(No Model.)

H. J. WAGNER.

CHURN.

No. 347,978. Patented Aug. 24, 1886.

Fig. 1.

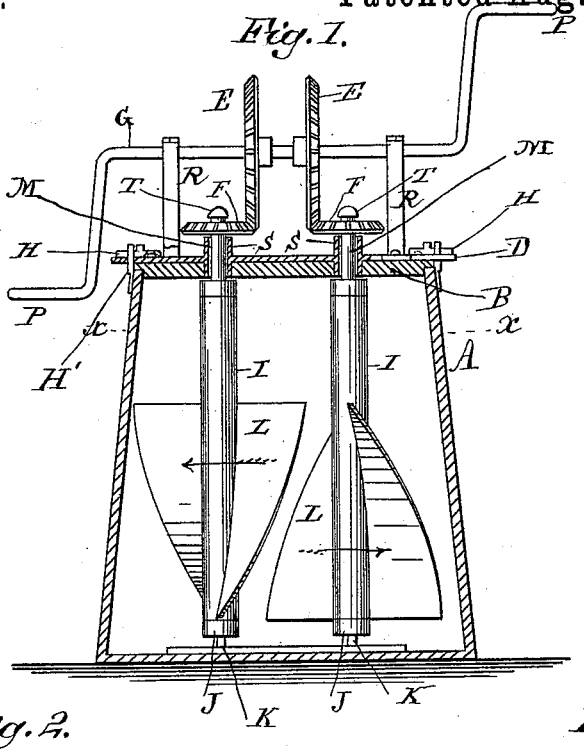


Fig. 2.

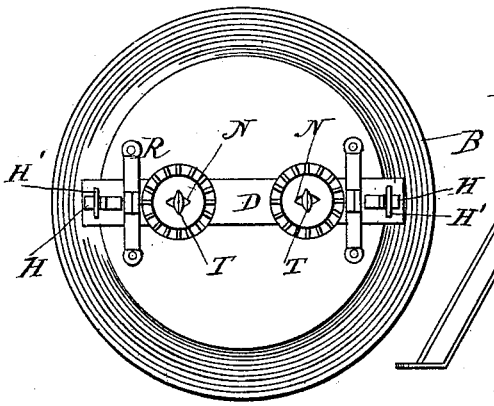


Fig. 4.

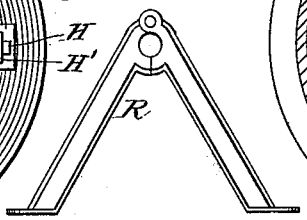


Fig. 3.

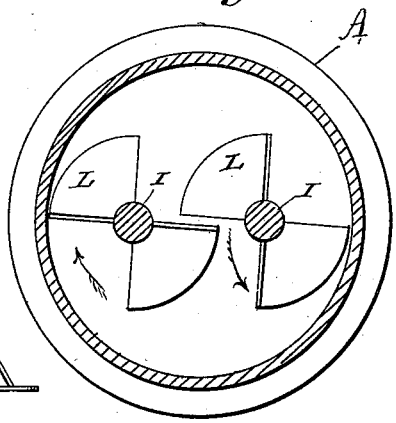
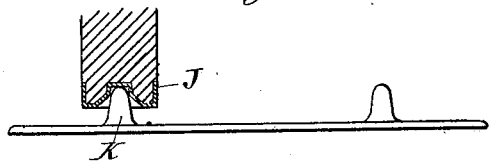


Fig. 5.



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HENRY J. WAGNER, OF DAYTON, MISSOURI.

CHURN.

SPECIFICATION forming part of Letters Patent No. 347,978, dated August 24, 1886.

Application filed March 24, 1886. Serial No. 196,377. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. WAGNER, of Dayton, in the county of Cass and State of Missouri, have invented a new and Improved Churn, of which the following is a full, clear, and exact description.

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

Figure 1 is a central sectional elevation of my improved churn. Fig. 2 is a plan view, part of the driving mechanism being removed. Fig. 3 is a sectional plan view on the line *x x*, Fig. 1. Fig. 4 is a side view of one of the standards carrying the driving-shaft. Fig. 5 is a detail sectional view showing the self-adjusting bearing on the lower end of one dasher-shaft.

To the churn-vessel A, of suitable size and shape, is fitted the detachable cover B, provided on its upper side with the transverse metallic plate D, slotted at its ends to receive the upwardly-projecting sockets H′, secured to the vessel A, and engaged by the locking-bolts H on the ends of said plate D.

On the churn-cover B are secured the two V-shaped standards R, in bearings at the angles of which is mounted to revolve the driving-shaft G, having the opposite crank-handles P.

In boxes or bearings S, formed on the plate D, are received the metal journals M, secured to or formed on the upper ends of two vertical shafts, I, carrying the dasher-blades L. To the lower ends of said shafts I are secured the metallic steps or bearings J J, which flare outwardly and rest upon studs K K, secured to the bottom of the churn or to a plate thereon. The dasher-blades L are secured spirally to the vertical shafts I, each blade L making a partial turn around its shaft, as shown in Figs. 1 and 3, and are arranged at right angles to each other on their respective shafts I, so as not to interfere with each other on being rotated in opposite directions. It will be noticed that the upper ends of the left-hand dasher-blades (see Fig. 1) and the lower ends of the right-hand dasher-blades are square, or at right angles to the shafts, while the opposite ends of said blades are rounded or curved from their outer edges inward to the shafts. By this construction, as the right-hand shaft revolves, the lower square ends of the blades will engage the cream and cause it to pass up the spiral faces until it reaches the rounded upper ends, when it will be thrown off. The left-hand dasher-blades force the cream downward, and the cream is thoroughly agitated between the two dashers. The air, following the lower edges of the dashers, commingles with the agitated mass and assists the process. The upper ends of the journals M M of the shafts I are shouldered to receive the bevel-wheels F F, and said bevel-wheels are provided with oblong apertures N, through which oval heads or cross-pieces T on the ends of the journals M are passed, and turned crosswise to secure said bevel-wheels F to the shafts I. The bevel-wheels F engage the bevel-wheels E on the driving-shaft G, so that on turning said shaft G the bevel-wheels F, and hence the dasher-shafts I, are rapidly revolved in opposite directions.

By the arrangement of the driving mechanism and dashers on the cover B, on removing said cover to introduce fresh milk, &c., all the operating parts are removed, and on replacing the cover the flaring steps J on the dasher-shafts facilitate the adjustment of said shafts in position.

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

1. The combination, with the churn-body and a dasher-operating mechanism, of the two vertical shafts I I and the spiral blades L L, resting at their inner edges against opposite sides of each shaft, and each pair of blades being at right angles to the other, the lower ends of one pair of blades and the upper ends of the other pair being rounded or curved inward from their outer edges to the shafts, and the opposite ends being square or at right angles to the shafts, substantially as set forth.

2. The combination, with the churn-body and the removable cover having bearings, of the dashers having journals M, formed with cross-pieces or heads T, gears F, slotted to admit the passage of the heads through them, standards R, the shaft G, journaled therein, and the gears E E, mounted thereon and meshing with the gears F F, substantially as set forth.

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