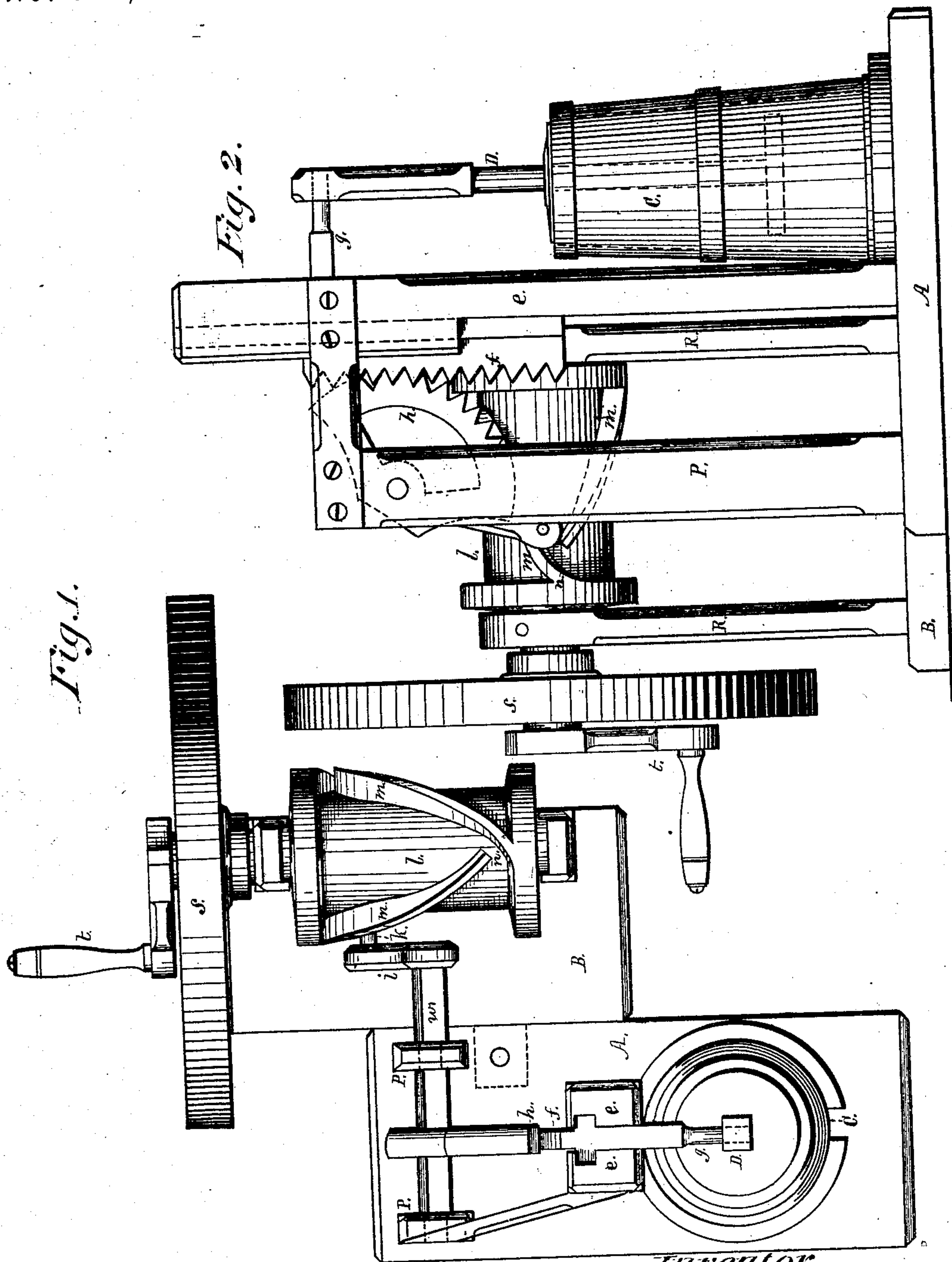


**W. M. COX.**

## Devices for Converting Motion.

No. 145,931.

