No. 655,009. Patented July 31, 1900.

# C. RAW.

## CHURN.

(Application filed Dec. 22, 1898.)

(No Model.)

Fig. 1.

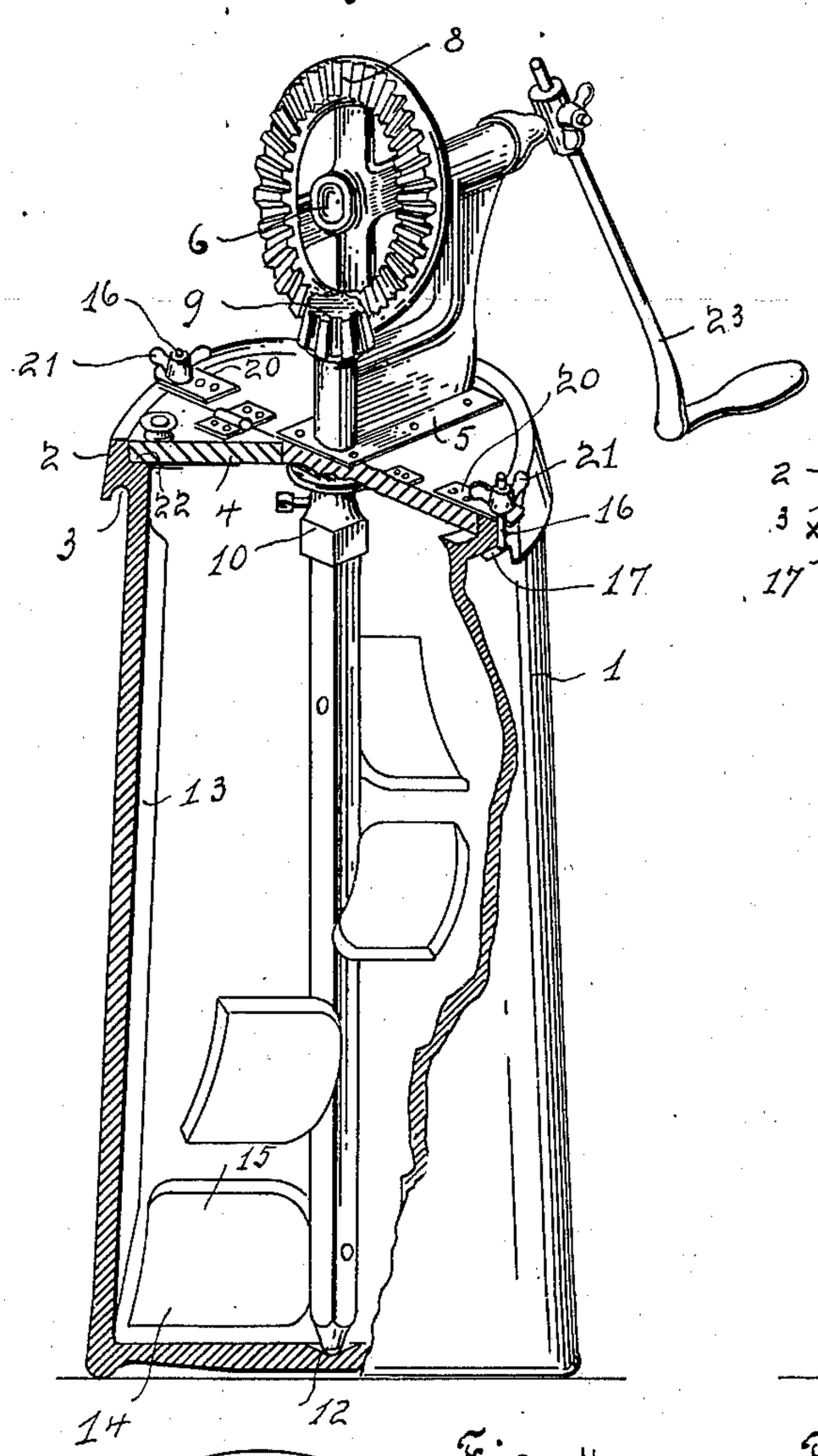



Fig. 2.

