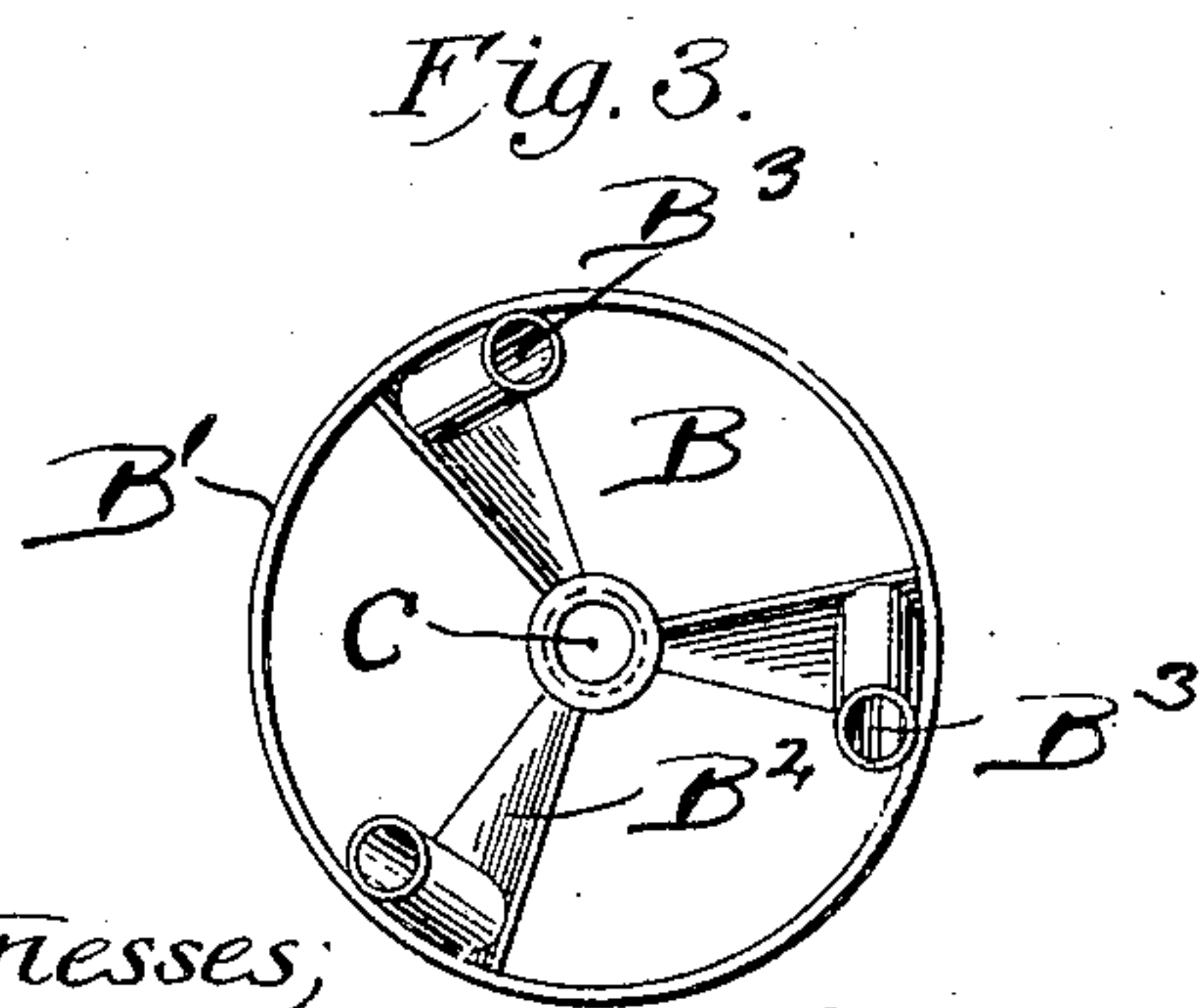
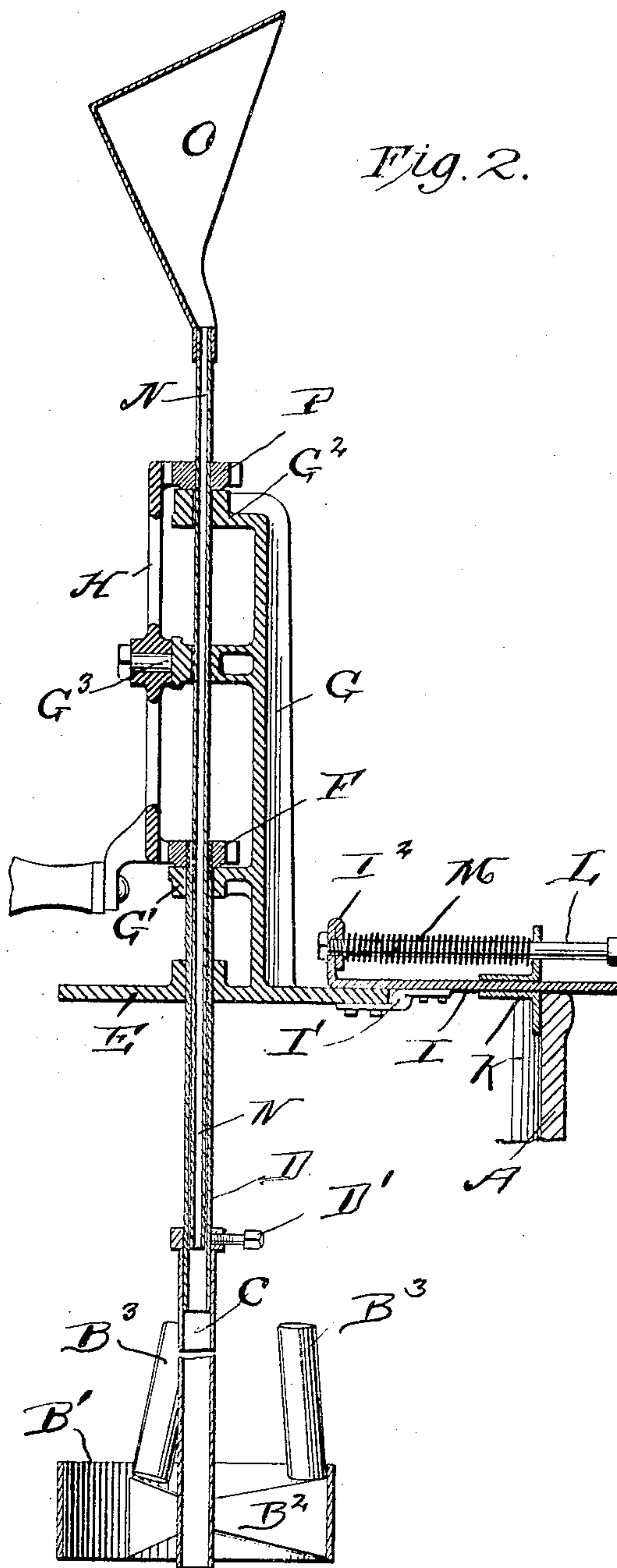
