

DEMAS L. GROVER.

Improvement in Churn Dashers.

No. 119,980.

Patented Oct. 17, 1871.

Fig. 1.

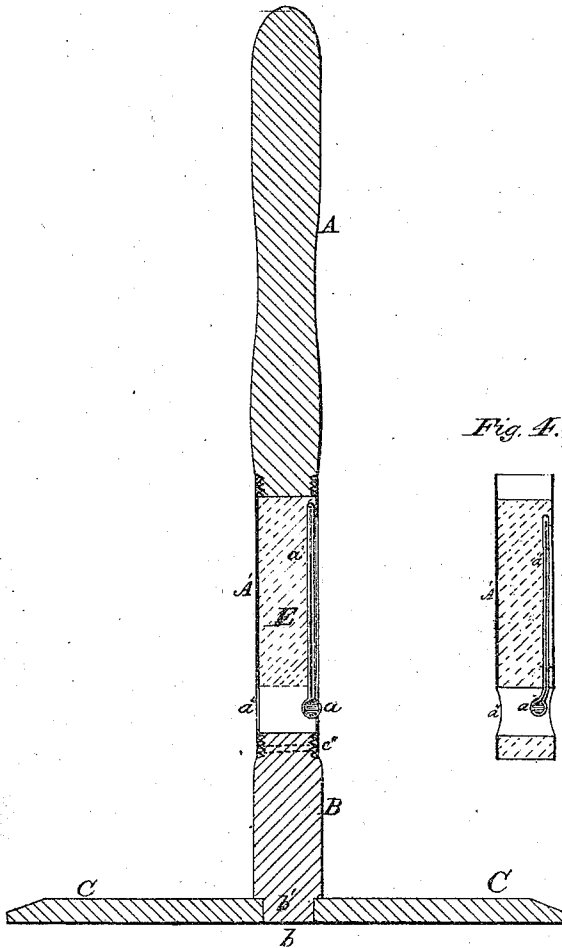


Fig. 2.

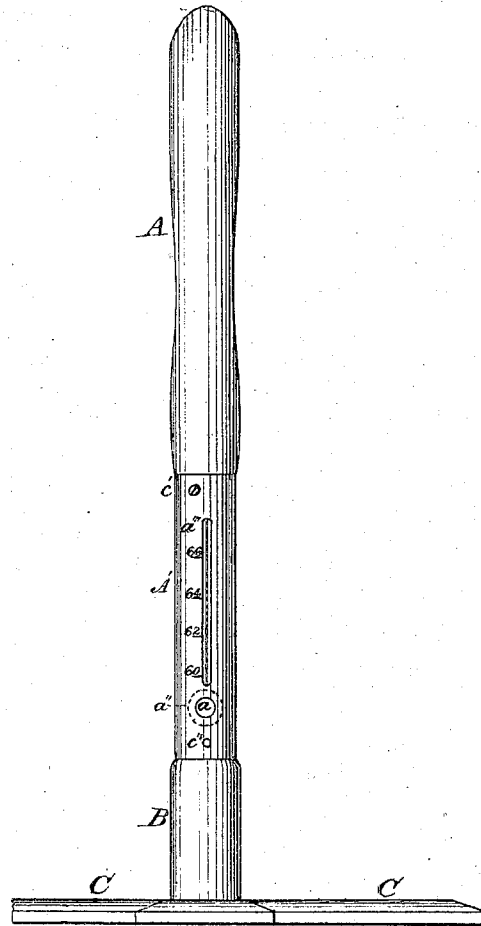
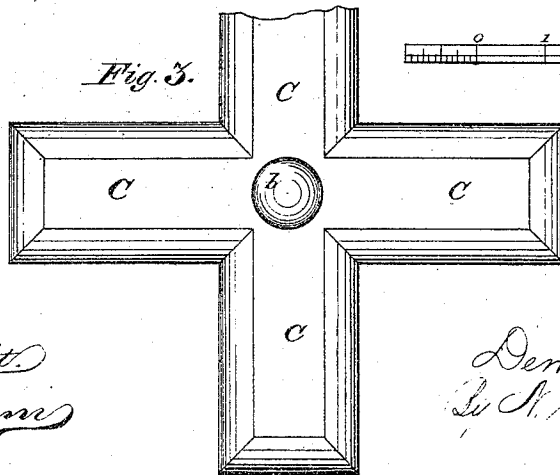


Fig. 4.



Fig. 3.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

DEMAS L. GROVER, OF GROTON, NEW YORK.

