

A. GROVES.
Churn.

No. 226,911.

Patented April 27, 1880.

Fig. 1

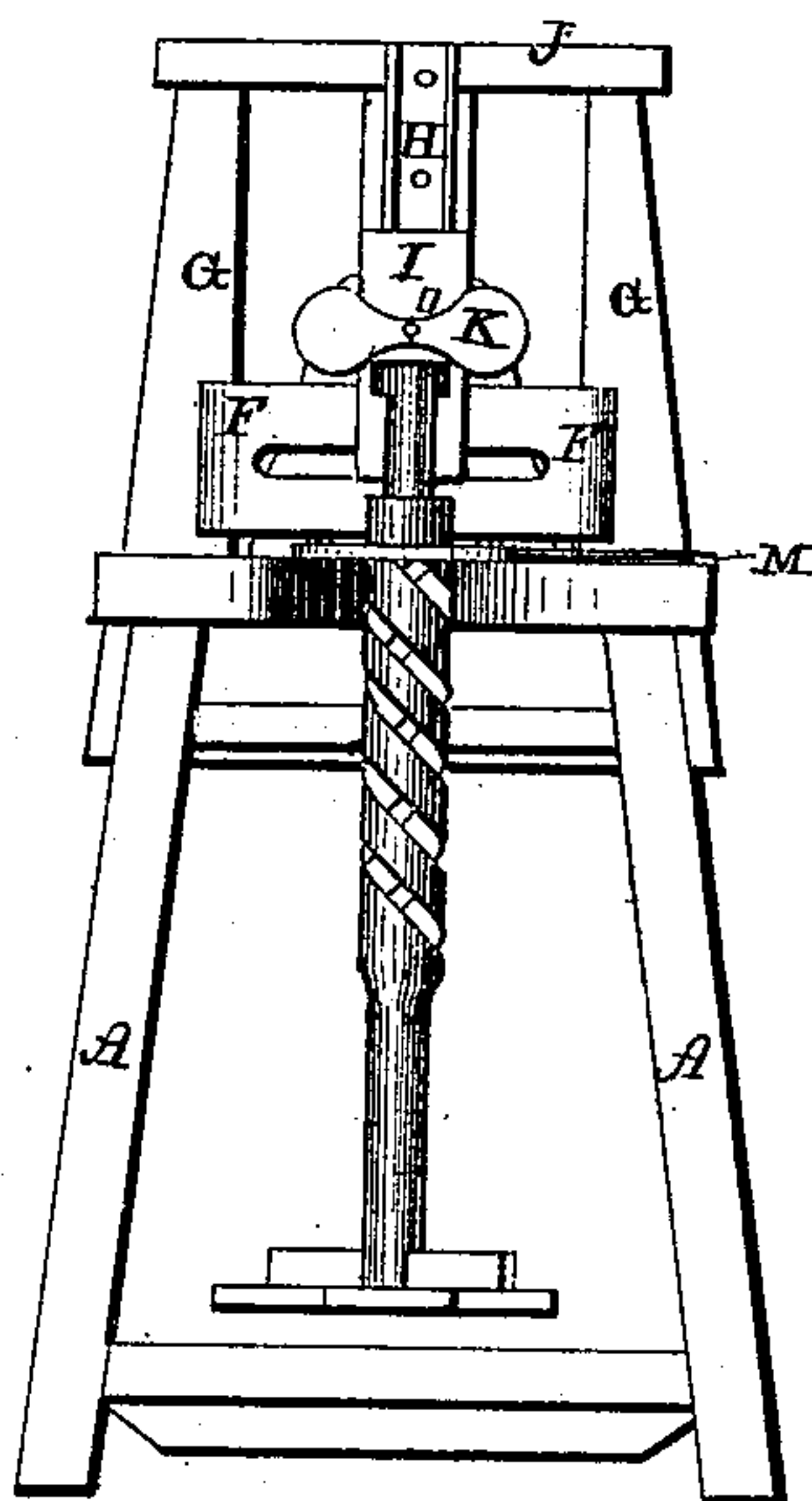


Fig. 3.

