I. L. SMITH & C. C. COLBORN.

BUTTER WORKER.

No. 18,649. Patented Nov. 17, 1857.

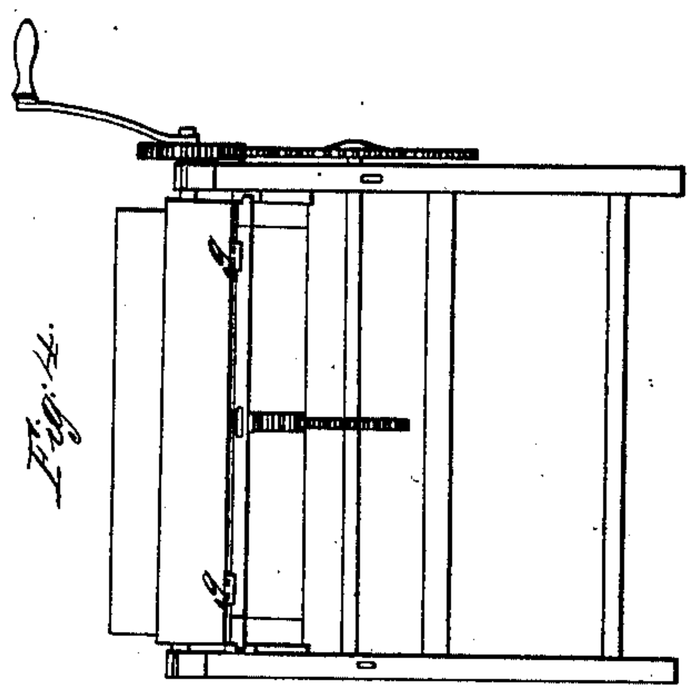

Fig. 4.

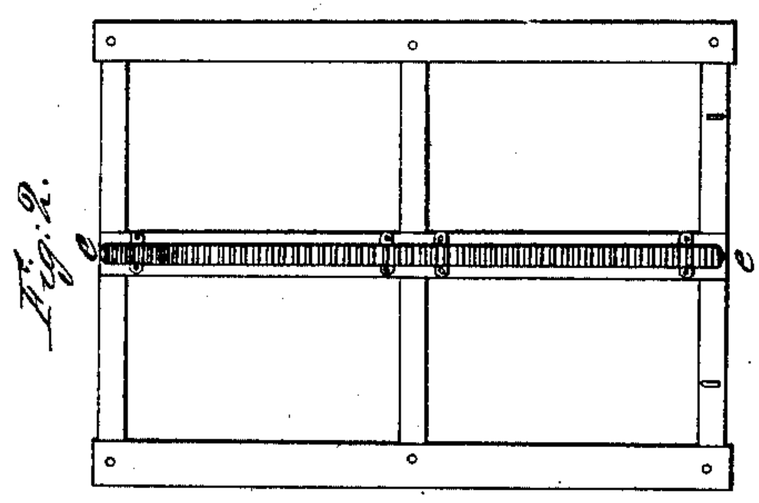

Fig. 2.

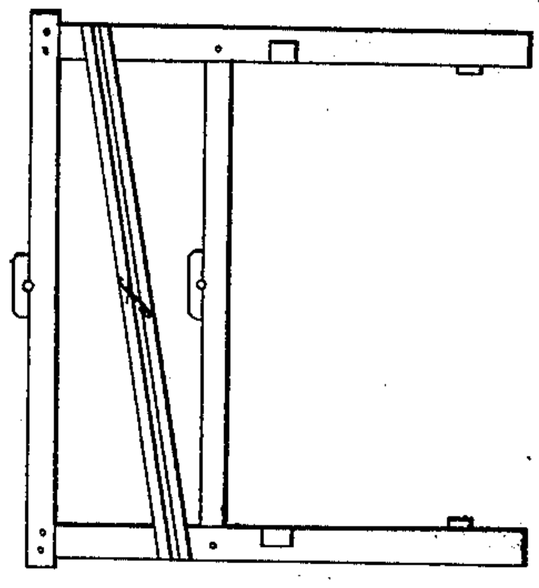

Fig. 3.

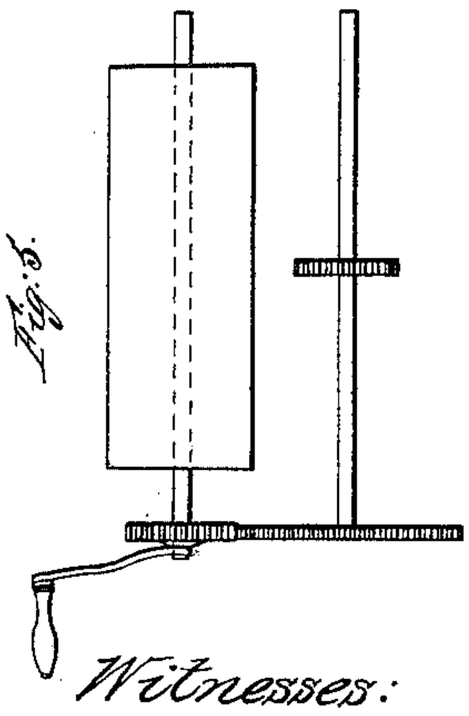

Fig. 5.

