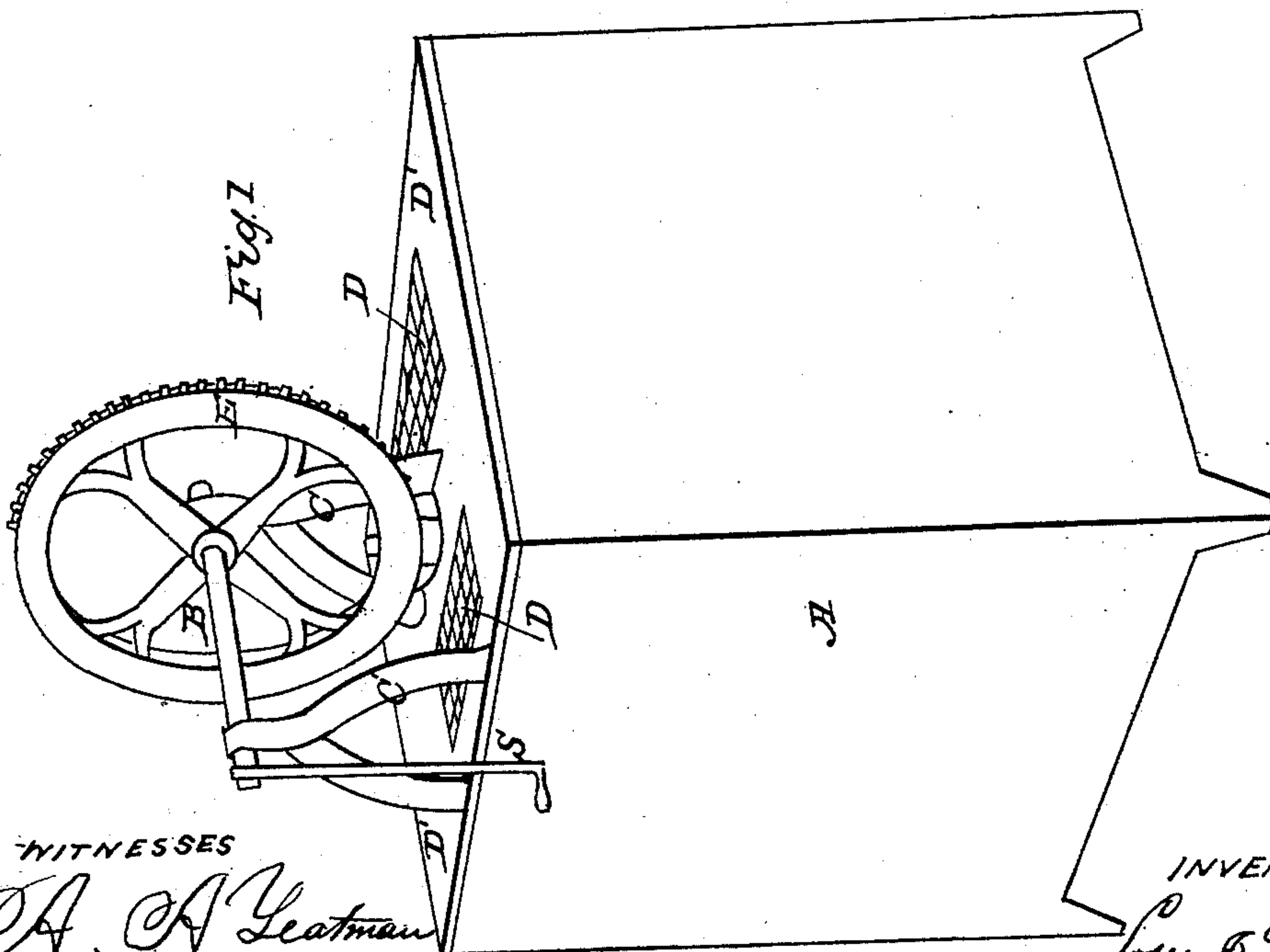
