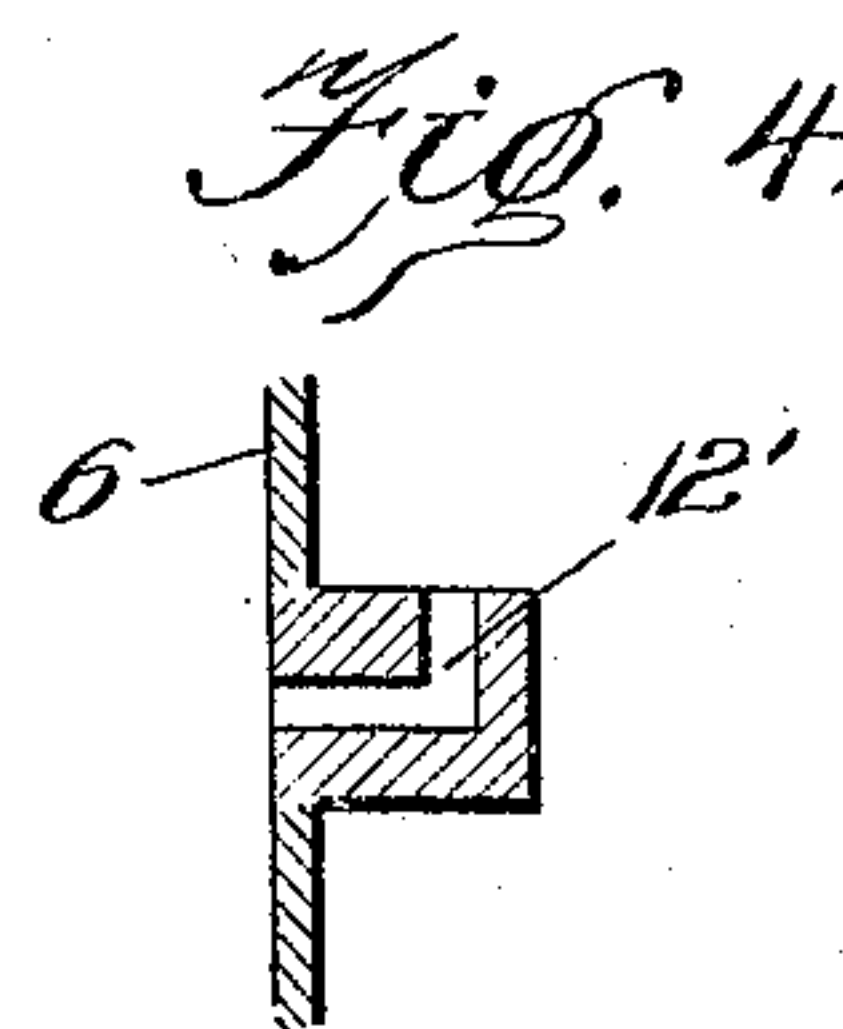
