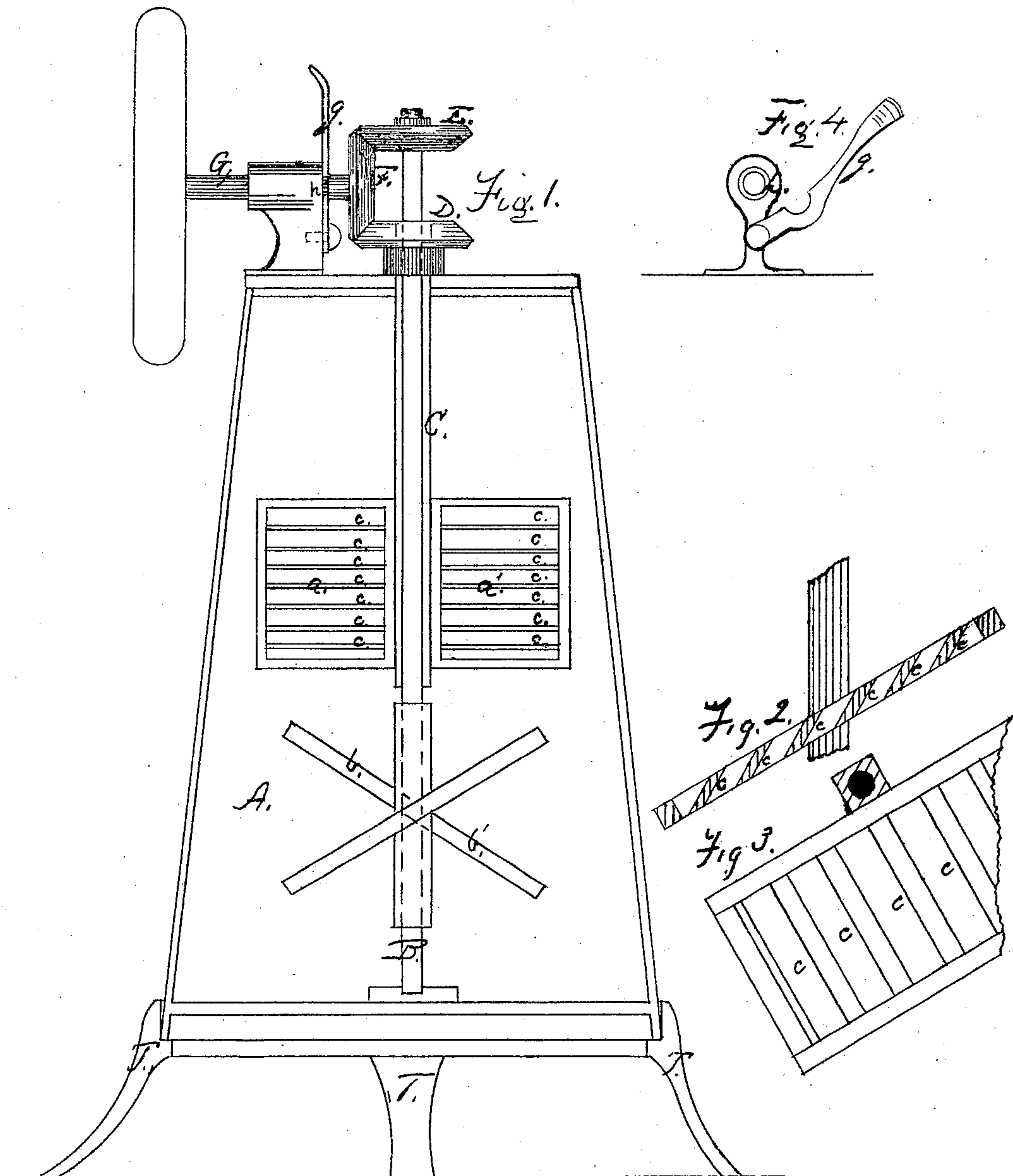


J. A. MARDEN.
Improvement in Churns.

No. 132,591.

Patented Oct. 29, 1872.



Witnesses
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Inventor
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UNITED STATES PATENT OFFICE.

JEREMIAH A. MARDEN, OF BOSTON, ASSIGNOR TO THEOPHILUS S. SMITH,
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IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **132,591**, dated October 29, 1872.

To all whom it may concern:

Be it known that I, JEREMIAH A. MARDEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Churns, of which the following is a specification:

The first part of my invention relates to the arrangement of paddles or floats upon two vertical shafts inclosed within an upright barrel, and so geared to the driving mechanism that they revolve in opposite directions; second, in an improved construction of these floats or paddles, for the purpose of more thoroughly breaking up the cream and separating the globules of butter from the milk; third, in the arrangement of a pivoted latch which enters a channel cut in the driving-shaft and keeps the same in gear, but which may be removed from this channel, thus allowing the churning mechanism to be thrown out of gear.

In the drawing, Figure 1 is a vertical section of the churn-barrel, showing the arrangement of paddles and gearing; Figs. 2 and 3 show the construction of the paddles; and Fig. 4 shows the arrangement for holding the churning mechanism in gear with the driving-shaft, or releasing the same from gear by means of the latch before mentioned.

A is the barrel of an upright churn, of similar construction to that used with the ordinary dasher. B is an upright shaft stepped into the bottom of the barrel. C is another upright shaft which is sleeved over the shaft B. Both shafts B and C are provided at the upper end with bevel-gears D E. These shafts are driven—the one in one direction, the other in the opposite direction—by means of the gear F on the horizontal shaft G. This shaft has a balance-wheel, H, and handle, by which it may be turned, or power may be applied by means of a belt or in any other suitable manner. Attached to the shafts B C are arranged paddles or floats *a a' b b'*, which present, as they are turned, inclined surfaces moving toward each other, and the floats on the two

sides of each shaft being inclined at opposite angles, the process of stirring is thoroughly accomplished; also, these paddles are constructed of a frame and slats, *c c*, which make them resemble ordinary house-blinds, and the passage of these slats through the cream breaks up and separates the butter from the milk.

By the inclined position of the paddles and their peculiar construction and arrangement, and by the manner in which they are driven so as to crowd together and break up the cream between them, a very effective churning device is secured; and further, by gearing the shafts, as shown, by providing the crank and balance wheel, a regular, easy, and powerful movement is obtained.

My device for holding the driving-shaft in gear and releasing the same when the churn is to be taken apart, consists of the latch *g*, which is pivoted in such a manner that it may be thrown over and enter the cut or channel *h* in the shaft G, and thus hold the shaft in gear with the churning mechanism. By simply removing the latch *g* from the channel *h* the shaft may be thrown back out of gear.

In order to give steadiness to the churn while being operated, I place it in the heavy cast stand T, which also serves to raise up the handle to the proper height to be easily turned.

I claim—

The combination of the inclined paddles *a a' b b'*, constructed as described, having slats *c c* arranged within a frame, as set forth, and placed on the shafts B C, as shown, with the shafts B C and gearing connecting the same with the driving-shaft G, the said paddles *a a' b b'* being arranged in relation to each other substantially as described.

JEREMIAH A. MARDEN.

Witnesses:

J. B. GARDINER,
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