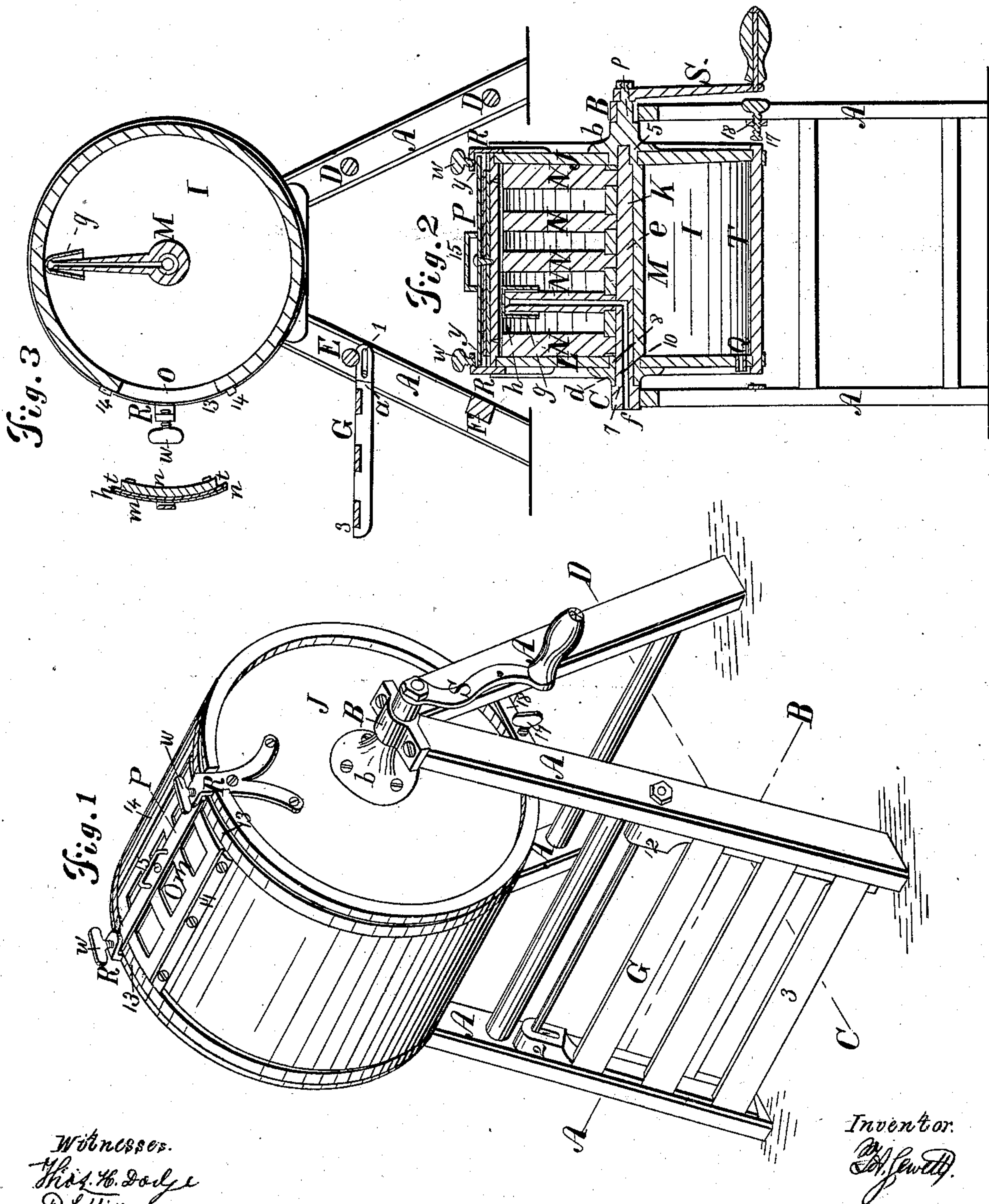


F. A. JEWETT.

Churn.

No. 78,877.

Patented June 16, 1868.



Witnesses.
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Letters Patent No. 78,877, dated June 16, 1868.

IMPROVEMENT IN CHURN.

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

KNOW ALL MEN BY THESE PRESENTS:

That I, F. A. JEWETT, of Shrewsbury, in the county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in 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, forming a part of this specification, in which—

Figure 1 represents a perspective view of my improved churn as it appears when fitted for use.

Figure 2 represents a longitudinal central section on line A B, fig. 1; and

Figure 3 represents a cross-section, indicated by line C D, fig. 1, the cover being shown removed to one side, and the stand or table being shown in its elevated position.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, A A A A are the main frame-pieces. Each set of two pieces are united at the top, and are provided with the bearings or boxes B C. Each set of frame-pieces, A A, are united, in this instance, by two back braces, D D, and two front braces, E F, the latter brace being a flat one, to allow the table or shelf G to drop down flush with or below the outer edges of the two front frame-pieces A A, when not raised for use, as shown in fig. 1.

Table or shelf G is hung upon the rod *a*, which passes through the frame-pieces A A and the slots 1 1, in the end-pieces, 2 2, of the table.

When the table is to be used for the purposes hereafter named, the operator lifts up the front, 3, and then slips the back edge 4 in under the brace F, as shown in fig. 3, in which position the table will be securely supported until drawn forward sufficiently to allow the back edge to turn up in front of the brace E, when it will fall into the position shown in fig. 1.

I is the churn-cylinder, to the head, J, of which is fastened, in this instance, a metal piece, *b*, one end of which is turned down, to fit and turn in bearing B, while the other end, which is turned or bored out in the centre, passes through the head J, and receives the end, 5, of the stationary shaft or spindle K.

