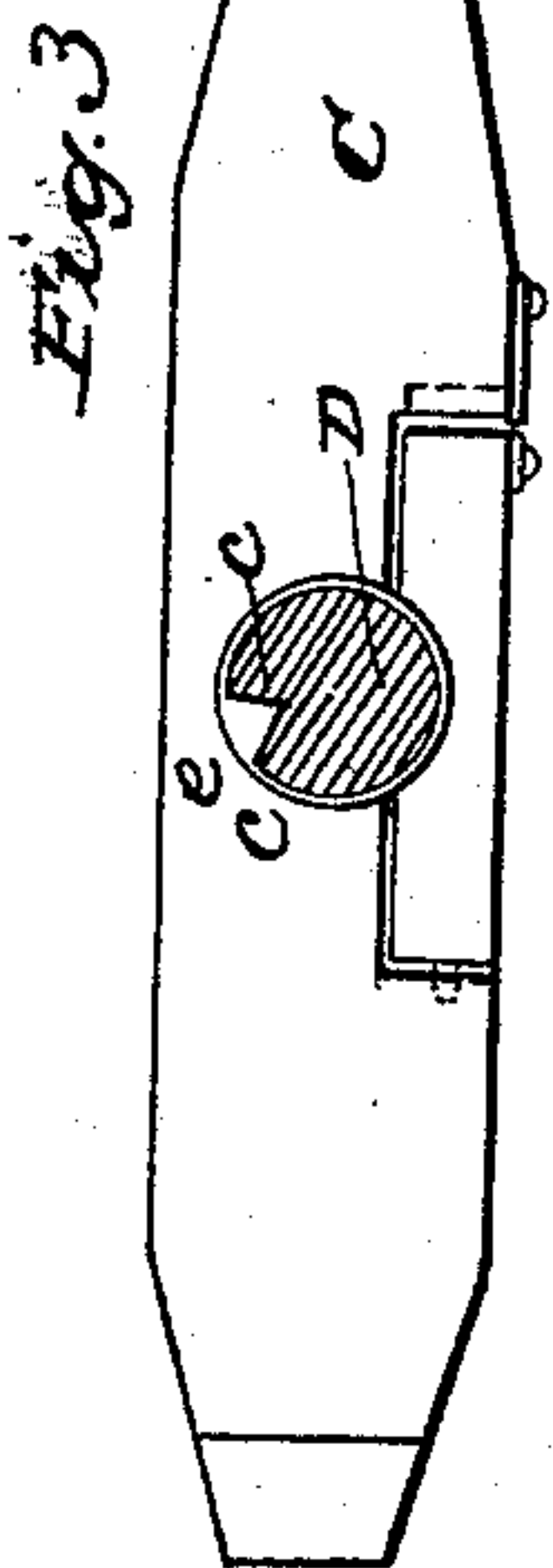
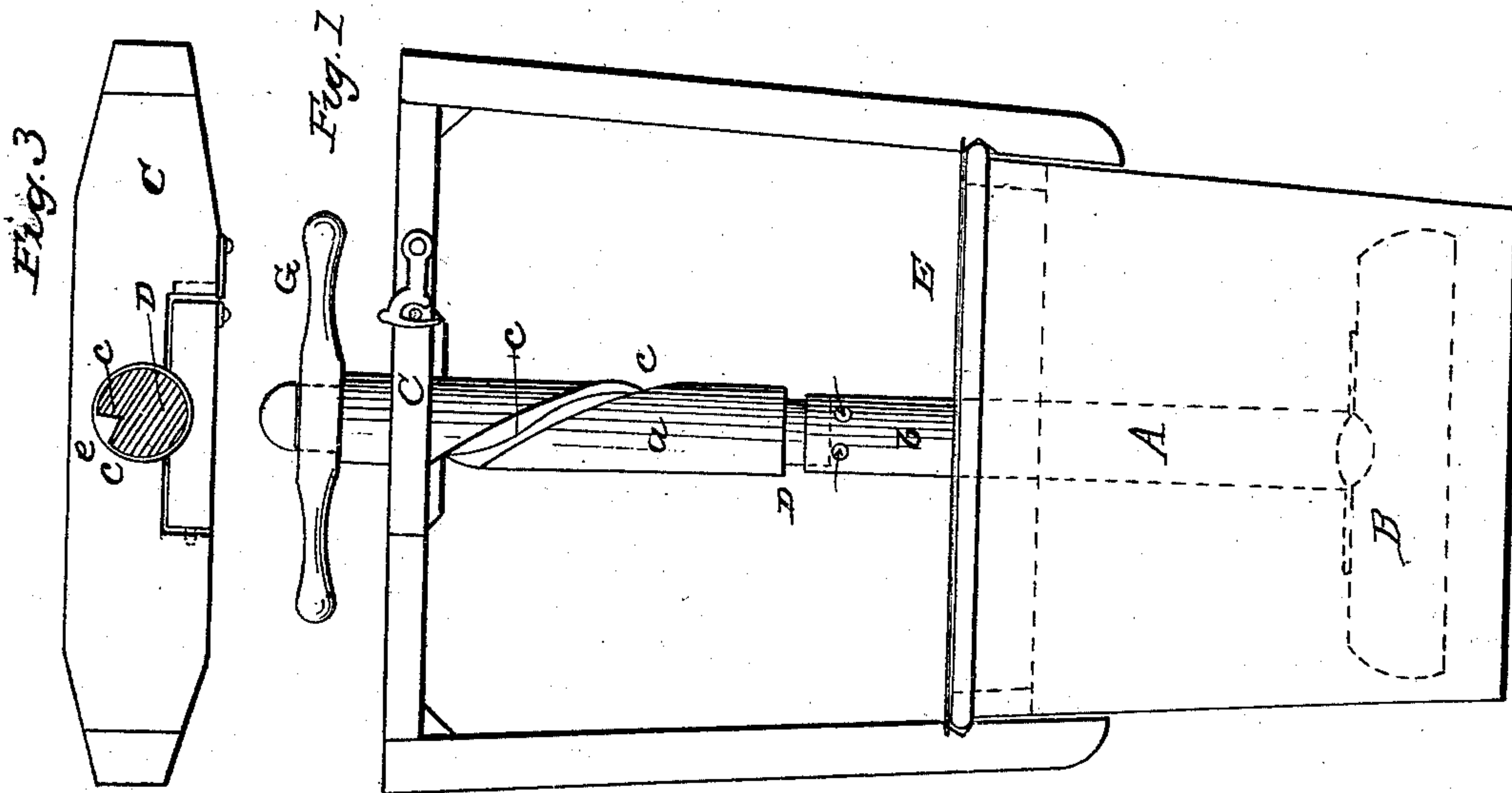
