

# Wilkins, Crotte & Miner.

## Churn.

Nº 90,414.

Patented May 25, 1869.

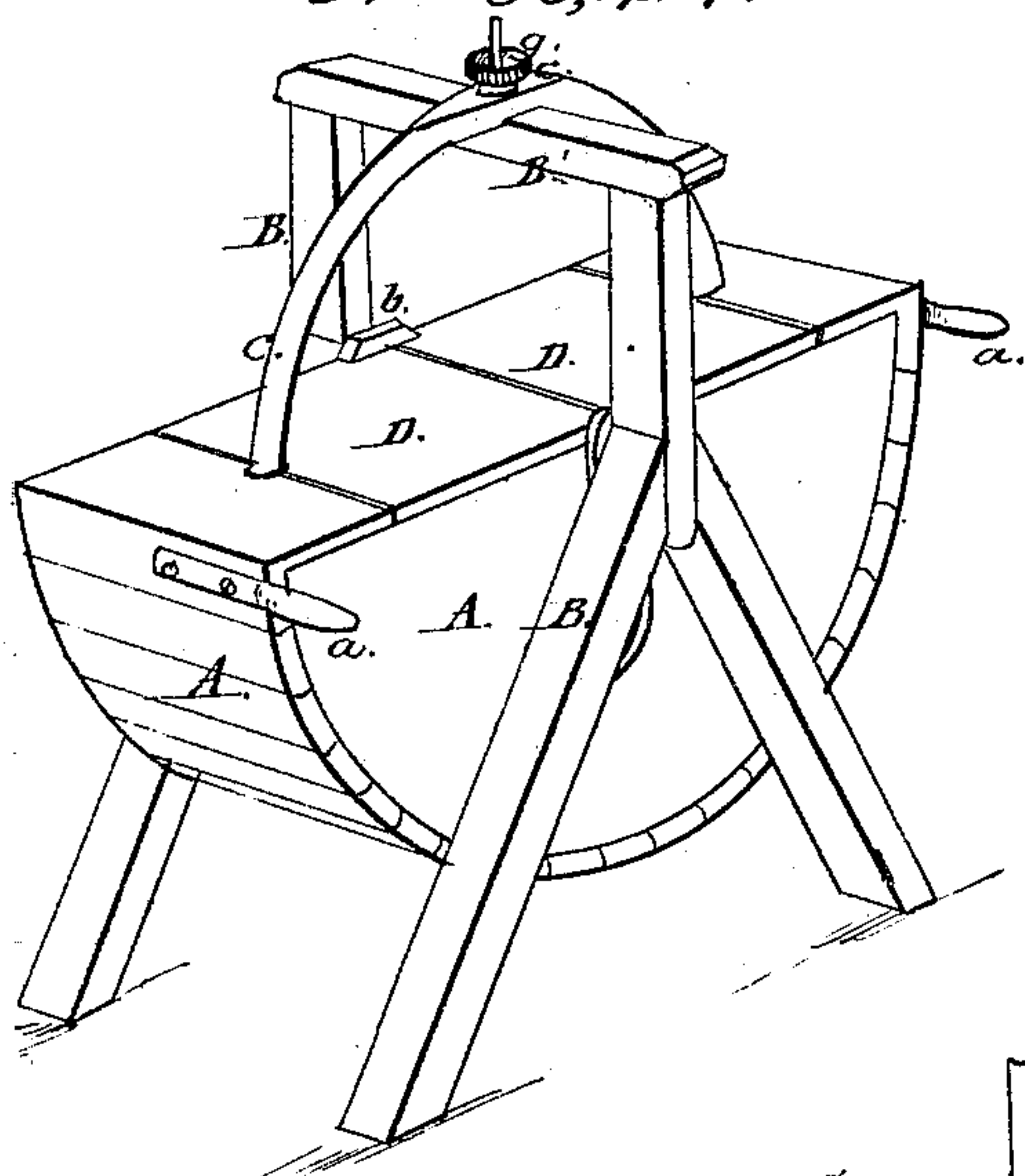


Fig. 2.

