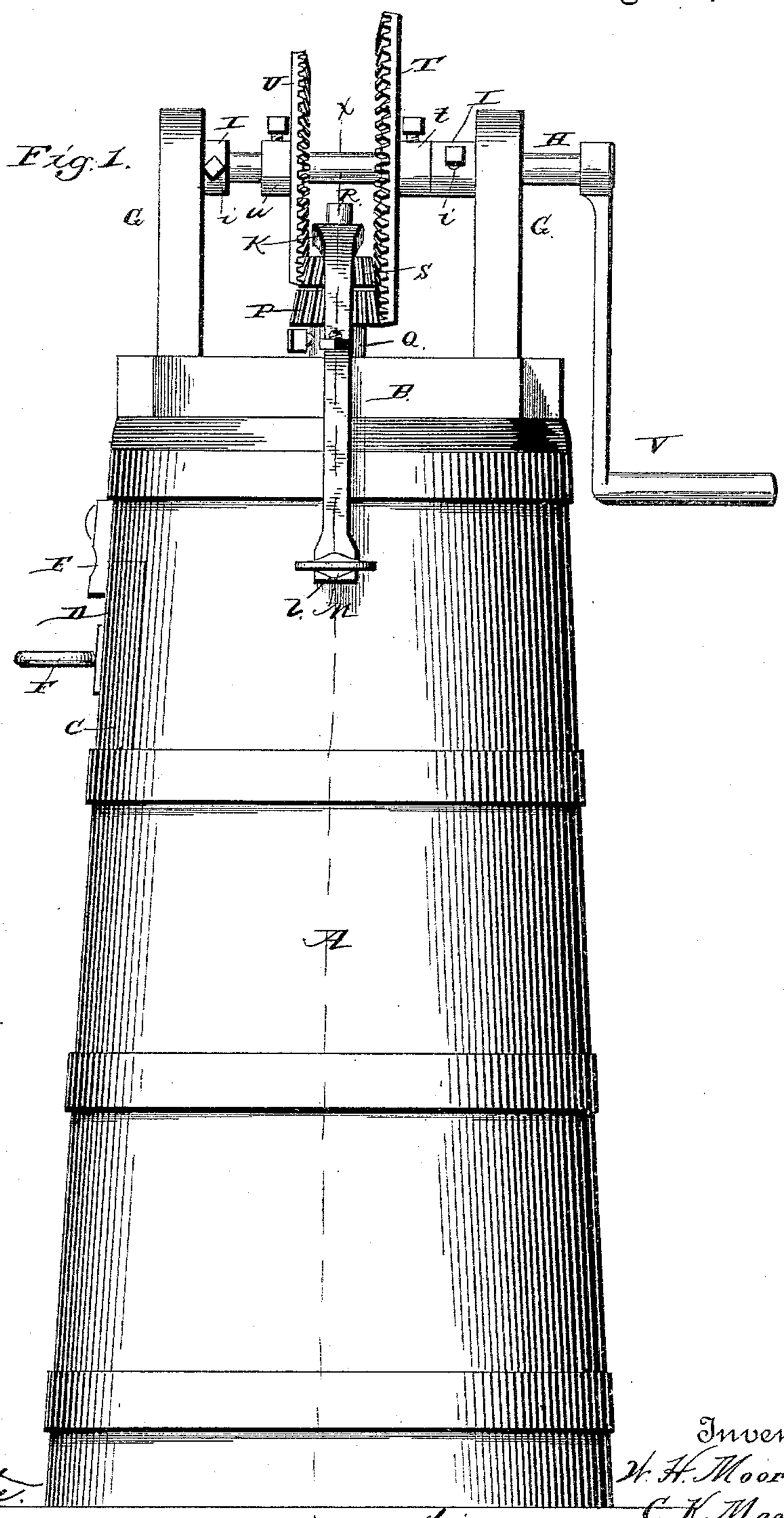
(No Model.) 2 Sheets—Sheet 1.

W. H. & C. K. MOORE.

CHURN.