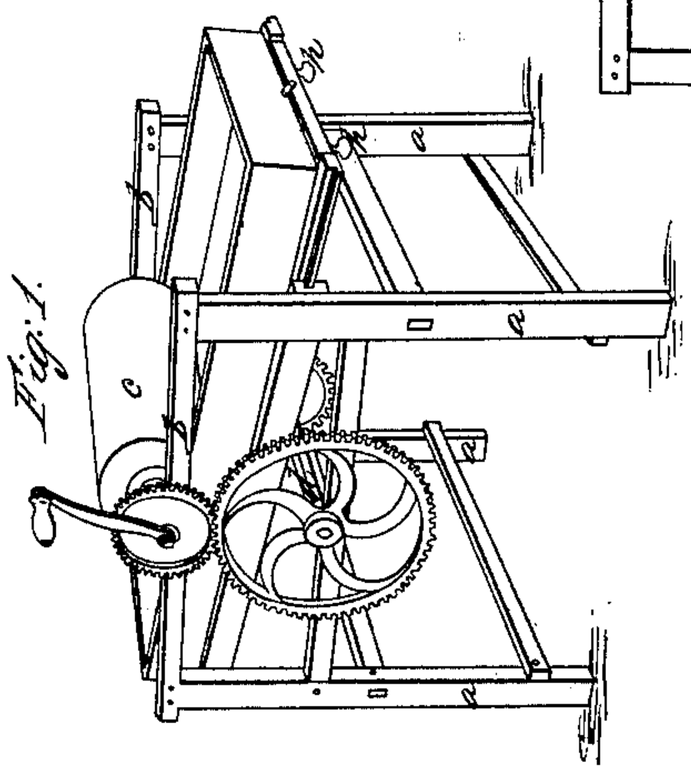

Fig. 1.

Witnesses:

Wm. Weston
Wm. G. Shaw

Inventors:

Isaac L. Smith
&
Charles C. Colborn

UNITED STATES PATENT OFFICE.

ISAAC L. SMITH, OF BURLINGTON, VERMONT, AND CHARLES C. COLBURN, OF MASSENA, NEW YORK.

BUTTER-WORKER.

Specification of Letters Patent No. 18,649, dated November 17, 1857.

To all whom it may concern:

Be it known that we, ISAAC L. SMITH, of Burlington, in the county of Chittenden and State of Vermont, and CHARLES C. COLBURN, of Massena, in the county of St. Lawrence and State of New York, have invented a new and useful Machine for Working Butter and Expressing the Buttermilk Therefrom, called a Butter-Worker; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, numbered 1, 2, 3, 4, and 5, respectively, No. 1 being a perspective view of said machine; Nos. 2, 3, and 5, sections or parts thereof, and No. 4 an end view thereof.

This invention consists in hinging the movable box to the frame upon which it rides, so that said box may be adjusted to any desired extent without throwing the frame out of gear with its driving pinion, as hereinafter set forth.

In the accompanying drawings, (*a*) represents the posts of the frame, and (*b*) the top rails thereof

(*c*) is the pressing roller which is mounted on a shaft (*k*) which turns in bearings located in the rails (*b*). The outer end of this shaft is provided with a cog pinion (*l*).

(*m*) is the box which receives the butter to be worked. This box is hinged at one end by means of hinges (*g*) to a sliding frame (*m'*), and at at the opposite end there are thumb screws (*n*) which pass upward through the frame (*m'*) against the bottom of the box (*m*). By turning the said screws, the end of the box (*m*) is raised or lowered to accommodate the amount of butter required to be worked at one time. The lower edges of the frame (*m'*) form tongues and fit into the grooved rails (*f*). The latter are attached in an angular position to the posts (*a*).

The underside of the frame (*m'*) is furnished with a cogged rack (*e*) which gears with a cogged wheel (*n*); the latter is attached to a cross-shaft (*d*) which turns in bearings on the rails (*b'*). The outer end of the shaft (*d*) is provided with a cogged wheel (*o*) which gears with the cogged wheel (*l*).

The operation of the machine is as follows:—The butter having been placed within the box (*m*), the height of the latter is then adjusted by means of the screws (*n*) to suit the quantity of butter to be worked. Power is then applied to the crank (*l'*), which communicates motion to the roller (*c*) and also to the cogged wheels (*l*, *o*). By the revolution of the wheel (*o*) the shaft (*d*) is also made to revolve, and carry the pinion (*n*), and as the latter gears with rack (*e*), a forward or backward movement is cmmunicated to the frame (*m'*) and its box (*m*) according to the direction in which the crank is turned. In consequence of the relative difference in the size of cogged wheels (*l*, *o*) the roller (*c*) revolves much faster than the movement of the box (*m*), and the surface of the roller, by moving faster than that of the box (*m*), rubs the butter and separates the particles thereof, liberating and forcing out the water and milk.

One great disadvantage of most butter-workers is that there is no method of adjusting the parts to suit the quantity of butter to be worked, without also adjusting the gearing by which the machine is driven. But in my improvement, the butter-box is rendered adjustable in the most convenient manner, without in any way disturbing the gearing of the machine.

Having thus described our invention, what we claim as new, and desire to secure by Letters-Patent, is:—

The box (*m*) hinged to a sliding frame (*m'*), and made capable of adjustment to any desired extent without being thrown out of gear, substantially as and for the purpose set forth.

ISAAC L. SMITH.
CHARLES C. COLBURN.

Witnesses:
WM. WESTON,
A. E. BEACH.