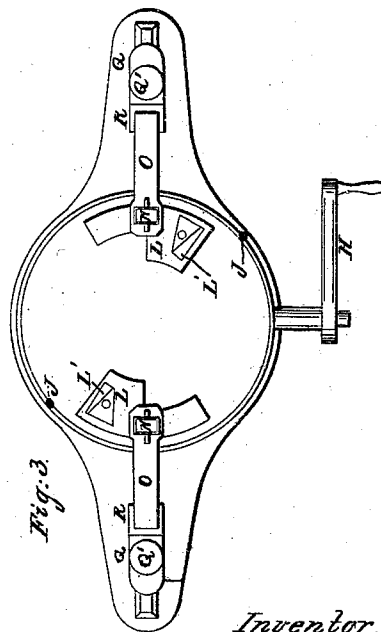
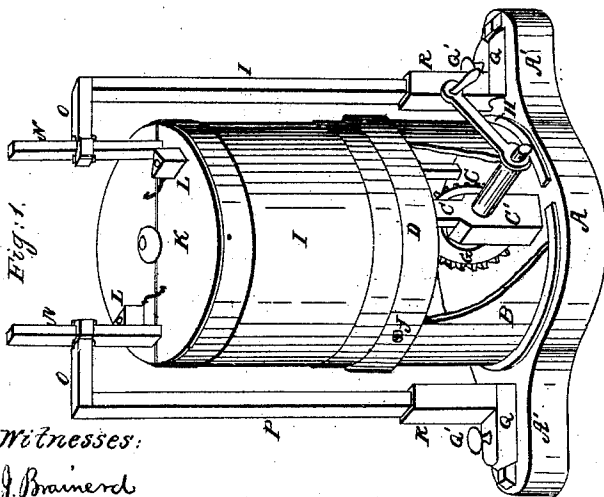
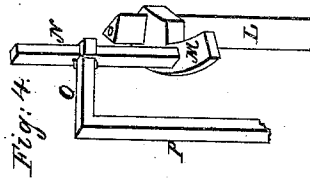
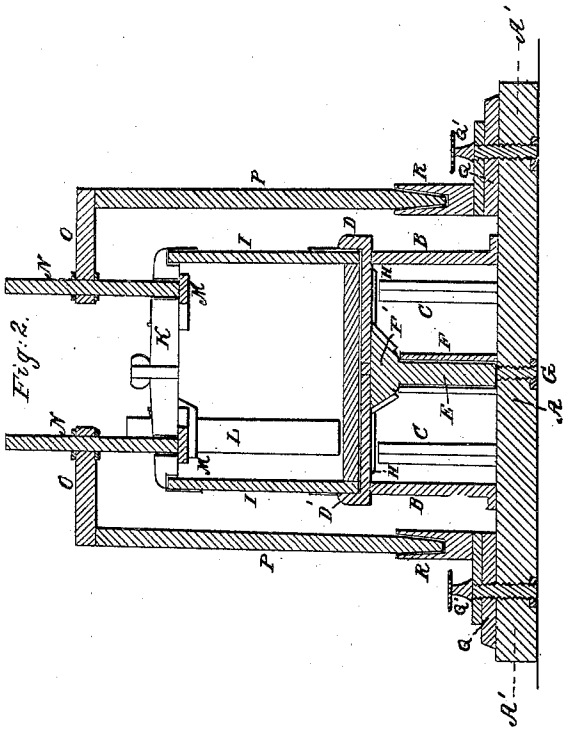


M. C. LONGACRE.

Churn.

No. 31,355.

Patented Feb. 5, 1861.



Witnesses:
J. Brainerd
Henry Voth.

Inventor.
M. C. Longacre

UNITED STATES PATENT OFFICE.

M. C. LONGACRE, OF CLEVELAND, OHIO, ASSIGNOR TO HIMSELF AND R. R. HERRICK, OF SAME PLACE.

CHURN.

Specification of Letters Patent No. 31,355, dated February 5, 1861.

To all whom it may concern:

Be it known that I, M. C. LONGACRE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful
5 Improvements in Churns; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of
10 this specification, in which—

Figure 1 is a perspective view; Fig. 2 is a vertical section; Fig. 3 is a top view, with the cover removed, to show the arrangement of the beaters; and Fig. 4 is a view of one of
15 the beaters in perspective.

