(No Model.)

F. D. GOODWIN.

CHURN.

No. 508,219. Patented Nov. 7, 1893.

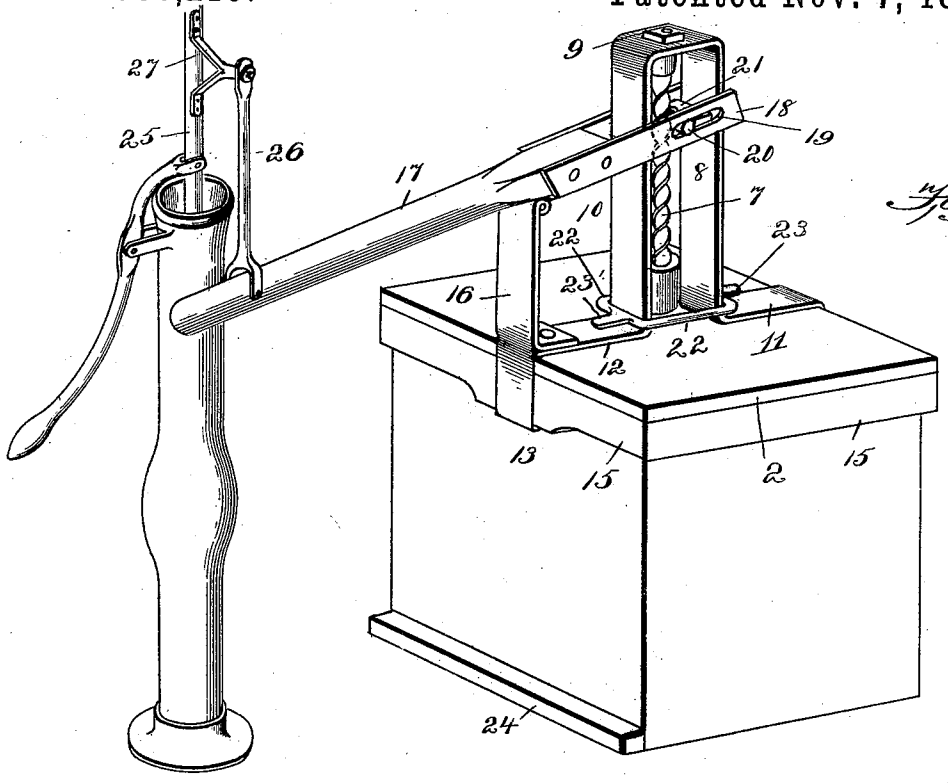

Fig. 1.

Fig. 2.

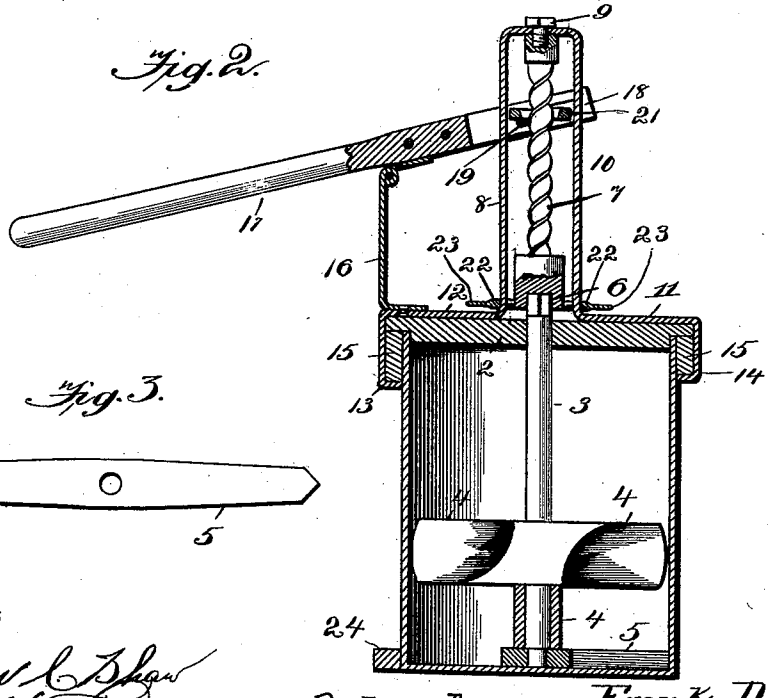

Fig. 3.

Witnesses

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CHURN.