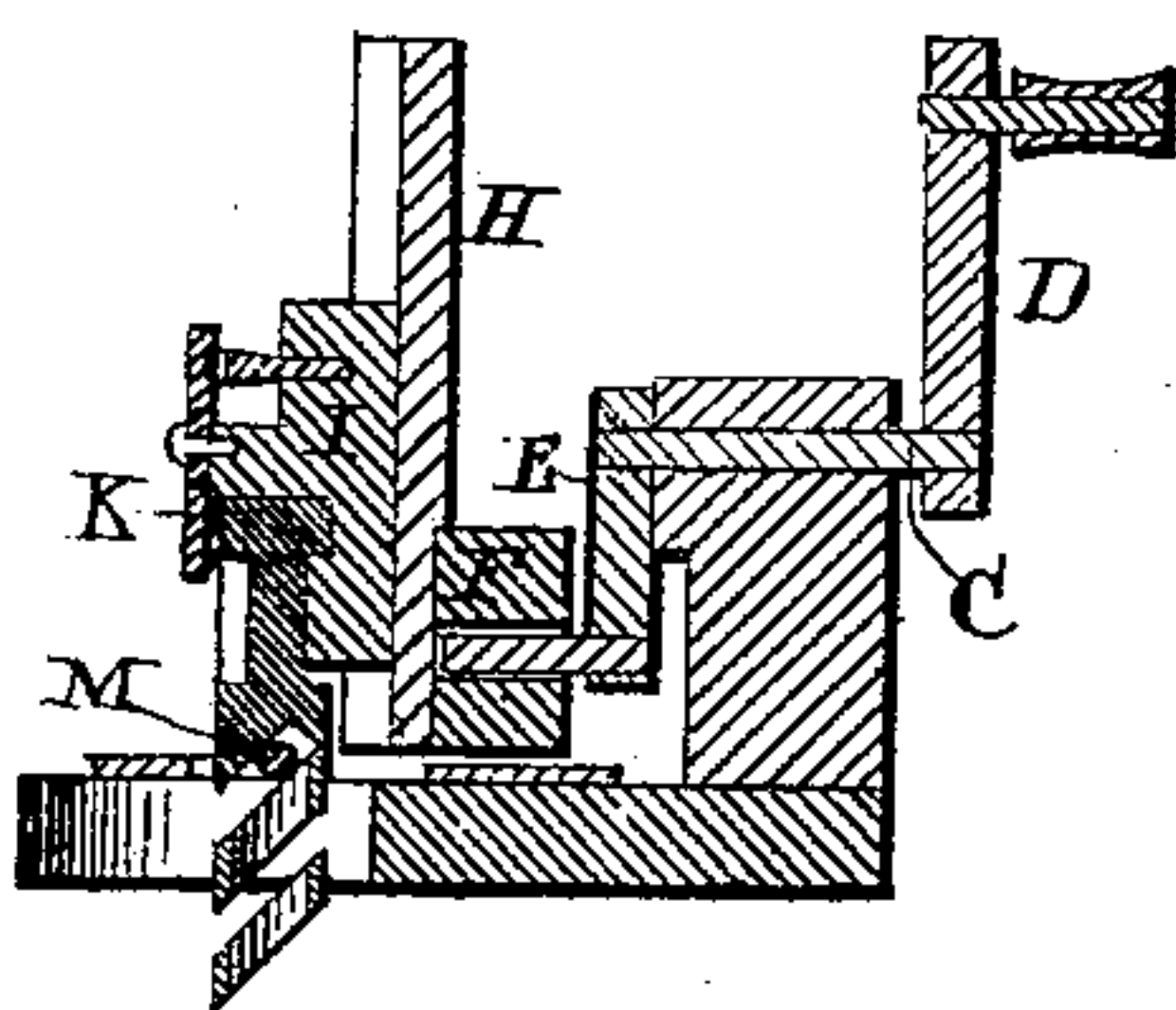
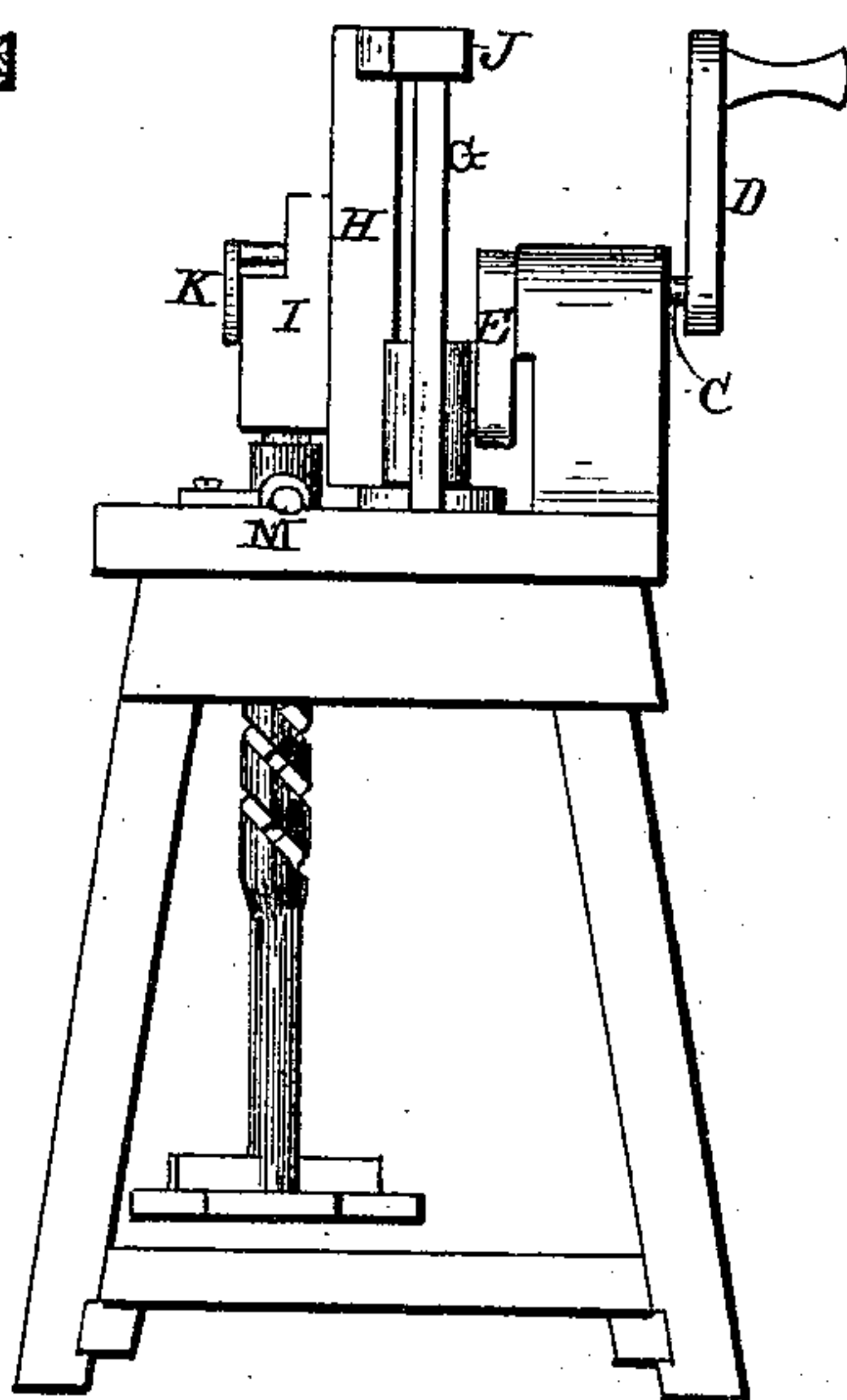


