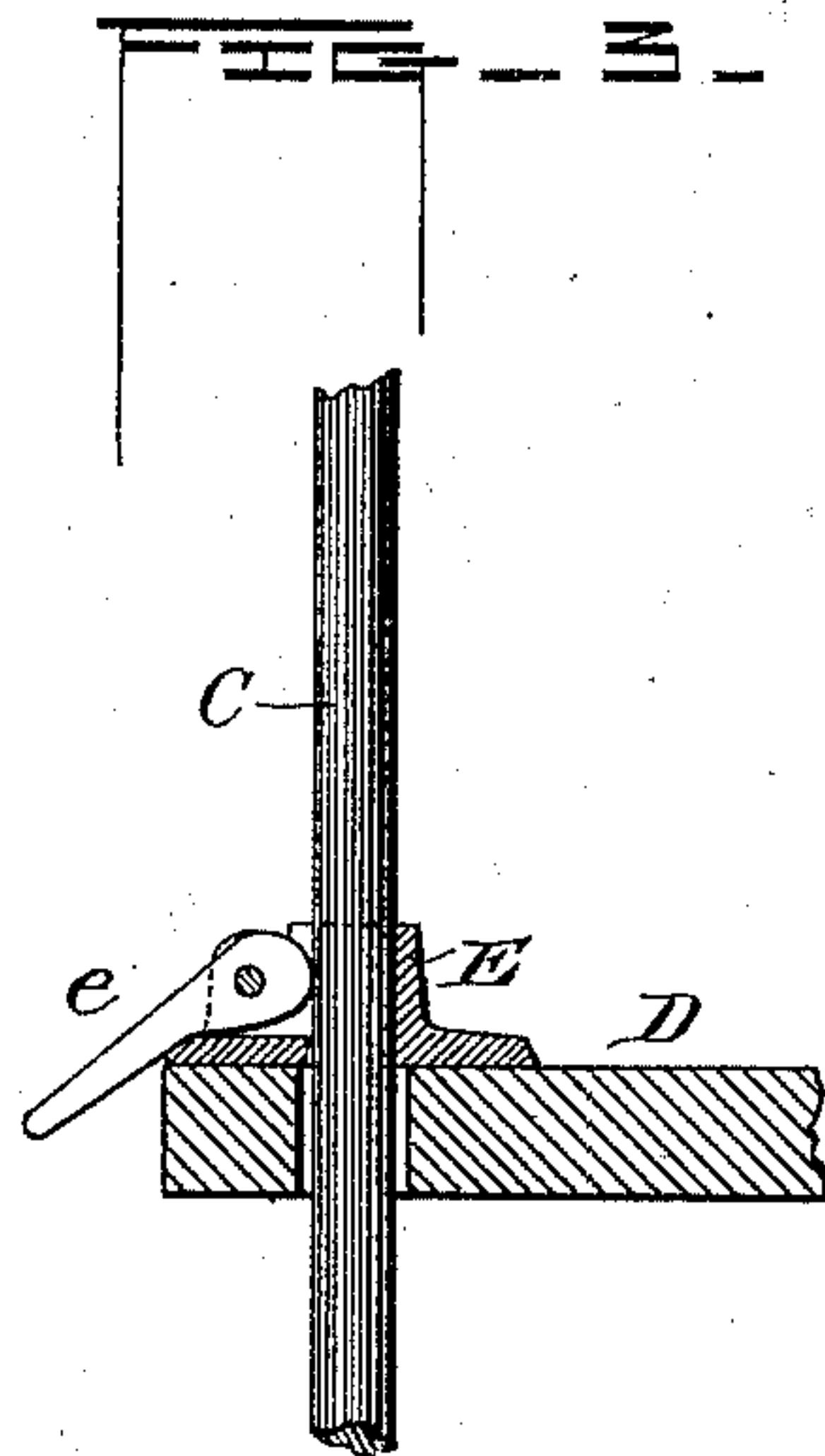
