

(No Model.)

J. F. TOWNER.  
CHURN.

No. 309,500.

Patented Dec. 16, 1884.

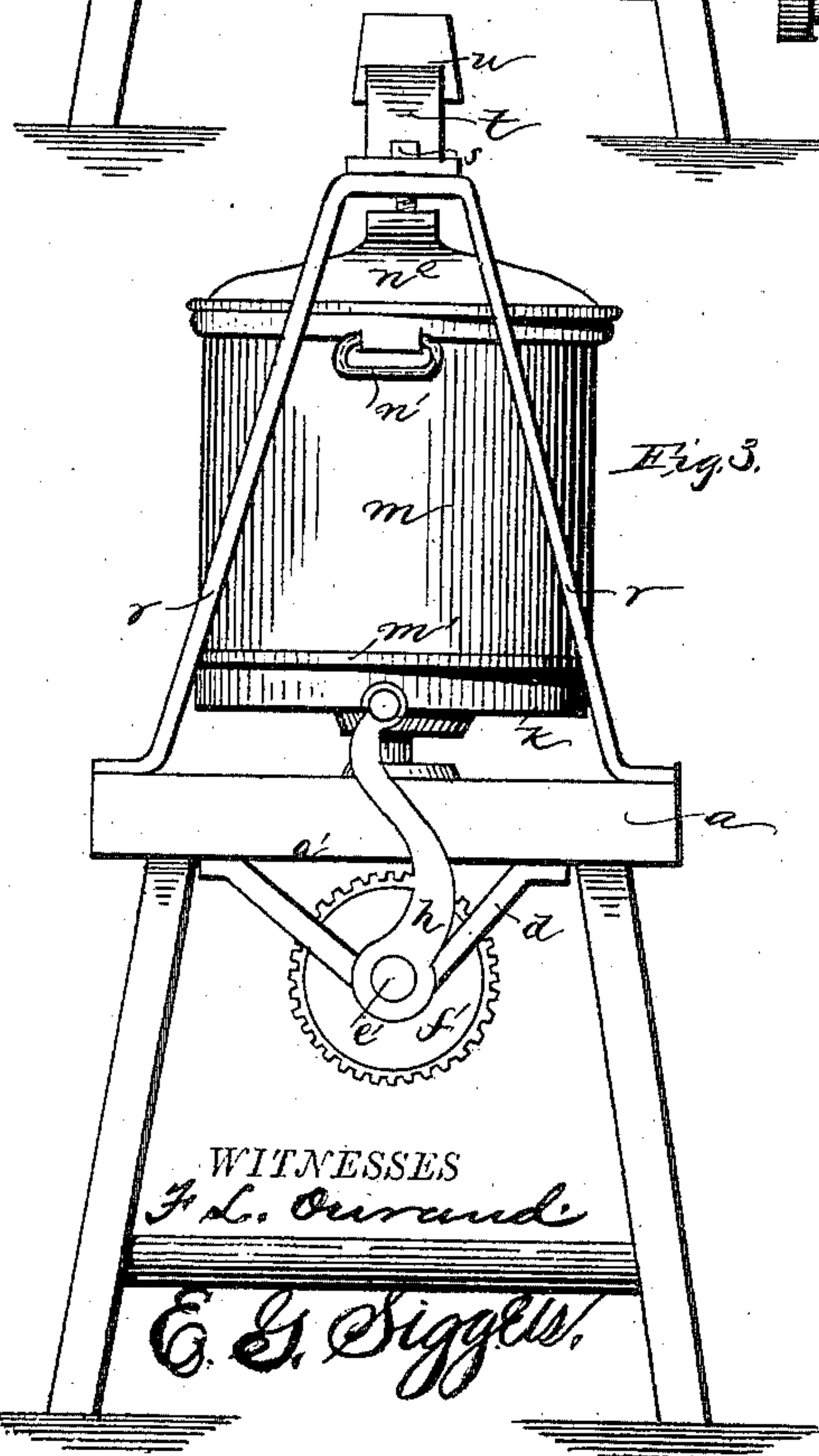