Like letters refer to like parts in the several views.

My invention relates to mounting the body of the churn, upon a revolving pedestal, and causing the body of the churn to revolve thereon, with stationary beaters introduced through a stationary cover, suspended or held above the body of the churn by the support of the beaters; making the
25 beaters adjustable, toward and from the center of the body of the churn, and also vertically, and causing a flow of atmospheric air through the beaters, into the contents of the churn.

30 The base is shown at A. This consists of a piece of plank, the central portion of which is circular, the ends being narrower, as at A', to form the support of the beater stands.

B represents a stationary cylinder, which
35 incloses the gear wheels, that give motion to the pedestal, upon which the body of the churn rests. Within this cylinder, are three posts, arranged in an equilateral triangle, and which support the revolving pedestal.
40 Only two are shown in the section, Fig. 2, at C. The foot of one of these posts is shown in Fig. 1.

D is the revolving disk. From the center of this, there projects downward a shaft or
45 spindle E, which is encircled in a pipe box F, and supported at the bottom upon a step G, which can be adjusted vertically, so that the bead H, upon the under side of the disk may just touch the top of the posts C, for
50 the purpose of steadying the disk.

E' is a bevel cog wheel, upon the top of the spindle E, and below the disk D. The driving bevel cog wheel G, gears into the

wheel E', and gives it and the disk D, a rotary motion, by turning the crank H, upon 55 the outer end of the shaft of the wheel G. One of the posts C, is enlarged at the lower end, as seen at C', so as to form a support or bearing for the shaft of the wheel G. This support may be in two parts, one bearing 60 being near the center of the cylinder B.

The body of the churn consists simply of a tub I. The bottom of this should be of suitable size to fit accurately upon the inside of the flange D', which is the rim of the disk 65 D. It may also be secured by set screws J. A common pail, or almost any other vessel may be used, which can be set upon the center of the disk, and blocks of wood placed upon each side, and secured as above by the set screws J. A cover K, in two parts fits accurately the top of the tub or other vessel, as seen in Figs. 1 and 2, and yet, if no cover is used, the cream will not dash over the sides of the vessel I. 70 75

The top of the beaters, (of which there are two,) are seen at L, in Figs. 1 and 3. One is shown at full length in Figs. 2 and 4. These beaters consist of triangular pieces of wood, with a hole lengthwise through the center, 80 for the admission of air into the cream or milk. These beaters are held in the supports M, in which they are adjustable both vertically and horizontally; vertically, by means of the stems N, which pass through 85 or between the covers. They are adjustable horizontally by means of the arms O, and the standards P, which standards, are adjustable by means of the sliding foot Q and the thumb screws Q'. The standards P, are 90 fitted into the foot pieces, by a socket joint, as seen at R, so that by removing the cover K, the holders M and beaters L can be removed.

In using this churn, the cream or milk is 95 put into the tub I. The beaters L are then adjusted to the inner walls, and reaching to the bottom, but not so close as to touch. The cover is then placed as seen in Figs. 1 and 2. Now, if the crank H is turned, the tub I, 100 and disk D will receive a rotary motion, and the centrifugal force, tending to throw the fluid to the walls of the tub, the beaters at the same time tending to throw the same fluid back toward the center, the cream or 105 milk has thus two forces constantly acting

upon it, one a centrifugal, and the other a centripetal. The result is, a most violent agitation of the fluid, and the speedy and perfect separation of the butter from the
5 watery portions of the cream, or milk. If the operation is continued after the separation of the butter has taken place, the butter will be collected in a compact mass in the body of the churn. When this is accom-
10 plished, the cover and beaters can be removed, and the vessel I, lifted from the disk, the contents removed, and the vessel set aside to dry.

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

15

Rotating the body of the churn in a vertical position by means of the disk (C) or its equivalent, when connected with the stationary dashers (L) arranged as described, for the purpose of adjusting the same both ver-
20 tically and horizontally as specified.

M. C. LONGACRE.

Witnesses:

J. BRAINERD,
HENRY VOTH.