Patented Dec. 30, 1873.



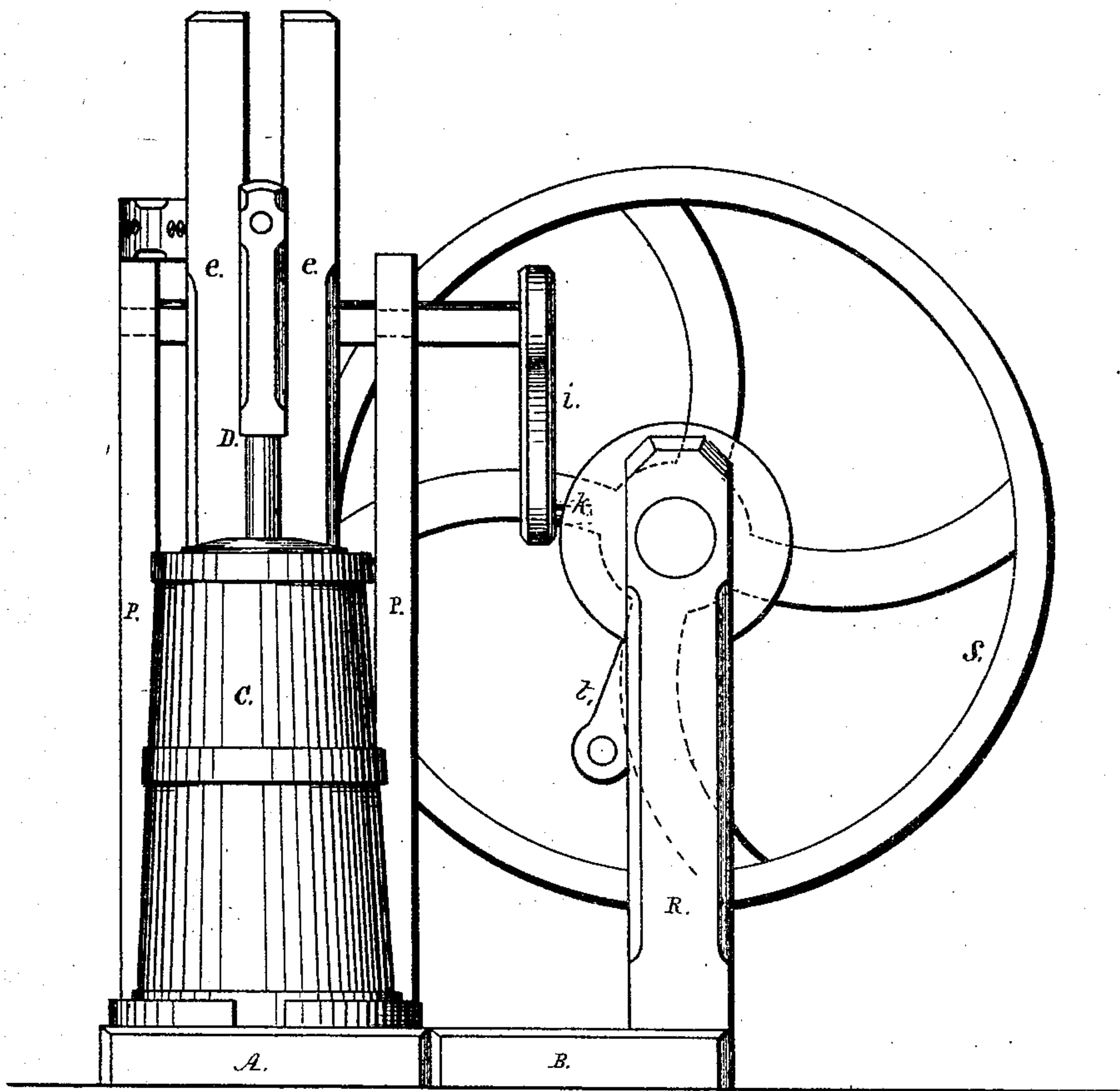
Attest;  
James D. Jones  
Jno. D. Patten

INVENTOR;  
William M. Cox.  
By Johnston & Grindlay.  
his attorneys.