No. 388,064. Patented Aug. 21, 1888.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Cchurn.

No. 388,064. Patented Aug. 21, 1888.

Fig. 2.

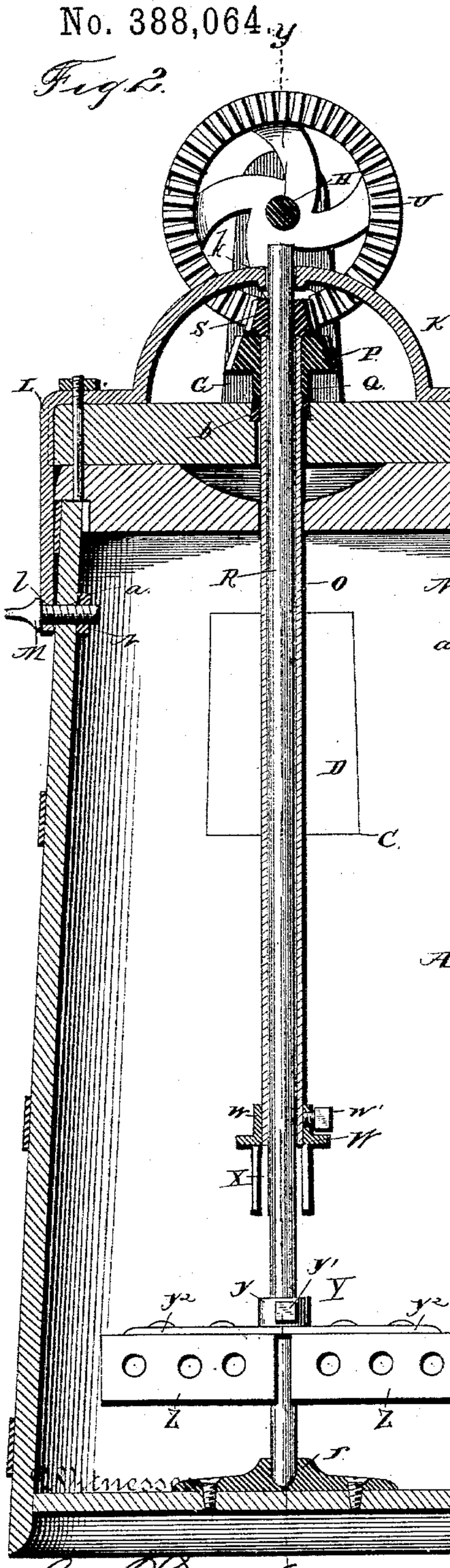
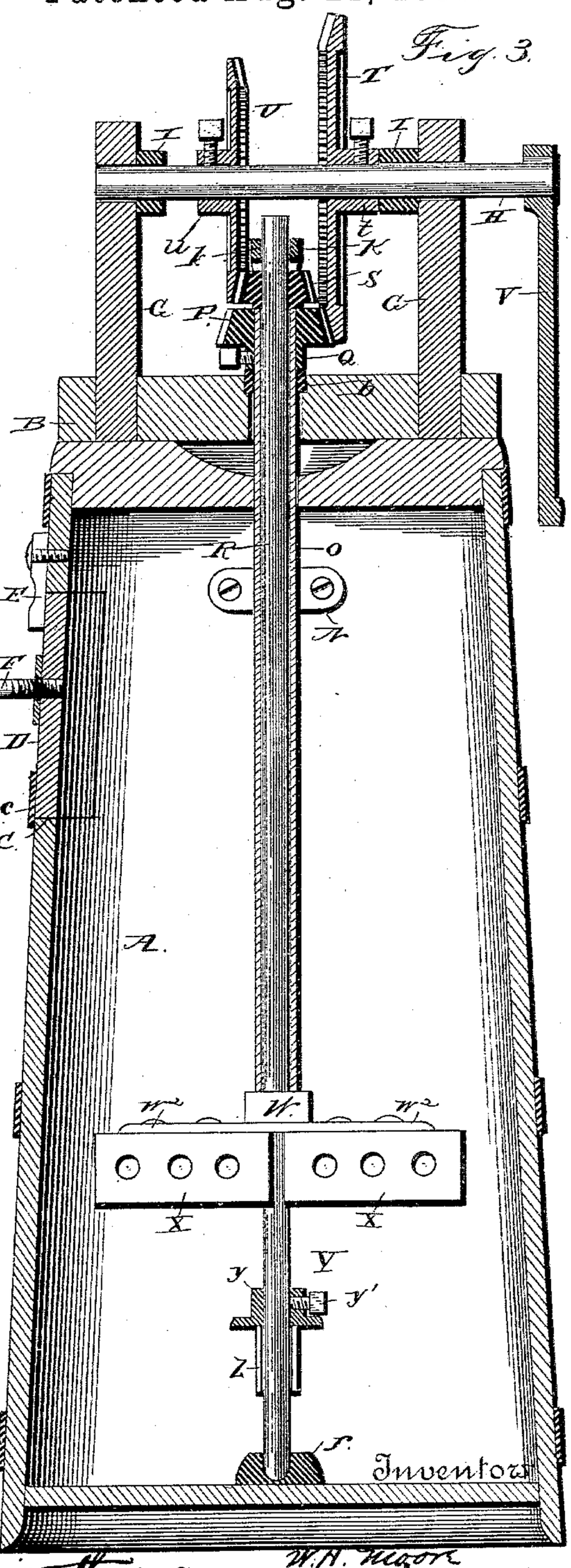


