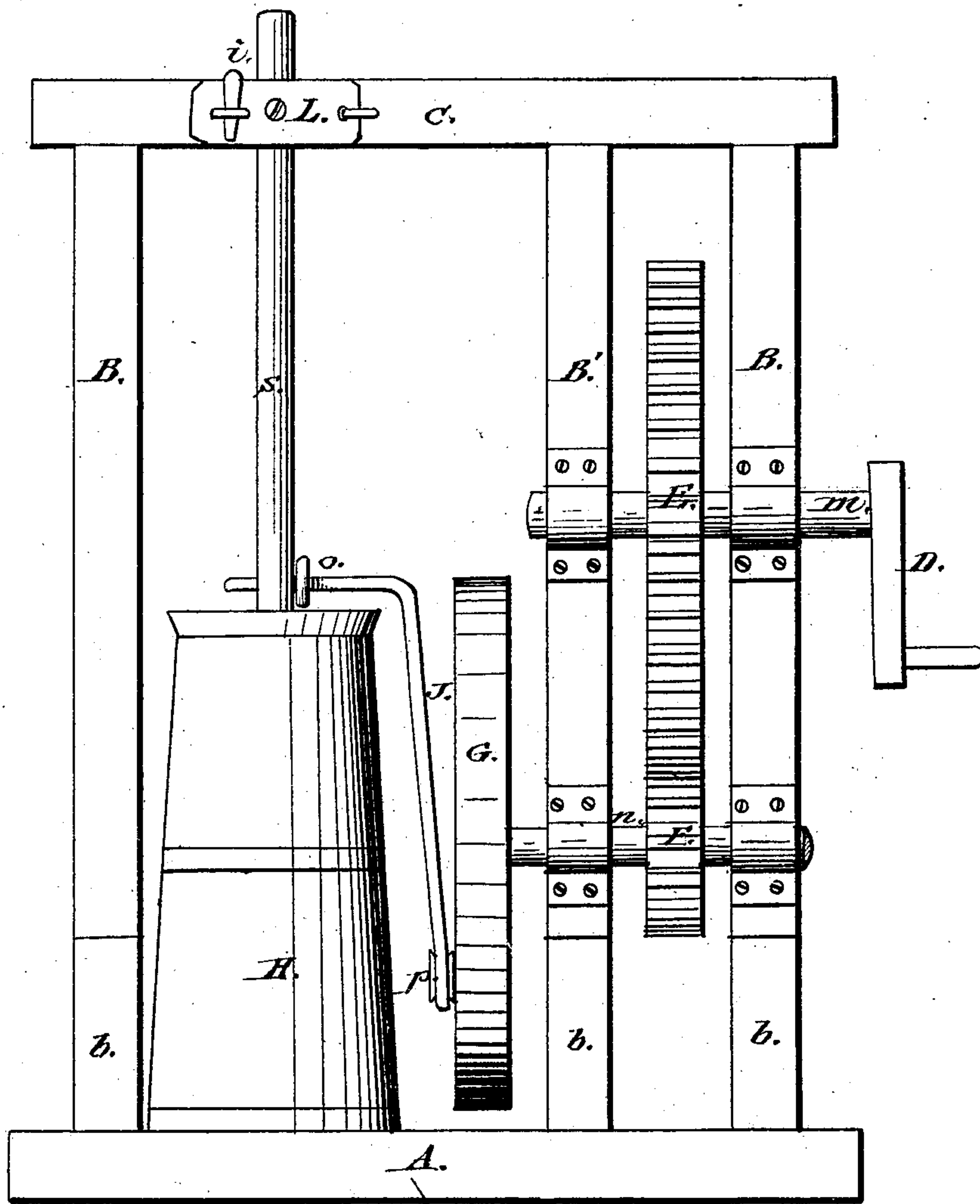


A. H. Elliott,

Churz.

No. 102518.

Patented May 3. 1870.



WITNESSES:

WITNESSES:
George Johnson.
O. H. Cook.
O. J. Lusk.

INVENTOR:

A. H. Elliott.

United States Patent Office.

ARTHUR H. ELLIOTT, OF ALBION, MICHIGAN.

Letters Patent No. 102,518, dated May 3, 1870.

IMPROVEMENT IN CHURNS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ARTHUR H. ELLIOTT, of the town of Albion, in the county of Calhoun and State of Michigan, have invented a new and useful Improvement in the Mechanism for Operating Butter-Churns; and I 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 a part of this specification, giving a side elevation of the churn and operating parts.

The nature of my invention relates to an arrangement of multiplying-gear, balance-wheel, and hand-crank, hung in a gallows-frame mounted on a platform supporting the churn, the several connections being made with a special view to their ready adaptation to churns of any height or capacity, and their ready detachment and replacement; and

The better to enable others skilled in this branch of mechanism to construct my invention, I will now proceed to describe the same.

A represents a platform, in which are framed three posts B B¹ B², having a girt, C, at top and braced at the bottom by angle foot-braces b.

A shaft, m, provided with a hand-crank, D, and carrying a driving spur-wheel, E, so as to revolve between the posts B¹ B², is hung in suitable bearings in said posts.

The wheel E gears below with a pinion F mounted on a shaft, n, which shaft is hung in bearings similar to those of the shaft m.

The pinion-shaft n carries, at its inner end, an overhanging balance crank-wheel G, which is designed to revolve close to the post B¹.

H represents a churn of the ordinary barrel kind, placed about midway in the space between the balance-wheel connection, to be presently described, and the post B; and

S is the dasher-staff, which extends upward through a bearing in the girt C of the frame.

Motion is communicated to the churn-dasher by means of a bent connecting-rod J, the lower end of which is jointed to a crank-pin, p, on an arm of the balance-wheel, and the upper part of the rod, bent at or about a right angle, passes through a horizontally-made hole in the staff S, so as to project beyond it, as seen, a collar, as at o, being usually placed on the rod to prevent contact with the churn-barrel.

The operator, by turning the crank D, can, through the intervention of the spur-gear and balance-wheel connected to the dasher, produce the rapid steady motion so favorable to butter-making with much less fatigue, and can accomplish the operation in a much shorter space of time than by any motion that can possibly be imparted in operating the dasher by hand in the ordinary way.

The crank-pin p, being made adjustable in a slot or otherwise, so as to give the proper stroke to any special size or kind of churn, the only other adjustment needed is in reference to the termination of the stroke, which is readily made by simply boring a new hole in the dasher-staff to receive the bent end of the rod J.

To facilitate the connection and disconnection I employ what I term a latch-bearing, indicated at L, which consists simply of a wooden half box, (not seen,) fastened to a metal plate that is hinged to the girt C, and shuts over a staple against the girt and staff, where it is secured by a pin passing through the staple, as seen.

To remove the churn, therefore, it is only necessary to pull out the latch-pin at i, swing round the hinged box-plate, and draw out the churn.

This movement carries round the rod J until the churn is clear of the frame, when it is drawn off the rod, and the churn is free to be handled for the various needed manipulations, and can, of course, be replaced with equal facility by a reverse operation.

I do not claim, broadly, an arrangement of frame and multiplying-gear for operating a churn-dasher with increased velocity, for this of itself is not new; but,

Having described my invention,

What I claim as new, and desire to secure by Letters Patent, is as follows:

The arrangement and combination of the platform gallows-frame, multiplying-gear E F, balance crank-wheel G, hinged latch-bearing L, and bent connecting-rod J, with any suitable churn, H, and dasher S, substantially as and for the purpose hereinbefore set forth.

A. H. ELLIOTT.

Witnesses:

GEORGE JOHNSON,
O. H. COOK,
A. J. LUSK.