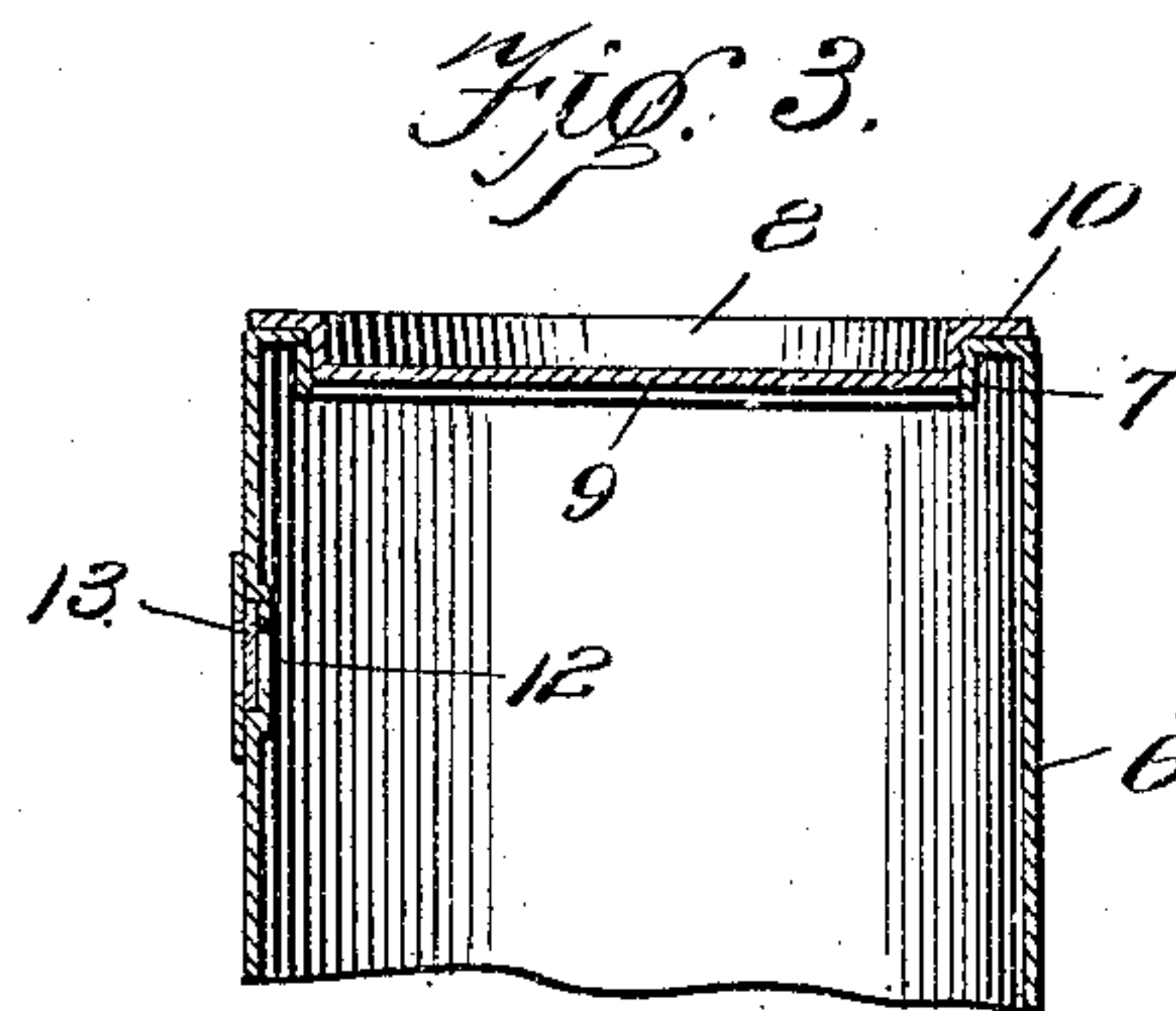
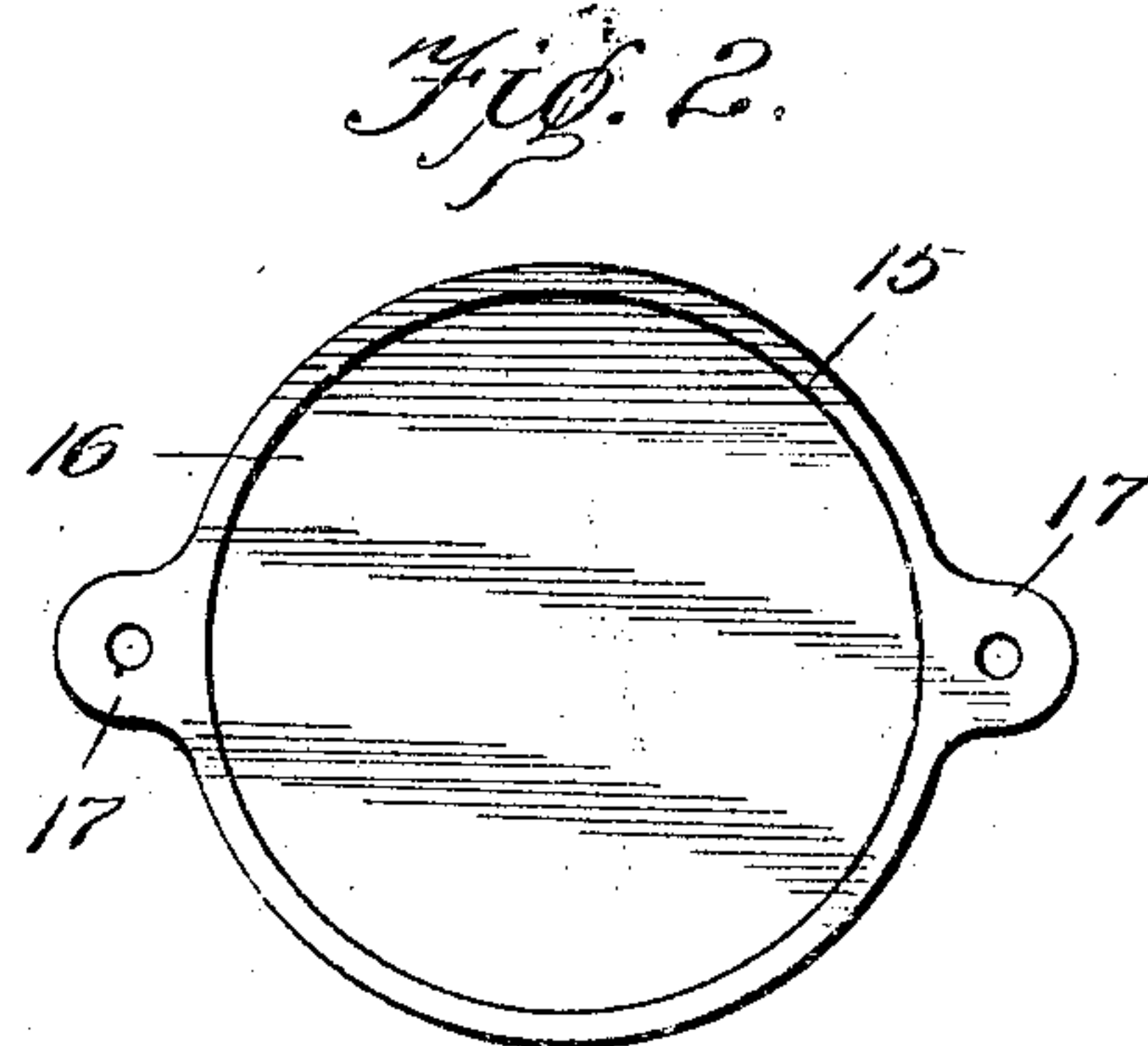
