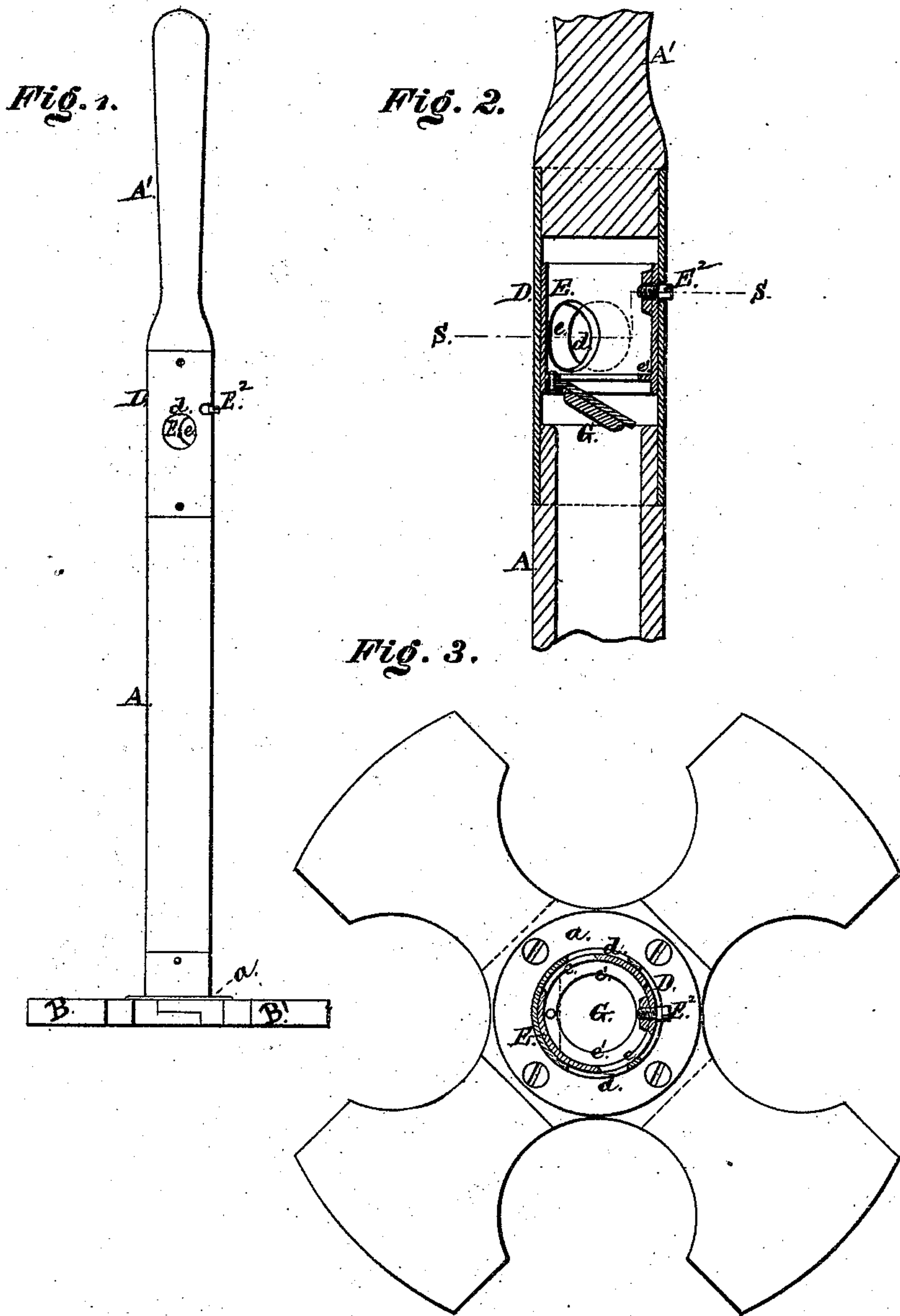


*J. K. Overhiser,*

*Churn Dasher.*

*No. 93,471.*

*Patented Aug 10 1869.*



*Witnesses.*

*W. C. Day*  
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*by his attorney J. S. Stearns*



# United States Patent Office.

D. K. OVERHISER, OF WILLIAMSPORT, PENNSYLVANIA.

Letters Patent No. 93,471, dated August 10, 1869.

## IMPROVEMENT IN CHURN-DASHERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, D. K. OVERHISER, of Williamsport, in the county of Lycoming, and State of Pennsylvania, have invented certain new and useful Improvements in Churn-Dashers; and I do hereby declare that the following is a full and exact description thereof.

My invention relates to reciprocating dashers, whether operated by hand or by mechanism, and to means for admitting an adjustable quantity of air into the cream through the rod, or handle, and to an improved construction of the handle, which avoids difficulties heretofore experienced.

I will proceed to describe what I consider the best means of carrying out my invention, and will afterward designate the point which I believe to be new.

The accompanying drawings form a part of this specification.

Figure 1 is a side elevation of the entire dasher;

Figure 2 is a cross-section of a portion on a larger scale; and

Figure 3 is a horizontal section, on the line S S of fig. 2.

