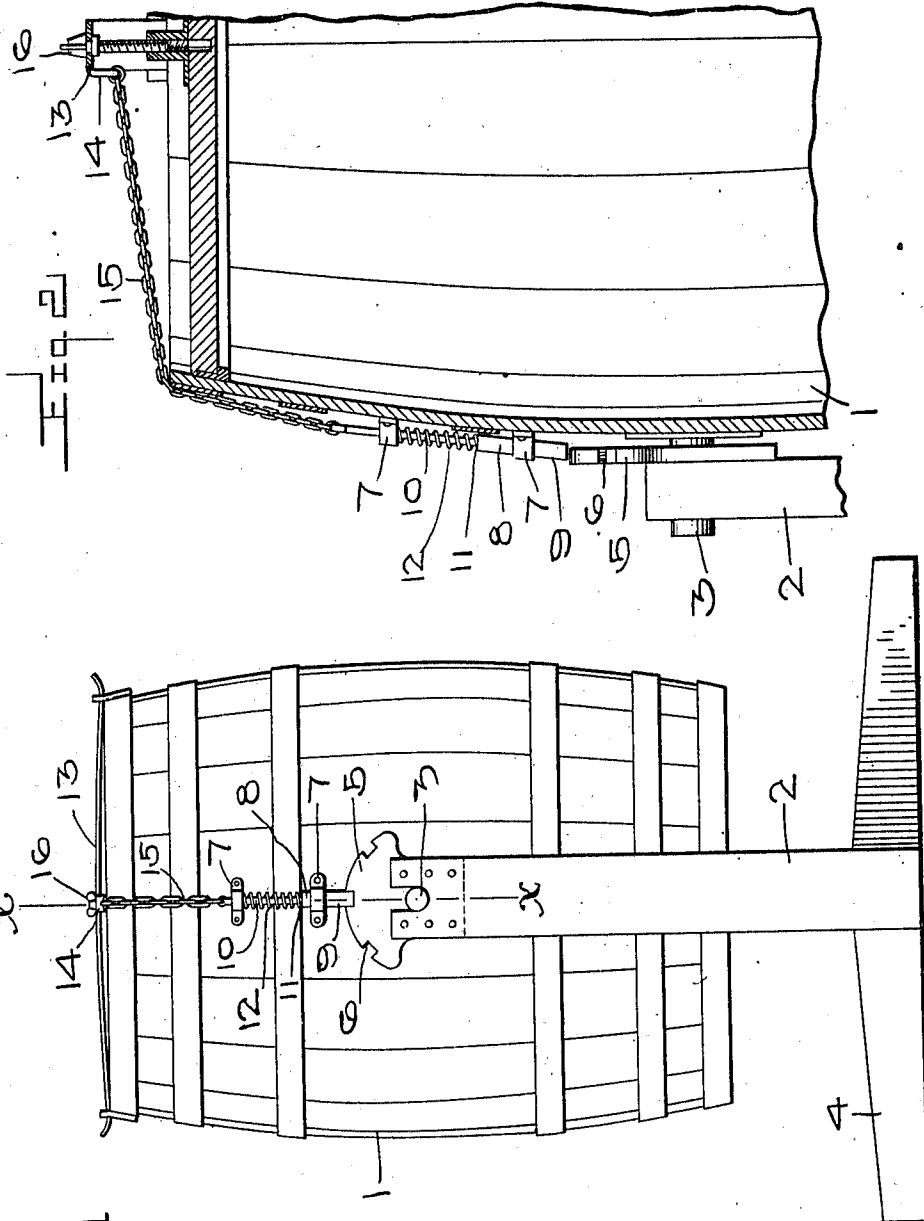


W. DE VRIES.
CHURN ATTACHMENT.
APPLICATION FILED FEB. 7, 1910.

Patented Nov. 1, 1910.
2 SHEETS-SHEET 1.

974,244.



Witnesses
Ed. R. Lusby
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Inventor
William DeVries

