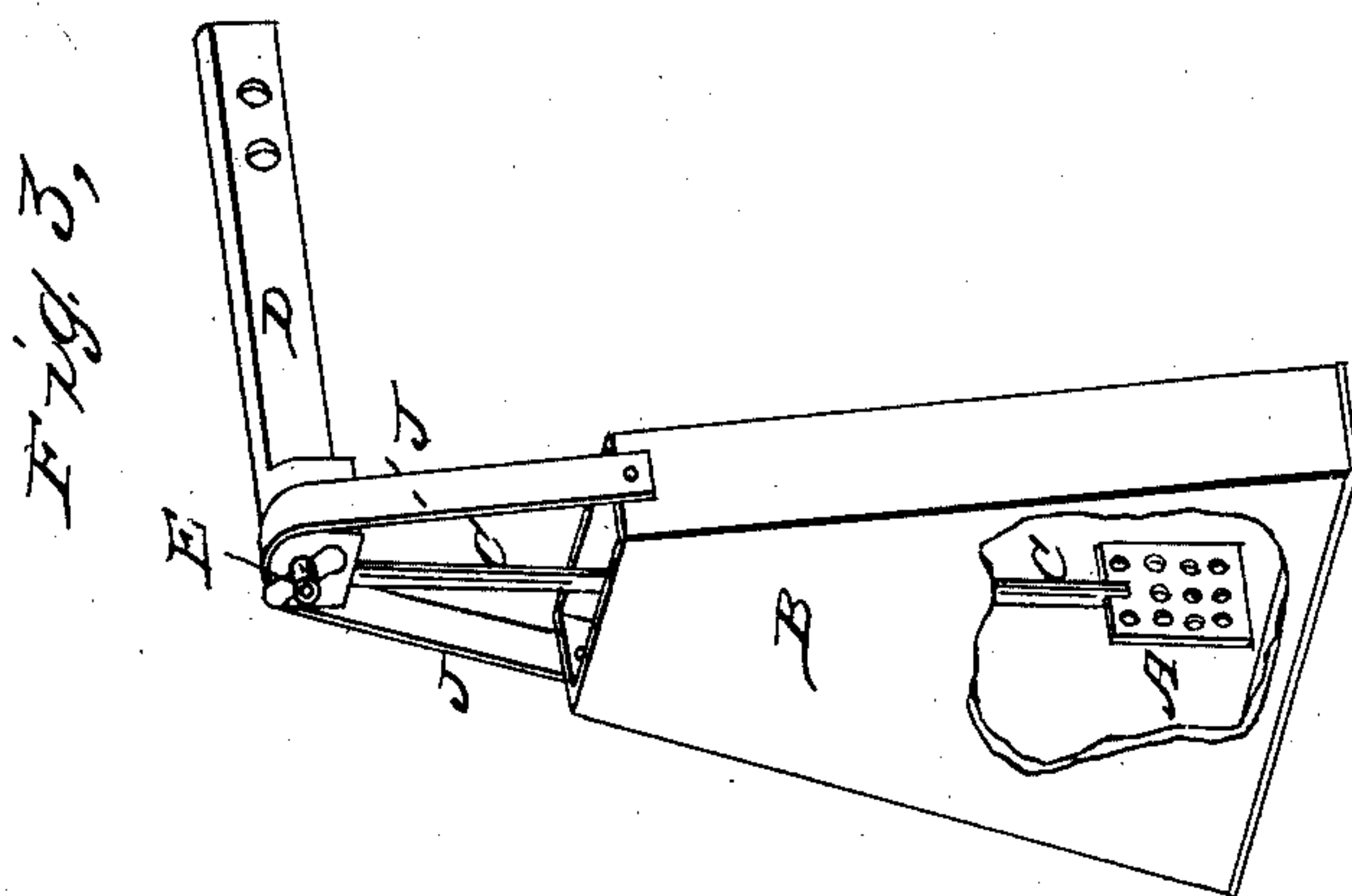