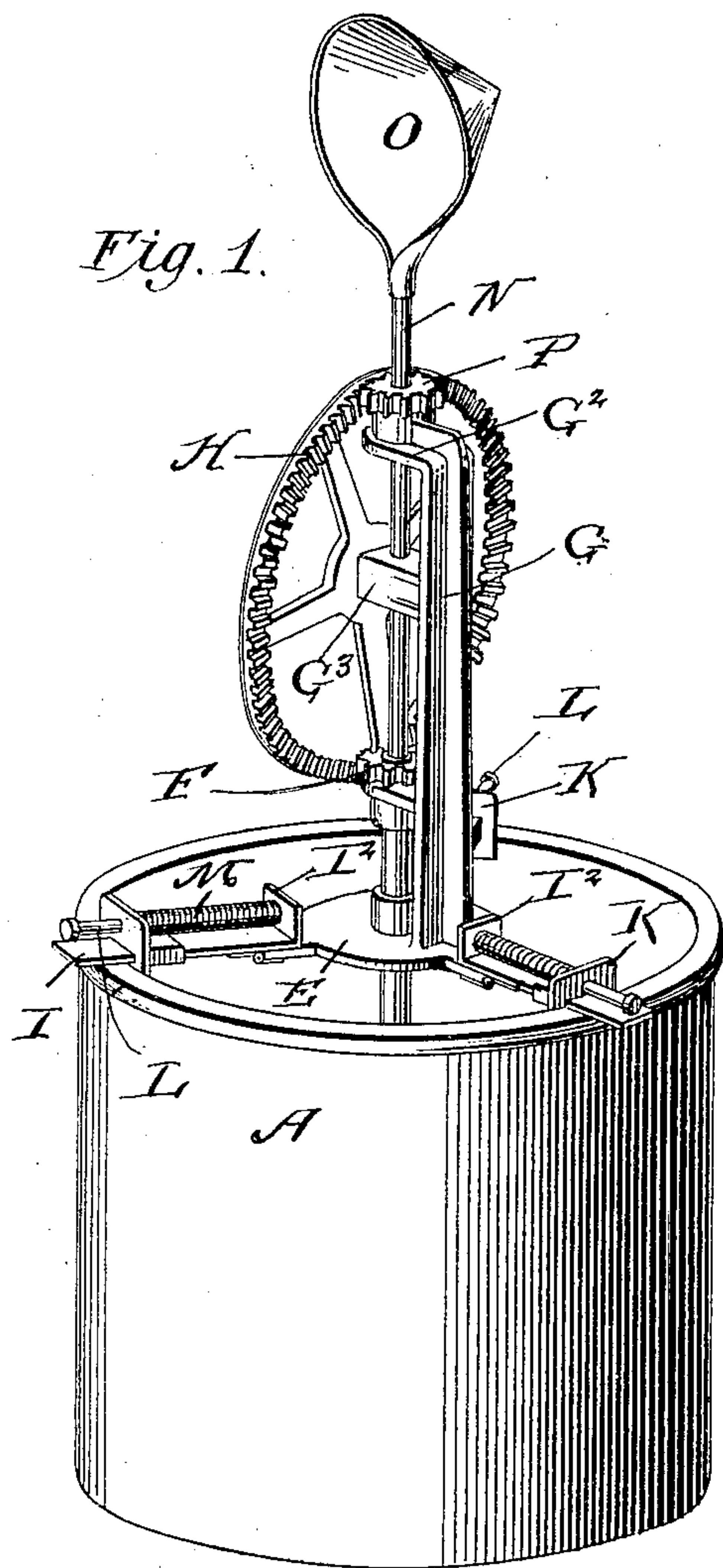