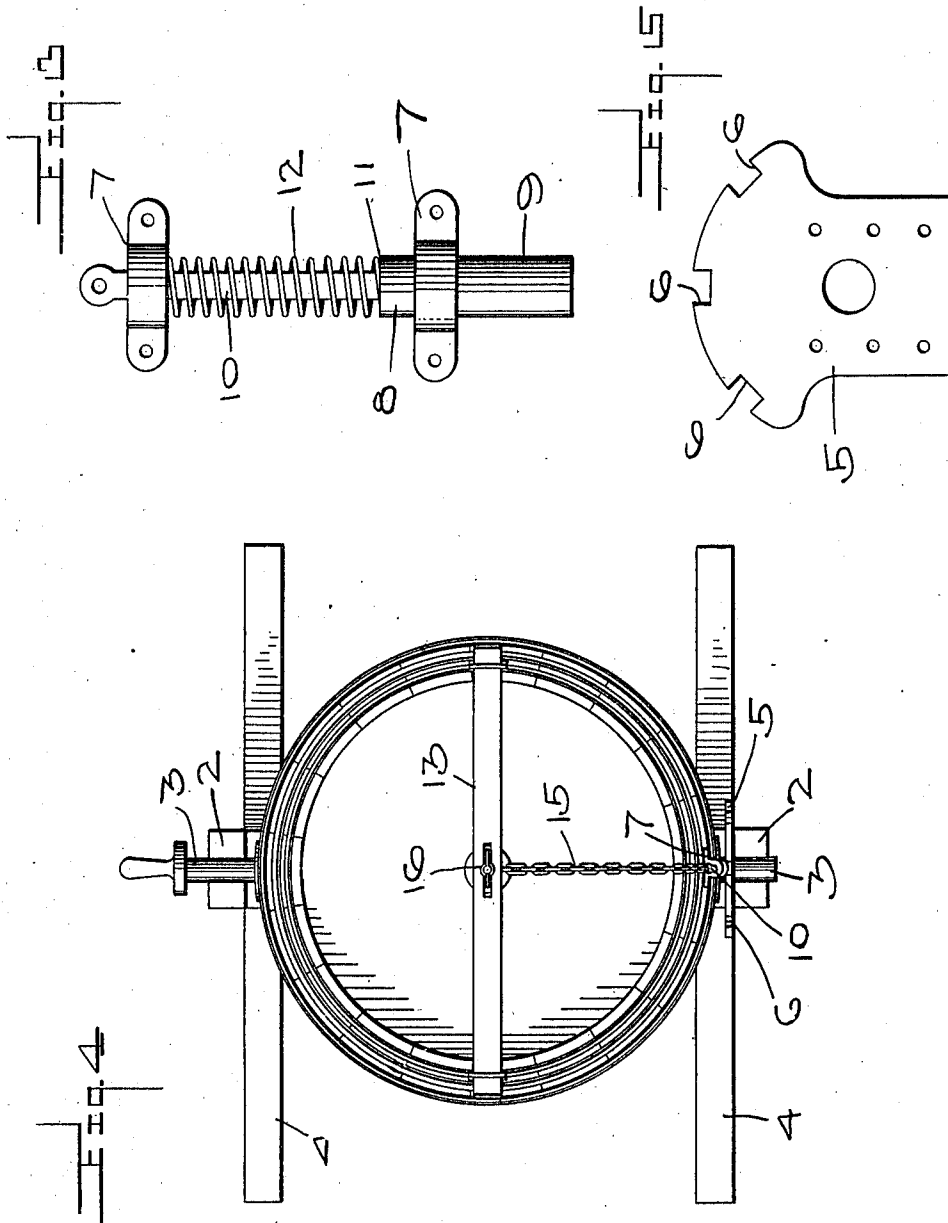
By *Howard & Chandler*
 Attorneys

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UNITED STATES PATENT OFFICE.

WILLIAM DE VRIES, OF MARION, NORTH DAKOTA.

CHURN ATTACHMENT.

974,244.

Specification of Letters Patent.

Patented Nov. 1, 1910.

Application filed February 7, 1910. Serial No. 542,535.

To all whom it may concern:

Be it known that I, WILLIAM DE VRIES, a citizen of the United States, residing at Marion, in the county of Lamoure and State of North Dakota, have invented certain new and useful Improvements in Churn Attachments, of which the following is a specification.

My invention relates to certain new and useful improvements in churn attachments, and it consists in the novel combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings forming a part of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of my complete invention as applied to a churn body. Fig. 2 is a vertical section of the same taken on the line $x-x$ of Fig. 1 with parts broken away. Fig. 3 is an enlarged plan view of the spring actuated bolt and its accompanying parts. Fig. 4 is a top plan view of my complete invention. Fig. 5 is a detail plan view of the toothed segmental plate.

The object of my invention is to provide a very novel and effective attachment for churns, whereby the barrel or body portion thereof is automatically held approximately in an upright or vertical position during the filling of the barrel with cream previous to churning, thus preventing the tilting and consequent loss of the cream contained in the barrel before the cover is properly placed in position to hermetically seal the barrel.

A further object consists in also automatically releasing the locked position of the barrel after the cover has been properly placed in position to cover the barrel, whereby the latter is free to be operated to accomplish the churning in the usual manner.

My invention therefore consists of a toothed segmetal plate located to one side of the barrel and attached to the corresponding supporting upright, a spring actuated bolt fixed to the barrel above said plate, the lower end of which is adapted for engagement with said plate, and a chain flexibly connecting said bolt with the usual clamping bail for the cover, all of which will appear from the detailed description following.

