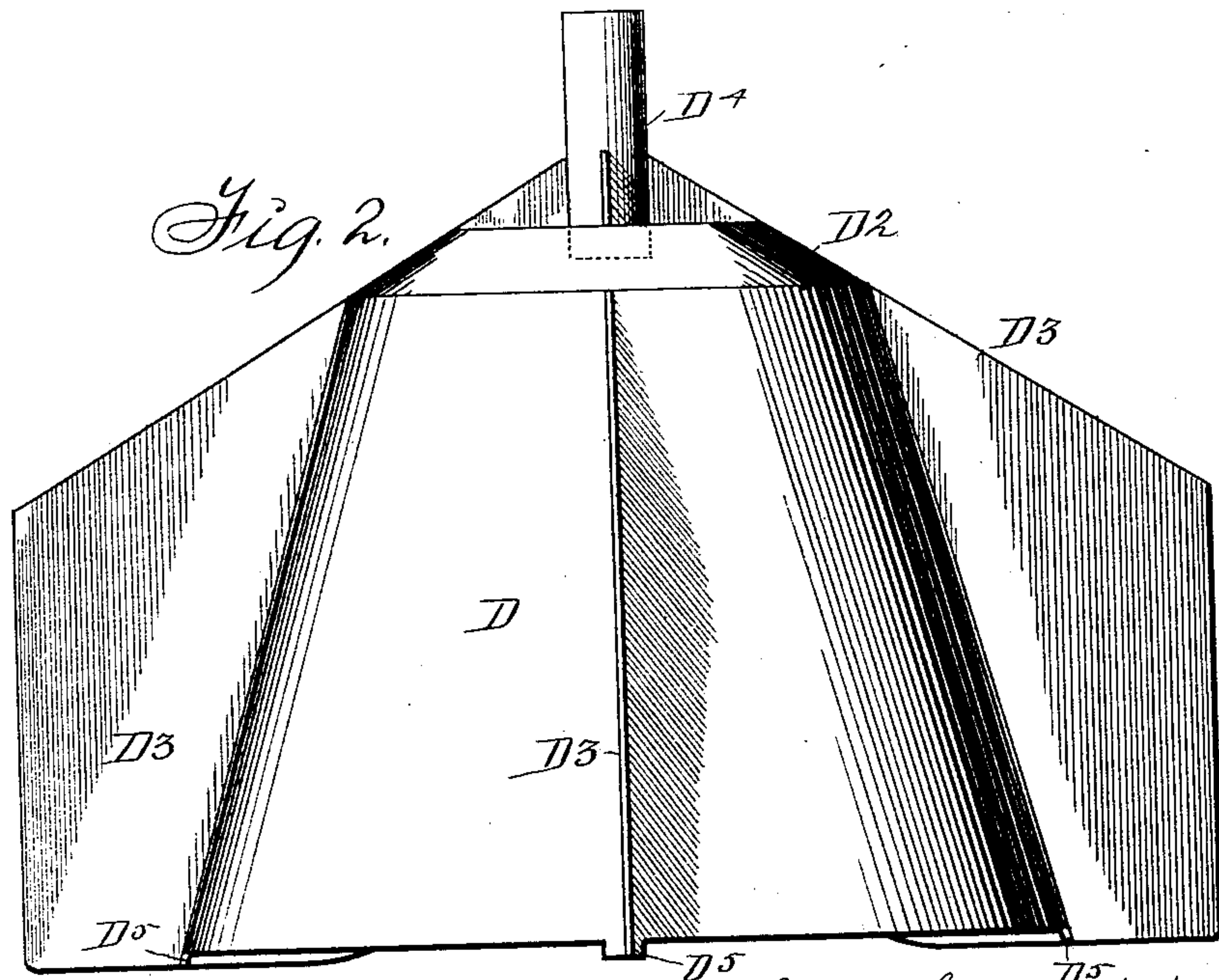
