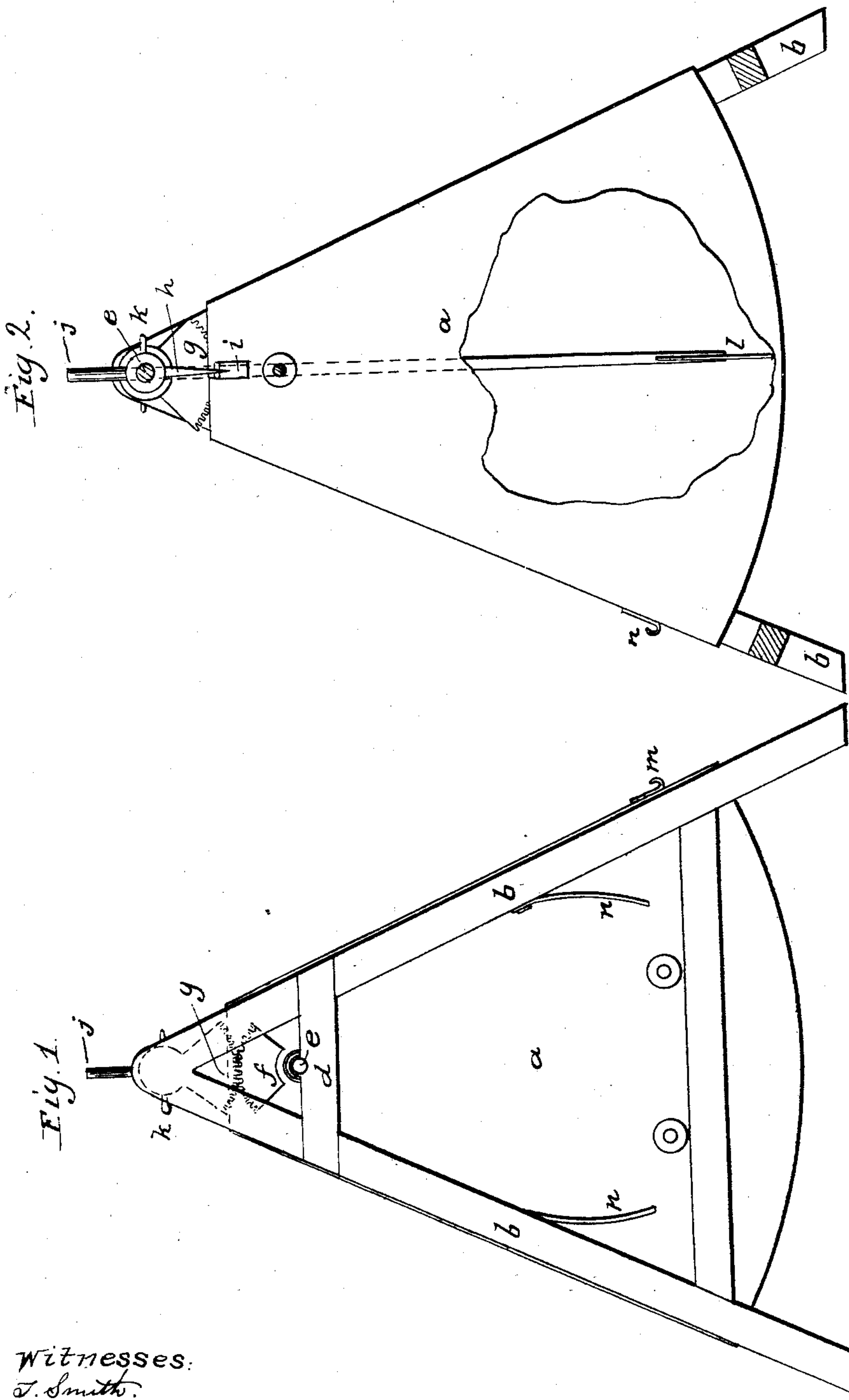


E. C. LEONARD.

Churn.

No. 55,508.

Patented June 12, 1866.



Witnesses:  
J. Smith.  
L. Jones.

Inventor:  
E. C. Leonard  
by Atty. P. P. Everett.

# UNITED STATES PATENT OFFICE.

E. C. LEONARD, OF BINGHAMTON, NEW YORK.

## IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. 55,508, dated June 12, 1866.

*To all whom it may concern:*

Be it known that I, E. C. LEONARD, of Binghamton, in the county of Broome and State of New York, have invented a certain new and useful Improvement on Churns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings and to the marks and letters thereon, which said drawings form part of this specification, and represent a churn constructed under my invention—

Figure 1 being a view, in elevation, showing the one side of the churn as it is arranged in the frame for operation, and Fig. 2 being a like view, with parts of the frame-bars omitted, showing the other side of the churn, a portion of the side piece or plate having been removed to expose the interior, with the dasher and its arm or staff.

In both of these figures like parts are indicated by like marks and letters.

My invention consists in giving motion to the body of the churn and the dasher at the same time, the one moving in the direction opposite to that of the other.

As illustrated by the drawings, the motions of the body and the dasher are produced by an arrangement of means connected to each other and operated by a common power applied either to the body or to the staff of the dasher, or to the shaft through which the end of the dasher passes; but, as is evident, the dasher may be operated by one set of means and the body by another, power being applied directly to the body and to the staff or to the shaft. Other means than those represented may be added, so that, in addition to the backward and forward motion of the dasher, a vibrating or rotating motion may also be given it.

The body *a* of the churn may be of the shape here indicated, or of such other form as may be preferred. Frame-bars *b b* support the shaft *c*, to which the staff of the dasher is connected, and a cross-bar, *d*, on which rests the ends of the vibrating pins or shafts

*e*, that are affixed to the side pieces of the body. Upon one of the side pieces is attached a toothed segment, *f*, that gears into a like toothed segment, *g*, attached to the shaft *c*. On the other side a rod, *h*, is shown, affixed to the shaft *c*, and a plate, *i*, slitted, attached to the side piece, the lower part of the rod fitting into the slit of the plate. Both of these means may be used for communicating motion from the body to the shaft, or from the shaft to the body, or only one of them, as may be preferred.

The staff *j* of the dasher passes through a hole in the shaft *c*, a binding-screw, *k*, being used to hold the staff in the position desired, so that the dasher *l*, attached to the lower end of the staff *j*, may be set at the proper height from the bottom of the churn, and may also be set at any position oblique to the shaft *c*, or otherwise, as may be deemed best. When it is intended that the staff and dasher shall also have rotary motion, grooves will be cut around the staff for the end of the screw *k* to fit in, thus allowing the staff to be adjusted as to height, and permitting it to be so held by the screw that it may be rotated.

A hook, *m*, on the body is for the attaching of the pitman or other means for giving motion to the body. If the motion be made through the shaft *c* or the head of the staff, suitable devices will be affixed thereto for connecting with the motive power. Springs *n* are attached to the frame-bars for reacting on the body of the churn.

What I claim as my invention, and as an improvement on churns, is—

The combining and arranging of the body and dasher, substantially as herein recited, so that the body and the dasher may be operated as described.

This specification signed this 2d day of May, 1866.

E. C. LEONARD.

Witnesses:

F. A. DURKER,  
J. S. FREAR.