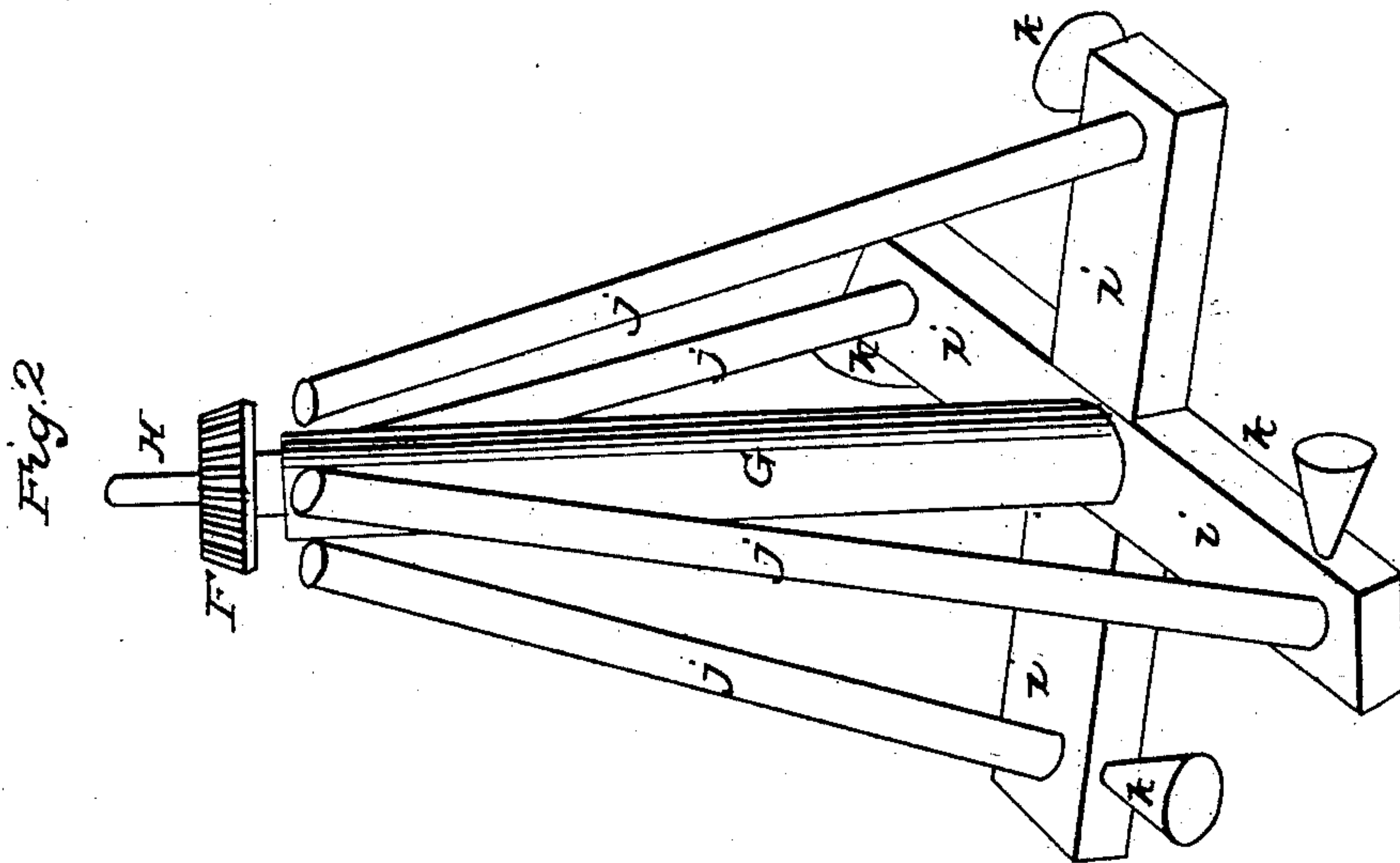