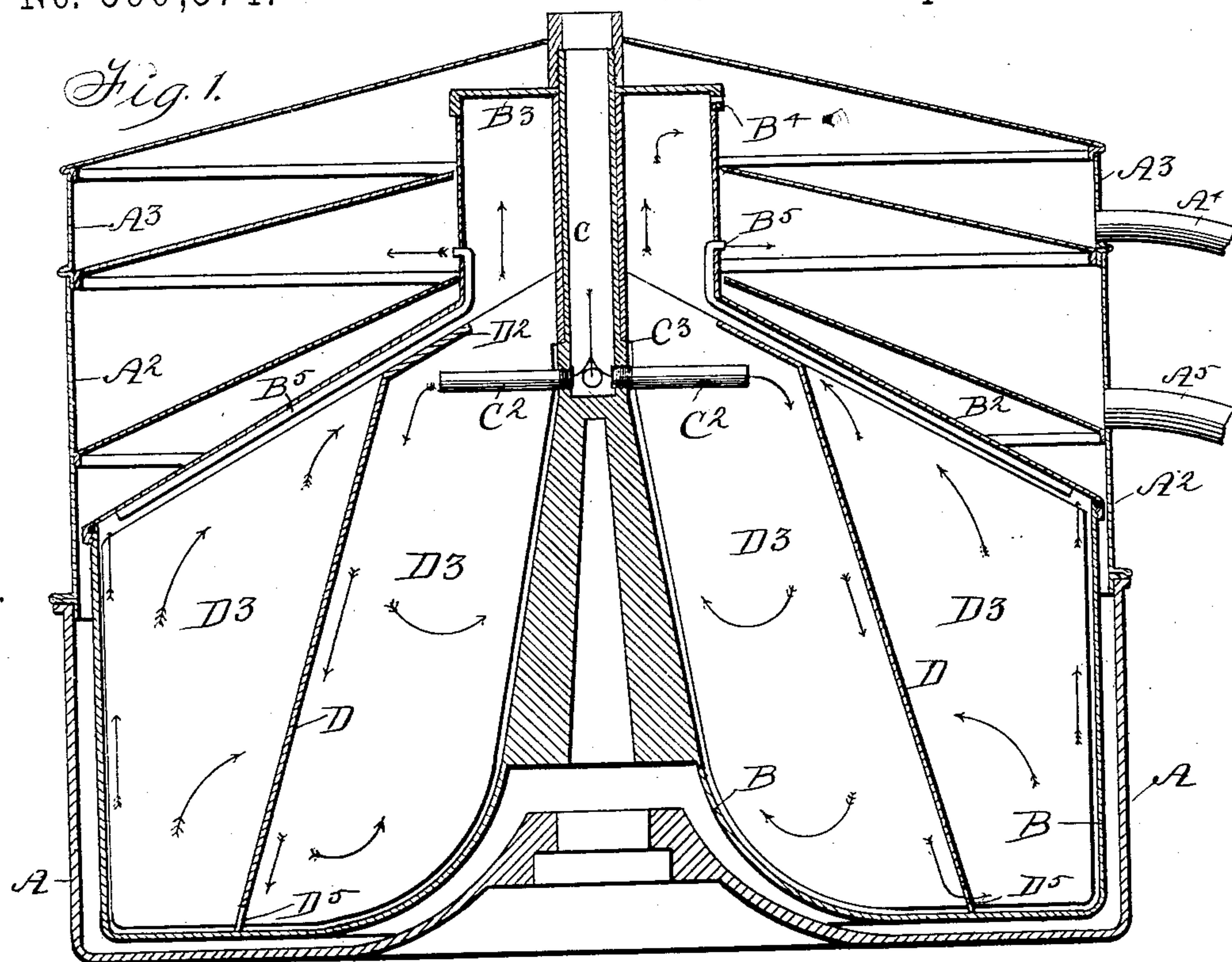


