J. S. SMITH.

Churn-Power.

No. 225,727. Patented Mar. 23, 1880.

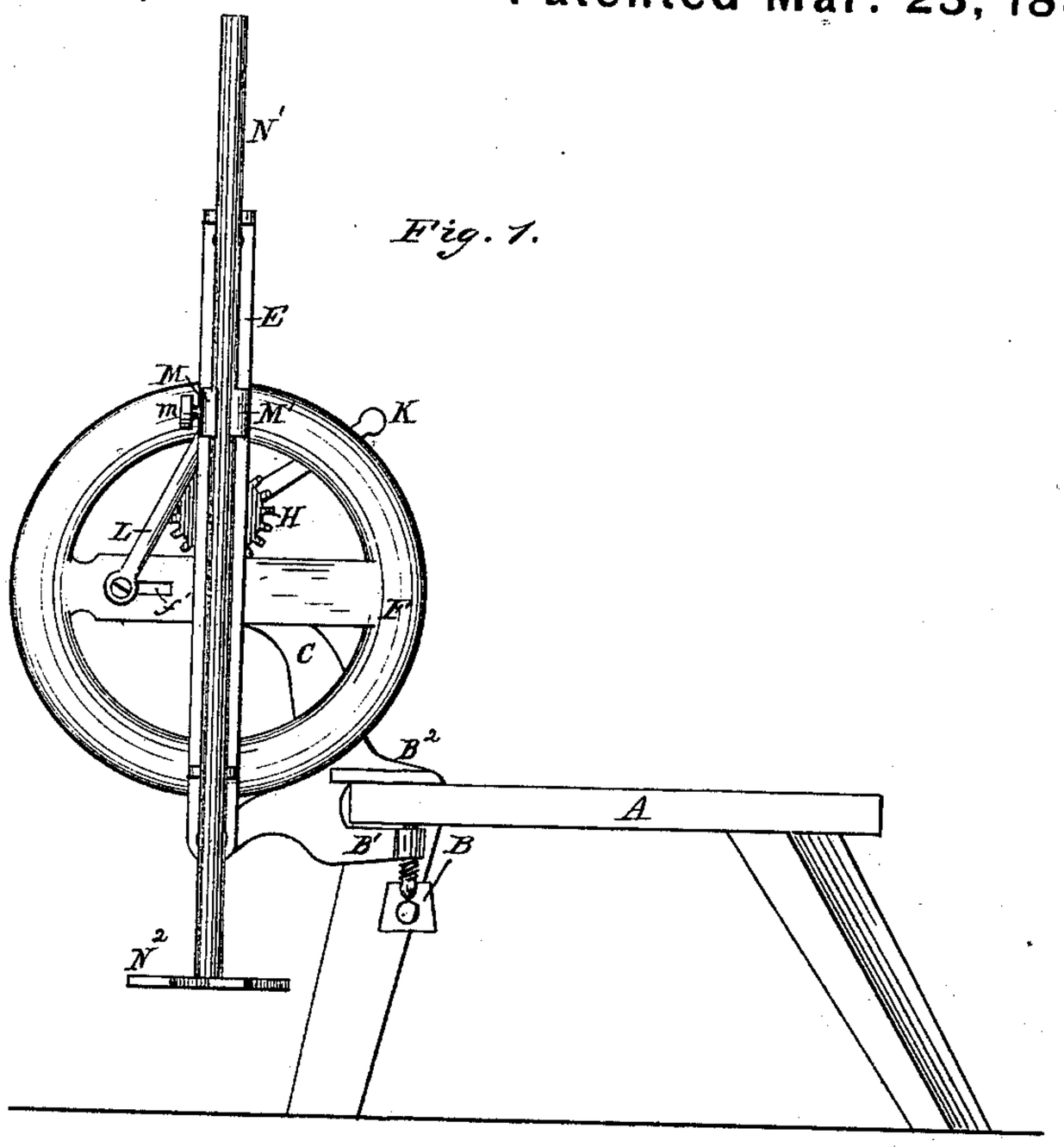


Fig. 1.

Fig. 2.

