No. 725,606. PATENTED APR. 14, 1903.

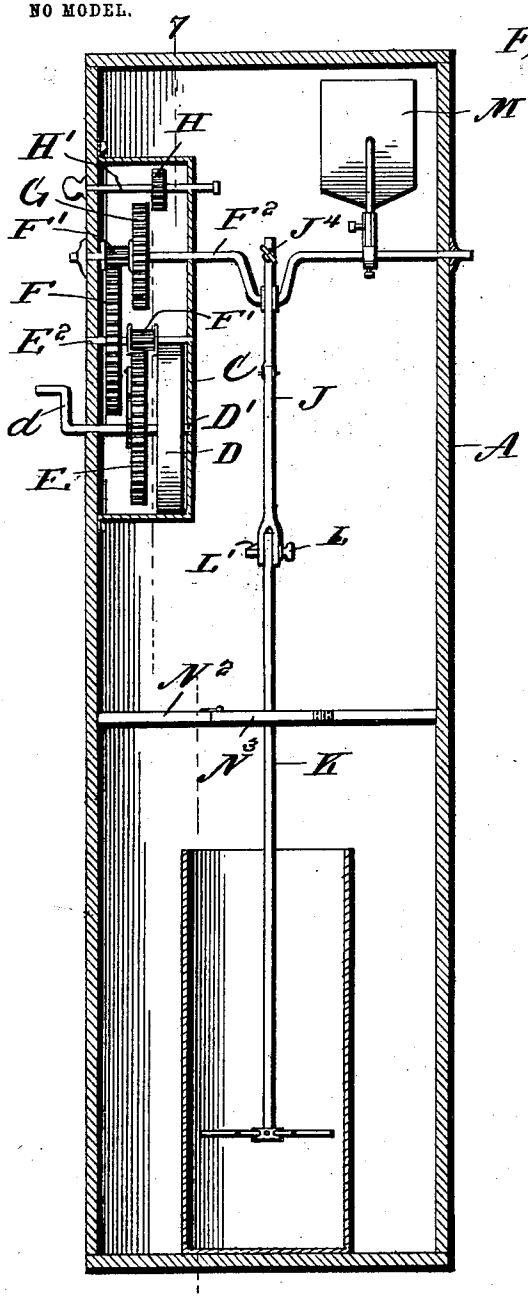
R. B. THOMPSON.

CHURN MOTOR.

APPLICATION FILED JAN. 2, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



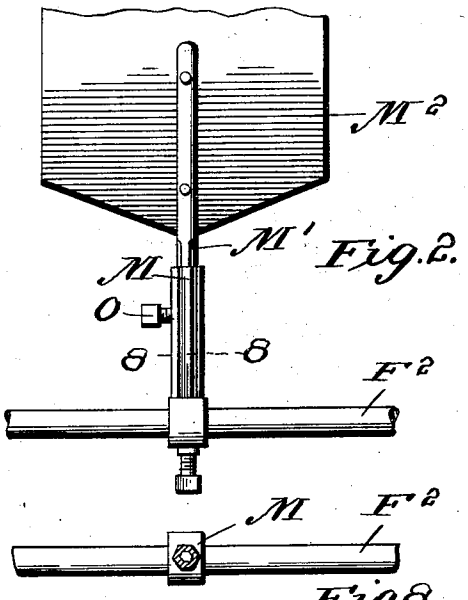
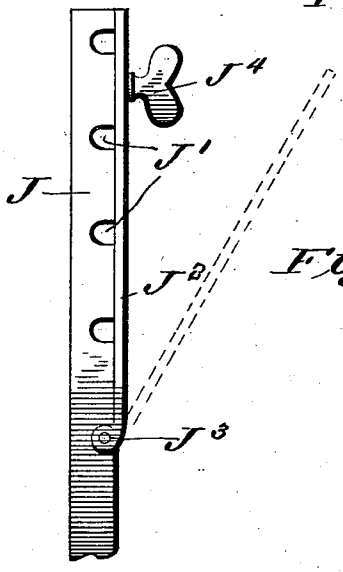


Fig. 2.

Fig. 3.