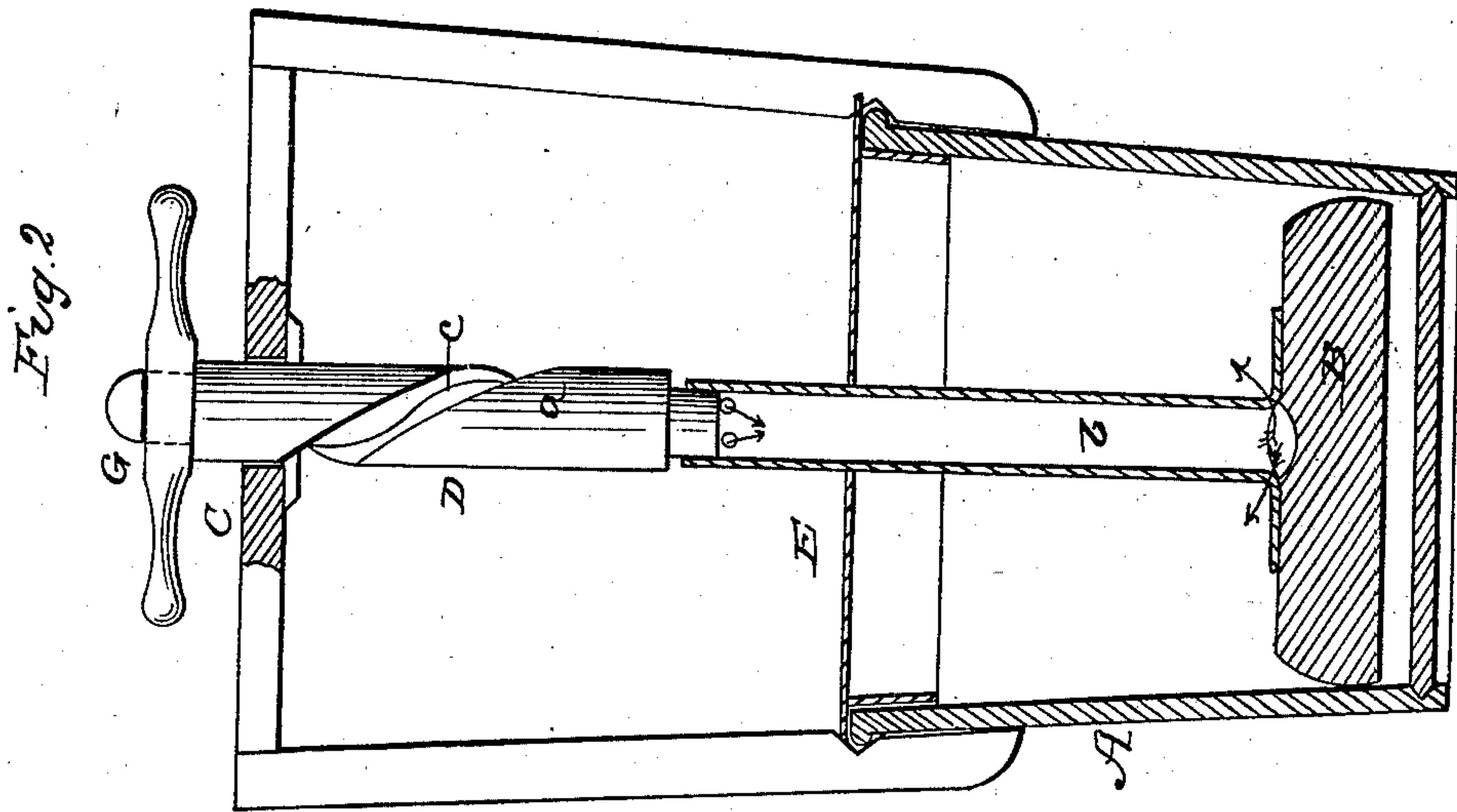


