

No. 713,891.

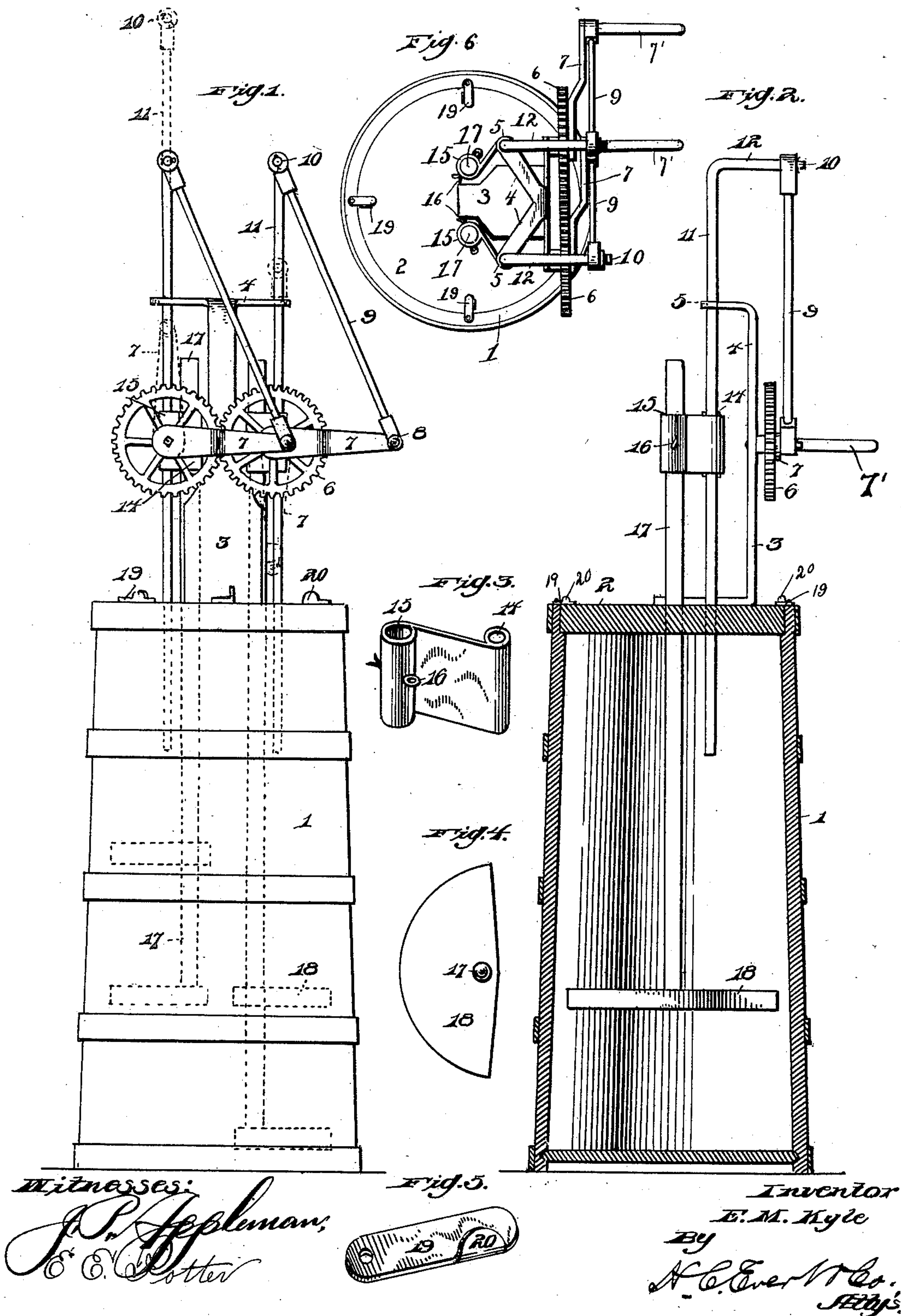
Patented Nov. 18, 1902.

E. M. KYLE.

DOUBLE RECIPROCATING DASHER FOR CHURNS.

(Application filed May 1, 1901.)

(No Model.)





# UNITED STATES PATENT OFFICE.

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## DOUBLE-RECIPROCATING DASHER FOR CHURNS.

SPECIFICATION forming part of Letters Patent No. 713,891, dated November 18, 1902.

Application filed May 1, 1901. Serial No. 58,351. (No model.)

*To all whom it may concern:*

Be it known that I, EDMUND M. KYLE, a citizen of the United States of America, residing at Belle Vernon, State of Pennsylvania, have  
5 invented certain new and useful Improvements in Double-Reciprocating Dashers for Churns, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in churns, and more particularly to that class known as "double-reciprocating-dasher churns."