In this instance, the bearing-piece C is cast with the shaft or spindle K, and as the bearing-piece C is securely fastened to the top of the frame-pieces A A on that end of the churn, the spindle K is supported in a rigid position.

A metal flange-piece, *d*, is fastened to the head L, a hole being bored out in the centre of it to fit closely the stationary spindle K. The hubs 7 and 8 of the flange-piece *d* afford good bearing-surfaces on that end, as the cylinder I is revolved in the operation of churning.

It will be seen, therefore, that the cylinder I is supported, as it turns, by two substantial bearings or journals: one, 9, which turns in the bearing or box B, while the other, 10, is stationary, being a part of the stationary shaft or spindle K.

The end of shaft or spindle K, it will be observed, is retained in a central position by being stepped in the metal piece *b*, as shown in fig. 2. The metal spindle K is covered, in this instance, by a wooden thimble or tube, M, to the upper side of which are fastened the vertical floats or arms N, which extend up to near the inner periphery of the cylinder I. The thimble M is fastened rigidly to the shaft K, in this instance, by a screw, *e*.

The mode of applying the tube M, when made in one piece, is to place it, after the arms N have been properly inserted, into the cylinder, and then run the spindle K through it, after which the hub or bearing-piece C is fastened to the top of the pieces A A, and the tube M to spindle K.

If preferred, the ends of the wooden tube or thimble may have metal ferrules applied to them. The part M, too, may be made in two parts, and fastened together and to the spindle, so as to prevent the cream from coming in contact with said spindle.

A ventilating-hole, *f*, passes in through one end of the stationary shaft K, then up through one of the arms or floats N, which is covered with a cap, *g*, large enough to permit the ingress and egress of air, the upper sides of the arm being hollowed or cut out, as seen at *h*, to facilitate the operation.

The cover O is composed of an outer metal frame, *m*, to the under side of which is fastened a zinc or other suitable metal piece, *n*, just large enough to fill the opening *o*, cut in the cylinder, while a strip of rubber or other elastic packing, *t*, is fastened between the metal parts *m* and *n*, and extends out under the projecting flange, *p*, of the outer metal piece *m*, so that when the cover is placed in position, and the ends, *y y*, of the metal spring P, which is pivoted to the top of the cover, are forced down by the thumb-screws *w w*, the metal frame and rubber are pressed down upon the surface of the cylinder, between the hoops 13 13 and cleats 14 14, so as to make a tight joint.

The thumb-screws are supported and work in the metal pieces R R, fastened to the heads of the cylinder, as shown in the drawings.

The cover O may be removed by taking hold of the handle 15 and turning back the thumb-screws *w w* sufficiently to permit the spring-bar P to be turned from under the ends of the screws *w w*.

A vent or drain-hole, Q, to be stopped by a suitable plug, is made in one head of the cylinder, by means of which the buttermilk or water can be drawn off as occasion may require.

The arms N may be fastened to the stationary shaft K in any desired manner, one good way being shown in the drawings.

The operation is as follows: The cream or milk to be churned is placed in the cylinder, and the cover properly secured, when the operator, by means of the crank S, which is attached to the metal hub or flange-piece *b*, gives to the cylinder a rapid rotary motion, which causes the milk or cream in the cylinder to move towards and with the inner periphery, T, of the cylinder, in the form of a belt, until it comes in contact with the floats or arms N, when a part of the milk or cream, being stopped, falls to the bottom, to be again put in motion, as before explained. The vent or air-hole *f* allows the air to pass in and out during the operation, while the cream or milk being churned is prevented by the cap *g* from running out.

My churn has been put to severe practical tests, and has given unusual satisfaction, both as to ease of operation, length of time required to churn, and the per cent. of butter produced.

After the butter has been gathered properly, and which operation may be facilitated by giving a rapid reciprocating motion to the cylinder I for a minute or so after the butter has "come," the operator turns the cylinder so as to bring the opening *o* into the position shown in fig. 3, when the table or shelf G is raised, and cover O removed, after which the butter can be easily removed into a suitable receptacle or vessel placed upon the shelf G.

During the latter operation, the cylinder is held in place and kept from turning by a friction-screw or pad, 17, turned up firm against the flange or head of the cylinder.

Screw 17 passes through a piece of metal or wood, 18, fastened to the pieces A A of one end.

If preferred, one solid float may be used instead of a series, and in which case it might be well to corrugate the solid or whole float.

Having described my improved churn, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the cylinder I, of the stationary arms or floats N, substantially as and for the purposes set forth.

2. The combination of the stationary arms N with the stationary shaft K, substantially as and for the purposes set forth.

3. The combination, with the cylinder I, of the stationary shaft or spindle K, and stationary arms N, or their equivalents, substantially as and for the purposes set forth.

4. The combination, with the stationary shaft K and one of the arms N, of the air or vent-hole *f*, substantially as and for the purposes set forth.

5. The combination of the cap *g* with the vent-arm N, substantially as set forth.

6. The combination, with the cylinder I and spindle or shaft K, of the flanged or hub-pieces *b c*, substantially as and for the purposes set forth.

7. The combination and arrangement, with the cylinder I, of the arms R R, spring-bar P, screws *w w*, and cover O, substantially as and for the purposes set forth.

8. The combination, with the cylinder I, of the holding-screw pad 17, substantially as set forth.

9. The combination, with the front frame-pieces A A and brace E, or its equivalent, of the swing-table or shelf G, substantially as and for the purposes set forth.

F. A. JEWETT.

Witnesses:

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