Referring to the drawings 1 represents an ordinary churn, which as shown, is of the barrel type, but it is obvious that my in-

vention may be practically applied to a churn of ordinary construction to accomplish the desired results. The churn body 1, or barrel thereof, is loosely mounted upon two supporting uprights 2, by trunnions 3, projecting from the opposite sides of the barrel, said supports being held in their proper position in respect to one another by the ordinary base pieces 4, all of which is clearly shown in Fig. 1.

Secured in any suitable and mechanical manner to the upper end of one of the supports 2, is a segmental plate 5 in the upper curved edge of which are formed depressions 6, which are preferably three in number, the object of which will be hereafter set forth.

Secured to the side of the barrel or body 1 of the churn, above the segmental plate 5, are two bearings 7, which are located a suitable distance apart and which freely receive the bolt 8, the lower end of which engages with any one of the depressions 6 formed in the segmental plate 5, when the said bolt is in its lowest position. The lower end of the bolt 8 has an enlarged end as shown at 9 for engagement with the depression 6 of the segmental plate 5, the remaining portion of said bolt being reduced along its length and freely passes through the upper bearing 7, the end of which projects a suitable distance beyond the same. Encircling the reduced portion 10 of the bolt and interposed between the upper bearing 7 and the shoulder 11 formed by the enlarged portion or lower end of the bolt, is a coil spring 12, which operates to cause the bolt 8 to assume its normal position for engagement with the segmental toothed plate when the bolt is released.

Forming a part of and depending from the usual spring bail 13 commonly employed in connection with the top of a barrel for holding the cover in place, is a lip 14, and leading from the same and attached to the upper perforated end of the bolt 8, is a chain 15, which forms a flexible connection between said yielding bail and the bolt previously referred to.

When the barrel or body 1 of the churn is in a vertical or upright position to receive the cream previous to churning, the lower enlarged end 9 of the bolt 8 will be in engagement with the central notch 6 of the segmental plate 5, the said bolt being caused to assume this position by the coil

spring 13, the cover for the barrel, of course, having been removed.

After the barrel or body 1 has been properly filled and the cover placed in its proper position, the bail is placed on the cover in the usual manner carrying with it the chain 15 connected to the upper end of the bolt 8, in which operation the bolt will be withdrawn from its enlarged position with respect to the segmental plate 5, and the barrel 1 free to be rotated, or oscillated, as may be desired to carry out the churning process.

It is to be understood that the chain 15 is of sufficient length to properly withdraw the bolt from its engagement with the segmental plate 5 when the bail is placed in its proper position to clamp the head of the barrel in its proper position for closing the same, and further, that by the employment of the additional depressions 6 on either side of the central one, the barrel or body 1 may be held in a tilted or inclined position in respect to its supports 2, when so desired for filling or removing the contents of the barrel.

I do not limit myself to the precise construction and arrangement of the parts as herein shown and described, but the same may be modified in various respects without departing from the spirit of my invention.

It is further to be observed that the chain 15 leading from the bolt 8 to the yielding bail 13 may be of such a length that said bolt will not be elevated or released from its locked position with respect to the segmental plate until the binding nut 16 is operated or turned for expanding said bail, for clamping the head of the barrel tightly upon the same, in which operation the bolt will be automatically withdrawn from its engagement with said plate before churning.

What is claimed is:

1. A churn attachment comprising a spring actuated bolt attached to the barrel, or body portion thereof, a fixed segmental plate with which the bolt is adapted to cooperate and suitable connections between the latter and clamping means for the cover, whereby said bolt is automatically operated by the removal of the cover from the barrel.

2. A churn attachment, a suitable device carried by the barrel or body portion of the

churn and adapted to be automatically operated by the removal of the cover from the barrel, whereby the latter is held against movement.

3. In combination with a churn body, a suitable device carried thereby and adapted to be operated by the removal of the cover from the churn body, whereby said device is automatically operated for holding the body in a fixed position when the cover is removed.

4. In a churn attachment comprising in combination a suitable body and supports therefor, a segmental plate fixed to one of said supports, and having depressions formed therein, bearings fixed to one side of the body of the churn, a bolt passing freely through said bearings, the lower enlarged end of which is adapted for engagement with the recesses formed in the segmental plate, a coil spring interposed between the upper bearing and lower enlarged end of the bolt and encircling the latter, a clamping bail having a depending lip formed thereon and a chain connecting the upper end of the bolt with said lip, whereby when the clamping bail is removed for releasing the top of the barrel or body of the churn, the bolt is automatically released and allowed to engage with the toothed segmental plate.

5. In combination with a churn body and cover for same, a spring actuated bolt carried by said body, a toothed segmental plate carried by a suitable support with which the said bolt engages, a yielding bail cooperating with said cover for holding the same in a binding position upon the churn body, a yielding connection between said bail and bolt, and a binding nut cooperating with said bail for depressing the latter whereby said bolt is withdrawn from its engagement with the said toothed segmental plate for automatically releasing the churn body from its rigid position.

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

WILLIAM DE VRIES.

Witnesses:

PAUL PAULSON,
E. B. SMITH.