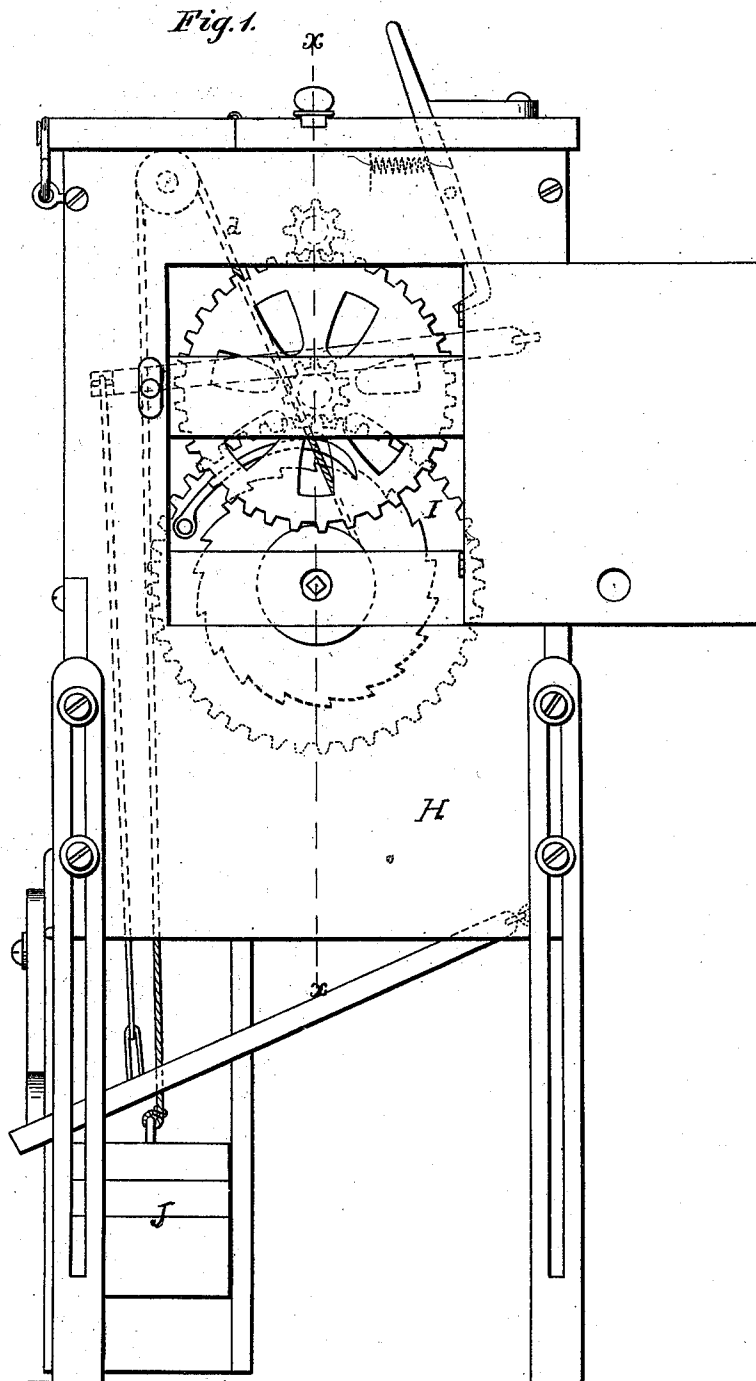


W. VANURDER.
POWER-CHURN.

No. 176,713.

Patented April 25, 1876.



WITNESSES

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By

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UNITED STATES PATENT OFFICE.

WILLIAM VANURDER, OF WOODBURN, INDIANA.

IMPROVEMENT IN POWER-CHURNS.

Specification forming part of Letters Patent No. **176,713**, dated April 25, 1876; application filed March 11, 1876.

To all whom it may concern:

Be it known that I, WILLIAM VANURDER, of Woodburn, in the county of Allen and in the State of Indiana, have invented certain new and useful Improvements in Churns; and 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, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a churn, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation of the case containing the machinery for operating my churn. Fig. 2 is a vertical section through the churn. Fig. 3 is a perspective view of an interior breaker-frame in the churn.

A represents the churn-box, made in square form, and of any dimensions desired, and is supported at any desired or convenient elevation. In this box is placed a frame-work consisting of two parallel horizontal frames, B B, connected by upright perforated boards C C, set radially or diagonally in the corners of the frames. Similar perforated boards are fastened radially in the center of the sides of the frames. These upright perforated boards form the breakers against which the cream is thrown by the revolving dashers. The breaker-frame thus constructed is held a suitable distance from the sides of the box A by blocks *a a*, secured to the outer sides of the frames B. In the center of the box is a vertical roller, E, journaled in the top and bottom thereof, and provided with perforated dashers, G G. These dashers are made of suitable sheet metal, curved, as shown, and provided on their inner edges with ears *b b*, fastened by screws or nails to the sides of the roller.

By thus connecting the dashers to the shaft any one of them can be easily removed at will.

This churn-dasher is operated by clock-work run by weights, and situated in an upright box, H, attached to the side of the churn. I is the clock-work, run by cord *d* and weights J. K is the last shaft of the gearing, extended through the box and provided on its front end with a bevel cog-wheel, L. This meshes with a similar wheel, L', on the upper end of a vertical shaft, M, the lower end of which is coupled to the upper journal *d* of the roller E. The outer end of the shaft K has its bearing in a bent arm, N, hinged to a bar, O, sliding in a groove across the top of the box H, and held at any point desired by a set-screw, *f*, as shown in Fig. 2, the arm being held in place by an adjustable spring, P, held to the bar O by a movable set-screw, *h*. The lower end of the arm N is bent outward, to form a bearing for the upper end of the vertical shaft M.

By these means this shaft M can easily be removed, and the lid of the box A removed, when the rotating dasher is easily lifted out.

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

1. The detachable, curved, perforated metal dashers G G, provided with flanges *b b*, and attached to the vertical revolving roller E, in combination with the frames B B, having radial vertical breakers C D, as and for the purposes set forth.

2. In combination with the shafts K M, having gears L L', operating the churn-dasher, the sliding bar O, with hinged and bent arm N, adjustable spring P, and set-screws *f h*, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of January, 1876.

WM. VANURDER.

Witnesses:

W. J. KERR,

J. W. HAYDEN.