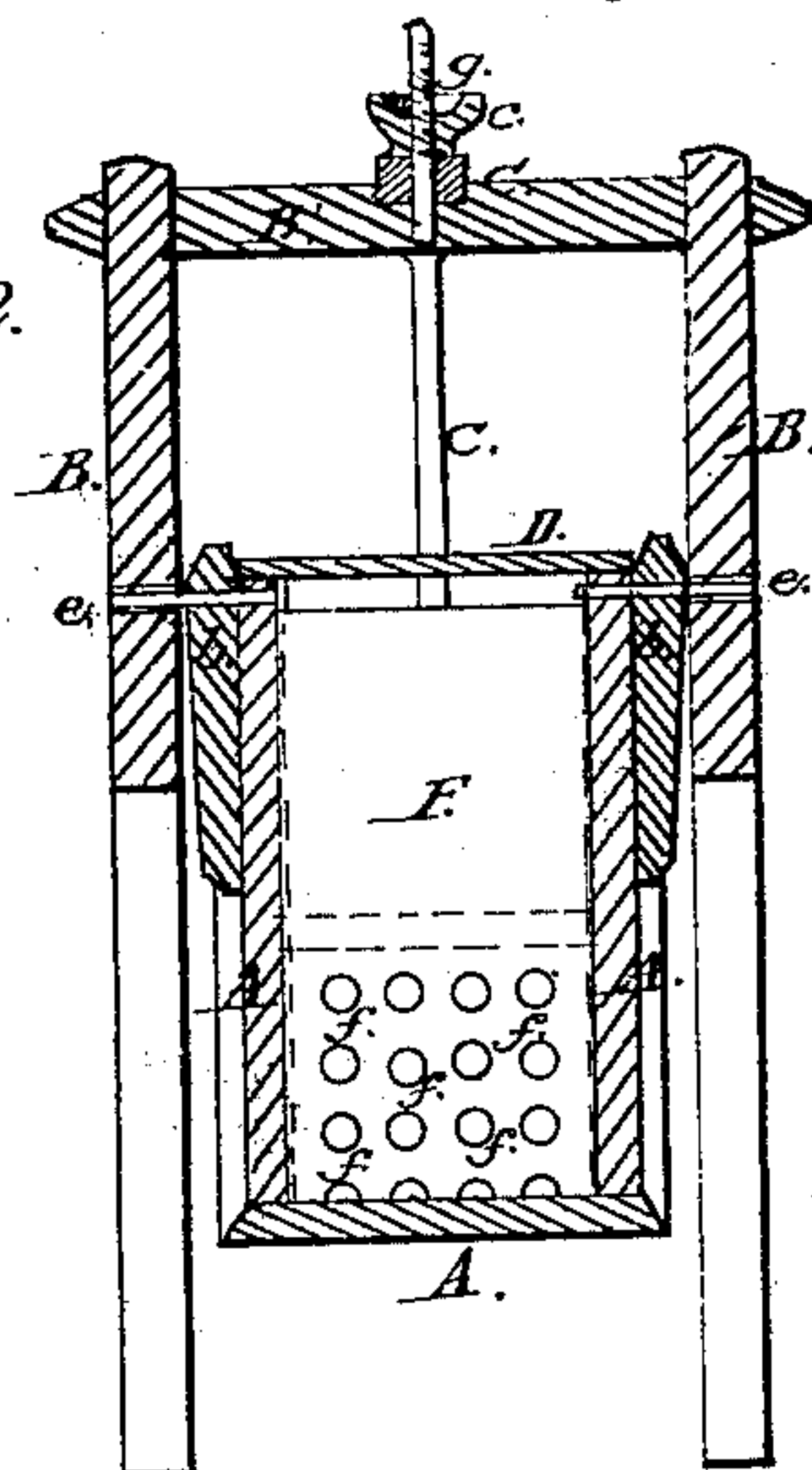


Fig. 5.

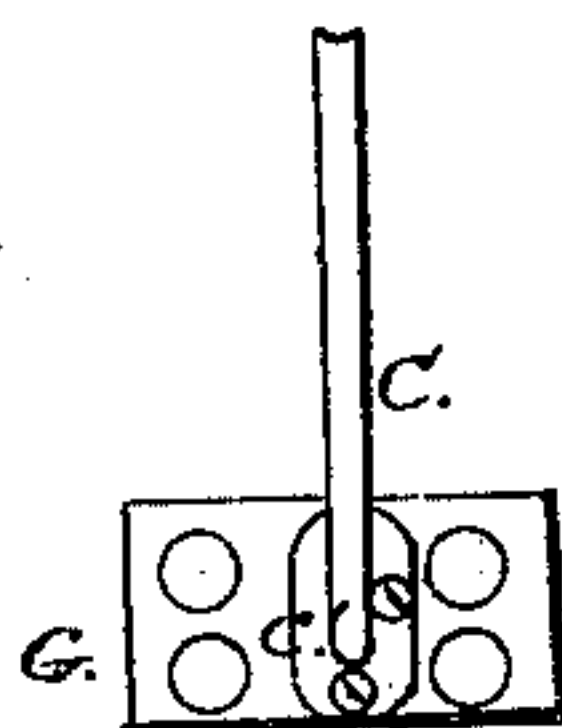


Fig. 3.