WITNESSES: 7

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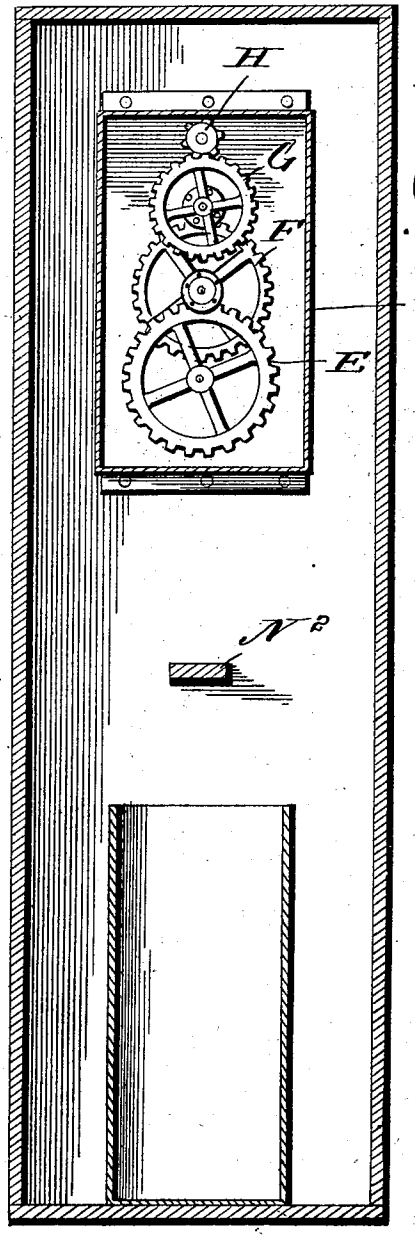
R. B. THOMPSON.

CHURN MOTOR.

APPLICATION FILED JAN. 2, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 7.



N² Fig. 4.

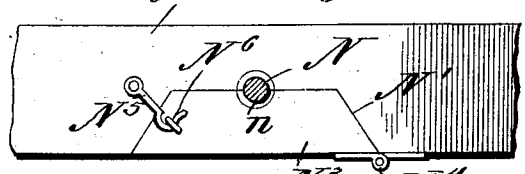


Fig. 5.

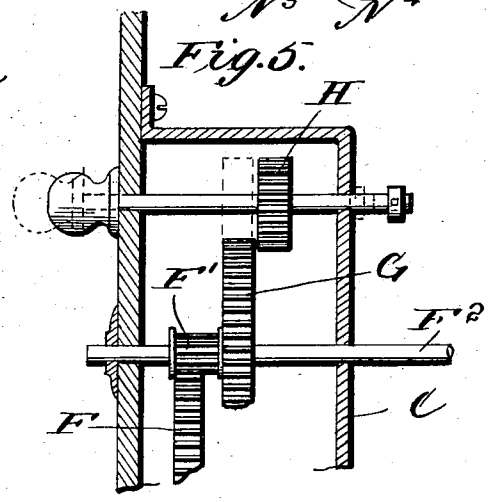
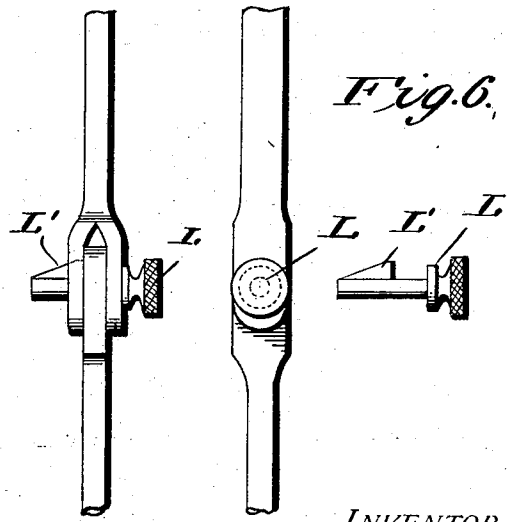


Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT B. THOMPSON, OF CULLMAN, ALABAMA.

CHURN-MOTOR.

SPECIFICATION forming part of Letters Patent No. 725,606, dated April 14, 1903.

Application filed January 2, 1903. Serial No. 137,579. (No model.)

To all whom it may concern:

Be it known that I, ROBERT B. THOMPSON, a citizen of the United States, residing at Cullman, in the county of Cullman and State of Alabama, have invented certain new and useful Improvements in Churn-Motors; and I do declare the following to be a full, clear, and exact description of the invention, such as 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.

This invention relates to new and useful improvements in mechanical motor-churns; and it consists in the provision of means whereby the motor is utilized for actuating the dasher, means being provided for governing the movement of the churn, and in regulating the temperature upon the cream by the provision of an adjustable fan, and in the provision of various other details of construction, which will be hereinafter fully described and then specifically defined in the appended claim.

