

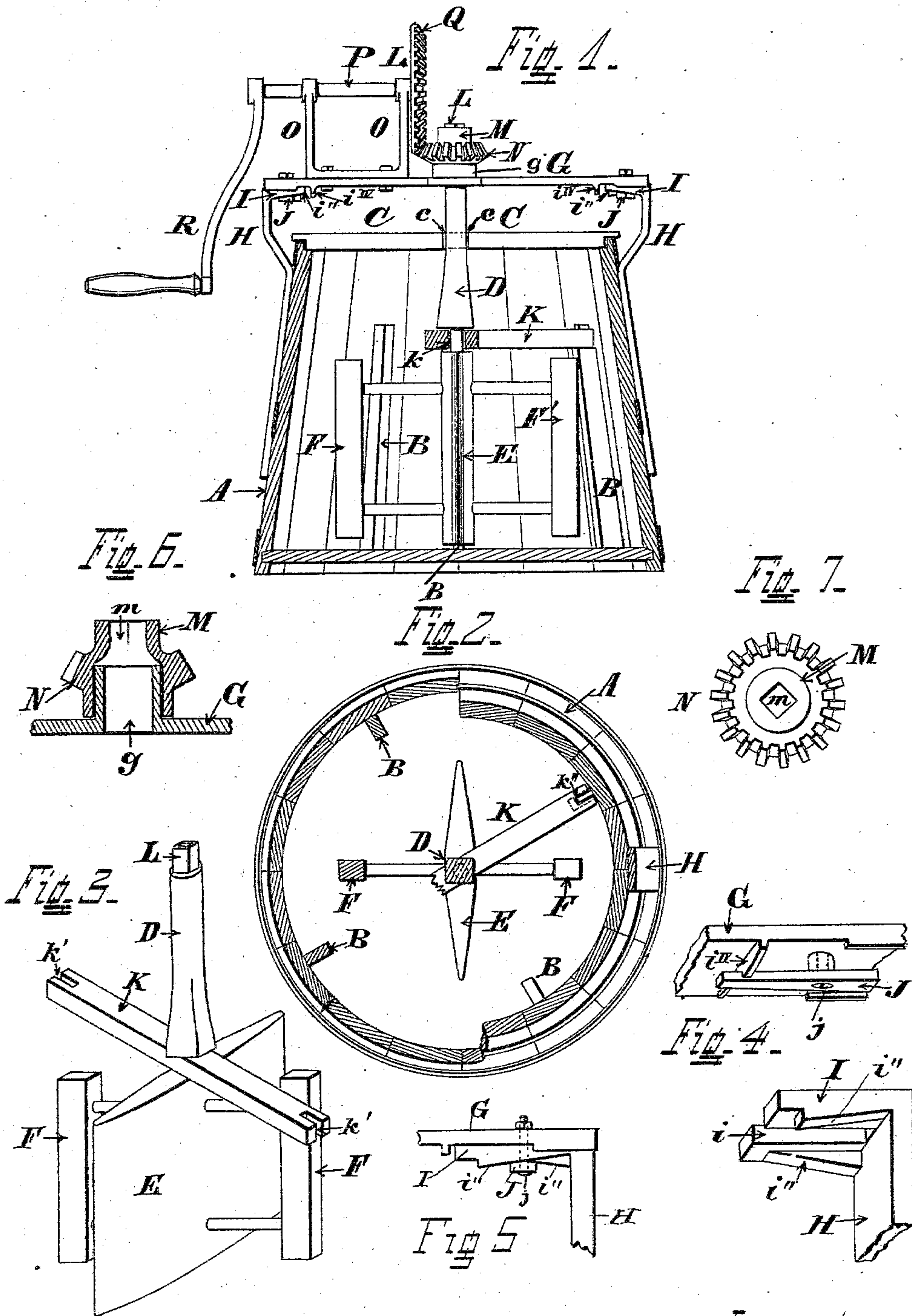
(No Model.)

H. FELT.

CHURN.

No. 305,910.

Patented Sept. 30, 1884.



Attest
Carl Spengel
Quadrant

Inventor
Hannibal Felt
by Knight Bros Attys.

UNITED STATES PATENT OFFICE.

HANNIBAL FELT, OF HAMILTON, OHIO, ASSIGNOR OF ONE-HALF TO HENRY P. DEUSCHER, OF SAME PLACE.