L. J. WICKS.

Churn.

No. 23,208.

Patented March 8, 1859.



WITNESSES

A. A. Yeatman
C. M. Alexander

INVENTOR

Louis Wicks

UNITED STATES PATENT OFFICE.

LOREN J. WICKS, OF RACINE, WISCONSIN.

CHURN.

Specification of Letters Patent No. 23,208, dated March 8, 1859.

To all whom it may concern:

Be it known that I, LOREN J. WICKS, of Racine town and county and State of Wisconsin, have invented certain new and useful Improvements in Atmospheric Churns; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in the arrangement and employment of the several parts which will be hereinafter mentioned.

In the annexed drawings Figure 1 is a perspective view of the churn in operating order. Fig. 2 is a perspective view of the internal apparatus.

In the figures A, represents the body of the churn.

C, C, represent uprights on the top D', D', which support the shaft B, on which is secured the driving wheel E, said wheel E, being provided on its side with teeth or cogs, which work in a bevel wheel F, on shaft G, which serves to drive said shaft.

G, represents a vertical shaft, which is provided near its top with the bevel wheel F, and which has a bearing in the center of the bottom of the churn for its lower end. This shaft passes through two pieces i, i, at their junction. Said pieces crossing each other at right angles are secured near the bottom of the shaft G to said shaft.

j, j, j, j, represent four tubes the lower ends of which are secured in openings in or near the extremities of the cross pieces i, i, the upper ends of said tubes being secured around the shaft G, near its top under the wheel F.

k, k, k, k, are funnels which are secured in the sides of the cross pieces near their extremities in such a manner that they will communicate with the bottoms or lower ends of the tubes j, j, j, j.

D, D, represent openings in the top of the churn which are covered with gauze wire as shown.

This churn is operated, when the parts are all in proper position, by turning the crank S, which gives motion to shaft B and wheel

E, thus communicating a rotary motion to the shaft G and its attachments in a direction which will keep the mouths of the funnels constantly receding from the cream. As the funnels recede from the cream or milk a vacuum is produced in the tubes j, j, j, j, and the external air rushes in immediately at the tops of the tubes and is conveyed through them to the bottom of the churn, where it escapes and rises through the cream to the top of the churn again. As the lower ends of the tubes move much faster than the upper ends the equilibrium is destroyed and the air rushes into the tubes much faster than it would if the tops and bottoms moved at the same speed. When the shaft G, is turned rapidly the cream in the churn assumes the shape of a hollow frustum of a cone and is kept between the sides of the box and the circle or cone described by the revolving of tubes j, j, while the butter when it begins to come, being heavier than the cream, falls between the tubes j, j, and keeps between these tubes at the bottom of the churn.

The object of the gauze wire covering for the apertures D, D, is, first, to give ventilation, and in the second place it affords an opportunity of examining the condition of the cream while the operation is going on; third, it prevents spattering. It is often necessary during the process of churning to examine the condition of the cream, to note its changes, so as to know how to treat it properly, and this cannot be done in ordinary churns without taking off the top, and this always produces a bad effect upon the cream in a more or less degree.

I am well aware of the patent of Francis and also of the rejected application of Whitman. Both of these are impracticable and are differently arranged of course from mine. Francis gets some air without any friction, and Whitman gets some friction without any air. The tubes of Whitman move equally fast at top and bottom, and it is impossible for funnels on top to drive the air into the cream. Hence I disclaim anything found in either of these applications, confining myself to my own arrangement.

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

5 The arrangement, in a square churn A,
which is provided with a ventilating top, of
the shaft G, inclined arms *j*, *j*, *j*, *j*, cross
pieces *i*, *i*, and funnels *k*, *k*, *k*, *k*, the same

being combined and operated in the manner
and for the purpose herein specified.

LOREN J. WICKS.

Witnesses:

C. M. ALEXANDER,

A. A. YEATMAN.