(No Model.)

J. H. FOX.

CHURN.

No. 342,346. Patented May 25, 1886.

Fig. I

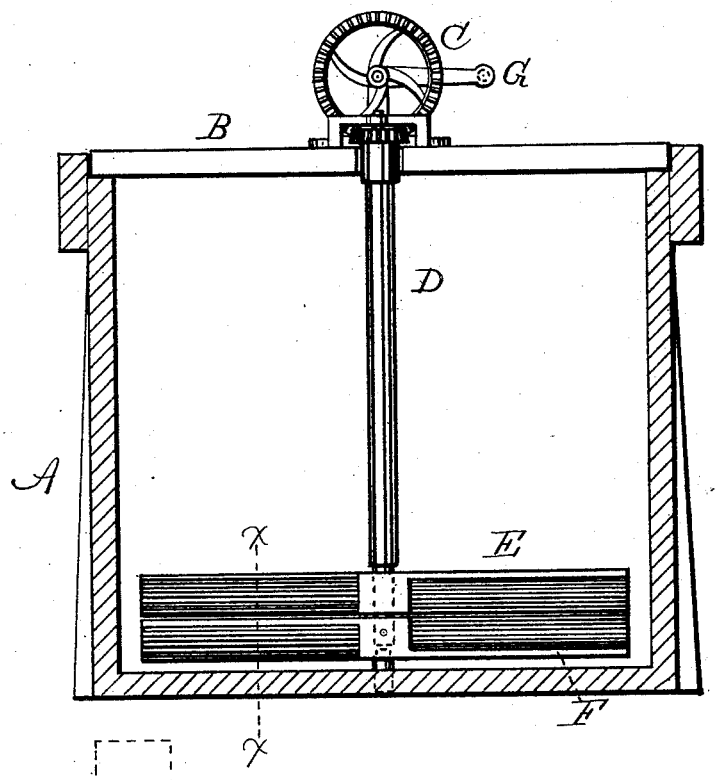


Fig. II

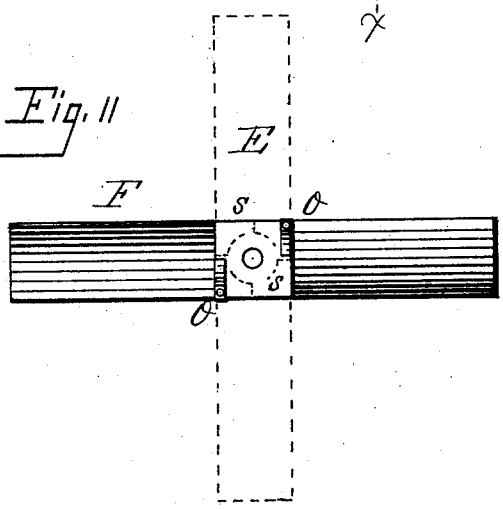
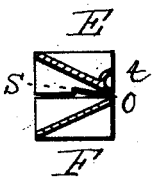


Fig. III



Witnesses
Louis L. Reibold
Leopold Leibold

Inventor
John H. Fox
By B. Pieksenig
Her Atty.

UNITED STATES PATENT OFFICE.

JOHN H. FOX, OF KESSLER, OHIO.

CHURN.

SPECIFICATION forming part of Letters Patent No. 342,346, dated May 25, 1886.

Application filed August 27, 1885. Serial No. 175,412. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. FOX, a citizen of the United States, residing at Kessler, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Churns; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in box-churns; and it consists of two paddles, the lower of which is permanently attached to the shaft, and the upper is loose upon said shaft, and is held in position at a right angle to the lower during the process of churning, and the two are held in line, while gathering the butter, by springs attached to the lower paddle, and which engage corresponding notches in the other.

The mechanism is illustrated in the accompanying drawings, in which Figure I is a transverse section of the churn near the center. Fig. II is a top view of the lower paddle of the same. Fig. III is a cross-section of the paddles on the line *x*.

Similar letters refer to similar parts throughout the several views.

The general features are like the box-churns in use. The only difference consists in a loose paddle, which occupies one position in relation to the lower paddle in churning, and another position in gathering the butter.

A is a section of a square wooden box having strips of boards attached to the sides to embrace the edges of the lid B, which is in halves. In the center of the bottom is a pin, which enters a hole in the lower paddle, that forms the pivot for the shaft. The opposite end of the shaft is supported in a bearing in a cast-iron frame that is attached to the lid. This frame supports the shaft, which supports the cog-wheel C and the crank G. This wheel engages the pinion attached to the top of the shaft D. By means of these parts the paddles are caused to rotate. The lower end of the paddle-shaft is cut away, thus forming a shoulder a little above the upper paddle. The lower paddle, F, which is fixedly attached to the shaft, is formed of a square piece of wood with the opposite corners at both ends cut away to near the center, as shown at Fig. III. On its upper surface are attached the springs O O. The free ends of these flat springs enter notches in the under surface of the upper paddle E, and operate as do pawls on a horizontal wheel. Both springs sustain the same relation to the four notches. But one spring and two notches are necessary to the operation. The dotted lines S S, Fig. II, show the position of the notches, and at S, Fig. III, is shown one of these notches. The upper paddle is like the lower in general form, with the exception of a projection at *t*, the use of which being to shift the position of the upper paddle by its action against the contents of the churn when the turning is reversed.

The dotted lines at E, Fig. II, show the position of the upper paddle while churning, and at E, Fig. III, the position while gathering the butter. The upper paddle is loose upon the shaft, and is only held against rotating on the same by the springs as above specified.

The operation is thus described: The upper paddle is placed at a right angle to the lower, the cream is poured in, and the paddles made to revolve rapidly until butter is formed. Then a rapid backward movement of the handle throws the upper forward one-fourth of a circle or on a line with the lower paddle, thus forming a scoop-shaped face, (see Fig. III,) which gathers the butter, the turning being in the same direction.

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

1. In a box-churn, the paddle E, with notches, and the fixed paddle F, with springs to engage said notches, in combination with shaft D, substantially as and for the purpose specified.

2. In a box-churn, the paddle E, with notches and projection *t*, and the fixed paddle F, with springs to engage said notches, in combination with shaft D, substantially as set forth.

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

JOHN H. FOX.

Witnesses:
B. PICKERING,
G. A. PEIRCE.