(No Model.)

M. D. CHAPIN.

CHURN COVER.

No. 277,001. Patented May 8, 1883.

FIG. 1

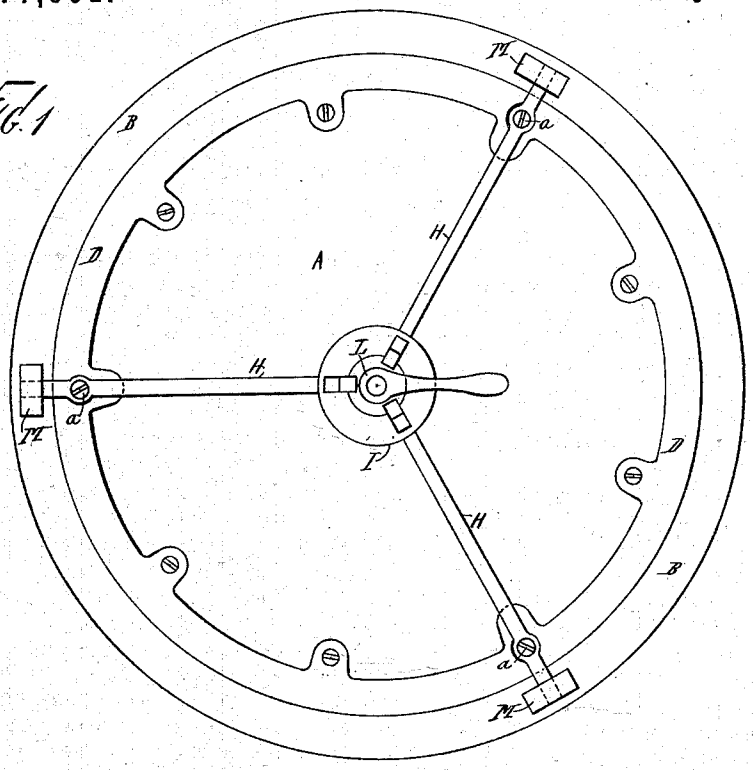


FIG. 2

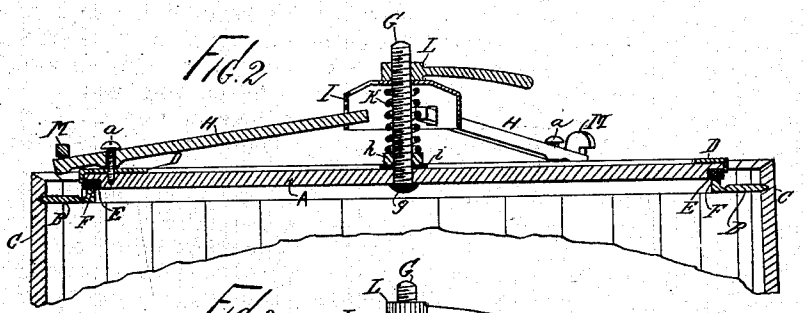


FIG. 3

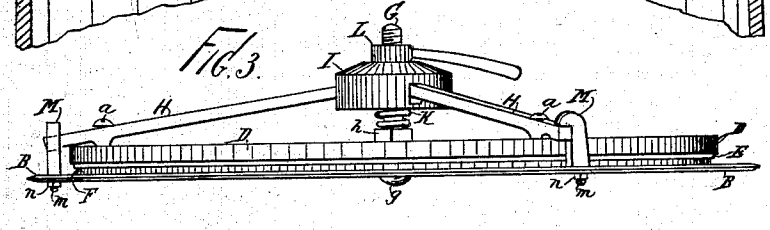
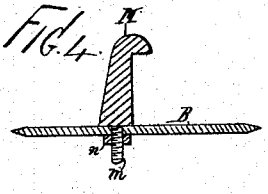


FIG. 4



Witnesses:
John Buckler,
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UNITED STATES PATENT OFFICE.

MARCUS D. CHAPIN, OF POULTNEY, VERMONT.

CHURN-COVER.

SPECIFICATION forming part of Letters Patent No. 277,001, dated May 8, 1883.

Application filed February 14, 1883. (No model.)

To all whom it may concern:

Be it known that I, MARCUS D. CHAPIN, of Poultney, county of Rutland, and State of Vermont, have invented certain new and useful Improvements in Churn-Covers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention has special relation to means for locking and holding and permitting the ready release or removal of covers of barrel-churns; but, as will be understood from a consideration of the following explanations, my improvements might also be applied upon or in connection with the covers of other barrels or analogous vessels.

Among the principal objects of my invention are the production of a simple, cheap, and easily-operating mechanism for moving the locking-levers, the same being strong and durable in all its parts, easily mounted and dismounted when required, not liable to become damaged or disarranged during ordinary usage, and affording an effectual means of securing the cover in place, and, further, to provide a simple, strong, and durable means of securing the locking-ears upon the metallic ring-head, whereby they may be easily adjusted to place, securely held, and readily detached whenever required.

To accomplish these objects, my improvements involve certain novel and useful peculiarities of construction, relative arrangements or combinations of parts, and details of manufacture, all of which will be herein first fully described, and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a top or plan view of a churn-cover having my improved form of locking device applied thereon, the cover being shown as mounted upon the ring-head and locked in place. Fig. 2 is a vertical section upon a plane passing through one of the locking-arms and showing the ring-head as seated in the top or open mouth of a churn or other barrel. Fig. 3 is a side elevation of the cover in place upon the ring-head. Fig. 4 is a section through one of the locking-ears, showing the construction and arrangement thereof and the means employed for securing it in place upon the ring-head.

