C. H. CLARK.

Churns.

No. 149,374. Patented April 7, 1874.

Fig. 1.

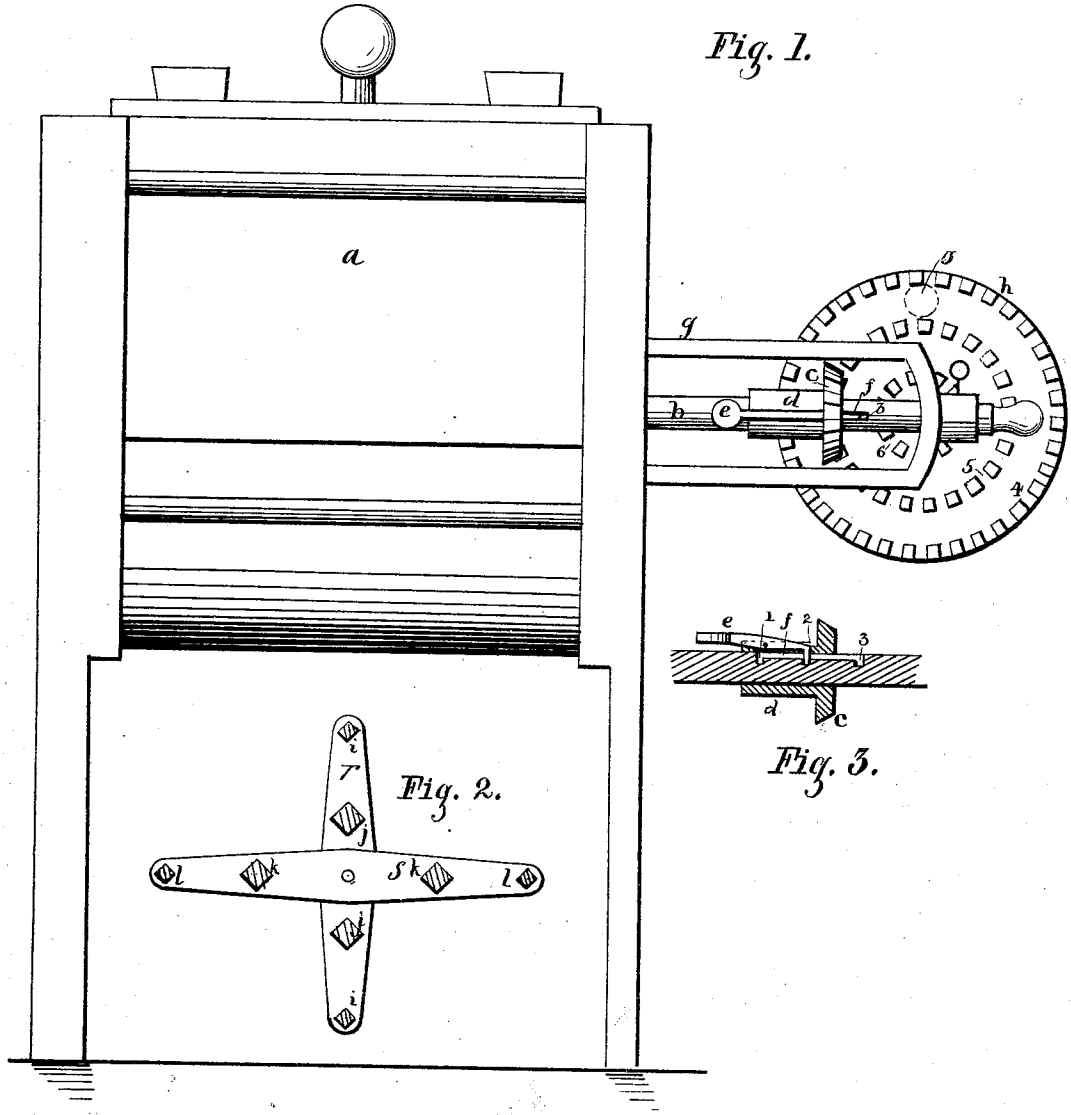





Fig. 2.




