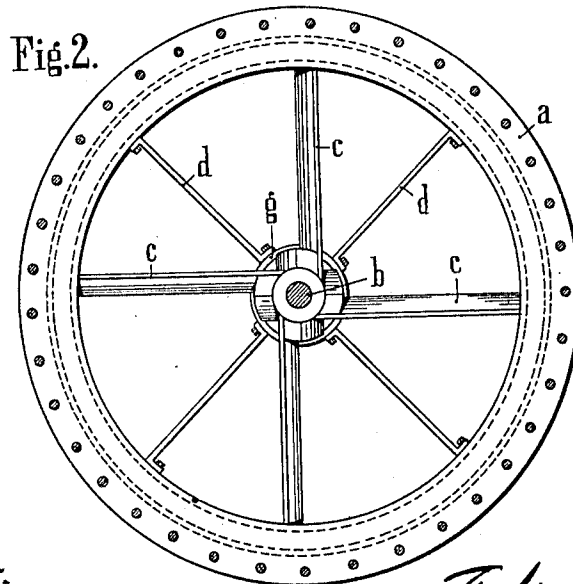
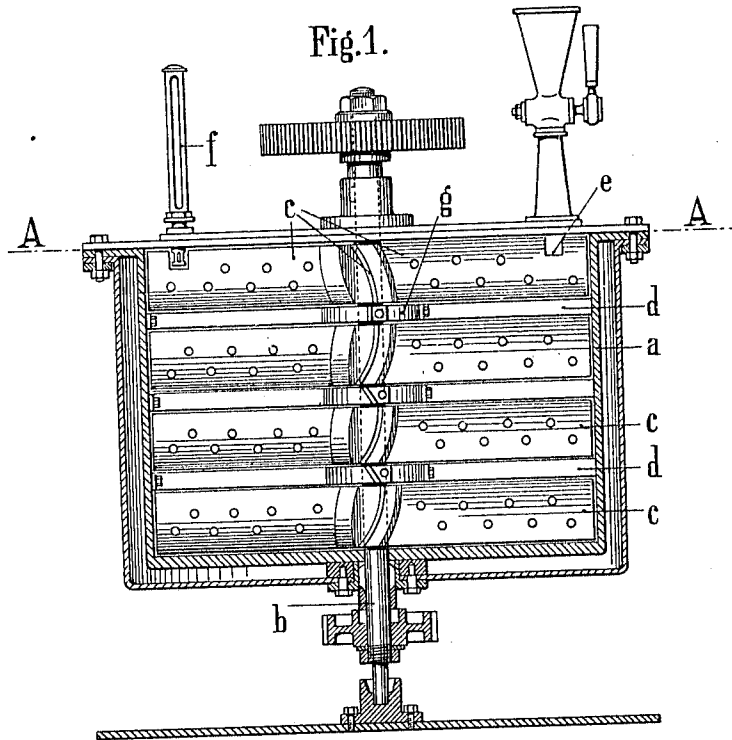


W. G. SCHRÖDER.
CHURN.
APPLICATION FILED AUG. 17, 1910.

984,395.

Patented Feb. 14, 1911.



Witness:
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Norris & Matter.

Inventor:
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his attys.

UNITED STATES PATENT OFFICE.

WILHELM G. SCHRÖDER, OF LÜBECK, GERMANY.

CHURN.

984,395.

Specification of Letters Patent.

Patented Feb. 14, 1911.

Application filed August 17, 1910. Serial No. 577,643.

To all whom it may concern:

Be it known that I, WILHELM G. SCHRÖDER, manufacturer, a citizen of the free town of Lübeck, in the German Empire, and a resident of Lübeck, Germany, have invented new and useful Improvements in or Relating to Churns, of which the following is a specification.

In manufacturing margarine and similar substances it is essential to keep the inner walls of the churn perfectly bright as otherwise the cooling action of the jacket is inoperative or only imperfectly operative. In order to obtain that result, the blades are arranged according to this invention in several groups of blades in superposed layers while between the layers are arranged stationary blades. In that way not only a thorough mixing is obtained, but the walls are kept perfectly bright.

In the accompanying drawing, Figure 1 is a vertical section and Fig. 2 a plan of a construction of churn according to the invention.

In a double-walled cylindrical vessel or drum *a* is mounted a vertical spindle *b* to which are secured in the interior of the drum the blades *c* and which is carried in a suitable manner outward and driven therefrom. The blades are arranged on the spindle in several superposed layers, in the example illustrated in four layers, so that between the single layers are left spaces which are completely filled up by stationary blades or flow-breakers *d*. The blades *c* are bent to form buckets so that the material contained in the churn becomes thoroughly mixed and treated. The upper blades are arranged so that they take off the material from the cover and churn and press it downward, while the lowest group of blades is arranged and shaped in such manner that the bottom is always kept perfectly bright, and the ma-

terial is forced from the bottom upward. In the upper blades there is a groove *e* for receiving the thermometer *f*. The blades *d* are mounted by means of a ring *g* arranged concentrically with the spindle, to which they are secured by means of screws or the like. The other end of the said blades *d* is secured to the inner wall of the drum. Owing to the blades *c* and *d* occupying the whole interior of the drum and being arranged with their outer edge close to the wall of the cylindrical casing, a splashing of the substance treated, is rendered impossible. No material can settle at dead centers, and all the walls must always remain bright, while on the other hand no air can be absorbed by the substance, which would prejudicially affect the finished article.

Claims.

1. In a churn the combination of a closed drum, a rotary spindle, a plurality of blades mounted thereon, fixed rings between said blades, a plurality of stationary blades connecting said rings and said drum, and means for rotating said spindle, substantially as described.

2. In a churn the combination of a closed drum, a rotary spindle, a plurality of blades mounted thereon, fixed rings between said blades, a plurality of stationary blades connecting said rings and said drum, the rotary blades fitting closely to the outer walls and the top and bottom of said churn, and means for rotating said spindle, substantially as described.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this thirtieth day of July, 1910.

WILHELM G. SCHRÖDER.

Witnesses:

JOHS. WULF,
HANS VOGT.