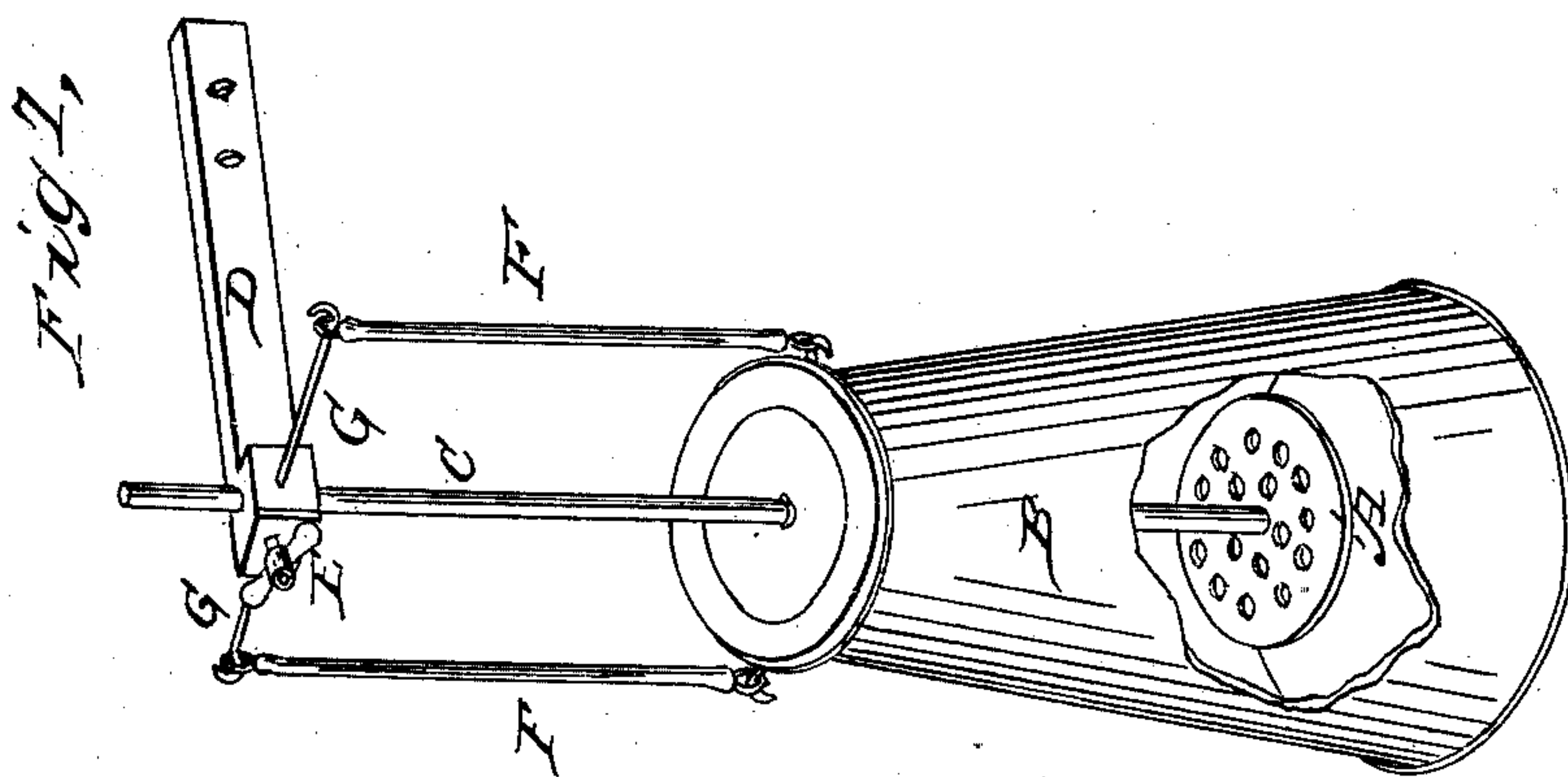