G. L. WITSIL.

Churn.

No. 56,153.

Patented July 3, 1866.



Witnesses
R. Campbell
Edw. Shafer.

Inventor
George L. Witsil
by his Atty
Mason Sewick Lawrence

UNITED STATES PATENT OFFICE.

GEORGE L. WITSIL, OF PHILADELPHIA, PA., ASSIGNOR TO HIMSELF AND JOHN N. OLCOTT AND WARREN S. SMITH, OF NEW YORK CITY.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. 56,153, dated July 3, 1866.

To all whom it may concern:

Be it known that I, GEORGE L. WITSIL, of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and Improved Churn; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation of one side of my improved churn. Fig. 2 is a vertical central section through the same. Fig. 3 is a top view of the cross-bar or the upper support for the dash-rod.

Similar letters of reference indicate corresponding parts in the several figures.

The object of my invention and improvement in churns is to give a rapid rotary motion to the dasher at the same time that this dasher is raised and depressed, and also to allow of a free circulation of air through the lower portion of this dash-rod into the churn-box and the milk therein, so as to supply oxygen to the latter during the act of churning, all of which I accomplish in a very simple manner, and without the use of any kind of gearing or other complex machinery, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the churn-box, which may be made of any suitable capacity and of any desired shape. I prefer to employ the circular form of box which I have shown in the drawings, as the dasher B receives a circular or rotary motion, as well as a vertical motion. To the upper end of this box A a frame is secured, consisting of two upright and a horizontal cross-beam, C, which latter is perforated through its center for the purpose of receiving through it freely the upper or solid portion, *a*, of a dash-rod, D, as shown in Figs. 1 and 2.

The frame, of which the portion C constitutes a part, may be made of metal or of wood. If made of wood a piece of metal may be applied to the piece C for the rod D to pass through, so as to prevent a rapid wearing away of the parts.

The lower or hollow portion, *b*, of the rod D passes through the center of a cover, E, which should fit closely upon the box A both at its circumference and at its center around the rod D. Provision should be made for removing the cover at pleasure, either by making it in semicircular sections or otherwise.

The lower end of the dash-rod D may have a straight piece, B, secured centrally to it, or any other form of dasher may be applied to it which is found best suited to the purpose. On the upper end of the said rod D a cross-handle, G, is pivoted loosely, by which this rod is allowed to turn freely, while it receives a rotary motion. The upper section, *a*, of rod D has a spiral groove, C, formed in it, in which groove a tooth or tenon, *e*, enters. This tooth *e* projects from the cross-head *c* of the frame, as shown in Fig. 3, and may be made of metal or of hard wood. It is this tooth and groove that give the dash-rod a rotary motion in one direction when this rod is raised by means of the swivel-handle G, and when the rod is depressed it is rotated in an opposite direction.

The lower end of the solid section *a* is reduced so as to enter the upper end of the tubular section *b* to which the section *a* is secured. This hollow section is perforated at its lower end, and also at or near its upper end, as shown in Fig. 2, for the purpose of allowing of a free circulation of air through it. The air is caused to enter this section *b* when it is raised, and when it is depressed the air escapes into the vessel A below the surface of the milk. In this way a rapid circulation of air is kept up through the pipe *b* and into and out of the vessel A.

The pipe *b* carries fresh air into the vessel A at every descending stroke, and discharges into the milk or cream.

If desirable, the two sections *a b* may be connected together by means of a pin, so that when removed the two sections can be separated, and the cover E thus removed.

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

The combination, in the dash-rod of a churn, of a lower hollow section, *b*, and an upper

spirally-grooved solid section, *a c*, the former serving to admit a supply of fresh air, while the latter receives a tooth, *e*, by which the dash-rod is rotated as it is moved up and down by the swivel-handle *G* or other device, substantially as described.

• Witness my hand in the matter of my ap-

plication for a patent on a churn this 13th day of April, 1866.

GEO. L. WITSIL. [L. S.]

Witnesses:

C. CRESSON,
WM. CARMON.