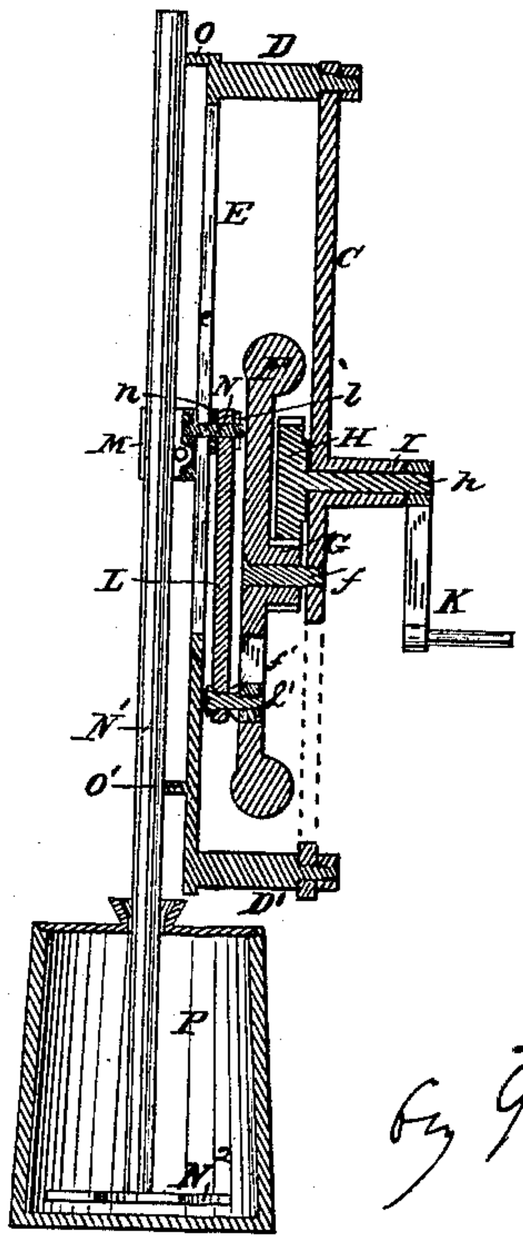
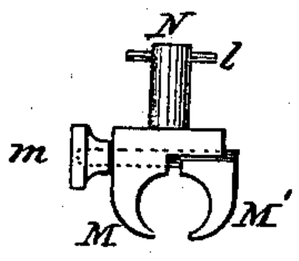


Fig. 3.



Witnesses:

N. N. Low

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Inventor:

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Atty

UNITED STATES PATENT OFFICE.

JOHN S. SMITH, OF JACKSON, MICHIGAN, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO ALBERT H. GIBSON, OF SAME PLACE.

CHURN-POWER.

SPECIFICATION forming part of Letters Patent No. 225,727, dated March 23, 1880.

Application filed December 15, 1879.

To all whom it may concern:

Be it known that I, JOHN S. SMITH, of Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Churn-Powers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in that class of devices for applying reciprocating motion to a churn-dasher which are so constructed as to be applied to and detached from a table or its equivalent.

Figure 1 is a side elevation of the device and a table to which it is attached. Fig. 2 is a vertical section, showing also the relation of the device to a churn. Fig. 3 is a plan view, detached, of the sliding box.

A represents the table or other suitable support, to which the device is to be attached.

B′, B², and C represent, respectively, parts of the frame, the jaws B′ being adapted to clasp the table A, to which they are secured by a thumb-screw, B, in the lower jaw, B′.

D D′ are arms connecting the upper and lower ends of the upright C with an upright carrying-plate, E, which is provided with a vertical slot, *e*, (see Fig. 2,) and with angular projections O O′, the outer ends of these projections being constructed with curved or V-shaped seats to receive a vertically-sliding bar, N′.

The upright C is constructed with a sleeve or tubular bearing, I, projecting from one side thereof, and a spur-gear, H, is mounted upon the upright by means of a shaft, *h*, which is supported in the tubular bearing I, and carries at its outer end a crank, K, by means of which the spur-gear H can be rotated. Gear H meshes with a pinion, G, which constitutes the hub of a fly-wheel, F, which is mounted upon and rotates about a stud or spindle, *f*, projecting inwardly from the upright C. One of the spokes of the fly-wheel F is slotted, as at *f′*, in which a crank-pin is adjustably secured.

L is a pitman connecting the crank-pin with a sliding bearing block or box M M′ N, which I will next describe. This bearing-block consists of three parts, the part M′ being detachable from the parts M N. The part N is a stud or arm projecting from the inner flat face of the part M, and extending through the slot E such distance as to receive a washer, *n*, and the upper end of the pitman L, these parts being secured to the upright E by a pin, *l*, which passes through the inner end of the stud N. The part M′ is secured to the part M by means of a screw-threaded stem or pin which projects from the part M′ to receive a nut, *m*, whereby the parts may be made to gripe the vertical rod N′, which, in the drawings, is represented as being the churn-dasher; or, when preferred, it may be a sliding rod, the churn-dasher being attached thereto by any suitable contrivance.

N² is the dasher, arranged within the churn P, and from an examination of the drawings it will be readily understood that the length of throw of the dasher, and also the depth to which it shall descend and the height to which it shall ascend in the churn, may be regulated as the depth of cream or other circumstances shall render desirable, such adjustments being made by moving the crank-pin *l′* within the slot *f′*, and the rod or dasher N′ in the sliding box or clamp M M′.

It is well known that the throw of the dasher should be varied as the process of churning and collecting the butter progresses, and that the height of the dasher relative to the bottom of the churn requires to be varied according to the depth of the cream and other circumstances, and that it will be seen that my invention is adapted for being attached upon tables of varying heights, and that my construction permits all the adjustments needed under these different circumstances.

Having thus described my invention, what I claim is—

1. The combination of the shaft N′, the adjustable sliding box or clamp M M′, the guides O O′, the slotted plate E, the pitman L, and

the crank-pin l', supported in the slotted crank-wheel, substantially as set forth.

2. The upright C, provided with the jaws B′ B² and thumb-screw B, in combination with the slotted vertical plate E, provided with notched projections O O′, sliding rod N′, and the sliding box or clamp M M′ N, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of December, 1879.

JOHN S. SMITH.

Witnesses:
W. H. LIKINS,
JOSIAH B. FROST.