CHURN.

SPECIFICATION forming part of Letters Patent No. 305,910, dated September 30, 1884.

Application filed September 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, HANNIBAL FELT, of Hamilton, Butler county, Ohio, have invented a new and useful Improvement in Churns, of which the following is a specification.

My invention relates to improvements in the class of churns in which a dash whose stem passes down through the lid revolves in a horizontal plane within a suitable vessel armed with vertical ribs or breakers.

In the accompanying drawings, Figure 1 is a vertical, and Fig. 2 a horizontal, section, of a churn embodying my invention. Fig. 3 is a perspective view of the dash. Fig. 4 is a perspective view of one end of the cross-beam and a part of one of the supporting-pillars detached. Fig. 5 is a side elevation of the same secured together. Figs. 6 and 7 are respectively an axial section and a top view of the driving-pinion.

A may represent a suitable tub of the familiar frustum form having longitudinal ribs or breakers B, that project radially inward from its interior walls.

The lid or cover consists, preferably, of two semicircular pieces, C C, whose notches *c* permit passage downward of the stem or shaft D of my dash. The said dash is composed of a beater, E, of the represented acutely lozenge-formed horizontal section, and extending at right angles from said beater are a pair of open-work whippers, F F. The said stem is held perpendicularly by, and revolves within, a beam, G, whose central boss, *g*, receives the dash-shaft D, and whose ends rest upon pillars H H, that rise from the tub sides.

J J are buttons pivoted by bolts *j* to the ends of the beam on the under side. Slots *i* *i'* in inturned horizontal lips I I of the respective pillars receive buttons J J, which when inactive rest against shoulders *i''*, and whose partial rotation causes them to engage and bind beneath the oblique under surfaces, *i'''* *i'''*, of said lips. The dash is supported and steadied within the churn by a cross-piece, K, whose central orifice, *k*, embraces the dash-stem, and whose end notches, *k'* *k'*, embrace the upper ends of two diametrically-opposite breakers. The dash-stem D is surmounted by a square ferrule, L, which, occupying a

correspondingly-square eye, *m*, in the boss M of pinion N, secures corotation of the dash and pinion. Pedestals O O, that extend upward from beam G, afford journal-bearing to the horizontal shaft P of a large bevel-wheel, Q, that meshes into the said pinion N. A winch, R, at the outer extremity of shaft P enables rotation of the dash.

The operation is as follows: The tub being charged with cream, the dash is inserted and the cross-piece K is secured upon two diametrically-opposite breakers. The beam G is then firmly locked to the pillars H H by means of the buttons J J. The dash being then rotated, the beater E operates to drive the contents violently against the breakers, so as to rupture the cellular structure of the cream-vesicles, while the whippers F F operate to still further disintegrate the original masses. When the butter has "come," slow rotation of the dash collects the butter in mass by rolling it against the breakers, so as to "ball" it, and at the same time press the whey thoroughly out of it. The beam G being then unlocked and the lids C C lifted and the dash taken out of the tub, the latter is emptied.

It will be seen that the dash is centered wholly from above, so as not to require any socket in the tub-floor, which is consequently entirely smooth. The parts in contact with the cream are exclusively of wood, and the apparatus has no place of leakage, and requires no packed joint, and is of cheap and easy construction, and is easily cleansed.

I claim herein as new and of my invention—

1. In a churn, the combination of a tub having breakers B, notched and perforated cross-piece K, and a dash consisting of a lozenge-shaped beater, E, pair of open-work whippers F F, and a stem, D, as set forth.

2. In a churn, the combination of a tub having breakers B, notched and perforated cross-piece K, dash consisting of lozenge-shaped beater E, pair of open-work whipper-arms F F, and stem D, beam G, to receive the upper end of the stem, and having a boss, *g*, and the boss M, having pinion N, as set forth.

3. In a churn, the combination of a tub,
pillars H H, having horizontal intumed lips
I I, formed with slots *i i* and oblique under
surfaces, *i'' i''*, and the beam G, having but-
5 tons J J, received through the slots to engage
under the oblique surfaces of the lips, as set
forth.

In testimony of which invention I hereunto
set my hand.

HANNIBAL FELT.

Attest:

GEO. H. KNIGHT,
S. S. CARPENTER.