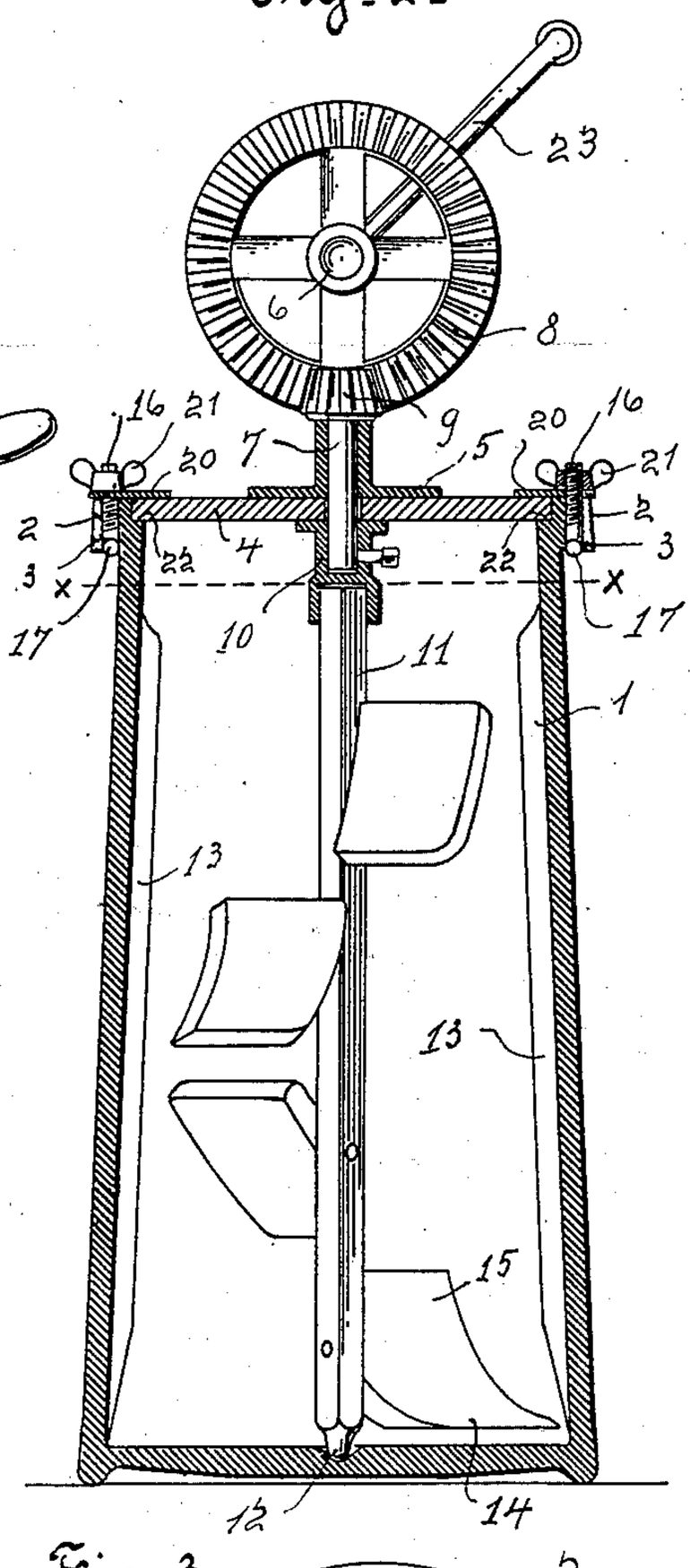



Fig. 4.