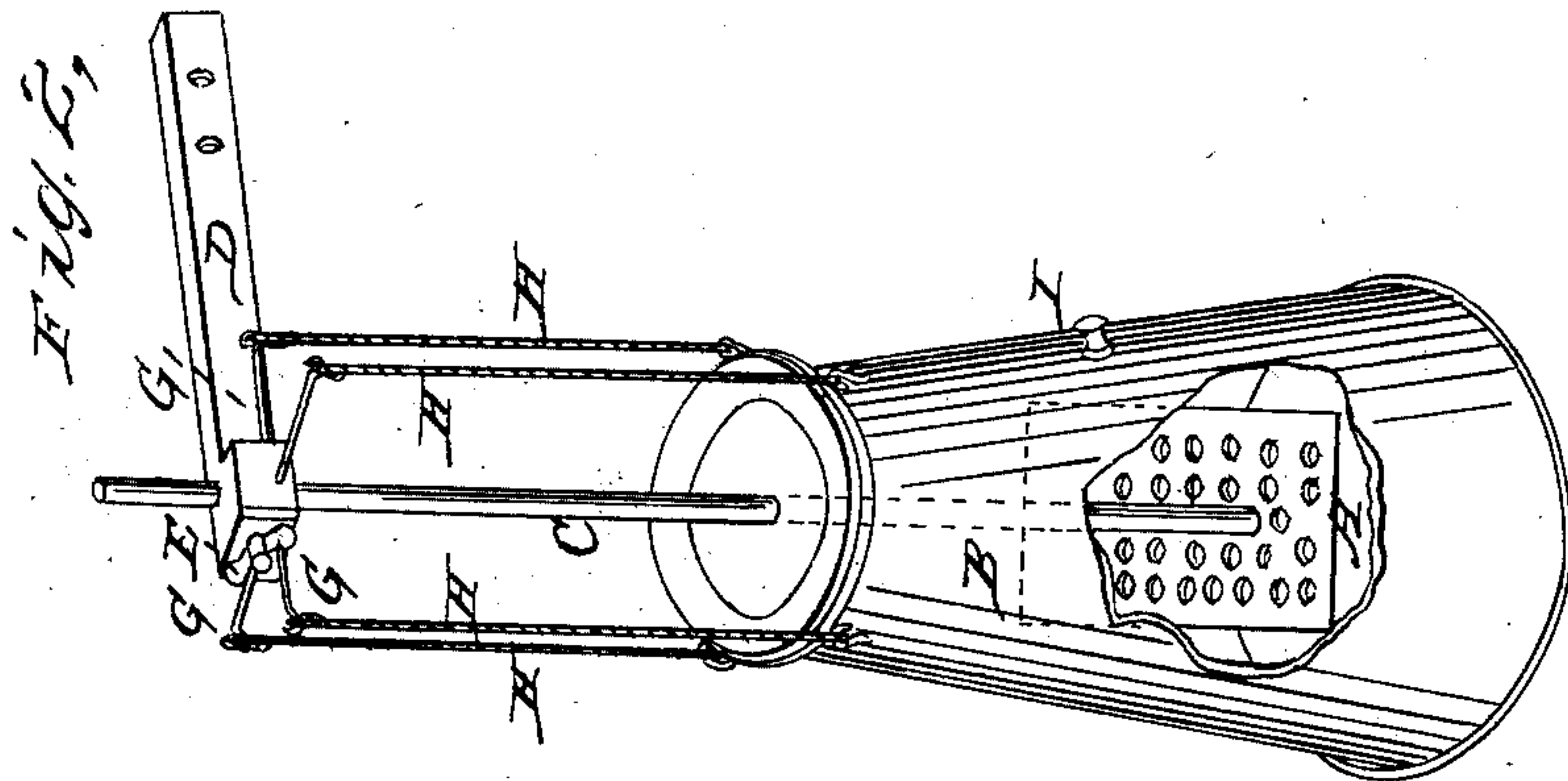