Fig. 2



Witnesses =
W. W. Mortimer
Chas. H. Isham

Inventor =
Arthur Groves,
per
F. A. Lehmann, atty.

UNITED STATES PATENT OFFICE.

ARTHUR GROVES, OF LA DUE, MISSOURI.

CHURN.

SPECIFICATION forming part of Letters Patent No. 226,911, dated April 27, 1880.

Application filed February 14, 1880.

To all whom it may concern:

Be it known that I, ARTHUR GROVES, of La Due, in the county of Henry and State of Missouri, have invented certain new and useful Improvements in Churns; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in churns; and it consists in the arrangement and combination of parts that will be more fully described hereinafter, whereby a combined rotary and vertically-reciprocating movement is given to the churn-dasher, for the purpose of more easily and quickly breaking the globules in which the butter is held.

Figure 1 is a front elevation of my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical section of the operating part of the churn.

A represents a suitable frame or stand, in which the churn-body is placed, and upon the top of which is secured the operating mechanism. In the top of the bearing is journaled a short shaft, C, which has an operating-crank, D, on its outer end, and a second shorter crank, E, on its inner end, for giving a vertically-reciprocating motion to the slotted head F in the frame G. The end of this crank catches in the slot in the head, and then, as the crank sweeps around, the head is moved up and down for the purpose of operating the churn-dasher. Secured to the outer side of this head is a vertical guide, H, which moves up and down with the head, and which has a groove and a series of holes made in its outer face, for the purpose of adjusting the head I up and down according to the length of stroke desired. This vertical guide is kept in position by passing through a correspondingly dovetailed shaped recess in the front side of the top piece J, which unites together the upper part of the frame in which the cross-head moves. In the front side of the head I, to which the churn-dasher is fastened, is made a recess, which corresponds to the shape of the head of the dasher, and in which the head of the dasher is held in such a manner that it is free to revolve back and forth at the same time that it is being reciprocated up and down by the crank and cross-head. To the front side of this

head I is secured a latch or keeper, K, which can be turned up out of the way, so as to allow the head of the dasher-rod to be freely inserted or removed, or which can be dropped down over the front of the recess, so as to prevent the head from coming out while in operation.

The dasher-rod can be made of metal or any other suitable material, and has a spiral thread or opening cut entirely through it, so that the rod or pin M can pass through it from side to side and cause the rod to constantly revolve while it is being worked up and down. The pin or rod which passes through this dasher-rod is embedded in the top of the frame A and held in position by means of suitable staples, and which pin, when it is desired to remove the dasher-rod, can be removed.

Should it be preferred to use a solid dasher-rod instead of one having the thread cut through the center of its body, the rod will have spiral grooves made in its surface, and then the pivoted guide will be used in connection with it. These guides have V-shaped recesses made in their inner edges, and the dasher-rod is made to pass through these recesses, as shown. As the dasher-rod is then moved up and down these guides cause the rod to constantly revolve.

By means of the devices above described a compound motion is given to the dasher, which causes it to create a much greater agitation in the cream, and thereby more quickly break those globules which hold the butter than can be done where but a single motion is imparted to the dasher.

Having thus described my invention, I claim—

In a churn, the combination of the operating-shaft, having a crank upon each end, with the slotted cross-head, having the guide H secured to and moving therewith, the head I, having a recess in its front side, in which the shaft of the dasher is held, and provided with the latch for holding the dasher-shaft in place, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of January, 1880.

ARTHUR GROVES.

Witnesses:

C. B. GREENE,
THOS. J. WILLIAMS.