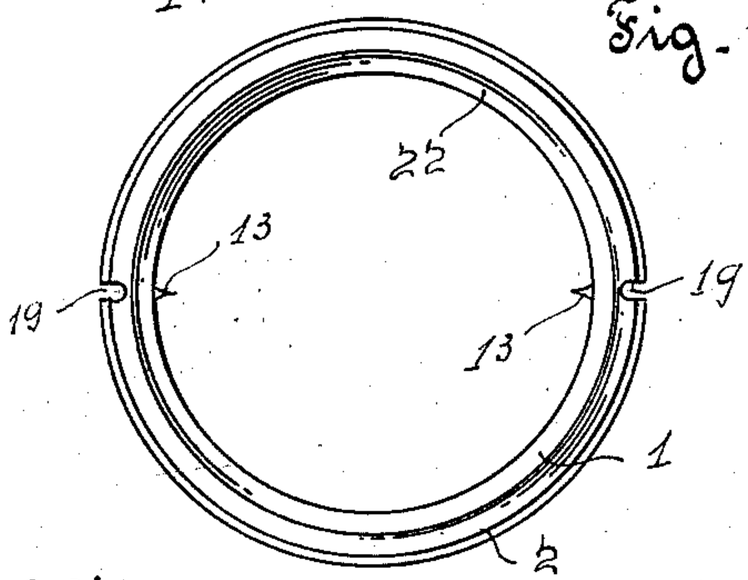



Fig. 5.

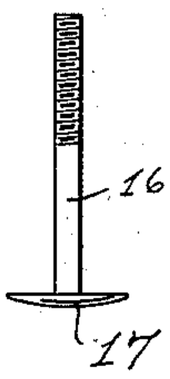
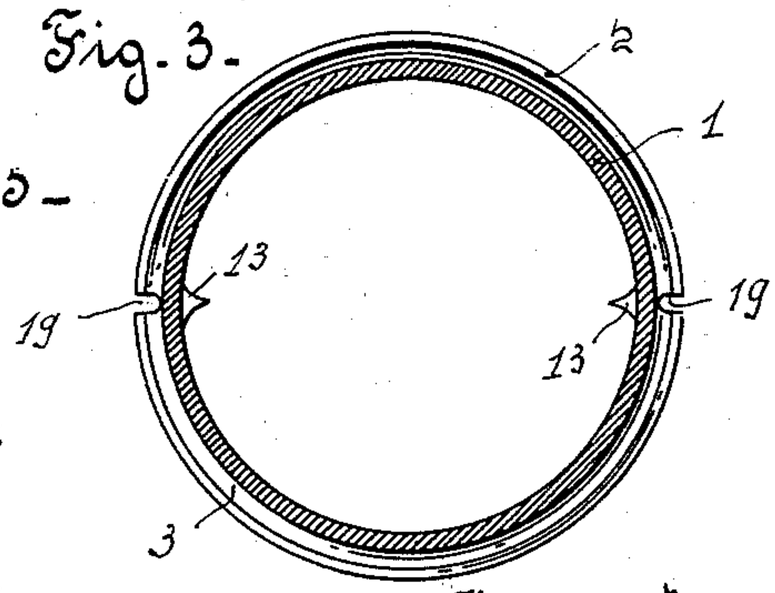



Fig. 3.




Witnesses.
H. H. Martin
Chas. A. Boake

Inventor.
Charles Raw
By Robt. B. Wilson
his Attorney

# UNITED STATES PATENT OFFICE.

CHARLES RAW, OF GRAYTOWN, OHIO.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 655,009, dated July 31, 1900.

Application filed December 22, 1898. Serial No. 699,990. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES RAW, of Graytown, county of Ottowa, State of Ohio, have invented new and useful Improvements in Butter-Churns; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form part of this specification.

My invention relates to a butter-churn, and has for its object to provide a stoneware crock having formed upon its edge a concentric ring projecting outward beyond the edges thereof and form upon the under side of the ring a concentric upwardly-projecting groove, whereby the closure-plate having the driving mechanism mounted thereon may be readily and tightly secured to the crock, and which closure-plate, together with the mechanism for fastening the same to the churn-body and the driving mechanism mounted thereon, may be easily and quickly removed from the churn-body, leaving a regular stoneware crock without mechanism or metal fastened thereto.

A further object is to provide a driving-crank adapted to be removably mounted upon the driving-arbor.

The invention further consists of the elements hereinafter described and referred to.

In the drawings, Figure 1 is a perspective view of my invention with the churn-wall partially broken through to show interior. Fig. 2 is a longitudinal section through a churn constructed in accordance with my invention. Fig. 3 is a cross-section on the line *x x*, Fig. 2. Fig. 4 is a top plan view of the churn-body, and Fig. 5 is a fron televation of a locking-bolt.

The object of my invention is accomplished by providing a stoneware crock molded, preferably, to the form of churn-tubs now in use, and by constructing the tub out of stoneware I have found that a butter may be produced of a sweet odor and the tub can be more easily and thoroughly cleaned.