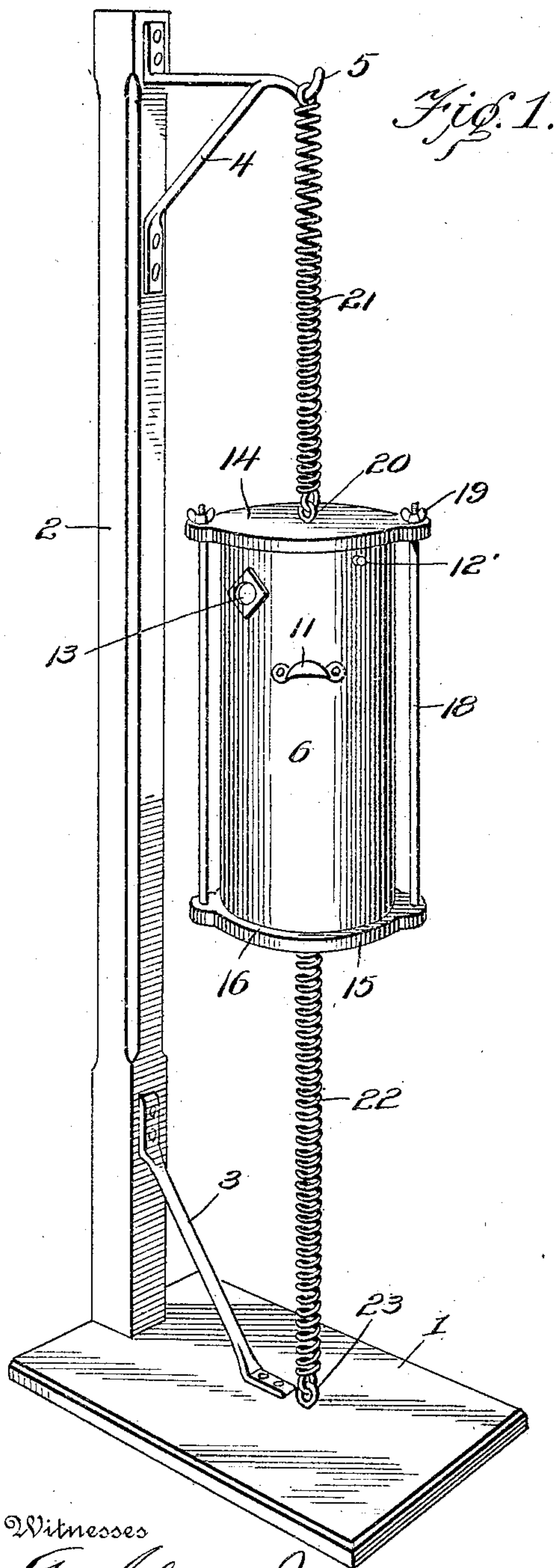


