

(No Model.)

G. N. CLEVELAND.  
CHURN.

No. 254,614.

Patented Mar. 7, 1882.

Fig. 1.

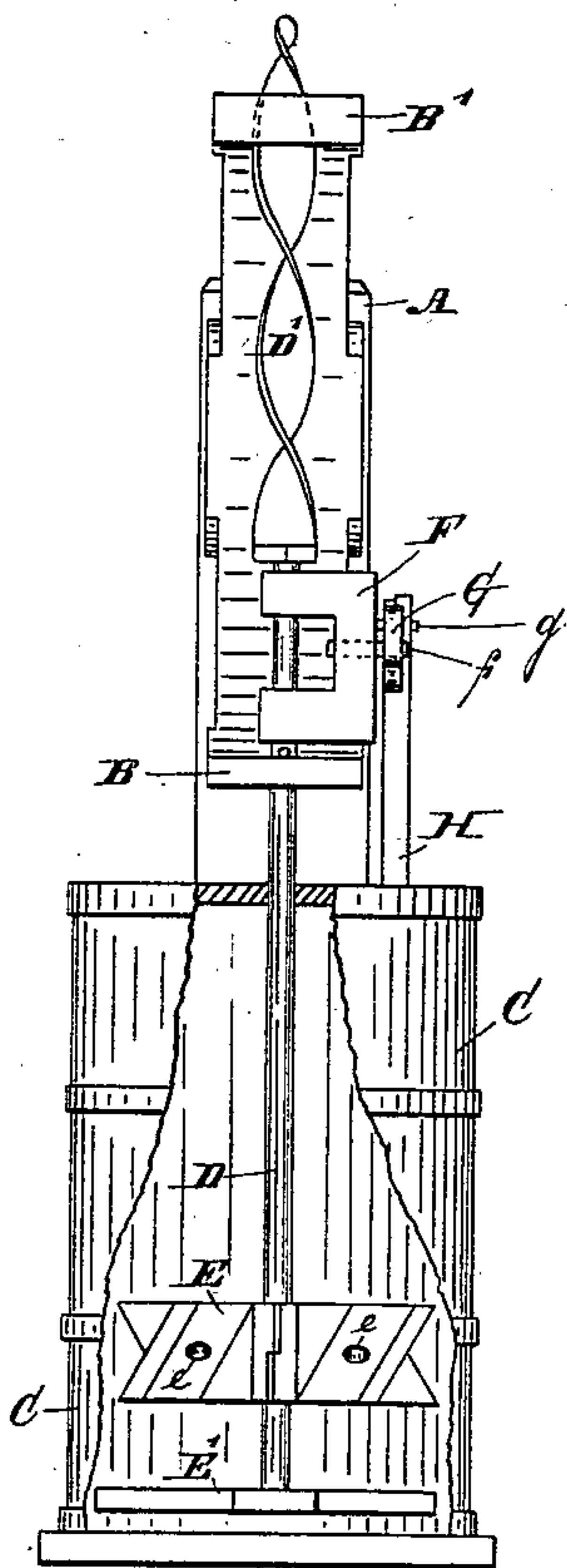


Fig. 2.

