

No. 775,467.

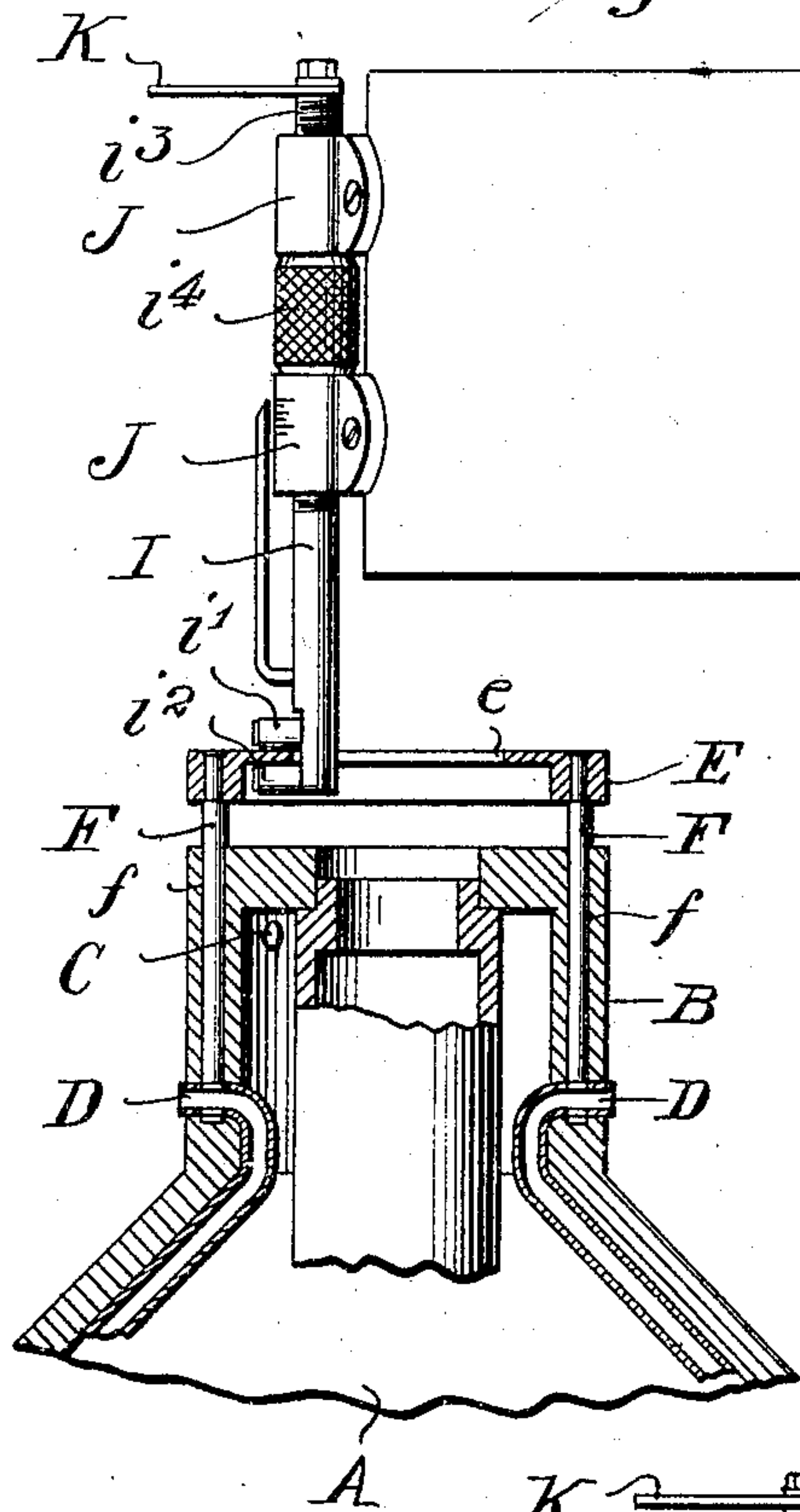
PATENTED NOV. 22, 1904.