2 Sheets--Sheet 2.

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*Fig. 3.*



*Attest;*  
*James D. Jones*  
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*William M. Cox,*  
*By Johnston & Grindlay,*  
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# UNITED STATES PATENT OFFICE.

WILLIAM M. COX, OF BLANKET HILL, PENNSYLVANIA.

## IMPROVEMENT IN DEVICES FOR CONVERTING MOTION.

Specification forming part of Letters Patent No. **145,931**, dated December 30, 1873; application filed August 15, 1873.

*To all whom it may concern:*

Be it known that I, WILLIAM M. COX, of Blanket Hill, in the county of Armstrong and State of Pennsylvania, have invented a certain new and useful Improvement in Power for Churns; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to a power for churns; and consists in the combination and arrangement of devices hereinafter described, whereby an easy, steady, quick, and uniform motion is imparted to the dasher of churns in the operation of churning milk and cream in the process of making butter.

To enable others skilled in the art to make and use my invention, I will proceed to describe more fully its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a top view or plan of my improvement in power for churns. Fig. 2 is a side elevation of the same. Fig. 3 is an end elevation of the same.

A B represent the base of the frame-work, consisting of the uprights P P R R *e*, which support the several parts of the operating mechanism used for operating the churn-dasher. On the part of the base marked A is secured in position the churn-barrel C, which is provided with an ordinary churn-dasher, D, the upper end of which is secured to an arm, *g*, attached to a slide, *f*, the back edge of which is furnished with ratchet-teeth, into which mesh the teeth of a section of a wheel, *h*, the axis *w* of which is pivoted in the uprights P. The slide *f* moves in suitable guides in the uprights *e*. On one end of the axis *w* of the section of a wheel, *h*, is an arm, *i*, furnished with a wrist-pin, *k*, upon which act the curved inclines *m* of the drum *l*, the axis of which is supported in the uprights R, which axis is furnished with a balance-wheel, *s*, and an operating-crank, *t*. The base A B, uprights P P R R *e*, churn-barrel C, and its dasher D may be constructed of any suitable wood; but the other parts of

the operating mechanism I prefer constructing of cast-iron, or other suitable metal.

As the construction and arrangement of the several parts, and the relation that the said parts bear to each other, will be readily understood from the foregoing description, and by reference to the accompanying drawings, I will, therefore, proceed to describe their operation, which is as follows:

The operator, by means of the crank *t*, revolves the drum *l*, when the inclines *m*, pressing on the wrist-pin *k*, will cause it to travel along the incline *m*, and pass through the opening *n*, whereby the wrist-pin *k* is brought in contact with the next incline *m* on the drum *l*. The several inclines, being arranged in different positions on the drum *l*, impart to the crank *i* a reciprocating motion, which thereby imparts a similar motion to the section of the wheel *h*, which, meshing into the slide *f*, to which the arm *g* is attached, and to which the dasher D is connected, imparts to them a reciprocating motion. Thus an easy, quick, and uniform motion is given to the churn-dasher, which is an essential feature in the operation of churning milk and cream for the production of a good article of butter.

By the combination of the hereinbefore-described devices, the labor process of churning will be greatly diminished, with a great saving of time—two results which are much desired by farmers and those in charge of the dairy of the farm.

Having thus described the nature, construction, and operation of my improvement, what I claim as of my invention is—

The drum *l*, provided with inclines *m*, in combination with the pin *k*, crank *i*, section of a wheel, *h*, and slide *f*, furnished with arm *g*, connected to the churn-dasher D, all constructed to operate with relation to each other substantially as herein described, and for the purpose set forth.

WILLIAM M. COX.

Witnesses:

B. H. LUKER,  
JAMES MARTIN.