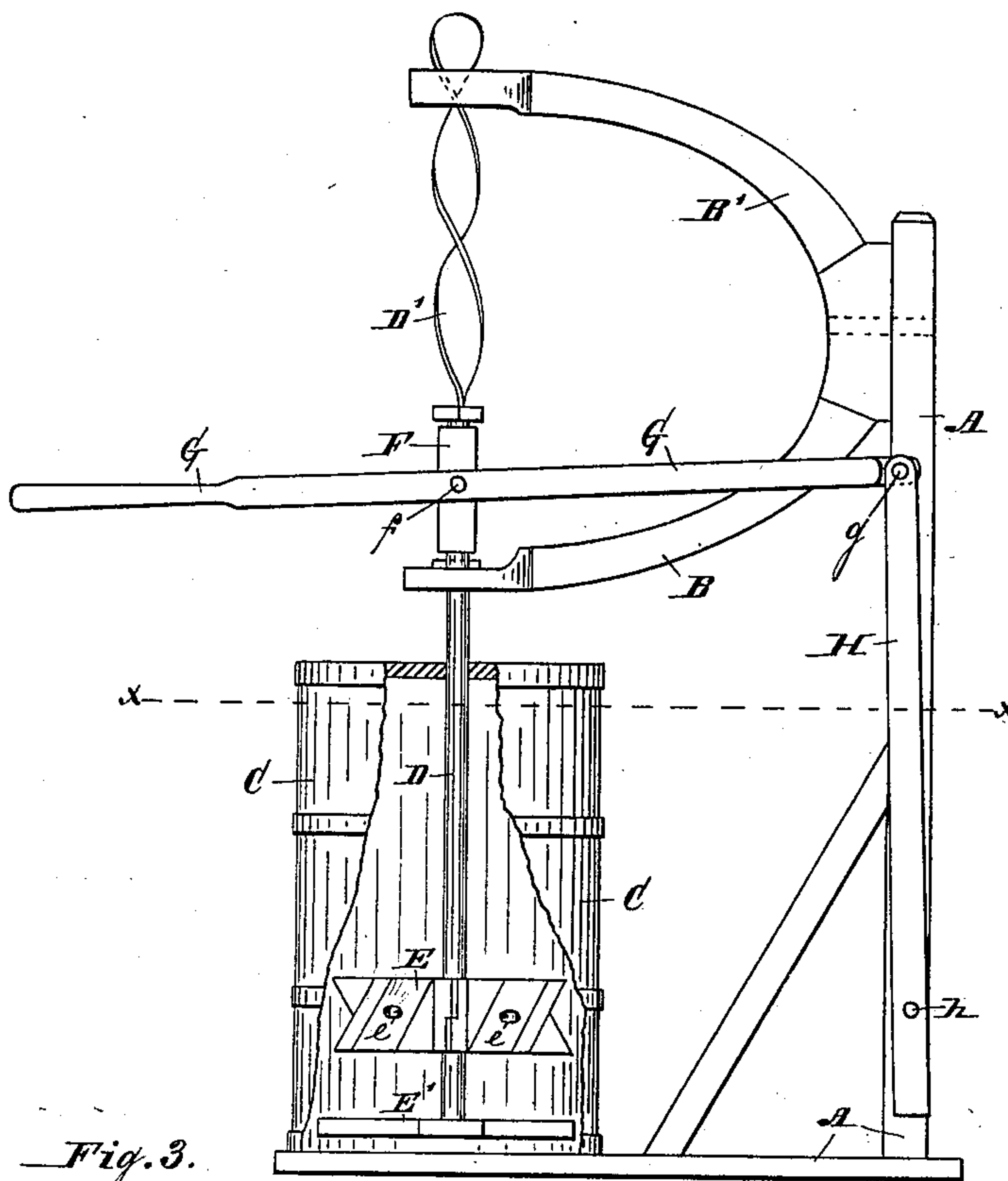


Fig. 3.