J. J. BERRIGAN.  
REGULATING DEVICE FOR CREAM SEPARATORS.

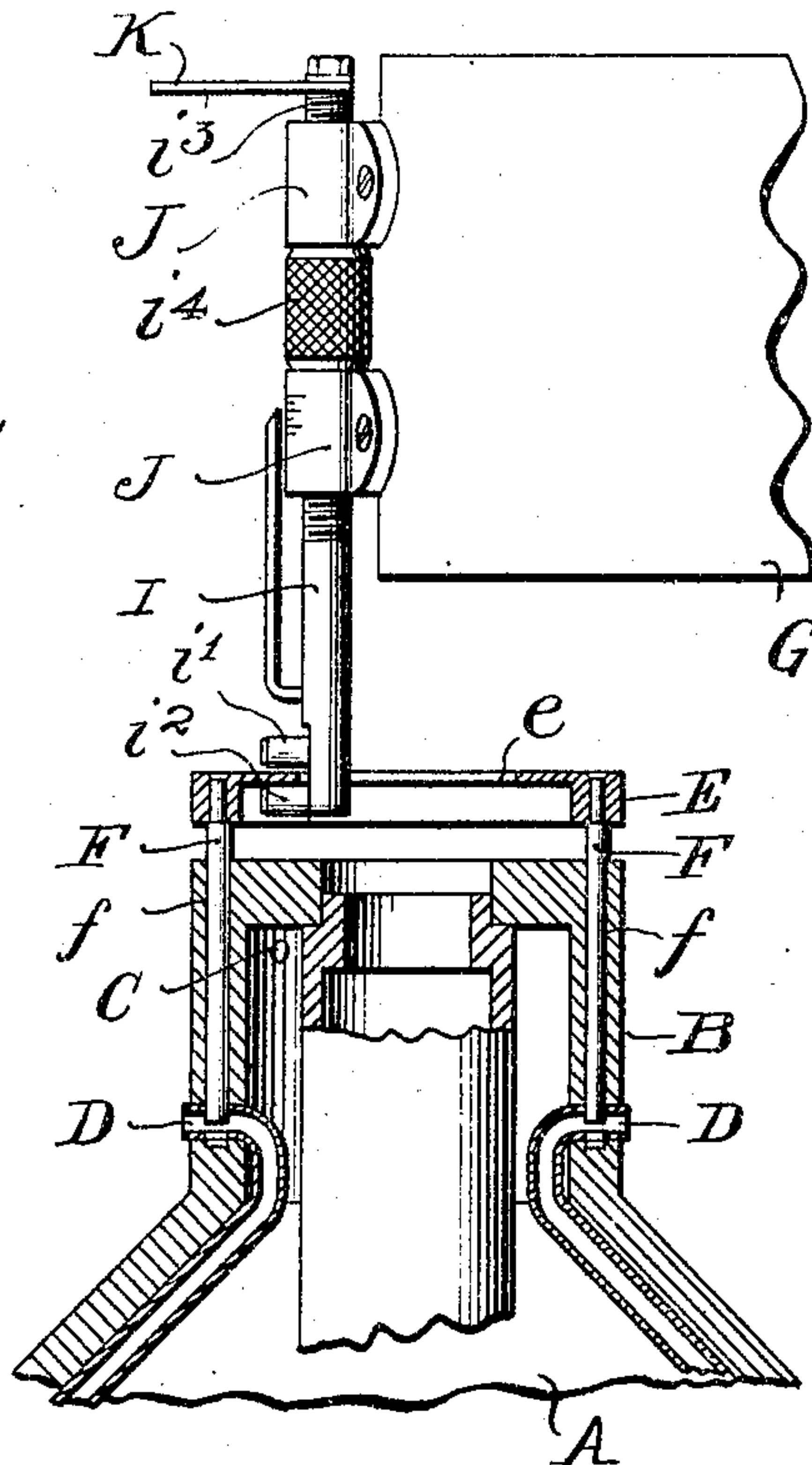
APPLICATION FILED JUNE 3, 1904.

NO MODEL.