In all these figures like letters of reference, wherever they occur, indicate corresponding parts.

A is the body of the churn or other cover, usually made of wood, and intended to cover the opening in a metallic ring-head, B. This ring-head B is firmly secured in the open mouth or chine C of the barrel or churn. It has not been deemed necessary to represent the whole of the barrel, inasmuch as the construction and operation of the barrel-churn, to which my improvements are especially applicable, are very well known.

D is a metallic rim applied upon the perimeter of the cover to protect the same, and E represents a cork or other packing-gasket, intended to rest upon a narrow bead or flange, F, projecting from the ring-head B. This gasket is held in place by the rim D, or it might be otherwise secured in place, so that when the cover is pressed down tightly the gasket will effectually prevent any leakage through the opening in the ring-head.

At about the center of the cover I erect the screw-threaded standard G, the same having an enlarged head, *g*, located on the under side of the cover, and being held firmly in place by a jam-nut, *h*, and suitable washer, *i*, if required, upon the upper side of the cover.

The locking-levers H H H, three or more in number, are pivoted upon the rim, so that their ends may move up and down in vertical planes, the outer ends of the levers projecting beyond the margin of the cover, so as to engage beneath the overhanging ends of the locking-ears upon the ring-head, and secured against displacement, as by the removable pins or screws *a a*, passing through the levers. The inner ends of the locking-levers enter openings provided for them in the wall of a central movable block, I, mounted and made movable upon the central standard, G.

Beneath the block I is a coiled metallic or other suitable spring, K, of sufficient power to raise the block and the inner ends of the levers to a position in which the levers will unlock from the hooks or ears as soon as pressure upon the upper side of the block is released.

L is a nut having a suitable projecting handle applied upon the central standard above the block I.

From the construction so far indicated it will appear that when the nut L is turned down the block will be depressed against the action of the spring K, carrying with it the inner ends of the locking-levers, and this movement will elevate the outer ends of the levers, bringing them up firmly against the under sides of the overhanging hooks or ears. By turning the nut L up on the standard the spring K forces the block I up, carrying the inner ends of the levers up, thereby lowering their outer ends and releasing them from the hooks or ears. The cover has then only to be turned slightly, so as to bring the projecting ends of the levers out from under the ears, when it may be lifted off from its seat. The block is prevented from turning on the standard by reason of its connection with the levers, which are held against side movement by the screws or pins *a a*. The block I is preferably made of cast metal. It can be readily lifted off the standard by first removing the nut L, when any one of the levers or locking-arms can be removed and replaced, if desired. The construction obviates all binding or wedging of the levers, makes their locking and unlocking movements certain and easy to the operator, is capable of easy and cheap manufacture, and enables one to mount the device for use with great facility, obviating much fitting and adjustment of parts heretofore required.

The locking ears or hooks are represented at M. Heretofore in this class of device these ears have been connected directly with the barrel-chine, and they have also been mounted upon the metallic ring-head by casting them directly therewith, or by casting their bases therewith, the upper or hook part being afterward applied. I perforate the ring-head at suitable intervals, and provide each ear or hook with a screw-shank, *m*, calculated to enter the perforation. This leaves a shoulder all around the shank for bearing upon the top of the ring-head and covering the perforation therein. A suitable nut, *n*, is applied upon the shank and draws the hook firmly down to its seat, holding it securely in the proper position. The nut *n* can be removed when required, and any ear can be quickly replaced. By use of washers or packing on the shank the height of the hook can be readily adjusted without detracting from its stability for the purpose of securing accurate bearings for the locking-levers. The improved means of connecting the hook enable it to be easily and cheaply made and quickly applied.

Being thus constructed and arranged, my improvements have been found in practice to answer all the purposes or objects of the invention, as previously stated.

I am aware that vertically-adjustable locking-levers in this class of covers have heretofore been operated by a cam-block with grooves cut therein to receive the inner ends of the levers, and of which the margins bear upon the levers as the block is revolved; and I am also aware that the cover of a churn has heretofore been locked by levers made of spring metal. To these old forms I therefore make no claim; but,

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

1. The vertically-adjustable block mounted upon a central threaded standard, the same being socketed to receive the inner ends of the locking-levers, and provided with a spring below and a nut above to control the movements of said block, substantially in the manner and for the purposes set forth.

2. The combination, with the cover, of the locking-levers pivoted thereon at or near one end, the vertically-adjustable block receiving the inner ends of said levers; and prevented from turning thereby, the central threaded standard secured upon the cover, the spring, and the nut, combined and arranged for operation substantially as shown and described.

3. The combination, with the cover, of the vertically-moving locking-levers pivoted thereon, the vertically-adjustable block receiving the inner ends of said levers, the central threaded standard, the spring and nut for controlling the movements of the block mounted upon said standard, and the open hooks or ears for receiving the outer ends of the levers mounted upon the ring-head, substantially as shown and described.

4. The herein-described hook or locking ear, provided with a screw-threaded shank, the same being combined with the metallic ring-head, and secured thereon by a removable nut, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

MARCUS D. CHAPIN.

Witnesses:
ALONZO HERRICK,
FRED S. PLATT.