No. 809,031.

PATENTED JAN. 2, 1906.

F. SWALLOW.
CHURN.

APPLICATION FILED FEB. 17, 1905.



Witnesses;
E. B. McBath,
M. G. Clear

Inventor;
F. Swallow
by J. Mearns & Brock
Attorneys.

UNITED STATES PATENT OFFICE.

FREDRIC SWALLOW, OF CLAREMORE, INDIAN TERRITORY, ASSIGNOR OF ONE-FOURTH TO LEE SETTLE, ONE-FOURTH TO MORRIS HAAS, AND ONE-FOURTH TO JOSEPH E. FELAND, ALL OF CLAREMORE, INDIAN TERRITORY.

CHURN.

No. 809,031.

Specification of Letters Patent.

Patented Jan. 2, 1906.

Application filed February 17, 1905. Serial No. 246,041.

To all whom it may concern:

Be it known that I, FREDRIC SWALLOW, a citizen of the United States, residing at Claremore, in the Cherokee Nation, Indian Territory, have invented a new and useful Improvement in Churns, of which the following is a specification.

This invention relates generally to churns, and more particularly to certain improvements, the object of which is to provide a dasher-operating mechanism which can be quickly and easily attached to churn-bodies of various sizes; and a still further object is to provide an air collecting and delivering device in connection with the dasher-operating mechanism whereby a suitable quantity of air is drawn down into the cream, thereby materially aiding the churning operation.

Another object of the invention is to provide the churn of such construction that all parts can be quickly and easily disconnected for the purpose of cleaning whenever desired.

With these various objects in view the invention consists in the novel features of construction and combination hereinafter fully described, and pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a perspective view of a churn constructed in accordance with my invention. Fig. 2 is a vertical sectional view of the same, certain parts being broken away. Fig. 3 is a top plan view of the dasher.