A. W. HALL.

Churn.

No. 46,185.

Patented Jan'y 31, 1865.



Witnesses:
Henry S. Briggs
J. W. Coombs

Inventor:
A. W. Hall.

UNITED STATES PATENT OFFICE.

ALEXANDER W. HALL, OF NEW YORK, N. Y., ASSIGNOR TO ALMON HALL
AND ALBERT HALL, OF COLUMBUS, OHIO.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **46,185**, dated January 31, 1865.

To all whom it may concern:

Be it known that I, ALEXANDER W. HALL, of the city, county, and State of New York, have invented a new and useful Improvement in Churns; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention consists in the fixed attachment of the dasher of the churn to a stationary support, and the suspension of the tub, barrel, box, or body of the churn in such connection with the dasher that it may receive the necessary motion to effect the separation of the butter from the milk, or, in other words, the invention may be said to consist in a churn with a movable body and a fixed dasher.

The accompanying drawings represent perspective views of three churns, illustrating as many of the various modifications of which my invention is susceptible.

The churn represented in Figure 1 is in its general construction substantially like the old-fashioned hand-churn, having the same kind of dasher A, which is represented exposed to view by breaking out a portion of the tub or body B. The upright shaft C of the dasher passes through an eye in the end of a bracket, D, which is intended to be screwed or otherwise secured to the jamb of a door or window, or to any suitable fixed structure, and thus made to constitute a fixed support, the shaft being firmly secured by a set-screw, E, which screws into the eye of the said bracket. The tub or body B of the churn is suspended at a suitable distance from the floor by springs F F of india-rubber or other material, from fixed arms G G, provided on the bracket.

This churn is operated by applying a downward pressure with one or both hands at regular intervals to the top of the tub or body B, by which means the springs are extended and the tub or body depressed. During the intermission of the pressure the tub or body is raised by the reaction and contraction of the springs. In this way a regular vertical reciprocating movement of the tub or body and the contained milk is produced, and the dasher, being stationary, is made to act upon the milk in the same manner as though the

tub or body were stationary and the dasher received a vertical reciprocal motion. The dasher may be adjusted higher or lower, so as to bring it at a suitable level within the tub or body to suit the expansion and contraction of the springs, by unscrewing the set-screw and raising or lowering the shaft in the eye of the bracket.

The churn represented in Fig. 2 differs from that represented in Fig. 1 in having the dasher A upright and in the form of a paddle, and in the tub or body having an alternating circular motion. The shaft C of the dasher is secured in the bracket or stationary support D in the same manner by a set-screw, E. The body B, instead of being suspended from the arms G G of the bracket by springs, is suspended therefrom by inelastic cords H H. To facilitate the operation of this churn, the tub or body of the churn is furnished externally with one or more knobs or handles, I. The operation is performed by turning the tub or body back and forth about its axis, by which means the dasher is caused to have the necessary action on the milk, which turns with the tub or body.

The churn represented in Fig. 3 has an oscillating or pendulum-like motion. The dasher A is in the form of a paddle, and its shaft C is secured by a set-screw, E, in an eye in the bracket or stationary support D. The body B of the churn is made in the form of a box of quadrangular shape in its horizontal section, having two parallel sides which are at right angles to the faces of the dasher, and the two sides opposite the faces of the dasher inclining upward toward each other in taper form. This box is suspended from the bracket D by means of a broad metal strap or bail, J, connected with its taper sides and passing over a rounded bearing on the bracket. The operation of this churn is produced by pressing against one of its taper sides at regular intervals of time to produce the oscillating motion, by which means the milk swinging with and in the box is subjected to the action of the dasher.

The advantage of making the dasher stationary and giving motion to the tub, box, or body of the churn and the contained milk is that the necessary movement is obtained more easily, the weight of the tub, box, or body and

that of the milk being rendered accessory to the production of the motion.

What I claim as my invention, and desire to secure by Letters Patent, is—

The fixed attachment of the dasher of a churn to a stationary support, and the suspension of the tub, box, barrel, or body of the churn in such relation to the stationary dasher that it and the contained milk may receive

the necessary motion to produce the separation of the butter from the milk, substantially as herein described, or, in other words, I claim a churn with a stationary dasher and a movable body, substantially as herein set forth.

A. W. HALL.

Witnesses:

HENRY T. BROWN,

J. W. COOMBS.