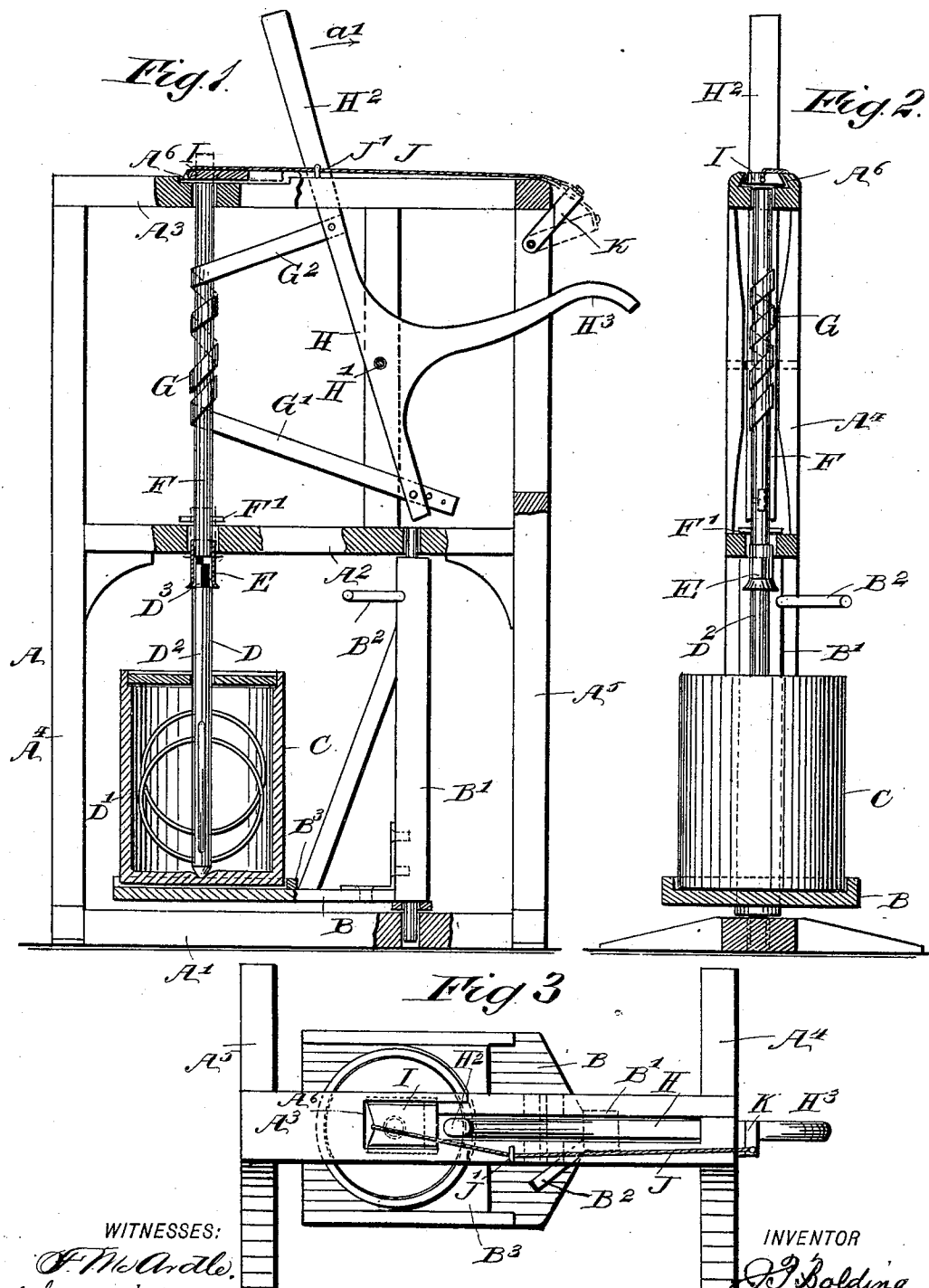


(No Model.)

J. P. BOLDING.
CHURN.

No. 520,724.

Patented May 29, 1894.



WITNESSES:
F. McArdle.
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UNITED STATES PATENT OFFICE.

JAMES P. BOLDING, OF FORNEY, TEXAS, ASSIGNOR OF ONE-HALF TO JAMES
A. LATIMER, OF SAME PLACE.

CHURN.

SPECIFICATION forming part of Letters Patent No. 520,724, dated May 29, 1894.

Application filed November 17, 1893. Serial No. 491,214. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. BOLDING, of Forney, in the county of Kaufman and State of Texas, have invented a new and Improved
5 Churn, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved churn, which is simple and durable in construction, very effective in operation, and arranged in such a manner as to
10 quickly gather the butter.

The invention consists of certain parts and details, and combinations of the same, as will be hereinafter described and then pointed out
15 in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

20 Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a transverse section of the same; and Fig. 3 is a plan view of the same.

The improved churn is provided with a
25 suitably constructed frame A, having a base A' and beams A², A³, supported on standards A⁴, A⁵, erected on the base A'. Above the latter is arranged a platform B adapted to carry the vessel C in which the milk is churned
30 to butter, as hereinafter more fully described. The platform B is attached to a post B', mounted to turn in suitable bearings arranged in the base A' and the beam A², as plainly shown in Fig. 1. From the post B' extends a
35 handle B² adapted to be taken hold of by the operator, to turn the said post B', so as to swing the platform B inward or outward to enable the operator to bring the vessel C in proper position for churning or for examining
40 the contents of the vessel. The vessel C is provided with a dasher D, having circular dasher arms D' secured to a dasher rod D² preferably mounted to turn at its lower end in a step in the bottom of the vessel C and
45 near its upper end in the lid or cover of the vessel. The extreme upper end of the dasher rod D² is provided with a square offset D³, adapted to engage a correspondingly shaped socket E, attached to or formed on the lower
50 end of a shaft F, mounted to turn and to slide

in suitable bearings arranged in the beams A² and A³.

