

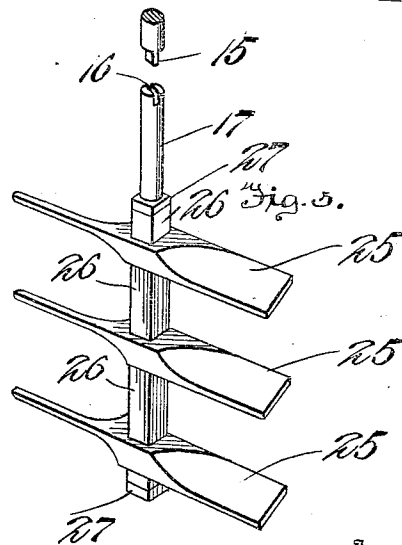
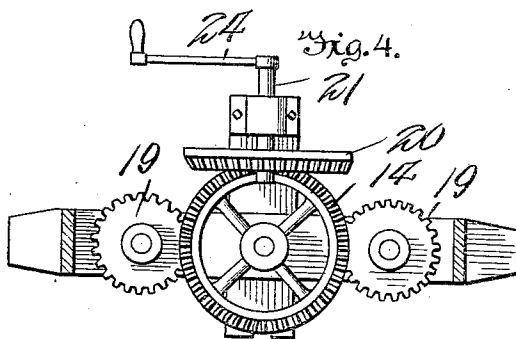
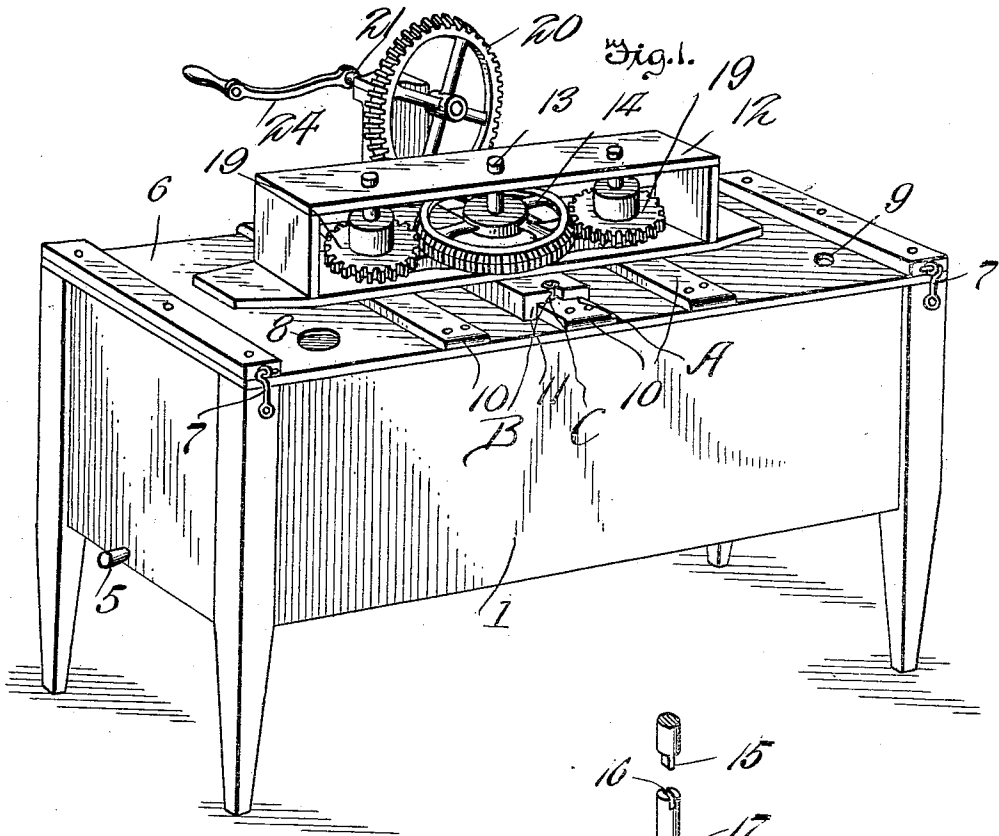
F. A. GRANT.
CHURN.

APPLICATION FILED JUNE 19, 1908.

941,318.

Patented Nov. 23, 1909.

2 SHEETS—SHEET 1.



Witnesses
G. M. Spring.
C. P. Brimley.

