R. C. RICE.

Churn-Motor.

No. 219,308. Patented Sept. 2, 1879.

Fig. 1.

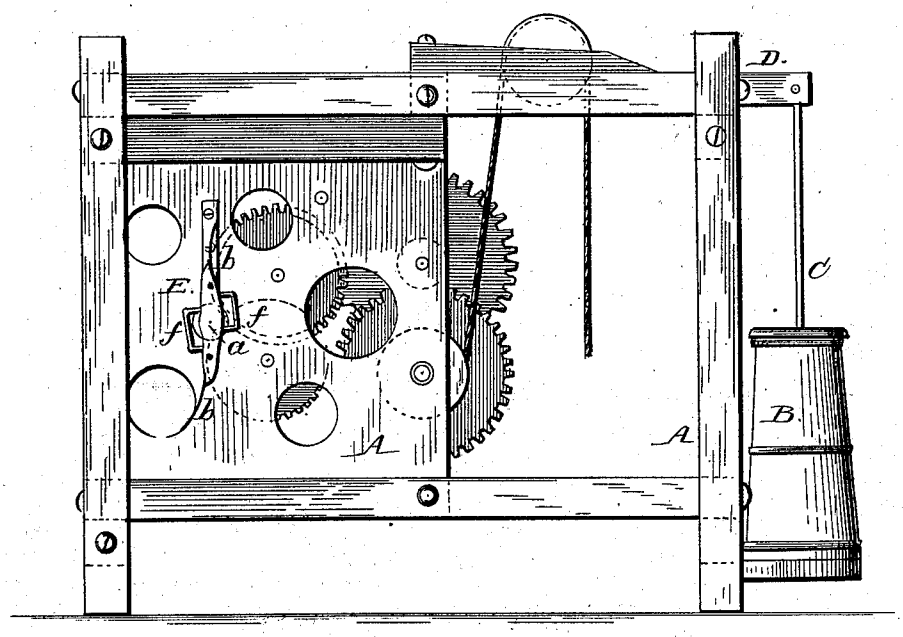


Fig. 2.

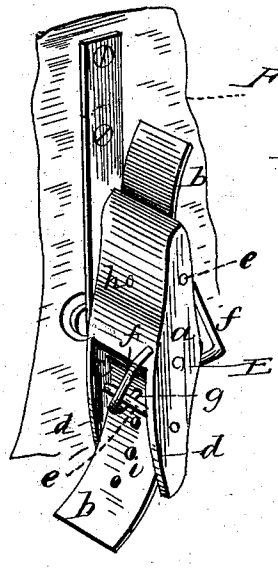


Fig. 3.

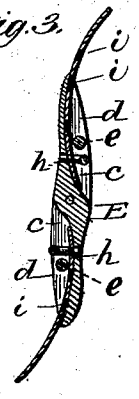
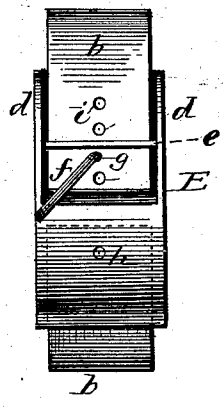


Fig. 4.



Witnesses

Fred. G. Dieterich

Jno. A. Madigan

Inventor

Robert C. Rice

by Louis Bagger & Co.

his Attorneys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT C. RICE, OF NEW CASTLE, PENNSYLVANIA.

IMPROVEMENT IN CHURN-MOTORS.

Specification forming part of Letters Patent No. **219,308**, dated September 2, 1879; application filed July 16, 1879.

To all whom it may concern:

Be it known that I, ROBERT C. RICE, of New Castle, in the county of Lawrence and State of Pennsylvania, have invented certain new and useful Improvements in Churn-Motors; 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, which form a part of this specification, and in which—

Figure 1 is a side elevation of a churn motor or power embodying my invention. Fig. 2 is a perspective view of the adjustable fan-regulator which constitutes my improvement. Fig. 3 is a longitudinal section of the same, and Fig. 4 is a front elevation.

Similar letters of reference indicate corresponding parts in all the figures.

This improvement relates to that class of powers for operating churns generally known as "clock-motors," which are operated by a spring or weight; and it consists in the combination, with the gearing of the motor, of an improved adjustable fan-regulator, substantially as hereinafter more fully set forth.

In the drawings, A is the frame-work or support of the clock work or motor, which, in the present illustration of my invention, is operated by a cord and weight. B is the churn; C, the dasher-staff; and D is the operating-lever or walking-beam, one end of which is pivoted to the upper end of the dasher-staff C, while the other end is pivoted in a pitman connecting with the crank of the main shaft. (Not shown in the drawings.)

E is my improved adjustable fan-regulator, which consists of a central part or body, *a*, secured upon the projecting end of one of the shafts of the operating mechanism, and the adjustable wings or fans *b b*. The part *a* has two curved recesses, *c c*, one at each end on opposite sides, forming flanges *d d*, between which the curved fans *b b* are inserted and held in place by cross-bars *e e*.

f f are springs secured at one end in the part *a*, and the other free end bent to form a pointed arm or hook, *g*, which fits into a perforation, *h*, in each of the hollow or scooped-out sections of *a*. Each of the curved wings *b b* is provided with a series of perforations, *i i i*, any one of which will, by adjusting the fan, register with the perforation *h* and spring-hook *g*, and it follows that the fans or wings at both ends of the middle part or fan-holder *a* may be extended and shortened at will, thereby regulating the resistance to be overcome by the revolutions of the fan, and accordingly regulating the speed of the motor, of which it forms a part.

This adjustment of the wings is effected by simply lifting the points or hooks *g* of springs *f* out of the perforations *i h*, into which they are, for the time, inserted, and slipping them back again after the adjustment has been effected, thus dispensing with set-screws or similar adjusting devices, that are liable to become clogged up with dust, &c.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The herein-described adjustable fan-regulator for clock-work gearing, consisting of the fan-holder or body *a*, recessed at opposite sides and ends to receive the perforated curved fan-blades *b b*, and having flanges *d d* and cross-bars *e e*, hooked springs *f f*, and perforated, curved, and adjustable wings or fan-blades *b b*, constructed and combined to operate substantially in the manner and for the purpose set forth.

2. The combination, with a clock-work power or motor for operating churns, of the improved adjustable fan-regulator herein shown and described, consisting of the holder *a*, retaining springs or catches *f f*, and curved adjustable fan-blades *b b*, having perforations *i i*, substantially as set forth.

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

ROBERT C. RICE.

Witnesses:

EDWIN O. RANEY,

J. G. MOORE.