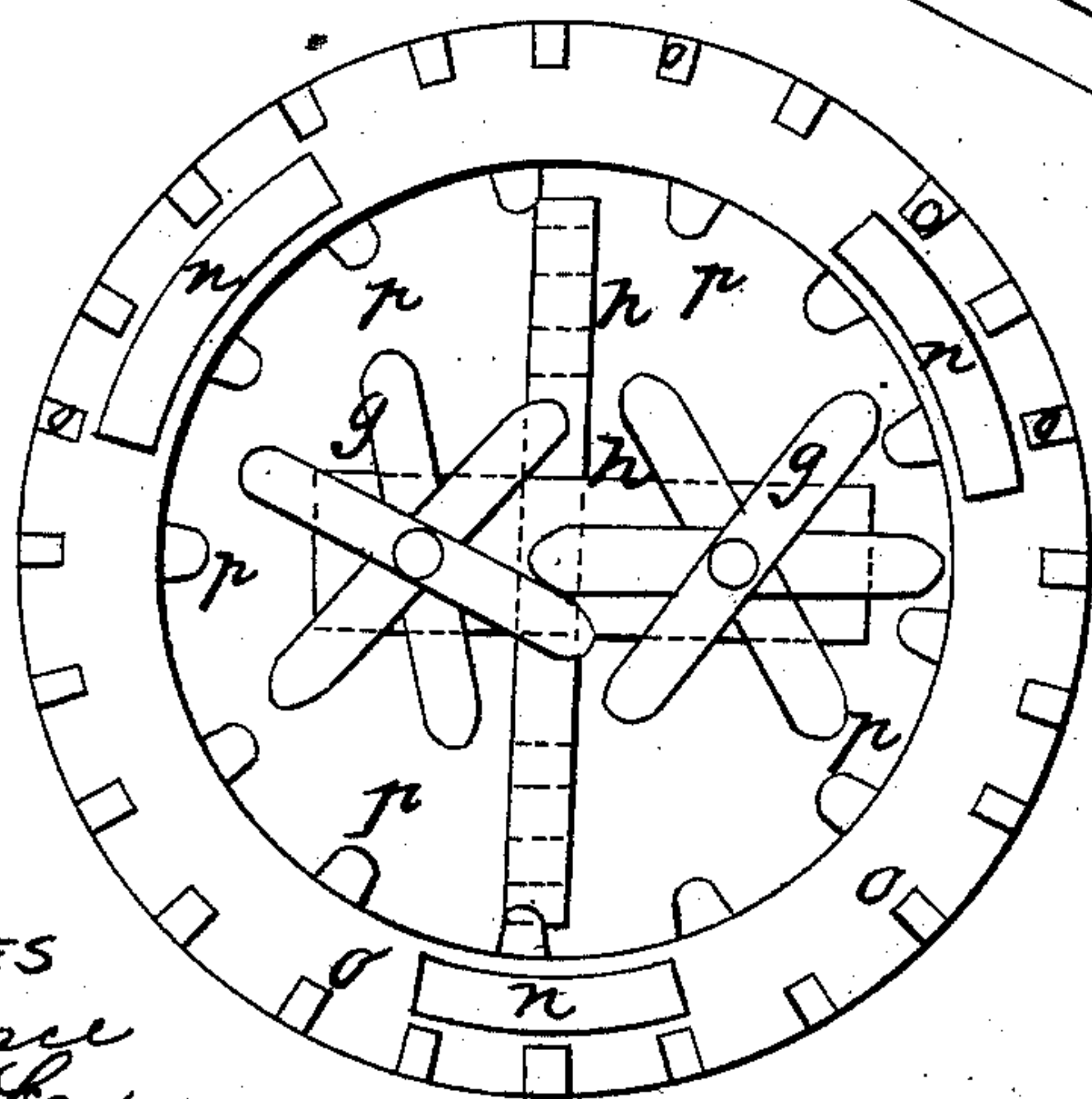