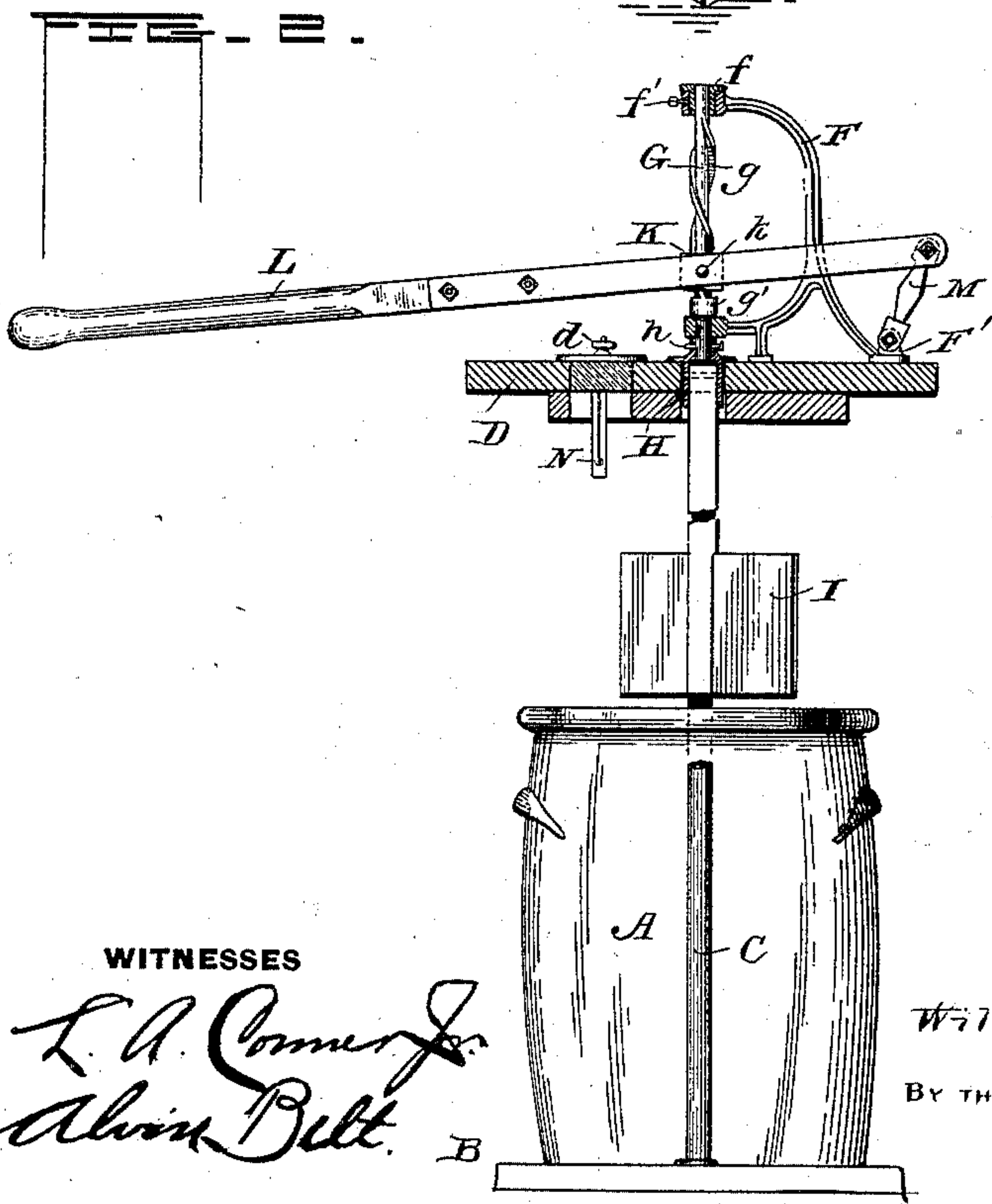