SPECIFICATION forming part of Letters Patent No. 508,219, dated November 7, 1893.

Application filed March 9, 1893. Serial No. 465,344. (No model.)

To all whom it may concern:

Be it known that I, FRANK D. GOODWIN, a citizen of the United States, residing at Genoa, in the county of Nance and State of Nebraska, have invented a new and useful Improvement in Churns, of which the following is a specification.

The invention relates to improvements in churns.

The object of the present invention is to improve the construction of churns, and to provide one which may be readily attached to and operated by the pump rod of a wind mill.

A further object of the invention is to enable the mechanism for operating the dasher shaft of rotary churns to be readily disconnected and removed to enable the cover of the churn to be taken off to afford easy access to the interior of the churn body and the contents thereof.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a perspective view of a churn constructed in accordance with this invention and shown connected with a wind mill pump rod. Fig. 2 is a vertical sectional view. Fig. 3 is a detail view of the diagonal bar.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a churn body having a central opening in its cover 2 through which projects an upper squared end of a dasher rod 3 which carries dasher blades 4 at its lower end and which has the latter journaled or stepped in a diagonal bar 5. The diagonal bar is arranged on the bottom of the churn body, is removable therefrom, and has its ends oppositely beveled to conform to the angle of the churn body, which is preferably rectangular.

The upper squared end of the dasher shaft fits in a socket 6 of a spiral shaft 7, which is journaled at its upper end to the top of a resilient clamping frame 8; and the latter secures the cover 2 on the body 1. The lower socket end of the spiral shaft 7 detachably receives the dasher shaft, and the upper end of the spiral shaft is interiorly threaded to receive a bolt 9, which journals the said spiral shaft in and secures the same to the upper end of the clamping frame.

The clamping frame, which is constructed of resilient metal, is composed of a vertical rectangular portion 10 and horizontal arms 11 and 12 extending from and formed integral with the lower ends of the sides of the rectangular portion 10. The outer ends of the arms 11 and 12 have integral hooks 13 and 14, which are angular and which engage under a bead 15 of the churn body in recesses thereof.

The arm 12 of the clamping frame has secured to it a vertical bar or arm 16 on which is fulcrumed an operating lever 17; and the latter has its outer end formed into a handle and is adapted to be reciprocated vertically. The inner end of the operating lever is provided with slotted side plates 18, which have the slots 19 in their extending portion, and which receive in the slots 19 opposite journals 20 of a nut 21 engaging the spiral shaft.

The clamping frame is held in engagement with the churn body to secure the cover thereon by a rectangular link 22, which is slidingly mounted on the vertical rectangular portion 10, and which is provided at its ends with extensions or flanges forming handles 23. When the sliding link is at the bottom of the rectangular portion 10, it prevents the sides springing outward, and releasing the cover; but when the link is raised the sides of the rectangular portion will permit the hooks of the arms to be sprung out of engagement with the body.

The churn body is provided at one side with a step 24 to enable the churn, when operated by hand, to be steadied by the foot of the operator.

The churn may be readily connected with the wind mill pump rod 25 by a rod or pitman 26, whereby the operating lever may be readily oscillated. The lower end of the connecting bar 26 is detachably pivoted to the handle portion of the operating lever, and is attached at its upper end by an approximately V-shaped journal 27 with the wind mill pump rod.

It will be seen that the churn is simple and comparatively inexpensive, that it is capable of a rapid production of butter, and that it

may be either operated by hand or by the pump rod of a wind mill.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. In a churn, the combination of a body having a cover, a dasher shaft journaled in the body, gearing for rotating the dasher shaft, and a resilient clamping frame forming a bearing and support for the gearing and composed of resilient outwardly springing vertical sides and having horizontal arms arranged on the cover and provided at their outer ends with hooks engaging the sides of the body, and means for holding the hooks in engagement with the body and for compressing the sides of the clamping frame, substantially as described.

2. In a churn, the combination of a body having a cover, a dasher shaft journaled in the body and provided with a dasher, mechanism for rotating the dasher shaft, a clamping frame forming a support and bearing for said mechanism and comprising a rectangular vertical portion having resilient sides and arms extending from the lower ends of the sides of the vertical portion and resting upon the cover and terminating at their outer ends in hooks engaging the body and securing the cover thereon, and a securing link slidingly mounted on the vertical portion of the clamping frame, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK D. GOODWIN.

Witnesses:

F. H. YOUNG,

A. E. ANDERSON.