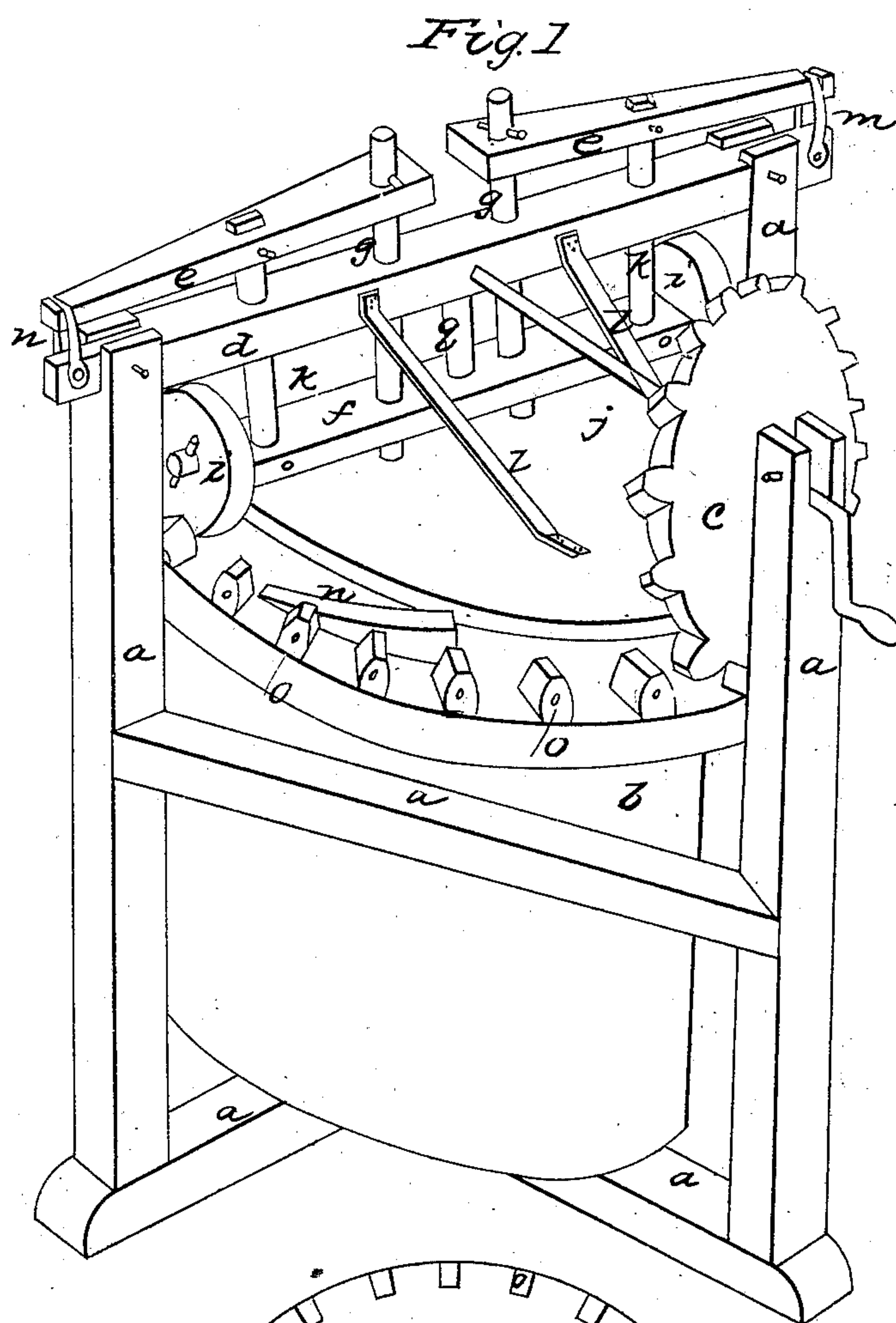