Referring to the drawings, A indicates the churn-body, which is preferably cylindrical in form, and rotating within this churn-body is the dasher B, which consists of the circular band B', the radial obliquely-arranged blades B², connected at their outer ends to the band B' and at their inner ends to the tubular dasher-shaft C, said tubular dasher-shaft in turn being connected to the lower end of a tubular shaft D by means of a set-screw D'. The band B' also carries a series of obliquely-arranged tubes B³, said tubes being preferably arranged with their lower ends directly above the blades B², and the said tubes extend upwardly and obliquely, as shown, the purpose of said tubes being to aid in drawing the commingled air and cream to the center of the churn. The tubular shaft D passes upwardly through a central casting E and has a gear F arranged upon its upper end. The

casting E carries the standard G, said standard carrying the lower bracket-arm G', the upper bracket-arm G², and the central journal-arm G³. The driving-gear H is mounted upon the outer end of the journal-arm G³ and is adapted to mesh with the gear F, arranged upon the end of the tubular shaft D and resting upon the lower bracket-arm G'. The casting E has three arms I hinged thereto, as shown at I', the rear end of each arm being turned upwardly, as most clearly shown at I², and sliding upon each arm is a flanged sleeve K, the lower portion of each flange being adapted to engage the inner edge of the top of the churn, and passing through the upper portion of each flange is a pin L, the inner end of which is fastened to the upset end I² of the arm I, and surrounding this pin L between the said end I² and the flange of the sleeve is a spiral spring M, the purpose of which is to project the flanged sleeve outwardly for the purpose of binding the same against the churn-body, thereby holding the driving mechanism secured to the churn-body.

It will be noted that the rear end of the arm I projects beyond the pivotal point, thereby holding the arms in their proper horizontal positions when they are turned up ready to bring the flanged sleeves into engagement with the churn-body. The outer ends of the arms rest upon the top of the churn-body, as shown in Figs. 1 and 2. The flanged sleeves being freely movable upon the hinged arms and being spring-pressed, it is obvious that the driving mechanism can be quickly and easily arranged upon varied sizes of churn-bodies, and by turning the driving-gear H the dasher will be rapidly rotated and the cream will be quickly drawn to the center and there broken up.

For the purpose of injecting a given amount of air into the churning mass I employ an air-tube N, which has an air-collecting hood O at its upper end, said tube passing downwardly through the bracket-arms G² and G' and also through the journal-arm G³ down into the tubular dasher-shaft, and this air-tube N has a gear-wheel P connected thereto, which wheel rests upon the bracket-arm G² and is engaged by the driving-gear H, so that when the dasher is rotated the air-tube will also be rotated, and owing to the con-

struction of the hood O air will be collected and forced downwardly through the tube N into the tubular dasher-shaft, and in this manner the requisite amount of air can be quickly and easily drawn down into the churning mass.

It will thus be seen that I provide a simple and efficient construction of churn by means of which the churning operation can be quickly and easily accomplished, and it will also be noted that the operating mechanism can be quickly and easily attached to and detached from varying sizes of churn-bodies.

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

1. In a churn, the combination with a dasher provided with upwardly-extending obliquely-arranged tubes, of a tubular dasher-shaft connected thereto, an air-tube extending into the tubular dasher-shaft and having a collecting-hood at its upper end with means for rotating the dasher-shaft and air-tube.

2. In a churn the combination with a rotary dasher, of a tubular dasher-shaft, connected thereto, an air-tube extending into the tubular dasher-shaft, a hood arranged upon the upper end of the air-tube, gears connected to the dasher-shaft and air-tube, a gear adapted to mesh with the said gears carried by the shaft and tube, together with means for supporting the said driving mechanism upon the churn-body, as set forth.

3. In a churn, the combination with the central casting, of the arms hinged thereto,

each arm having its rear end upset, a pin connected to said upset end, a flanged sleeve slidable upon each arm, and a spring surrounding the pin and adapted to bear upon the upset end of the arm and the flange of the sleeve, together with a dasher-shaft passing through the central casting and means arranged upon the said central casting for rotating the dasher-shaft, as set forth.

4. In a churn, the combination with a dasher, of the tubular dasher-shaft, an air-tube, extending into the dasher-shaft, a hood arranged upon the upper end of the air-tube, the gears carried by the dasher-shaft and air-tube, a gear meshing with the said gears carried by the tube and shaft, the standard and bracket-arms for supporting said gears, the central casting carrying the standard, the arms hinged thereto and having upset ends, the pins connected to said upset ends, the flanged sleeves sliding upon the hinged arms, and the springs surrounding the pins and bearing upon the flanges of the sleeves as and for the purpose described.

5. In a churn, the combination with a dasher-shaft, of a casting supporting said shaft provided with hinged arms, each arm being provided with spring-actuated sleeves adapted to engage the edge of the churn and means carried by said casting for the purpose of operating the dasher-shaft, as set forth.

FREDRIC SWALLOW.

Witnesses:

ERNEST C. FELAND,
ALLWYN MARTIN, Jr.