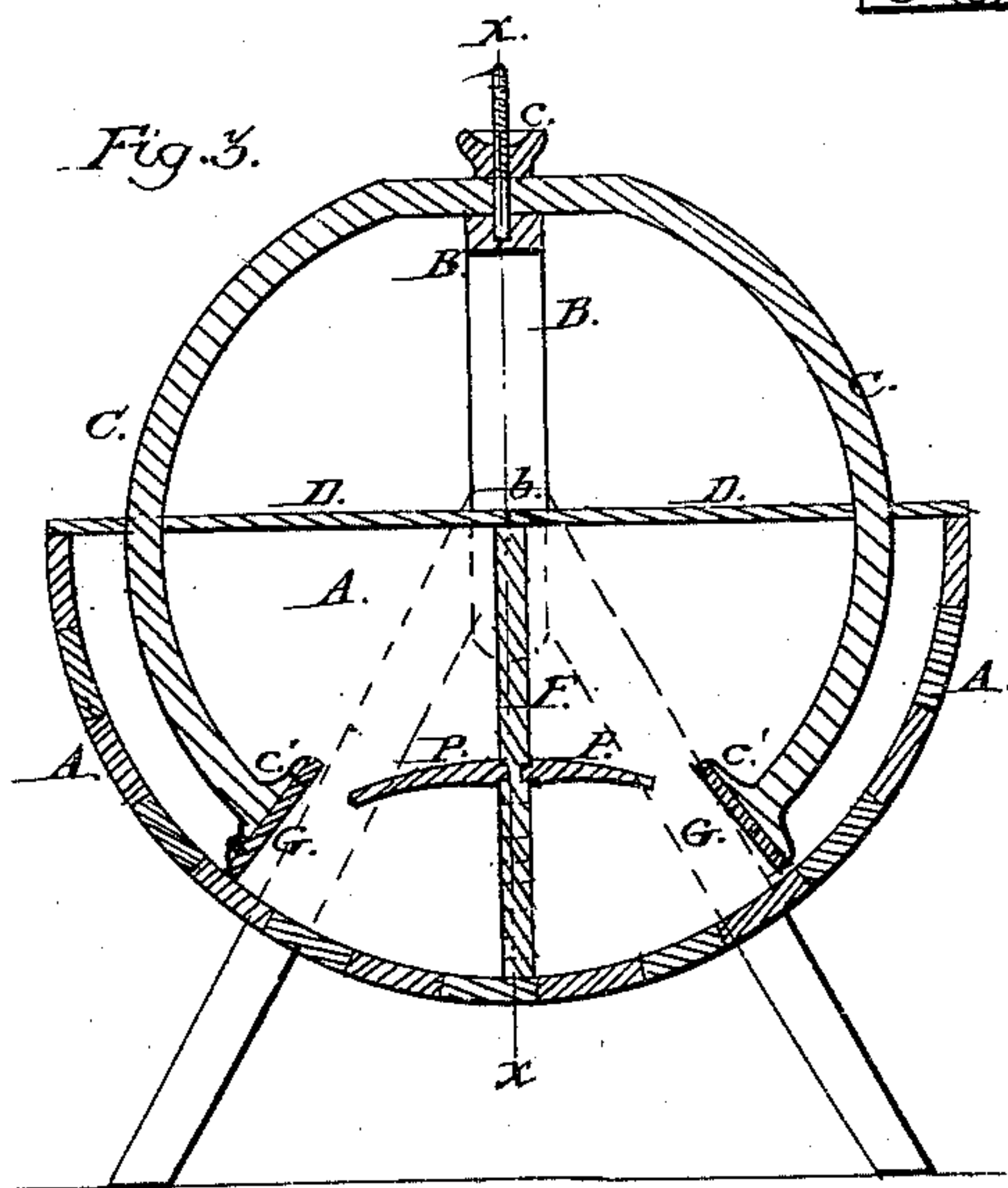