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM HILL MOORE AND CALVIN KEYS MOORE, OF ANDERSONVILLE, TENNESSEE.

CHURN.

SPECIFICATION forming part of Letters Patent No. 388,064, dated August 21, 1888.

Application filed January 3, 1888. Serial No. 259,610. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM HILL MOORE and CALVIN KEYS MOORE, citizens of the United States, residing at Andersonville, in the county of Anderson and State of Tennessee, have invented new and useful Improvements in Churns, of which the following is a specification.

Our invention relates to improvements in churns; and it consists in a certain novel construction and arrangement of devices, which is hereinafter fully described in connection with the drawings and specifically pointed out in the claims.

In the accompanying drawings, wherein similar letters of reference denote corresponding parts in all the figures, Figure 1 is a side view of the churn. Fig. 2 is a central vertical section on the line *x x* of Fig. 1. Fig. 3 is a similar view on the line *y y* of Fig. 2.

Referring by letter to the drawings, A designates the body of the churn, which is provided on its upper end with the lid B.

C designates an opening in the side of the body, which is fitted with a cover, D. The cover engages at its lower edge behind a band, *c*, at the lower end of the opening, and a button or other fastening device, E, (secured to the side of the body above the opening,) engages the upper edge of the said cover D and holds it in place. The cover is provided with a handle, F, to enable it to be readily removed and replaced.

G G represent upright standards, which are attached to the lid B, and in bearings at the upper ends of the standards is mounted the shaft H.

I I represent adjustable collars arranged on the shaft and adapted to bear against the inner sides of the standards, to thus hold the shaft from longitudinal movement in its bearings. These collars are provided with set-screws *i i*, which impinge at their inner ends against the shaft.

K represents a curved bracket, which is attached to the lid B, and is provided at its center with a bearing, *k*, and the ends of the bracket are extended vertically downward from the edges of the lid to form the depending arms L L, having apertures *l l* in their lower ends, which register with diametrically-opposite apertures, *a a*, in the sides of the churn-body. Thumb-screws M M are passed through the said registering apertures and screwed into fixed nuts N N, which are rigidly secured by any suitable means (that shown being screws) to the sides of the churn-body at the inner ends of the apertures *a*. A central bearing, *b*, is formed in the lid, in which is mounted the vertical tubular shaft O, having a pinion, P, on its upper end.