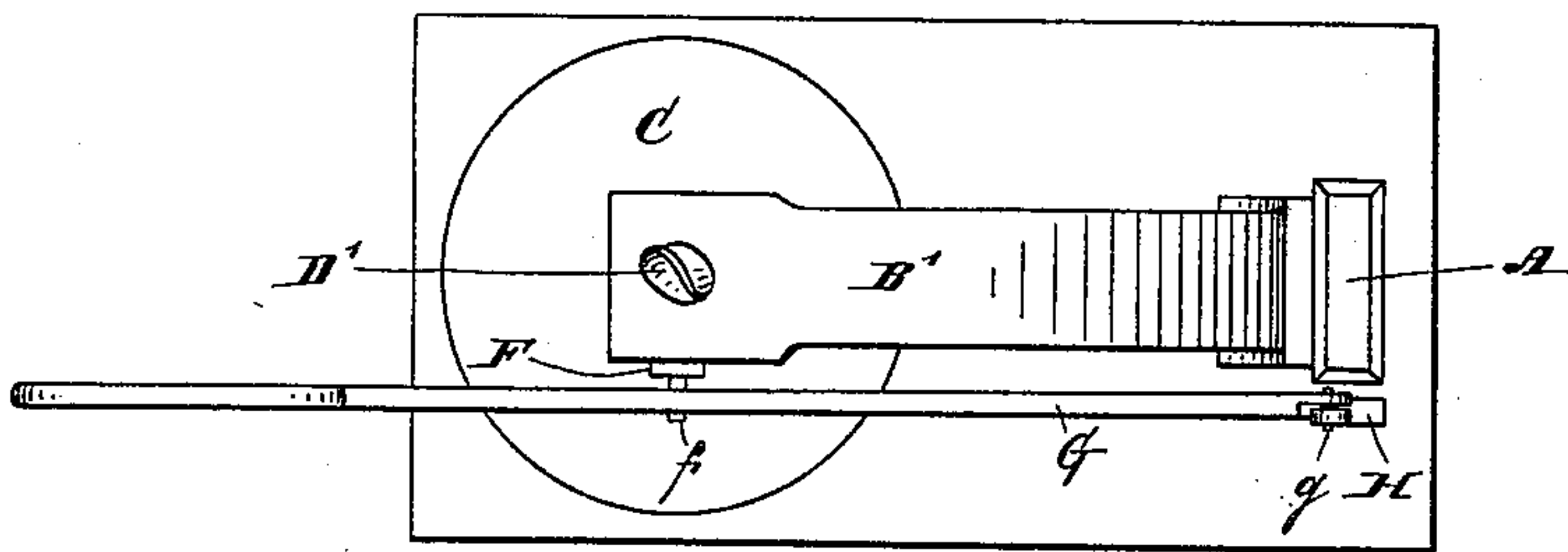
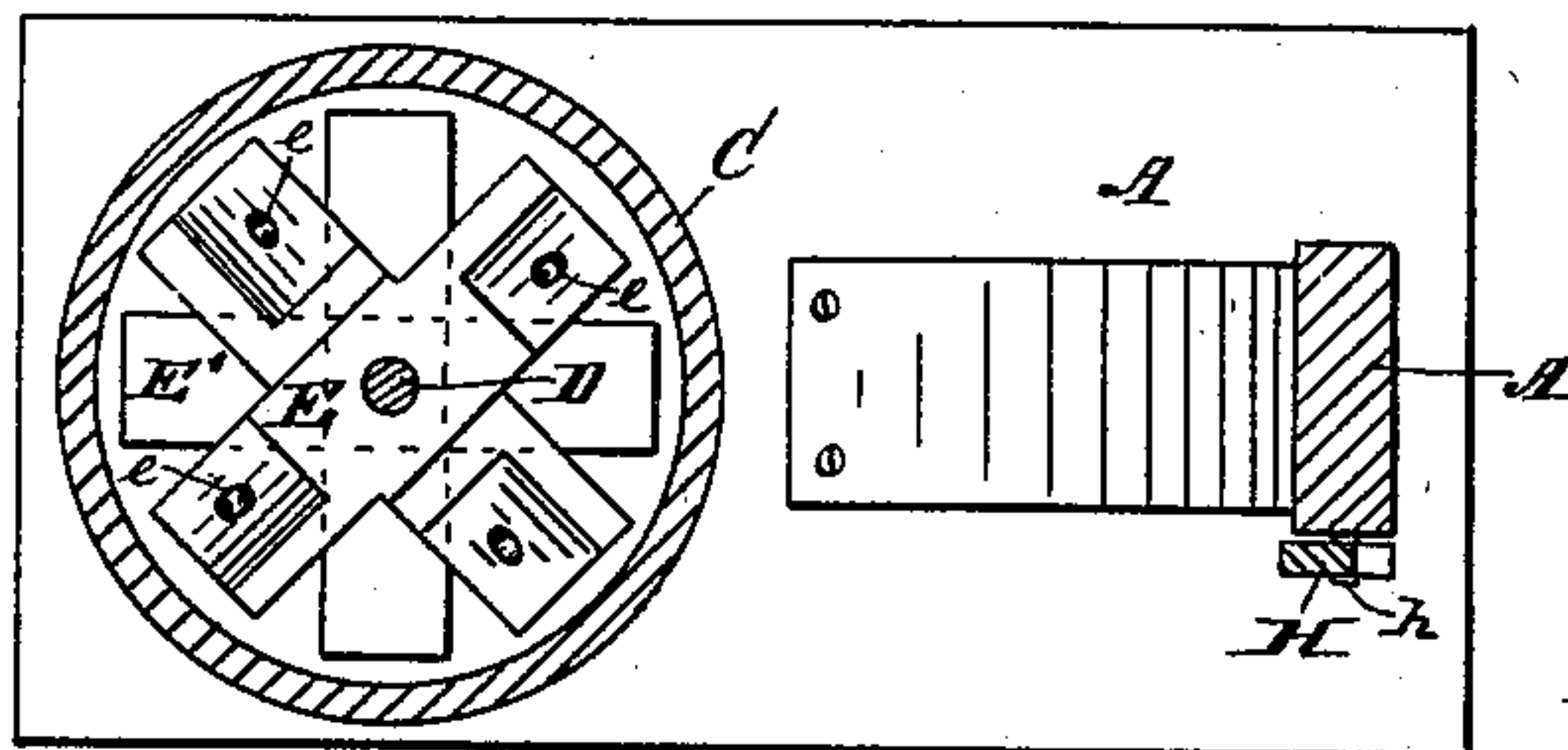