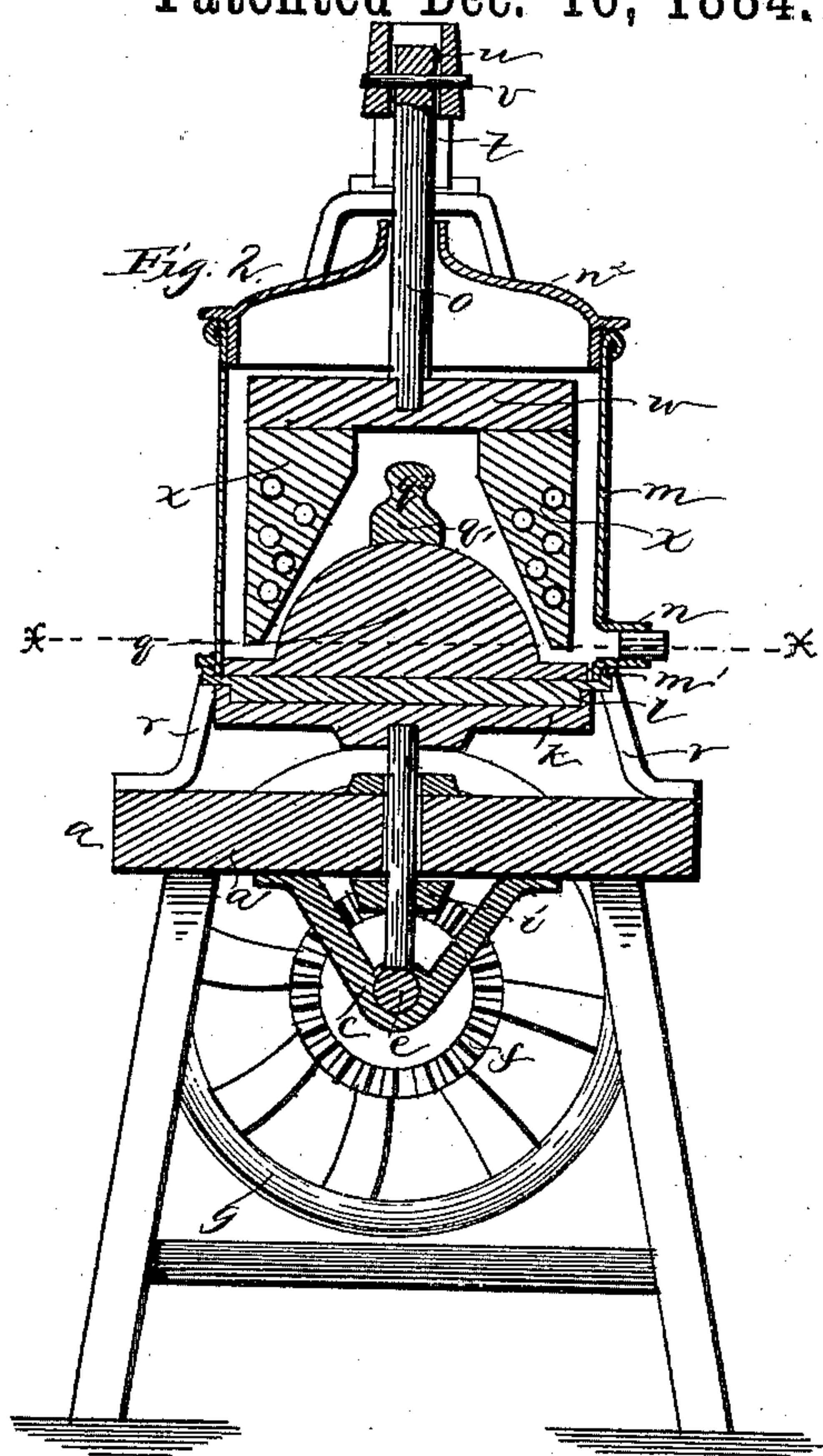
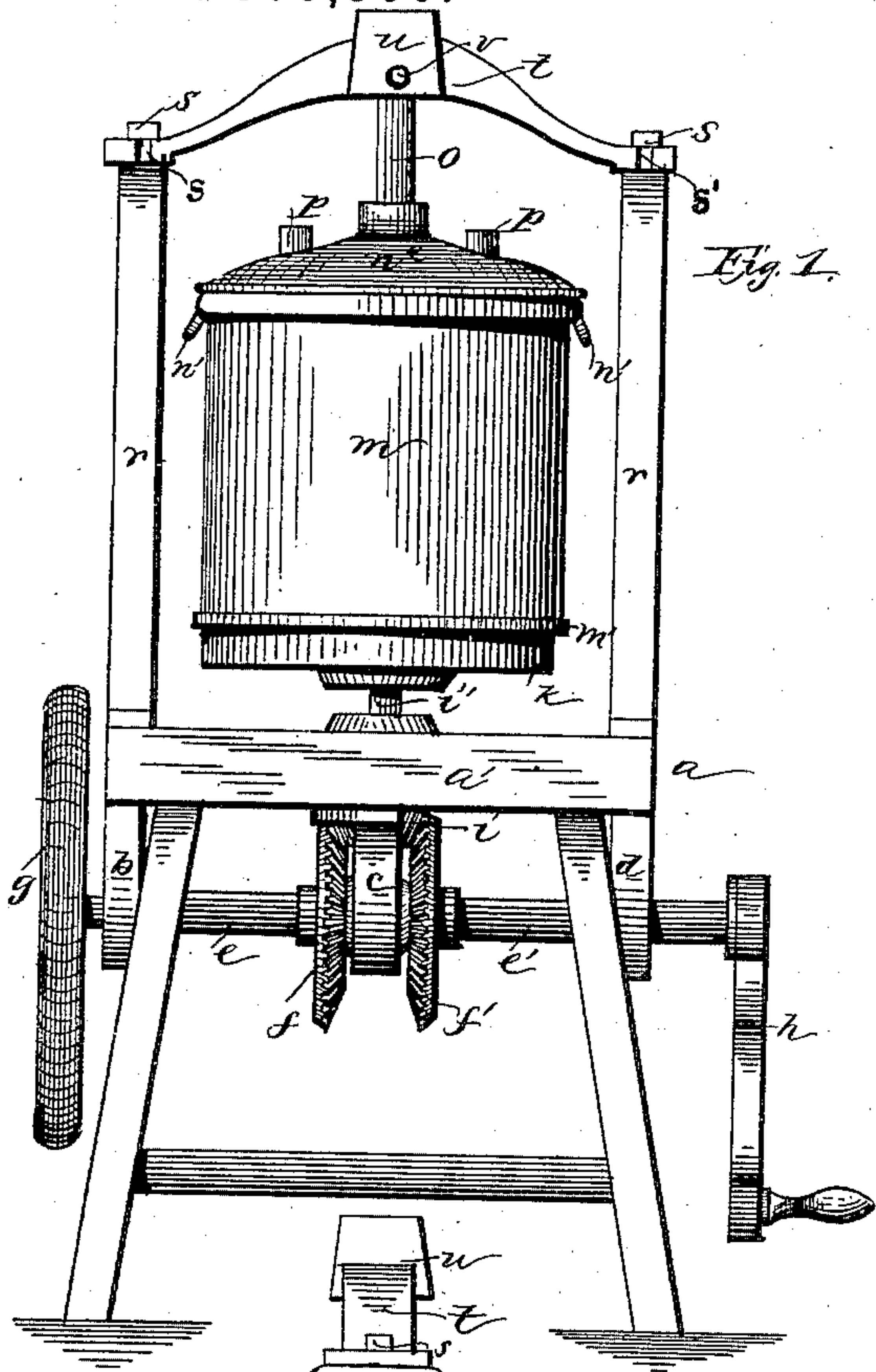