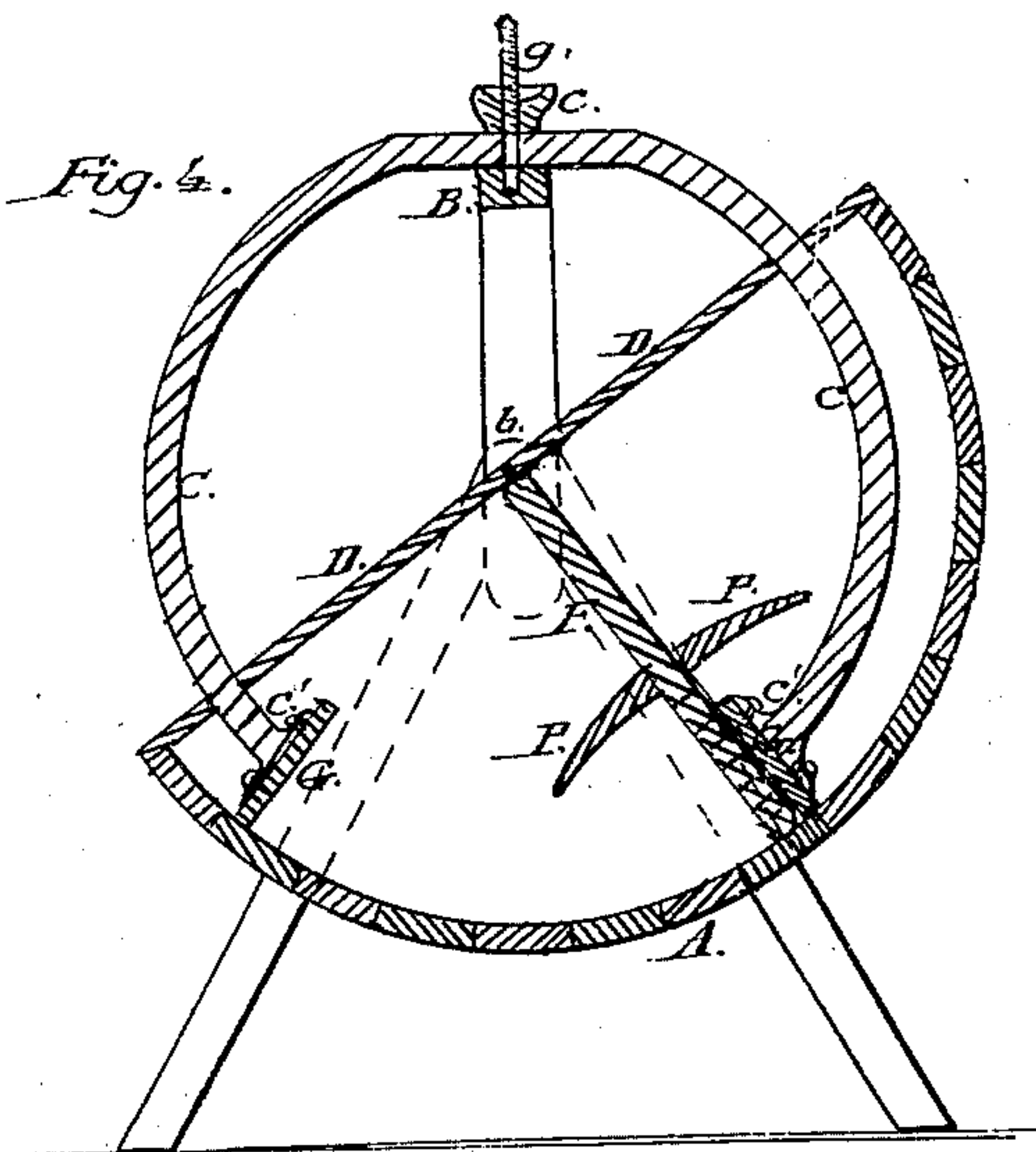