My invention is illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which drawings similar letters of reference indicate like parts in the several views, in which—

Figure 1 is a vertical sectional view through my improved churn, showing parts in elevation. Fig. 2 is an enlarged detail view showing the means for adjusting the fan, which is mounted to rotate upon the main shaft. Fig. 3 is an enlarged detail view of the upper portion of the dasher, showing means for regulating the length of the throw of the same. Fig. 4 is a detail view of one of the cross-pieces, showing the manner in which the dasher is guided and means for removing the dasher from the churn-body. Fig. 5 is a detail view of means for fastening or locking the gear mechanism of the motor. Fig. 6 is a detail view of the manner in which the pin connecting the dasher-shaft with the pitman is held in place. Fig. 7 is a section on the line 7 7 of Fig. 1, and Fig. 8 is a detail section on the line 8 8 of Fig. 2.

Reference now being had to the details of the drawings by letter, A designates a frame containing a churn and mechanism for operating the same, and mounted preferably within the frame is a casing C, containing a spring-motor. Said motor comprises a spring D, fastened at one end to the casing and at its other end to the shaft D′, having a crank-handle *d* at one end. A suitable dog is provided for engagement with the wheel-carrying spring, and E designates a gear-wheel which is mounted to rotate with the shaft D′ and is in mesh with a pinion-wheel E′, which is mounted to rotate with the shaft E^2. The gear-wheel F, also fixed to the shaft E^2, is in mesh with a small pinion-wheel F′, fixed to the crank-shaft F^2. Said crank-shaft has bearings in the two walls of the motor-casing and also in the opposite wall of the frame of the churn, as shown. Also keyed to the shaft F^2 is a pinion-wheel G, the teeth of which are designed to be engaged by the sliding gear member H, which is splined upon a shaft H′ and designed as it is pushed into engagement with the teeth of the pinion G to hold the same from rotation, thus stopping the motor.

Adjustably held upon the crank portion of the shaft F^2 is a pitman J, having a series of holes J′ at intervals near its upper end, in which the crank portion of the shaft may have bearings. Said pitman has two metallic strips J^2, which are pivoted together at J^3 to the pitman, and a pin J^4 is adapted to engage apertures in said pieces J^2 and also pass through the pitman, as shown clearly in the detail view, whereby the pitman may be held in different positions to give a longer or shorter throw. The lower end of the pitman is forked, and the dasher-shaft K has an aperture which is adapted to be brought into registration with the forked end of the pitman to receive a pin L, the end of which carries a spring-pressed L′ with an angled end, and a pin is passed through the registering apertures, after which the tongue is adapted to spring out and engage the face of the forked member adjacent to its aperture. By this means when it is desired to remove the churn the spring may be sprung back, so as to allow the pin to be removed, and the dasher and churn-body taken out of the casing. The dasher K is adapted to work through and be guided in a recess N in a cut-away portion N′ of the cross-piece N^2, which is

horizontally disposed in said frame. In order to hold the dasher in place, a hinged block N^3 is provided, which is hinged at N^4 and has a recess *n*, which coöperates with the recess N to form a guideway to hold the dasher in place. The hook N^5 is mounted on said cross-piece and is designed to engage an eye N^6 in said hinged block for the purpose of holding the same in closed relation.

Mounted to rotate with the crank-shaft F^2 is a socket member M, which is disposed at right angles to the length of the shaft, and the circumference of the bore of said member is preferably of hexagonal or other angular shape, as shown in the sectional view of the drawings, and is designed to receive a similar-shaped shank portion M′ of a blade or fan M^2. A tightening-screw O is mounted in a threaded aperture in said socket member and is designed to hold the shank portion of the fan in position within the socket and at different angles, accordingly as may be desired to cause a greater or less frictional contact with the air as the same rotates.

The operation of my device will be readily understood and is as follows: The spring of the motor being wound, the apparatus may be started by the disengagement of the sliding gear member H with the pinion G, and if it is desired to present the greatest amount of surface to the air in the rotary movement of the fan the latter is disposed in a plane coincident with the length of the shaft; but if it is desired to cause a less resistance the fan may be tilted at an angle by reason of the hexagonal portion of the socket member and the shank holding the same. This fan attachment is used, I have found in practice, for causing a greater or less flow of air against the body portion of the churn for regulating the temperature of the cream therein besides being utilized as a governor. When it is desired to remove the dasher and churn, the pin, with the spring-tongue thereon, may be removed from the pitman and the dasher and churn removed from the frame.

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

A motor-churn comprising, in combination with the framework, a cross-piece N^2 having a hinged block N^3, a dasher-rod, the adjacent edges of said block and cross-piece being recessed to form a guide for the dasher-rod, a crank-shaft, a pitman J having a series of notches in one edge thereof in which said crank-shaft is adapted to turn, connections between said dasher-rod and pitman, a hinged bar J^2 pivoted to said link, and a thumb-screw carried by said bar and adapted for engagement with the pitman whereby said notches may be closed, as set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

ROBERT B. THOMPSON.

Witnesses:
J. J. CURTIS,
W. J. COTTINGHAM.