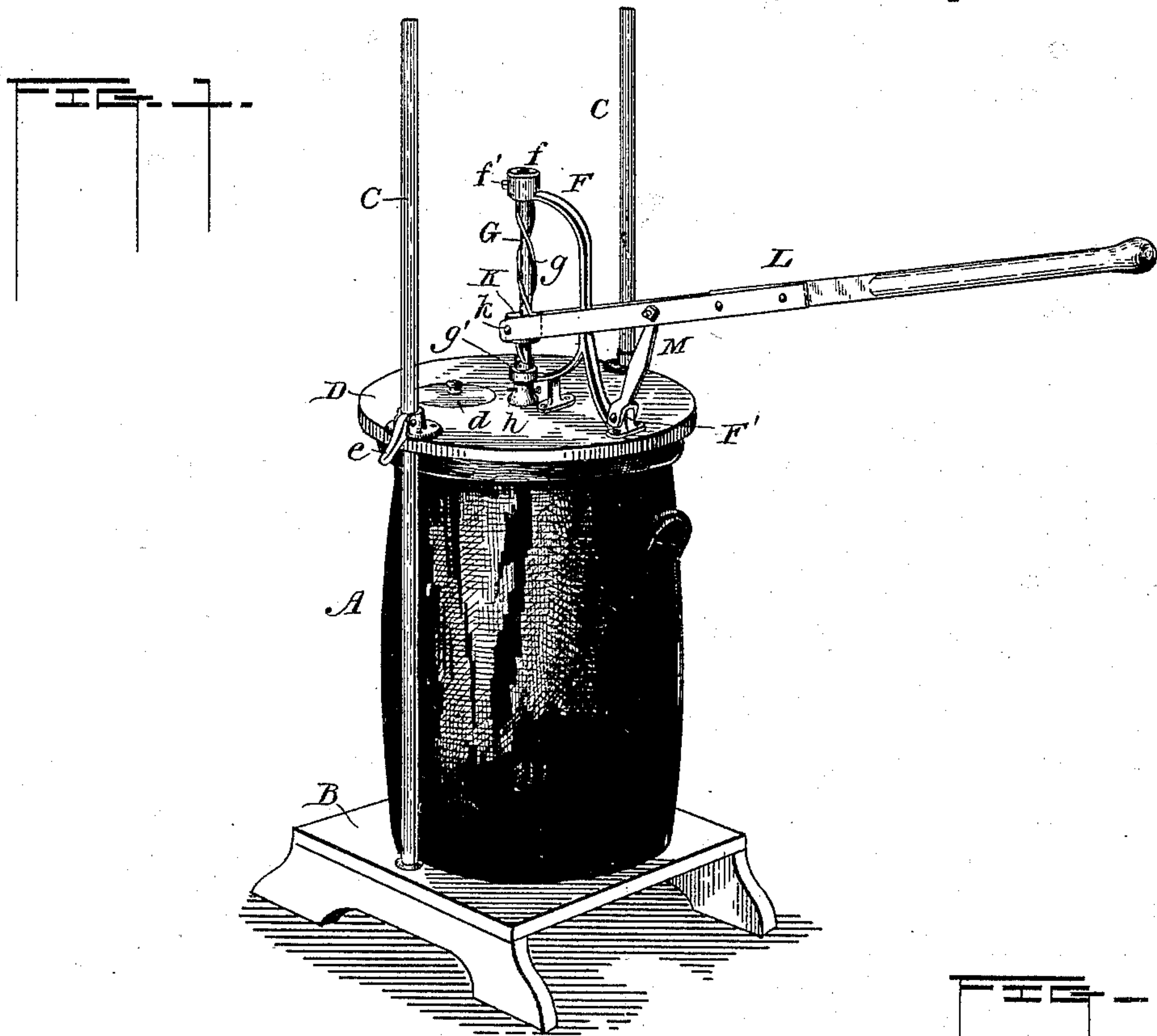