Fig. 4.



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*Letters Patent No. 90,414, dated May 25, 1869.*

## IMPROVEMENT IN CHURNS.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that we, A. G. WILKINS, G. N. CRODLE, and F. L. NINER, all of Cooperstown, in the county of Venango, and State of Pennsylvania, have invented a new and improved Churn; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of the improved churn complete.

Figure 2 is a section taken transversely through the churn in the vertical plane indicated by line *x* in fig. 3.

Figure 3 is a central section taken longitudinally through the churn.

Figure 4 is a similar view of the same parts shown in fig. 3, representing the body of the churn tilted.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to improve that class of churns in which an oscillating semicircular box is employed in conjunction with stationary dashers, by arranging centrally, within such a box, a removable partially-perforated partition, having concave gathering-wings or shelves applied to it, and arranged in such manner as to break and turn downwardly the currents of milk as they are forced against the partition, and also serve, when the imperforated part of the partition is beneath them, as a means for gathering the butter, as will be hereinafter explained. Also, by applying the stationary dash-boards upon the ends of united curved arms, the curve of which is concentric to the axis of motion of the churn-box, as will be hereinafter explained.

To enable others skilled in the art to understand our invention, we will describe its construction and operation.

The semicircular churn-box consists of vertical side boards *A A*, having bottom boards *A'* secured to their semicircular edges, and removable covers *D D*, applied tightly on their straight edges, as shown in the drawings.

This box is concentrically suspended by trunnions *e e*, which have their bearings in the vertical uprights *B B* of a supporting-frame.

The upper ends of these upright supports are connected together by a cross-piece, *B'*, through the centre of the length of which a screw-bolt, *g*, is pressed, that serves, in conjunction with a nut, *c*, and a slot made in the said bar, as a means for securing the dash-arms *C* in place, as shown in figs. 3 and 4.

These dash-arms are composed of one piece of metal, bent in the arc of a circle, and applied to bar *B'*, so that the axis of the arms is concentric to the axis of motion of the churn-box.

On the ends *c'* of the arms *C*, perforated dash-boards *G G* are secured fast in planes radiating from the axis of motion of the churn-box, and between these dash-boards a partition, *F*, is applied centrally within the churn-box, and in a plane radiating from the axis thereof, as shown in figs. 3 and 4.

This partition is fitted into grooves made in the inner sides of the vertical side boards *A A*, so that it can be removed at pleasure.

*P P* are two wings which are secured on opposite sides of the partition *F*, and which are convex on top, and concave underneath.

On one side of these wings *P P*, the partition is perforated, as shown at *f*, fig. 2, and on the opposite side this partition is not perforated.

The perforated portion is down or below the wings during the act of churning, and the concave surfaces of these wings are upon the under sides thereof, as shown in figs. 2, 3, and 4.

For gathering and working the butter, the partition *F* is inverted, so that its imperforated part is next the bottom of the churn-box.

*b b* are blocks, which are secured to the sides *A A* of the churn-box, from which the trunnions *e e* extend; and

*a a* are handles, which extend from one side of the churn-box, by which the operator can oscillate this box.

### *Operation.*

During the operation of churning, by oscillating the box *A A'*, the dashers *G G* will alternately force the cream through the holes *f*, made through the partition *F*, and cause the cream to dash upwardly against the concave or sloping sides of the wings *P P*, which will break the upward splash of the currents, and direct them downward, thereby rapidly breaking up the butter-globules, and preventing the cream from dashing against and between the crevices of the cover of the churn-box.

When the butter "has come," the partition *F* is removed and inverted, so that the imperforated part of this partition is beneath the wings *P P*. A space should now be left between the bottom edge of the partition and the bottom of the churn-box. By again oscillating the churn-box, the buttermilk will flow back and forth beneath the partition, while the butter, which floats on top, will be gathered by this portion beneath the wings *P*.

By constructing the dash-rod *C* of the form shown in the drawings, figs. 3 and 4, and securing it to the bar *B'*, at the middle of its length, by the bolt and nut-fastening, as above described, this rod can be made very strong. It can be readily removed from its place and again attached, and the openings made

through the covers of the churn-box to receive it can be made so small that they will not allow cream to escape while churning.

Having described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

1. The removable and reversible partition F, perforated, provided with wings P P, and arranged within an oscillating churn-box, substantially as described.

2. The construction of the dash-arms C, of one piece, of the curved form described, in combination

with the oscillating churn-box A A' and partition F, substantially as and for the purposes described.

3. The removable dash-rod C, the removable partition F, and the oscillating churn-box, combined and arranged to operate substantially as described.

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Witnesses:

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