J. W. ZOOK & C. G. KRAUSE.
CHURN.

APPLICATION FILED DEC. 10, 1909.

994,967.

Patented June 13, 1911.



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UNITED STATES PATENT OFFICE.

JOHN W. ZOOK AND CARL G. KRAUSE, OF ARKANSAS CITY, KANSAS.

CHURN.

994,967.

Specification of Letters Patent. Patented June 13, 1911.

Application filed December 10, 1909. Serial No. 532,509.

To all whom it may concern:

Be it known that we, JOHN W. ZOOK and CARL G. KRAUSE, citizens of the United States, residing at Arkansas City, in the county of Cowley and State of Kansas, have invented new and useful Improvements in Churns, of which the following is a specification.

This invention relates to churns, the object of the invention being to provide a simple and effective construction of spring supported oscillatory churn, whereby the operation of churning may be quickly and conveniently effected, and further to provide means whereby the churn body may be conveniently applied to and removed from its frame, by which the progress of the churning operation may be inspected at any time, and by which the undue accumulation of gases within the churn body will be prevented.

The invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings in which:—

Figure 1 is a perspective view of a churn embodying our invention. Fig. 2 is a plan view of one of the frame heads. Fig. 3 is a vertical section through the upper portion of the churn body. Fig. 4 is a detail section thereof showing the gas vent.

Referring to the drawing, 1 represents a suitable base, from which rises a post or standard 2 suitably secured to the base and reinforced therefrom by a connecting brace 3. The upper end of the post carries a V-shaped bracket 4 provided with a hooked end 5.

The churn body or casing 6 is in the form of a metallic cylinder, preferably of uniform diameter, and having at its upper end a mouth formed by a depending annular flange 7. This mouth is adapted to be closed by a lid or cover having a depressed panel 9 to bear frictionally against the flange and formed with a rim flange 10 to rest against the rim of the body surrounding said flange 7. By this construction a tight closure may be effected to prevent escape of the contents of the body. The body is further provided with suitable handles 11 by which it may be carried and manipulated. In one side of said body is an opening 12 covered by a transparent panel 13, of glass, mica, or other transparent material, through which the op-

erator may observe from without the progress of the churning operation, so that agitation of the cream may be arrested at the proper time to prevent undue breaking up of the butter globules. The churn body is provided with a vent 12' for the escape of generated gases.

The churn body is adapted to be fitted within a frame composed of upper and lower clamping disks or heads 14 and 15 provided in their inner faces with concavities 16 to receive and closely engage the ends of the body. These heads are formed at opposite sides with apertured ears 17 for the passage of connecting rods or bolts 18, having headed ends engaging the ears of the lower head and receiving clamping nuts 19 by which the parts of the frame may be closely drawn together to clamp the churn body firmly in position. The frame is spring supported, its upper head 14 being provided with an eye 20 with which is connected one end of a coiled suspending spring 21, the other end of which is formed with an eye to engage the hook 5 of the bracket 4. To the lower head 15 is similarly connected the upper end of a counteracting spring 22, the lower end of which is secured to an eye 23 on the base or platform 1.

In the operation of churning, the cream to be churned is placed in the body 6 and the latter sealed by its cover 8 and clamped between the heads 14 and 15 of the frame. The operator then grasps the handles 11 or otherwise manipulates the frame to impart a vertical reciprocatory motion thereto. The movement of the frame in one direction will relax one spring and expand the other and such action will alternately occur, the springs thus assisting to promote and maintain the oscillatory motion. The operator from time to time may inspect the progress of the churning operation, through the agitation of the contained cream by looking through the panel 13, so that the agitation may be arrested when the globules have been fully freed. If any gases should form during the churning action, it will exhaust through the vent 12'. After the churning operation is completed the nuts 19 are loosened allowing the churn body to be detached from the frame and the butter and buttermilk to be removed therefrom.

The simplicity and efficiency of our improved churn will be apparent without further description and it will also be ap-

parent that it may be manufactured and sold at a low cost.

Having thus described the invention, what is claimed is:—

- 5 A churn comprising a churn body closed at its lower end, a cover closing the upper end of the churn body, cylindrical heads recessed to receive and bear upon the bottom and top of the body and to clamp said cover in position, said heads having laterally projecting ears extending beyond the sides of
- 10

the body, and bolts passing through said ears and coupling the heads together, the body and heads being separable from each other.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN W. ZOOK.

CARL G. KRAUSE.

Witnesses:

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