(No Model.)

W. J. COLE & E. W. KERRIHARD.
CHURN.

No. 426,525.

Patented Apr. 29, 1890.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM J. COLE AND EDWARD W. KERRIHARD, OF RED OAK, IOWA.

CHURN.

SPECIFICATION forming part of Letters Patent No. 426,525, dated April 29, 1890.

Application filed February 1, 1890. Serial No. 338,907. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. COLE and EDWARD W. KERRIHARD, citizens of the United States, residing at Red Oak, in the county of Montgomery and State of Iowa, have invented certain new and useful Improvements in Churns; and we do 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 the letters of reference marked thereon, which form a part of this specification.

Our invention relates to churns, and especially to those in which a vibratile vertical single dasher is used.

It consists in certain constructions and arrangements hereinafter set forth, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of our churn ready for use. Fig. 2 is a side elevation, partly in section, showing the dasher raised; and Fig. 3 is a detail.

The churn-body A may be of any suitable size, shape, and material. We have shown an earthenware jar or crock. It is supported on a stand or base B, from which rise the uprights C, preferably two in number and on opposite sides of the churn-body. A cover D, adapted to fit closely to the top of the body, is arranged to slide vertically between the uprights C, and is provided with clamps to hold it at any height on the uprights. We prefer to use the clamps shown, which consist of thimbles E, attached to the cover D and through which the uprights pass. Pivoted between ears on the thimbles are the cam-levers e, adapted to nip the uprights and hold the cover securely.

On the cover is erected a standard F, containing two bearings arranged in the line of the axis of the churn-body, one being near the surface of the cover and the other several inches above it. The upper bearing contains a bush f, fastened in place by a set-screw f'. In these bearings is journaled an upright shaft G, provided with one or more screw-threads or helical ribs g of long pitch. The shaft has a collar g', by which it is supported on the lower bearing. The lower end of the shaft depends below the bearing and has a

socket H removably attached to it, as by the pin or set-screw h. The socket projects into or through a hole in the center of the cover D, which may be suitably bushed.

The upper end of the dasher I fits into the socket and is firmly secured thereto. The dasher may be of any suitable construction, and the detachable socket H enables it to be removed for cleaning, repairs, and the like.

A nut K is fitted to the screw-shaft G. If the nut is held from turning and is moved up or down, the shaft will be vibrated and with it the dasher. In order to reciprocate the nut, we provide it with gudgeons or trunnions k, which are received in bearings in the arms of a forked lever-handle L.

Hinged to an ear F', preferably formed integral with the standard, is a link M, whose free end is pivoted to the lever and forms the fulcrum on which the lever vibrates. The link compensates for the versed sine of the arc that would be described by the nut if the fulcrum were stationary. The pivotal mounting of the nut K allows for the change in the angular position of the lever as it moves up and down.

The nut can be placed at the end of the fork, as shown in Fig. 1, the handle constituting a lever of the first order; or the link can be pivoted to the end of the handle, which then constitutes a lever of the second order, as shown in Fig. 2, and gives a greater leverage. The same handle, link, and nut are used in either case, and can be transposed from one arrangement to the other, as may be desired.

In the cover D is a small opening closed by a lid d, to the under side of which may be affixed a thermometer N to indicate the temperature of the milk. This small opening is of great convenience in examining the condition of the milk or cream or when warm water or other ingredients are to be added to the contents of the churn.

When the body A is to be put into place on the base B, the cover D is raised until the dasher is high enough to allow the body to pass under it. The cover is then locked to the uprights by turning down the cam-levers e. After the body has been properly adjusted and filled with cream the clamps are loosened and the cover is lowered upon the

body, where it is again clamped in place. By vertically reciprocating the handle the nut is caused to traverse up and down upon the shaft G, causing it to vibrate to and fro, as will be readily understood.

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

1. The combination, with a base carrying 10 uprights, of a churn-cover adjustably mounted on said uprights, a standard mounted on said cover and provided with bearings, a screw-shaft journaled in said bearings, a vibratile dasher attached to the screw-shaft and 15 depending through the cover, a nut engaging with the shaft, a lever engaging with the nut, and a link hinged to the cover on which the lever is fulcrumed, substantially as described.

2. The combination, with a base carrying 20 uprights, of a churn-cover adjustably mounted on said uprights, a standard on said cover containing bearings, a screw-shaft journaled

in said bearings, a socket removably attached to the lower end of said shaft and adapted to receive and hold a dasher, and means for vibrating the shaft, substantially as described. 25

3. The combination, with a churn-cover, of a screw-shaft mounted thereon, a nut engaging with the shaft and provided with trunnions, a link hinged to the cover, and a forked 30 lever having two sets of bearings in its arms, either of which can be connected with the trunnions on the nut or the free end of the link, whereby the handle can be changed from a lever of the first order to one of the 35 second order, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM J. COLE.

EDWARD W. KERRIHARD.

Witnesses:

HENRY C. KERRIHARD,
J. M. JUNKIN.