Fig. 4.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

GEORGE N. CLEVELAND, OF OAKTOWN, INDIANA.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 254,614, dated March 7, 1882.

Application filed December 5, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE N. CLEVELAND, of the town of Oaktown, county of Knox, and State of Indiana, have invented certain new and useful Improvements in Churns, of which the following is a specification.

The object of my invention is to produce a churn wherein the dash shall have both a rotary and a vertical movement simultaneously; and this object is accomplished by the combination and arrangement of parts hereinafter particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a front elevation of a churn embodying my invention; Fig. 2, a side elevation of the same; Fig. 3, a top plan thereof; and Fig. 4, a horizontal section, looking downwardly from the dotted line *xx* in Fig. 2. In Figs. 1 and 2 a portion of the churn is broken away to show the dashes and dash shaft more plainly.

In said drawings, the portions marked A represent the frame-work upon which my improved churn and the mechanism for operating the same are mounted; B B', arms thereon, in which are bearings for the dash-shaft; C, the churn-body; D D', the dash-shaft; E E', dashes on said shaft; F, a device on said shaft, through which the lever operates it; G, said lever, and H a link by which said lever is connected to the frame-work.

The frame-work A and its arms B are rigid in their nature, and the churn-body C should be rigidly attached thereto when in use, but should be removable, so that it can be detached at other times.

The dash-shaft is composed of a dash-rod, D, and a spiral or screw-shaped portion, D'. The former bears the dashes E E' and passes up through a bearing in the arm B of the frame A. The latter is rigidly secured to the former, and passes up through a bearing in the arm B', which is similar in form in horizontal cross-section to said spiral portion, and thus causes said shaft to revolve as it passes up and down, whereby a combined rotary and vertically-reciprocal motion is imparted to the dashes.

The blades of the dash E are preferably set at an angle of about forty-five degrees with the dash-rod, and have holes through them. The blades of the dash E' are preferably set at right angles with said rod, as is common. Both dashes as a whole should be set at right angles with the rod, as shown. This arrangement of dashes, in connection with the peculiar motion of the dash-rod, secures a very thorough agitation of the cream, and consequently a speedy completion of the churning.

The device F is mounted loosely on the dash-shaft, between projections or collars thereon, so that it shall not accompany said shaft in its rotary movement, but will in its vertical movement.

The lever G is attached by a pivot, *f*, to the device F, and when operated moves said device and the dash-shaft and dashes thereon up and down. It is attached by the pivot *g* to the link H, and said link is attached to the frame A by a pivot, *h*, whereby the necessary oscillation thereof is permitted.

The operation of my invention may be recapitulated as follows: The churn C is placed in position as shown in the drawings, and the cream placed therein. The dashes are then operated through the lever G, and operate, as hereinbefore described, to thoroughly agitate the cream and produce the butter therefrom.

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

The combination, with a churn, of the dasher-shaft composed of the dash-rod D, bearing the dashes, and the spiral rod D', and passing through bearings in the arms B B', the block F, the lever G, and link or rod H, all substantially as shown and described, and for the purposes specified.

In witness whereof I have hereunto set my hand and seal at Oaktown, Indiana, this 28th day of November, A. D. 1881.

GEORGE N. CLEVELAND. [L. S.]

In presence of—

J. N. MERRITT,  
JESSE SUMMERS.