The herein-described invention has for its  
15 object the provision of novel means whereby two dashers are simultaneously and alternately operated in the churn-casing; furthermore, convert a rotary movement of one or both of the operating-handles into a double  
20 reciprocating movement.

The invention has for its still further object to construct a device of this character that will be extremely simple in construction, strong, durable, and comparatively inexpensive to manufacture; furthermore, one that  
25 will be highly efficient in its operation.

Another object of the present invention is to construct a churn that will greatly facilitate the churning of butter and one wherein  
30 butter can be produced in about one-half the time required to obtain butter in the ordinary single-reciprocating-dasher churns.

The invention further contemplates to construct a mechanism whereby better results are  
35 obtained and a larger quantity of butter produced than in the ordinary churn now in use.

With the above and other objects in view the invention consists in the novel combination and arrangement of parts, to be herein-  
40 after more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein  
45 in like numerals of reference indicate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of my improved churn. Fig. 2 is a vertical sectional view  
50 thereof. Fig. 3 is a perspective view of the coupling attached to the reciprocating rods and dasher. Fig. 4 is a top plan view of one

of the dashers. Fig. 5 is a perspective view of one of the keepers serving to lock the lid of the churn to the body portion thereof. Fig. 55 6 is a top plan view of the device.

In the drawings the reference-numeral 1 indicates the body portion of the churn, and 2 the lid thereof. In said lid are arranged four openings to receive the reciprocating rods and  
60 dashers.

The reference-numeral 3 represents a standard secured upon the upper face of the lid, said standard having an upwardly-extending  
65 forked portion 4, said forked portion having formed therein openings 5, through which extend the reciprocating rods. Upon said standard are rotatably mounted a pair of cog-wheels 6, of uniform size, which mesh with one another. To each of said cog-wheels is secured  
70 a crank 7. Upon said crank are pivotally secured at 8 links 9, which are pivotally attached at 10 to the upper portion of the reciprocating rods 11. These rods are bent at right  
75 angles, as shown at 12, and extend downwardly through the openings 5 of the forked extension and thence downwardly through the openings in the lid of the churn. The rod 11 is attached to the reciprocating rods by a  
80 coupling carrying eyes 14 and 15 for the reception of the reciprocating rods and dashers, respectively. In the said eye 15 is arranged a split pin 16, extending through the dasher-  
85 rods 17 for the purpose of securely attaching the same to the coupling. At the lower end of the dasher-rods 17 are attached the semi-circular dashers 18.

The reference-numeral 19 indicates keepers which are pivotally secured to the upper face of the periphery of the churn, said keepers  
90 carrying upwardly-extending integral lugs 20, as shown in the drawings, for the purpose of operating the same.

To each of the cranks 7 is secured at 8 crank-handles 7' for the purpose of operating  
95 the cranks 7. The cranks 7 are offset at an intermediate point, so that the cranks when rotated may pass one another without contacting.

The operation of my improved churn is as  
100 follows: We will assume that the parts are in position as shown in Fig. 1 of the drawings, and by operating the outer crank-handle 8 downwardly the mechanism will assume the



position as shown in dotted lines in the drawings. The links and crank-handles will always retain their relative position toward one another irrespective of the position or direction in which they are rotated, and by this means two persons may operate the churn, each operating a crank-handle.

The many advantages obtained by the use of my improved churn will be readily apparent from the foregoing description, and it will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A churn comprising a receptacle having a lid thereon, a standard having an inwardly-extending forked portion carried by the lid, reciprocating rods operating through said lid and the forked portion of the standard, dasher-rods carrying dashers at their lower ends connected to the said reciprocating rods, a single pair of intermeshing cog-wheels secured to the said standard, a crank having the forward portion thereof offset directly connected to each of said cog-wheels, said reciprocating rods having their upper ends bent outwardly, links connected to said upper ends of the reciprocating rods and to the said offset portion of the cranks, and a handle connected to each of the offset portions whereby opposite rota-

tion of the reciprocating rods and the dasher-rods is caused by actuation of one or both thereof, substantially as described.

2. A churn comprising a receptacle having a lid thereon, a standard having an inwardly-extending forked portion on its upper end, an inwardly-extending portion on the lower end of said standard secured to said lid, reciprocating rods operating through said lid and to the sides of said standard and through said forked portion of the standard, dasher-rods carrying dashers coupled to said reciprocating rods, a single pair of intermeshing cog-wheels secured to the standard, cranks directly connected to said cog-wheels and each having an offset portion whereby said cranks may pass one another without contacting, the upper ends of said reciprocating rods being bent outwardly and extending in vertical alinement with said offset portions of the cranks, links connecting said upper ends of the reciprocating rods and the extremities of the offset portions of the cranks, and means secured to the cranks whereby the same may be actuated, substantially as described.

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

EDMUND M. KYLE.

Witnesses:

JOHN NOLAND,  
E. E. POTTER.