Inventor
Frank A. Grant,
By Victor J. Evans
Attorney

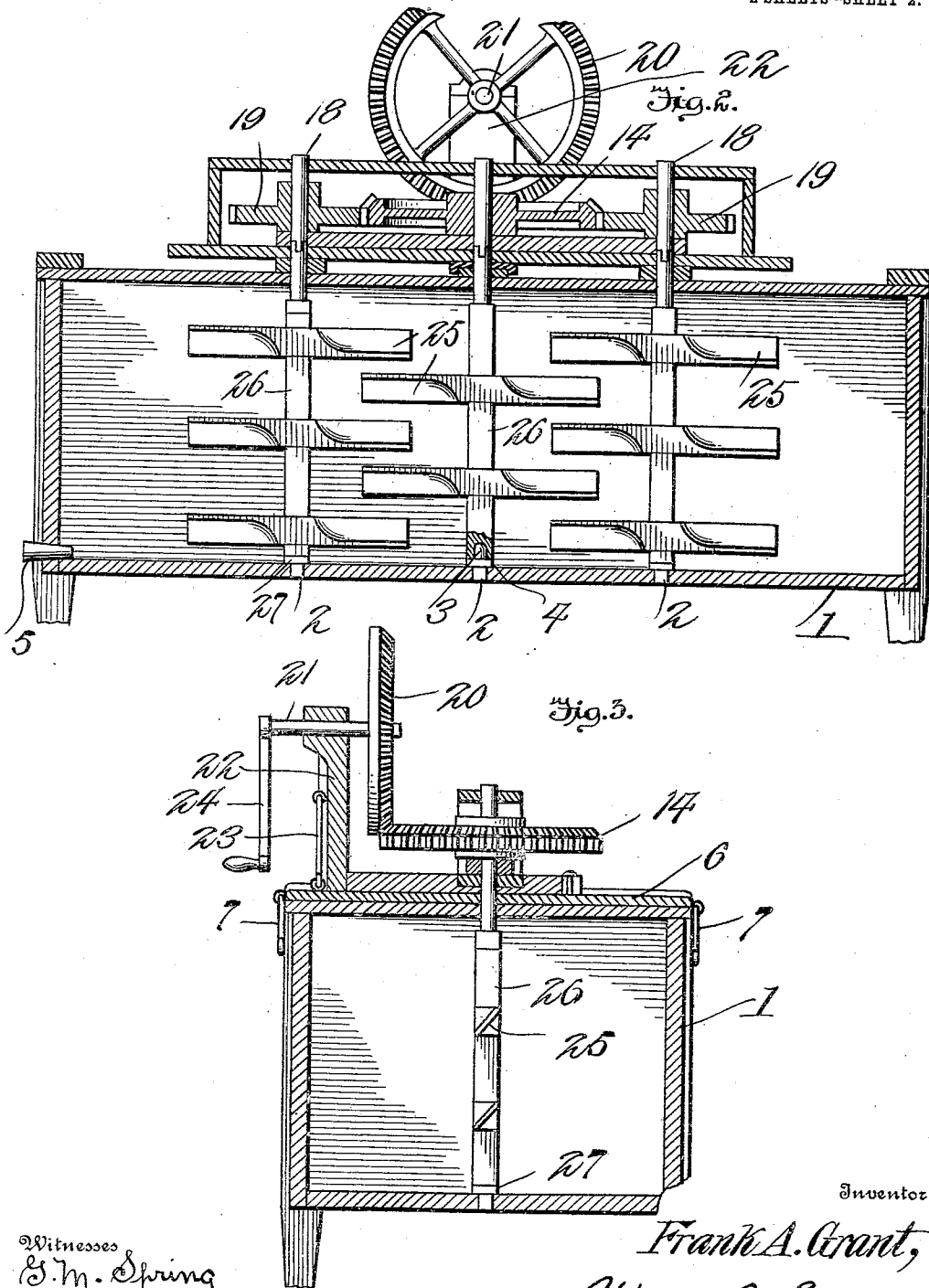
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Witnesses
S. M. Spring

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UNITED STATES PATENT OFFICE.

FRANK A. GRANT, OF STACEYVILLE, MAINE.

CHURN.

941,318.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed June 19, 1908. Serial No. 439,381.

To all whom it may concern:

Be it known that I, FRANK A. GRANT, a citizen of the United States of America, residing at Staceyville, in the county of Penobscot and State of Maine, have invented new and useful Improvements in Churns, of which the following is a specification.