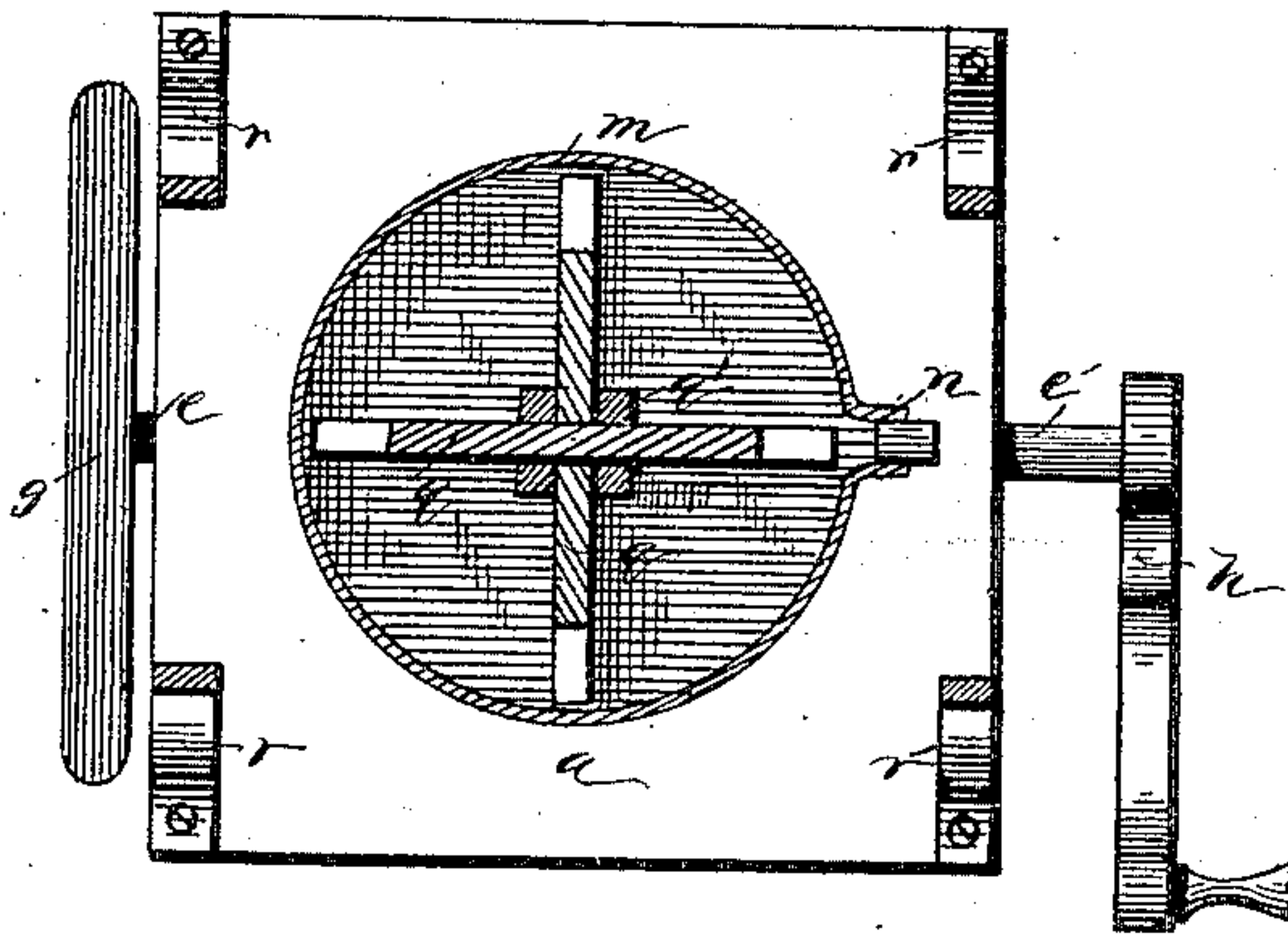