Fig. 3.

Witnesses:

W. E. Brown

J. D. Harrison

Inventor:

Charles H. Clark

Per Atty

Wm. Franklin Seavey.

# UNITED STATES PATENT OFFICE.

CHARLES H. CLARK, OF CARMEL, ASSIGNOR TO HIMSELF AND ROBERT B. DUNNING, OF BANGOR, MAINE.

## IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **149,374**, dated April 7, 1874; application filed January 27, 1874.

*To all whom it may concern:*

Be it known that I, CHARLES H. CLARK, of Carmel, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Churns; and I do hereby declare that the following is a full, clear, and exact description thereof, that 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, in which—

Figure 1 shows a side view of my improved churn; Fig. 2, a detail of the dash; Fig. 3, a detail of the adjustable pinion and catch.

Same letters show like parts.

My invention consists, first, in providing a churn-dash with adjustable gearing, whereby it may be driven at different rates of speed, and, consequently, with varying power, thereby adapting it to the strength of the operator, or, what is of equal importance, allowing the power to be increased as the cream thickens; second, in a peculiar form of dash for rotary churns, in which the beaters alternate, so that they pass through every portion of the cream, instead of following each other, as common.

Referring to the drawing, *a* shows the body of an ordinary churn—in this case a rotary, which I consider better adapted to illustrate my invention; and *b*, the shaft by which the dasher is rotated. At *c* is a pinion, cast or otherwise provided with a tubular sleeve, *d*, which slides on the shaft *b*, but is prevented from rotating thereon by means of a catch, *e*, pivoted in a recess in said sleeve *d*, and passing through it to a groove in the shaft. At the bottom of this groove *f* are several notches, 1 2 3, into either of which the catch will enter, and keep the sleeve and pinion from sliding on the shaft. At *g* is an arm or support, attached to the churn-body, and provided with a short pin, (not shown,) which serves as a center, upon which revolves a gear-wheel, *h*, composed of two or more—in this case three—concentric toothed rims, 4 5 6, connected by braces or cast together, as desired, and so placed, with relation to the shaft and pinion *c d*, as to allow said pinion to mesh into either one of the rims, according to the position which may be given it upon the shaft.

It is obvious that the speed, and consequently the power with which the dash is revolved, will depend upon which toothed rim of the gear *h* is used to drive the pinion *c d* and shaft, the greatest power being derived from the inner rim farthest from the crank-handle *o*, by which the gear *h* is turned. The pinion is kept in engagement with either rim by means of the catch, before mentioned, entering either notch 1 2 3.

My peculiar dash will be readily understood from the section shown in Fig. 2.

The cross-arms *r s* are provided with beaters, those on the arm *r*, (*i j*) as they revolve, following the spaces between the beaters *k l* on the arm *s*, thus cutting the wave formed by them, instead of following in their track.

As will be seen, my gearing may readily be applied to an up-and-down or reciprocating churn by a slight mechanical change—viz., by permitting the pinion *c d* to revolve loosely upon its shaft, instead of turning it, the catch engaging annular grooves 1 2 3, to keep it meshed into the toothed rims, and by supplying a second geared wheel, having an eccentric pin on its outer edge, to operate a connecting-rod attached to the dasher; or the pinion may be made stationary, and the gear *h* moved to make the engagement.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with a churn-dash revolved by means of a shaft, *b*, the adjustable pinion *c d*, sliding on said notched shaft, and provided with a spring-catch, whereby it may be held in engagement with either toothed rim of the gear *h*, as herein shown and described.

In testimony that I claim the foregoing, I have hereunto set my hand this 24th day of January, 1874.

CHARLES H. CLARK.

Witnesses:
W. E. BROWN,
WM. FRANKLIN SEAVEY.