The downward sliding motion of the shaft F is limited by a cross-pin F', adapted to engage the top surface of the beam A². On this shaft F is spirally secured a band G, the ends
55 G' and G² of which extend at angles from the shaft, the end G² extending upward and the other end G' extending downward to connect with a lever H fulcrumed at H' in the frame
60 A, the ends of the band being connected at opposite sides of said fulcrum. The lever H is provided with two handles H² and H³, of which the handle H² extends upwardly to be taken hold of by the operator when stand-
05 ing, while the other handle H³ extends horizontally to be taken hold of by the operator when seated.

The upper end of the shaft F is adapted to be engaged by a slide I fitted to slide longi-
70 tudinally in suitable bearings A⁴, secured or formed on the top surface of the beam A³. This slide I, when over the upper end of the shaft F prevents sliding of the same in an upward direction, the pin F' then being about
75 in position on the top surface of the beam A², so that either up or down sliding motion of the shaft F is prevented. When, however, the slide I is moved to the right to uncover the upper end of the shaft F and the operator
80 pulls on the handle H² in the direction of the arrow a', then the spiral band G unwinding from the shaft F and pulling in an upward direction, causes the shaft to rotate and to slide upward so that the socket E moves out
85 of engagement with the square end D³ of the dasher rod D². When the lever H is moved in the inverse direction of the arrow a' with the shaft F in an uppermost position, then the end G' of the band G unwinding from the
90 shaft and pulling on the same in a downward direction causes the shaft to rotate and slide downward to engage the socket E with the square end of the dasher rod D², at the time the latter is in alignment with the said shaft
95 F. Thus, by manipulating the lever H a rotary motion can be given to the shaft F, and also an upward and downward sliding motion whenever desired. The slide I is connected
100 with one end of a rope J, passing through a

staple J' attached to the upper beam A³, the outer end of the rope being connected with a lever K, pivoted to the standard A⁵, so as to be under the convenient control of the operator, to permit the latter to swing the lever K downward to cause the rope J to pull the slide I open. When the slide is in an open position as shown in dotted lines in Fig. 1 it extends in the path of the handle H², so that when the latter is moved in the inverse direction of the arrow a', at the time the shaft F is caused to rotate and to slide downward, then the said handle H², in moving in its rearmost position, pushes the slide I so as to move the same shut over the upper end of the shaft F.

The operation is as follows: In starting, the lever K is swung downward so as to draw the slide I from the upper end of the shaft F, after which the lever H is moved in the direction of the arrow a', to cause the shaft F to slide upward and to uncouple from the dasher rod D². The post B' is then turned so as to swing the platform B to one side to enable the operator to fill the vessel C with the milk to be churned. When this has been done, the operator returns the platform B to its normal position so that the dasher rod D² is in alignment with the shaft F. The operator next moves the lever H in the inverse direction of the arrow a' to cause the shaft F to slide downward, so as to couple the socket E with the upper end of the dasher rod D². At the same time the movement of the handle H² causes the slide I to close over the upper end of the shaft F, to prevent the latter from sliding either up or down, but permit its turning for the purpose of churning the milk in the vessel C. This is done by the operator now swinging the lever H forward and backward, so that a forward and backward rotary motion is given to the shaft F by the band G, and as this rotary motion is transmitted to the dasher rod D² and the dasher arms D', the milk in the receptacle C is agitated and finally churned into butter. The operator can conveniently examine, from time to time, the progress of the churning, and for this purpose the operator first throws the lever K downward to move the slide I into an open position, to permit of sliding the shaft F upward, as previously described. By this movement the dasher rod D², is uncoupled from the shaft F and the operator, by manipulating

the handle B², can swing the platform B outward to conveniently examine the contents of the receptacle C, by removing the lid thereof. After examination the platform B is returned and the shaft F again coupled to the rod D², and the lever manipulated to continue the churning, in case it is necessary, otherwise the vessel C is removed from the platform B to separate the buttermilk and butter.

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

1. A churn, comprising a shaft adapted to be coupled with the dasher, a hand lever under the control of the operator, a band winding on the said shaft and having its inclined ends connected with the said lever on opposite sides of its fulcrum to impart a sliding and turning motion to the said shaft, and a slide for locking the upper end of the shaft in place to prevent the shaft from sliding in its bearings, the said slide being adapted to be closed by the said lever, as set forth.

2. A churn, comprising a platform a post mounted to be turned and carrying the platform, a vessel on the platform, a dasher in said vessel, a shaft mounted to turn and adapted to be coupled with the said dasher, a band winding on the said shaft and having its ends extending in inclined directions from the said shaft, a lever connected at the opposite sides of its fulcrum with the inclined ends of the said band, a slide adapted to engage the upper end of the said shaft and adapted to be closed by the said lever, and a rope connected with the said slide for opening the same, substantially as shown and described.

3. In a churn, the combination with a frame, a shaft mounted on the frame, to slide endwise, a device for locking the shaft from endwise movement and means for imparting alternate turning motion to the shaft and endwise movement to the said shaft when unlocked, of a platform mounted to swing in the frame below the shaft, a vessel on the platform, and a dasher in the vessel and adapted to be engaged by the said shaft, substantially as described.

JAS. P. BOLDING.

Witnesses:

J. A. LATIMER,
I. G. WOOD.