IMPROVEMENT IN CHURN-DASHERS.

Specification forming part of Letters Patent No. 119,980, dated October 17, 1871.

To all whom it may concern:

Be it known that I, DEMAS L. GROVER, of Groton, in the county of Tompkins, in the State of New York, have invented certain Improvements in Churns, of which the following is a specification:

The object of this invention is to improve the churn by the introduction into it of a new dasher-staff, having the ready means of at all times determining the temperature of the cream or milk during the operation of churning butter; and it consists in the construction of the dasher-staff, as is more fully hereinafter described.

In the drawing, Figure 1 is a vertical sectional view of the dasher-staff and dasher attached. Fig. 2 is a side view of same, and Fig. 3 is a top view of the dasher. Fig. 4 is a modification of the connecting-tube as shown in Figs. 1 and 2.

The dasher-staff is constructed of two separate parts, connected together by an intermediate contrivance containing a thermometer and a scale of degrees marked thereon. A is the upper part of the dasher-staff or handle part, of suitable size and length, of any material that is light and strong, but wood is preferred, and is so formed as to receive and be securely attached to a connecting-tube or cylinder on its lower end, for which purpose the lower end is made smaller, or so that the tube or cylinder will surround it and be securely attached thereon. A' is a connecting-tube or cylinder that connects the two parts of the dasher-staff together, which may be done by having a screw-thread, *c*, on the inner diameter at each end of said tube and turning onto a screw-thread cut on the ends of the two parts of the dasher-staff, or screws *c'* may pass laterally through one side of the tube into the parts of the dasher-staff, or rivets or nails *c''*, or any other convenient and secure means may be used for so connecting the tube and parts of the dasher-staff as will insure the desired end. Tube A' has holes *a''* and *a^t* on opposite sides, one of which, *a''*, receives the bulb *a* of a thermometer. Hole *a''* may be larger than hole *a^t*, or it may be smaller, or just large enough to receive the bulb *a*. On the same side of tube A' that hole *a''* is located and above it is a vertical slot, *a'''*, inside of which is the tube *a'* of the thermometer, and through which can be seen the mercury in said tube of the thermometer, and at one of the sides of slot *a'''* is marked a scale of degrees that de-

notes the temperature of what may surround the thermometer. This tube may be made of metal or glass, but it must be strong enough to sustain the strain of holding the two parts of the dasher-staff together and protect the thermometer from being broken. B is the lower part of the dasher-staff, and is made at its upper end to receive the connecting-tube A'. On its lower end is the dasher, and to which it is properly secured. C is the common cross-piece dasher, and is secured to the dasher-staff by a tenon on the lower end of part B passing through the cross-pieces, and they secured to it in any manner.

By having the holes *a''* and *a^t* on opposite sides of the connecting-tube A' and the two parts of the dasher not meet in the tube allows a current of milk or cream, when agitated by the reciprocations of the dasher, to pass transversely into and through the tube or cylinder and in contact with the bulb of the thermometer, which will cause much of the milk or cream so agitated to pass in contact with the thermometer, which will give the true temperature of the milk or cream in the churn, and can be ascertained when the operator raises the staff high enough to see the graduated scale and mercury in the tube of the thermometer.

The stem or tube *a'* of the thermometer is embedded in some proper substance within the connecting-tube A'; but I prefer to embed in plaster or gypsum, as represented at E, Fig. 1, and between part A of the dasher-staff and the holes *a''* and *a^t* of the connecting-tube, by first securing the tube A' to part A; then place the thermometer in its position to agree with the graduated scale on tube A', when the prepared gypsum is filled in the tube to within a proper distance of the holes *a''* and *a^t*, which will, as soon as it becomes hard, firmly hold the thermometer in its place, after which the connecting-tube can be secured to part B of the dasher-staff, and the dasher-staff is complete.

I am aware that thermometers have been used in churns and have been attached to the dasher-staff; and I do not claim for the use of a thermometer in a churn, or, broadly, for a thermometer attached to the dasher-staff of a churn; nor do I claim for any particular way or means of attaching the connecting-tube to the two parts of the dasher-staff; or for any particular means of securing the thermometer within the connecting-tube, as there are many ways in which a ther-

mometer can be successfully secured in said tube; but,

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

The dasher-staff of a churn, composed of the parts A and B, connected together by tube A' having holes a'' and a^4 , vertical slot a''' , and

within which is tube a' of a thermometer and a scale of degrees marked on said tube, constructed in the manner and for the purpose substantially as described.

DEMAS L. GROVER.

Witnesses:

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