Q designates a collar depending from the under side of the pinion P and bearing upon the top of the lid. This collar is secured to the shaft O by a set-screw, as shown, so that the said shaft can be readily adjusted in a vertical line. This vertical adjustment may be sometimes desired for the purpose of affording a slightly greater adjustment of the dasher on the lower shaft, and also for the purpose of keeping the pinion S in engagement with the wheel U, as it will be observed that the upper end of the shaft O will bear against the under side of the said pinion and serve as a support therefor.

R represents a shaft, which operates in the tubular shaft, and is provided on its upper end with a pinion, S. The upper end of the shaft R is mounted in the bearing *k* in the center of the bracket K, and it extends below the lower end of the tubular shaft and is mounted in a socket, *r*, on the bottom of the churn-body.

T represents a bevel gear-wheel, which is mounted on the horizontal shaft H and meshes with the pinion P, and U represents a similar gear-wheel, which is mounted on the said shaft and meshes with the pinion S. These gear-wheels are arranged on opposite sides of the bracket K, and therefore mesh with opposite sides of their respective pinions, so that the latter rotate in opposite directions. The gear-wheels are provided with rigid collars *t* and *u*, which encircle the shaft H, and are secured thereto by set-screws, which enable the gear-wheels to be adjusted to any point on the shaft. The gear-wheels may thus be arranged to accurately mesh with the pinions.

The collars I I and the gear-wheels T U are arranged adjustably on the shaft H, first, to enable the latter to be removed from its bear-

ings, and, second, to enable all wear to be taken up so that there will be no rattle of any of the parts. A crank, V, is attached to one end of the shaft H to enable the same to be rotated to operate the shafts O and R.

W represents a casting, which is adjustably secured to the lower end of the tubular shaft, and it comprises the collar *w*, which embraces the shaft and is provided with a set-screw, *w'*, and the lateral arms w^2. The paddles X X are attached to the said arms in any suitable manner. Y represents a similar casting, which is adjustably secured to the shaft R, and it comprises the collar *y*, having a set-screw, *y'*, and the lateral arms y^2, to which are secured the paddles Z. It will be seen that either of these dashers is vertically adjustable on its respective shaft, and any number of similar dashers may be employed. By having the dashers adjustably secured to the shafts they can be readily adjusted to the quantity of cream in the churn-body. The dashers also can be increased in number, as the dasher first placed on the shaft can be shifted upward to leave a greater length of shaft exposed and open for the attachment of dashers.

The opening in the side of the body, which is provided with a removable cover, is designed to enable the operator to view the contents of the churn without removing the lid and disturbing the operating mechanism.

The lid B is secured to the bracket K by any suitable means, (that shown being bolts,) and is thereby held immovably upon the top end of the churn-body. The bracket K thus serves not only to support the upper end of the shaft R, but also serves to secure the lid in place.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a churn, the combination of a solid dasher-rod, a hollow dasher-rod surrounding the solid rod, the shaft and gearing, substantially as described, whereby said rods are rotated in opposite directions, a transverse dasher attached to and adjustable upon the hollow rod from its lower end to the inner surface of the top of the churn, and a similar dasher attached to the solid rod and adjustable thereon from the lower end of said rod to the lower end of the hollow rod, substantially as specified.

2. In a churn, the combination, with the driving-shaft mounted in the standards G, the crank-handle V, and the bevel gear-wheels T and U on said shaft, of the hollow rod O, having suitable bearings in the churn-top, the bevel gear-wheel P thereon, meshing with the bevel gear-wheel T, the transverse dasher attached to said hollow rod and adjustable thereon from the lower end of said rod to the inner side of the top of the churn, the solid rod R, stepped at the bottom of the churn, running up within the hollow rod, having near its top the bevel gear-wheel S, meshing with the bevel gear-wheel U, and the transverse dasher attached to the solid rod and adjustable thereon up to the lower end of the hollow rod, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

WILLIAM HILL MOORE.
CALVIN KEYS-MOORE.

Witnesses:
T. J. SCRUGGS,
V. A. MOORE.