Fig. 4.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

JAMES FRANKLIN TOWNER, OF AURORA, ILLINOIS.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 309,500, dated December 16, 1884.

Application filed April 8, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. TOWNER, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented a new and useful Churn, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to rotary churns; and it consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claim.

Figure 1 is a front elevation of a churn embodying my improvements. Fig. 2 is a transverse vertical sectional view. Fig. 3 is an end elevation, and Fig. 4 is a horizontal section, through the churn-body, on the line *x x* in Fig. 2.

Referring by letter to the accompanying drawings, *a* designates the table which supports the gearing that rotates the churn-body.

*b*, *c*, and *d* designate three hangers, secured to the under face of the table-top *a'*, and which are provided with the bearings for the two shafts *e* and *e'*. The shaft *e* carries a miter-gear wheel, *f*, near its inner end, and a fly-wheel, *g*, on its outer end. The shaft *e'* is provided near its inner end with a miter-gear wheel, *f'*, and on its outer end with the crank *h*. The teeth of the miter-gear wheels *f* and *f'* are on their inner faces, and engage the teeth of a miter-pinion, *i*, on a vertical shaft, *i'*, stepped in a seat in the middle hanger, *c*, and having its upper bearing in the center of the table-top *a'*.

To the upper end of the vertical shaft *i'* is fixed a wheel, *k*, having a vertical rim-flange, *l*, and this wheel *k* forms the seat for the bottom of the churn-body *m*. The bottom of the churn-body is provided with a shoulder, *m'*, which rests on the rim-flange *l*, and the churn-body is therefore prevented from being moved from its seat by the centrifugal force of the wheel *k*. When rapidly rotated, the weight of the churn-body and its contents prevent rising vertically. The churn-body is of metal and has a discharge-spout, *n*, handles *n' n'*, and a removable lid, *n<sup>2</sup>*, provided with an orifice for the stationary dasher-stem *o*, and ventilating-tubes *p p* on opposite sides of said orifice. A set of four radial blades, *q*, secured in a central post, *q'*,

slotted to receive them, and provided with an upward projection, *q<sup>2</sup>*, rests within the churn-body on its bottom, and revolves with it when the churn is operated.

Standards *r r* rise from the top of the table at its sides, and are perforated in their horizontal tops, for the reception of screw-bolts *s s*, which pass through the slots *s' s'* in the ends of the arched cross-arm *t*, which is provided with a central socket, *u*, in which the upper end of the stem *o* is removably secured by a cross-pin, *v*.

To the lower end of the stationary dasher-stem *o* is secured a cross-bar, *w*, and near the ends of this cross-bar are provided the depending perforated dasher-blades *x x*, curved outwardly on their inner edges to permit the radial blades *q* to pass between and below them when the churn is operated. When the crank is turned, the churn-body is rotated by the wheel *k*, on which it rests, and it carries with it the radial blades *q*. The perforated blades *x x* remain stationary, and the cream is driven against them and through their perforations, thus thoroughly agitating the cream. This churn is the most simple, the lightest running, and will perform the work of churn-

ing in a shorter space of time than any churn now on the market. The cross-beam on the top of the standards is both adjustable and removable, so that the dasher-stem can be adjusted to the center, and the churn-body can be removed for the purposes of cleaning and filling, and removing the butter when churned.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—  
In a churn, the combination, with the table having bearings for the transverse and vertical shafts, of the shafts *e* and *e'*, having the miter-gears *f* and *f'*, the fly-wheel and the crank, and the vertical shaft *i'*, having the pinion *i* near its lower end, and the wheel *k*, provided with the rim-flange at its upper end, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JAMES FRANKLIN TOWNER.

Witnesses:

DANIEL FREESE,  
GEORGE BAXTER.