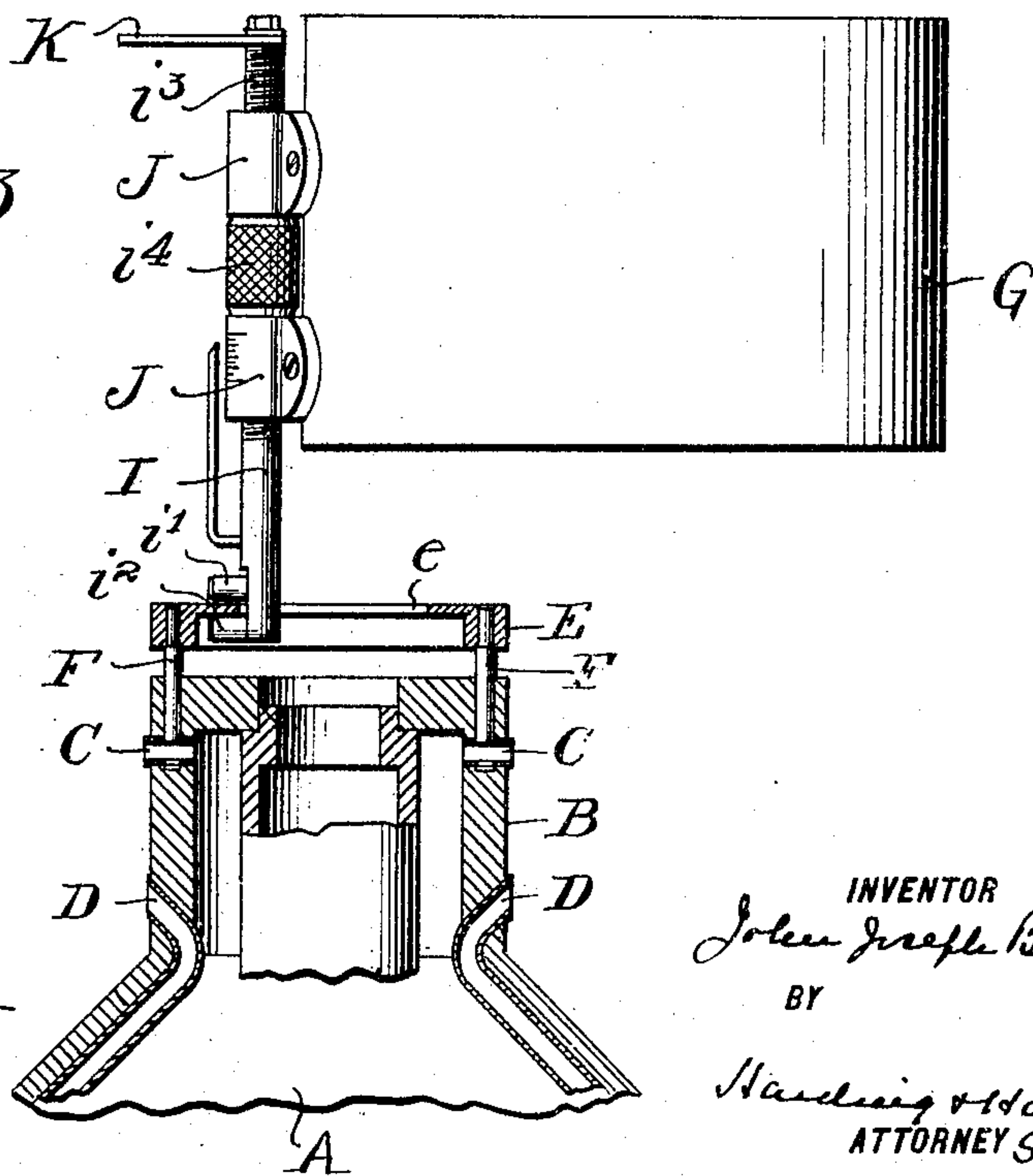
*Fig. 1*



*Fig. 2*



*Fig. 3*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## REGULATING DEVICE FOR CREAM-SEPARATORS.

SPECIFICATION forming part of Letters Patent No. 775,467, dated November 22, 1904.

Application filed June 3, 1904. Serial No. 210,971. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN JOSEPH BERRIGAN, a citizen of the United States, residing at Orange, county of Essex, and State of New Jersey, have invented a new and useful Improvement in Discharge-Regulating Devices for Cream-Separators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object automatically and during the operation of the separator to regulate the density of the discharged constituents of a cream-separator. Speaking generally, I accomplish this result by providing mechanism by which during the rotation of the machine the size of the discharge-orifice may be varied.

I will first describe my invention as illustrated in the embodiment shown in the accompanying drawings and then point out the invention in the claims.

In the drawings, Figure 1 is an elevation, partly in section, of device arranged for varying the skim-milk-discharge orifice. Fig. 2 is an elevation, partly in section, of device arranged for varying the skim-milk-discharge orifice with orifice partly closed. Fig. 3 is an elevation, part in section, of device arranged for varying the cream-discharge orifice.