Similar letters of reference indicate like parts in all the figures.

A is the body, or piston of the dasher, and

B B' is the wood-portion of the rod.

The rod is firmly united to the body by means of the flanged piece *a*, and screws, or by other suitable means. I do not claim, as new, anything in this portion of the construction.

The lower part, A, of the handle is bored out, so as to afford an ample passage along the centre, through which air may descend, to mingle with the cream and aid in the operation of the churn. The benefit due to the introduction of the air near the bottom of the churn has been before known, and means have been provided for introducing it through the stem or rod, but my invention differs in the provisions effecting and controlling this.

The upper end of the part A is turned smaller, and receives the tube D, which is firmly fixed by screws, or otherwise. Its exterior is exactly equal in diameter to the exterior of the rod A, and it forms, in fact, a rigid, stout continuation thereof. The upper portion, A', is correspondingly turned smaller, and is correspondingly fitted and secured in the upper end of the tube D. The parts A, D, and A', form a continuous and rigid handle or dasher.

Large holes, *d d*, are formed in opposite sides of the tube D, and the air to aerify the cream is received through these holes. I make the part A of the handle of such length that the holes *d d* are always above the cover of the churn. I can extend the solid part A of the handle above, to any height desired.

Where it is necessary to make a connection to ma-

chinery, I can mortise through, or otherwise treat the upper part A', as may be required, there being no air-passage through it, or any other condition which requires any peculiar construction. It may be enlarged, contracted, perforated by bolts, mortises, or otherwise treated, at will. This is an advantage due to my invention over any appliance for receiving air through the extreme upper end of the rod.

I mount within the tube D, a smaller tube, E, which is similarly perforated with holes, *e e*.

This inner tube is of such size as to fit closely, but turn freely within the outer tube D. Its inner edge is turned inward, or contracted, so as to form an internal flange, as indicated by *e'*.

Against the end surface of this flange I fit a valve, G, opening downward, so that the air is allowed to descend freely, but cannot return.

The length of the inner tube E is but little less than that of the clear space between the ends of the wooden parts A and A'.

I provide a smaller horizontal slot, extending about a quarter of the way around in the outer tube D, and through this I insert a pin or screw into the inner tube E, as indicated by *E<sup>2</sup>*. The outer end of the pin *E<sup>2</sup>* is smoothly rounded, and projects but little, if any, beyond the outer surface of the tube D. It is just sufficiently prominent to allow it to be acted on by the thumb, or by the point of a nail, or other object, so as to thereby turn the inner tube E and its connected valve G.

The construction of my improved churn-dasher being now fully detailed, its operation will be readily understood.

When it is desired to admit a full supply of air, the inner tube E is turned so that the holes *e* correspond with the holes *d* in the outer tube D. When it is desired to check the introduction of air, the inner tube E is partially turned, by acting on the pin *E<sup>2</sup>*, and, in turning, the holes *e* and *d* cease to coincide exactly. They become contracted, and by further turning the inner tube E, the defective area of the holes may be contracted or enlarged to any extent desired, or they may be closed altogether.

I make the tubes D and E of brass, plated with silver, or other metal which will withstand the action of any acid which may reach them. In practice, there is little risk of the milk reaching these parts.

It is much easier to bore my short rod A than to bore the whole length of a handle, and very ordinary machinery is sufficient for my purpose.

I can make the hole quite large, and thus admit a larger quantity of air than is usually introduced through the rod.

The outer tube D may be lapped upon the wood parts to any extent desired. I propose always to make it lap so far that the junction shall be very strong and



firm, and the turning parts are obviously less subject to disturbance by shrinking and swelling, than any previously-known construction.

It will be observed, that by sinking the outer end of the pin  $E^2$  so as to be about flush with the surface of the tube D, I can wipe the whole length of the rod with a cloth, or the like, without obstruction.

The tubes D and E may be ground together, or otherwise fitted with great nicety.

It will be usually sufficient to procure nice finished tubes, of exactly the right size, so that one fits and turns closely and easily within the other, without grinding or other special preparation.

The interior of the tube D may be connected with the screw-thread at each end, and the parts A and A' may be screwed therein, so as to be easily introduced and removed, if desired.

I can, if preferred, hinge the valve G to the fixed tube D, instead of the turning-tube E. It is necessary, in such case, to simply braze in, or otherwise pro-

vide a suitable internal flange on the fixed tube D, and to properly attach the valve G thereto, so that it shall act against the internal flange on the fixed part, instead of such flange on the turning-tube. With such modification, the turning-tube E may be mounted independently above, being within the fixed tube D, as here represented, or it may, if preferred, be mounted outside, and it will still perform the same function.

I claim the tubes D and E, fitted one within the other, and provided with the holes  $d$   $e$  and pin  $E^2$ , or its equivalent, combined and arranged as represented relatively to each other, and the parts A and A' of the rod, or handle of the churn-dasher, as and for the purposes herein set forth.

In testimony whereof, I have hereunto set my name, in the presence of two subscribing witnesses.

D. K. OVERHISER.

Witnesses:

J. A. HILLES,

THOS. MAITLAND.