This invention relates to churns, and one of the principal objects of the same is to provide a multiple-dasher churn in which each alternate dasher is rotated in the direction opposite to the next adjacent dasher.

Another object of the invention is to provide means whereby all the dashers may be operated simultaneously by a single train of gearing actuated by a hand crank.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which,—

Figure 1 is a perspective view of a churn made in accordance with my invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a transverse vertical section. Fig. 4 is a plan view of the gearing for operating the dashers. Fig. 5 is a perspective view of one of the dashers and the end of one of the shafts for engaging the same.

Referring to the drawing, the numeral 1 designates the churn body, which is practically a rectangular box or casing provided in the bottom with a series of plugs 2 having rounded upper ends 3 and a collar 4, said plugs forming bearings for the dasher rods. A suitable plug 5 is fitted in one end near the bottom of the casing to let out the buttermilk. The top or cover 6 is connected to the body of the churn by means of suitable latches 7, and in the top is a sight opening 8 which may be provided with a glass cover, and 9 is an air hole through said top. Secured centrally across the top of the casing is a series of cleats 10, and resting upon the central cleat is a space bar 11. Supported upon these cleats and upon the space bar is a housing 12 for the gearing. The central or main shaft 13 is provided with a large gear wheel 14, and the lower end of the shaft 13 is provided with a lug 15 which engages the slot 16 in the upper end of the dasher shaft 17. The stub shafts 18 for the smaller gear wheels 19 are also provided with lugs 15 to engage the slots in the top of their respective dasher shafts. The central gear wheel 14 is in mesh with the gears 19, and the gear wheel 14 is rotated by means of the bevel gear 20. It is

to be noted that the wheel 14 is a bevel gear upon its upper face, while its side face is of a crown gear type. A crank shaft 21 is mounted in an upright arm 22 secured by means of a suitable latch 23 to the cover 6, and a crank 24 is connected to the shaft 21 for rotating the wheel 20 and actuating the gear mechanism.

The dashers 25 are secured to the shaft 17 by suitable spacing blocks 26 and suitable nuts 37. The lower ends of the dasher shafts are provided with sockets to fit the projections 4 on the plugs 2.

The operation of the invention may be briefly described as follows: When the cream has been placed in the casing the crank 24 is turned, and the dashers are rotated in opposite directions until the butter is made. The cover with all the mechanism may be readily removed from the churn, and the dashers may also be removed, thus leaving a plain square box which is easy to clean, and since the dashers are of a shape also easy to clean, this is deemed quite an advantage.

The bar 11 is grooved upon its underside as shown at A, the said groove being adapted to receive one of the cleats 10 upon the cover. The side walls of the grooved bar will be engaged with the side walls of the cleat named in such manner that when the gearing hereinbefore described is operated the housing will be effectively held in its operative position and cannot casually become misplaced. The bar 11 is provided with a slot B which is adapted to receive a retaining pin C which extends from the cleat. This retaining pin effectively limits the sliding movement of the bar 11 and in practice, when the end wall of the slot B abuts against the shank of the pin C the housing will be in its proper position and the ends 5 of the stub shafts 18 can be effectively positioned in the slots 16 at the upper ends of the dasher shafts.

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

1. A churn comprising a rectangular casing, a plurality of vertical dasher shafts removably mounted upon the bottom of the said casing, a cover mounted upon the casing and provided with a series of dasher shaft-receiving passages, a plurality of cleats mounted upon the cover, a housing having a bar adapted for sliding engagement with one of the cleats upon said cover, means upon

the cleat for holding the bar and the housing respectively, against rotation, and gear-actuated stub shafts carried by the housing and adapted for detachable engagement with
5 the said dasher shafts.

2. A churn comprising a hollow casing having a removable cover, a plurality of vertical dasher shafts removably mounted in said casing and provided with upwardly
10 extending end portions extending through the cover, a plurality of cleats upon the cover, a housing supported upon the cleats, a grooved bar upon the housing adapted for sliding engagement with one of the cleats,
15 said bar having a slot formed therein, a pin extending upwardly from one of the cleats

and adapted for engagement in the slot formed in the bar to hold the said bar against sliding movement, a latch member connecting the housing with the said cover, 20 and a plurality of driven stub shafts carried by the housing and provided with lower extremities adapted for detachable engagement with the upper end portions of the dasher shafts. 25

In testimony whereof I affix my signature in presence of two witnesses.

FRANK A. GRANT.

Witnesses:

A. P. LEEN,
B. F. KYLE.