A is the rotatable bowl, rotated by any well-known mechanism; B, the neck thereof; C, the cream-outlet, and D the skim-milk outlet.

E is a ring having the flange *e*. This ring rests on the top of the bowl, and, as shown in Figs. 1 and 2, has the depending projections F, equal in number to the skim-milk outlets D. These depending projections fit loosely in vertical orifices *f* in the neck of the bowl, said orifices intersecting the outlets D. As in my application filed June 3, 1904, Serial No. 210,970, is described and claimed, the ring E, with its depending projections *e*, is overbalanced at one point, so that in the rotation of the bowl it is held in rotatable contact with the bowl, but is capable of vertical movement.

As shown in Fig. 1, with the ring at its ele-

vated position, the projections F being of such length that in that position they are above the outlets D, by lowering this ring the projections F will, dependent upon the extent the ring is depressed, more or less extend across and obstruct the outlet D. By adjusting this position of the ring I can vary the discharge at the outlet D, and thus adjust the discharge of the constituents—milk and cream.

In Fig. 2 I have shown the discharge-outlet D partially obstructed by the projection F. Instead of having the projections F of ring E arranged with reference to the skim-milk outlets D, I can, as shown in Fig. 3, arrange them with reference to the cream-discharge C.

I provide the following mechanism for controlling the vertical movement of the ring E during the rotation of the bowl: I is a rod having at its lower end the projecting rollers *i'* *i''*, the space between which is slightly greater than the thickness of the flange *e* of the ring E. The upper portion of this rod has the thread *i'''* cut thereon and working thereon the internally-threaded nut *i''''*. Above and below this nut *i''''* and surrounding the rod are the bearings J, secured to the feed-cup G. Any other non-rotatable portion of the machine will answer as well as the feed-cup G to which to secure the bearings J. Near the upper end of the rod I is the projecting rod K. The position of the parts, as shown, is such that by moving the rod K the rollers *i'* and *i''* will be brought, respectively, above and below the flange *e*. When in this position, by turning the nut *i''''* in one direction the rod I is elevated, and through the medium of the roller *i''* the ring E is elevated and the density of the cream is increased, and when the nut is turned in the other direction through the medium of roller *i'* the ring E is depressed and the density of the cream decreased. As the ring E is rotating with the bowl, and thus rapidly, the action of rollers *i'* and *i''* is practically upon the whole circumference of the flange *f* of ring E.

By this construction I provide a ready means whereby either the skim-milk or cream



outlet may be more or less throttled, and thus during the rotation of the machine the density of the cream be varied and adjusted.

Having now fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In a centrifugal cream-separator, the combination, with the rotatable bowl, having a discharge outlet or outlets, for one of the constituents, a ring having depending projections, there being orifices in the neck of said bowl, intersecting the discharge-outlets, in which orifices said projections rest, said ring and projections being rotatably mounted and vertically movable upon the bowl, and means to elevate and depress said ring.

2. In a centrifugal cream-separator, the combination, with the rotatable bowl, having a discharge outlet or outlets, for one of the constituents, a ring having depending projections, there being orifices in the neck of said bowl, intersecting the discharge-outlets, in which orifices said projections rest, said ring and projections being rotatably mounted, and vertically movable upon the bowl, and means to elevate and depress said ring during the rotation of the bowl.

3. In a centrifugal cream-separator, the

combination, with the bowl having a discharge-outlet for one of the constituents, a ring having a depending projection, there being an orifice in the neck of the bowl, intersecting said discharge-outlet, said depending projection resting in said orifice, said ring and projection being rotatably mounted and vertically movable, and means to elevate and depress said ring.

4. In a centrifugal cream-separator, in combination, with the bowl having a discharge-outlet for one of the constituents, a ring having a depending projection, there being an orifice in the neck of the bowl, intersecting said discharge-outlet, said depending projection resting in said orifice, said ring and projection being rotatably mounted and vertically movable, and means to elevate and depress said ring during the rotation of the bowl.

In testimony of which invention I have hereunto set my hand, at New York city, on this 28th day of May, 1904.

JOHN JOSEPH BERRIGAN.

Witnesses:

JOHN S. PAUL,  
GEO. D. TALLMAN.