I have found that in a churn-tub constructed of wood the butyraceous fluids more or less permeate the wood through its pores, causing an odor to eminate therefrom even after repeated scourings, which affect and contaminate fresh butyric globules formed in the tub by churning and which objection is wholly obviated by my invention. I have also found that a stoneware crock having ears formed upon its sides is difficult to handle, as it cannot be rolled without the danger of nicking or breaking off the ears, and, further, that the ears weaken the crock at the point of adhesion, which objections are obviated by my invention, a concentric ring being less easily broken than ears. A concentric ring has the further functions of a hoop or strengthening-ridge and of being used as a grip or handle for lifting purposes. I have also found that a crock constructed in accordance with my invention may be more thoroughly and easily cleaned than one having ears and means for fastening the cover permanently secured to such ears.

1 designates a churn-crock molded in accordance with my invention and provided with a concentric enlarged rim 2, which has formed upon its under side an upwardly-projecting groove 3. The closure 4 has secured thereon in a central position a journal-plate 5, in which are revolubly mounted the horizontal driving-arbor 6 and a vertical driven arbor 7. Motion is transmitted from the driving to the driven arbor by means of intermeshing miter-gears 8 9. The driven vertical arbor projects downwardly beyond the closure-plate and has secured thereon in a pendent position by a set-screw a coupling-sleeve 10, having its upper end adapted to receive the arbor and prevent lubricating-oil escaping therefrom into the churn, and at its lower end is provided with an angular socket adapted to receive the angular paddle-arbor 11, to which the paddles 15 are secured in helicoidal relation. The foot of the paddle-arbor 11 is stepped in a socket 12, formed by a depression integral with the bottom of the crock, and is in vertical alinement with the receiving-socket secured to the arbor 7. By this construction the closure 4, with the operating mechanism secured thereto, together with coupling-sleeve 10, may be removed from the churn vessel separate from the paddle-arbor 11, and after removing closure 4 sleeve 10 may be removed from arbor 7 and

separately cleaned of any oil or the like accumulated therein. By the use of sleeve 10 as constructed the contamination of the cream or butter by oil escaping from the operating mechanism is avoided and the several parts are more readily cleaned.

Projecting inwardly from the wall of vessel 1 and integral therewith are breakers 13, which operate to break up the centrifugal currents produced by the revolving paddles. These breakers are tapered at their lower ends to their connection with the wall to allow the bottom paddle 15, which is provided with a lip 14, adapted for the purpose, to reach into the angle formed by the wall and the bottom, whereby the cream that ordinarily remains undisturbed therein, as well as the main body of it, is evenly agitated when the paddle-arbor is revolved. By the spiral arrangement of the paddles a constant upward current is produced, which assists in gathering the butter particles as they are formed at the top of the fluid.

The top closure is secured to the churn-crock by means of bolts 16, having integral therewith elongated heads 17, projecting in opposite direction from the body portion 18 and are adapted to enter the groove formed upon the under side of the enlarged rim.

19 designates notches formed upon the periphery of the rim, adapted to receive the vertical stem of the bolts, which project upwardly above the rim through plates 20, provided with orifices to receive the bolts. The plates 20 are suitably secured to the top closure and the bolts tightened by means of thumb-nuts 21, and by means thereof the closure is drawn against the ledge 22, concentric with the rim and formed thereby.

What I claim is—

The butter-churn herein described, comprising an earthenware vessel having its top edge provided with an interior annular ledge 22, for receiving and supporting a cover for the vessel, and the bottom with socket 12, and having formed integral therewith vertical breakers 13, and a concentric exterior rim 2, provided with a concentric groove 3 on its under side, and vertical notches 19 in its periphery; a top closure 4, having projecting plates 20, provided with bolts 16, having heads 17, and thumb-nuts 21; a shaft 7 mounted on the cover 4, and extending centrally through it, provided with gear mechanism adapted to rotate it; a coupling-sleeve 10, and a paddle-arbor 11, provided with paddles; all constructed, combined and operating as shown and described.

In testimony that I claim the foregoing as my own I hereby affix my signature in the presence of two witnesses.

CHARLES RAW.

Witnesses:
WM. K. TERRY,
O. J. TERRY.