G. P. HOPKINS.

Churn.

No. 23,374.

Patented March 29, 1859.



WITNESSES
M. P. Wallace
Sam. C. McLean

INVENTOR
G. P. Hopkins

UNITED STATES PATENT OFFICE.

GARDNER P. HOPKINS, OF CABOT, VERMONT.

CHURN.

Specification of Letters Patent No. 23,374, dated March 29, 1859.

To all whom it may concern:

Be it known that I, GARDNER P. HOPKINS, of Cabot, in the county of Washington and State of Vermont, have invented a new and useful Churn for the Purpose of Making Butter from Cream, called "Hopkins's Patent Churn;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a perspective view of the outside of the churn, and Fig. 2, the inside of the churn, with the dashers.

The letter *a*, in Fig. 1, of the drawings represents the frame on which the churn rests. It consists of two bed-pieces or sills, from 18 inches to three feet in length, which cross each other at right angles, in the center, and are halved together. At three of the ends of the bed pieces, there are standards, from three feet, to three and a half feet in length, mortised into the bed pieces, which are supported by two braces connecting three standards together, about midway up the standards, and are all marked with the letter *a* in the drawings. At the top of two of the standards there is a beam, represented by the letter *d*, in the drawings, which rests in slots, cut in the top of each of the two standards, the ends of which beam extend about 3 inches beyond the standards, on which a clevis is placed, represented by the letter *m*, in the drawings, which serves to hold one end of the levers marked *e*, in the drawings. Above this beam there are two levers, from 12 to 16 inches in length, one of which is attached to each of the two ends of the beam by means of the clevis before mentioned. Below the beam, there is an axle, represented by the letter *f*, in the drawings, which is connected with the levers by a stud near each end of the axle, represented by the letter *k*, in the drawings, and on each end of the axle there is a wheel, from 3 to 6 inches in diameter, marked *i*, in the drawings. In the center of the beam, there is a fulcrum, marked *g*, in the drawings, which extends down to the axle, the lower end of which is brought to a point, under

which the axle plays. Near one end of each lever the upper end of each dasher, marked *g*, in the drawings, is attached, and extends down through the beam, axle, and top of the churn, and the lower end of the dasher rests in a hole in two pieces of wood in the form of a cross in the bottom of the barrel of the churn, from 3 to 5 inches in depth, represented by the letter *h*, in the drawings.

The barrel of the churn is from 18 to 24 inches in diameter and from 18 to 24 inches in height, represented by the letter *b*, in the drawings, and is made to revolve on a pivot, placed in the center of the bed pieces or sills, and is made the smallest at the lower end. At the upper end of the barrel of the churn, there is a cog hoop, about one inch in width, represented by the letter *o*, in the drawings. The cogs are about half an inch square and in height, and on the inside of the barrel of the churn and near the upper end thereof, there are cogs, corresponding with the dashers, attached to the barrel of the churn, from 3 to 5 inches in length, and about half an inch square, represented by the letter *p*, in the drawings.

The cover to the churn is marked *j*, in the drawings, and is attached to the beam by means of two braces on each side of the beam, marked *l*, in the drawings. On the inside of the cogs, on the cog hoop there are three or more inclined planes, from 6 to 8 inches in length, marked *n* in the drawings, being about one inch to an inch and a half in thickness at the thickest end.

The barrel is caused to revolve by means of a crank and pinion wheel, the wheel being about one third of the size of the barrel of the churn, represented by the letter *c*, in the drawings. The floats are made from 3 to 5 inches wide, and are represented by the letter *g*, in the drawing. The floats on one of the dashers are made about one inch shorter than those on the other dasher. The wheels on the axle run over the inclined planes, and thereby cause an up and down motion of the dashers while the same revolve in different directions, when the churn is in operation. By means of the dashers revolving in different directions, and by means of the cogs in the inside of

the barrel of the churn, the cream is prevented from acquiring a circular motion, in the process of churning.

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

The construction of the churn in the manner hereinbefore described, so as to combine the rotary motion of the barrel

with the up and down, and rotary motion of the dashers, and so as to prevent the cream from acquiring a circular motion in the process of churning.

GARDNER P. HOPKINS. [L. s.]

Witnesses:

ORAMEL N. SMITH,
I. H. BOYDEN.