(No Model.)

C. HOHNSBEHN.  
CENTRIFUGAL CREAM SEPARATOR.

No. 590,574.

Patented Sept. 28, 1897.



Witnesses: George Allan. } Inventor: Claus Hohnsbehn,  
R. G. Orwig. } By Thomas G. Orwig, Attys.



# UNITED STATES PATENT OFFICE.

CLAUS HOHNSBEHN, OF WAVERLY, IOWA.

## CENTRIFUGAL CREAM-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 590,574, dated September 28, 1897.

Application filed December 17, 1896. Serial No. 616,005. (No model.)

*To all whom it may concern:*

Be it known that I, CLAUS HOHNSBEHN, a citizen of the United States, residing at Waverly, in the county of Bremer and State of Iowa, have invented a new and useful Centrifugal Cream-Separator, of which the following is a specification.

The object of this invention is to provide certain improvements in centrifugal cream-separators, whereby the process of separation is made more thorough—that is, a greater proportion of cream is taken from a given quantity of milk and also the capacity of a given size of separator-bowl increased.

My object is, further, to provide a separator in which the parts are all of simple, cheap, and durable construction, and which may be readily taken apart and thoroughly and easily cleaned.

My invention consists in the construction, arrangement, and combination of parts on the interior of the bowl, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a vertical central sectional view of the top of the supporting-frame and the separating-bowl and accompanying parts. Fig. 2 shows a side elevation of the bell-shaped partition and the wings attached thereto.

Referring to the accompanying drawings, the reference-letter A is used to indicate the bowl-shaped top of the supporting-frame.

A<sup>2</sup> indicates a detachable sheet-metal cover placed on the top edge of the part A and having an inclined bottom to direct milk to discharge through the pipe A<sup>5</sup>.

A<sup>3</sup> indicates a second cover also having an inclined bottom to direct cream through the pipe A<sup>4</sup>.

B indicates the separator-bowl, having its central portion designed to receive a shaft and also having a cover B<sup>2</sup>, screwed thereto, and a cap B<sup>3</sup>, screwed to the top of the cover. An opening B<sup>4</sup> in the upper end of the cover provides an outlet for the cream.

B<sup>5</sup> indicates pipes secured to the under side of the cover and leading from the outer edge thereof inwardly and upwardly to discharge milk into the cover-section A<sup>2</sup>.

All of the parts thus far described are of

the construction usual to separators and the parts perform their usual functions. Hence further description thereof is deemed unnecessary.

The novelty of construction in my invention consists in providing an opening C in the central part of the bowl B to extend from the top of the bowl's stem to a point near the top of the interior of the bowl. A number of short pipe-sections C<sup>2</sup> lead from said opening outwardly in a horizontal plane, and a shoulder C<sup>3</sup> is formed on the exterior of the said stem above said pipe-sections.

D indicates a bell-shaped sheet-metal partition having its top D<sup>2</sup> inclined inwardly at a sharp angle and on its lower edge a series of short legs D<sup>5</sup>.

D<sup>3</sup> indicates a series of radial blades fixed to the bell-shaped partition and shaped to conform to the interior of the separator-bowl.

D<sup>4</sup> indicates a short tube-section designed to encircle the top of the central stem of the separator-bowl and to rest on the shoulder C<sup>3</sup> and be engaged at the upper end by the cover D<sup>2</sup>. It is thus held firmly in position against vertical movements. The blades D<sup>3</sup> are fixed to this tube-section and are thereby secured in position in the bowl.

It is obvious from the construction just described that the part comprising the bell-shaped partition D, the blades D<sup>3</sup>, and the tube D<sup>4</sup> may be readily detached for purposes of cleaning, and that when detached the bowl is also easily cleaned.

In practical operation the milk is admitted in the usual way and passes into the bowl through the pipes C<sup>2</sup>, where the action of centrifugal force will cause it to strike the bell-shaped partition. The top D<sup>2</sup> of said partition will prevent the milk from rising, and the incline of the partition will cause the milk to descend in the bowl. The process of separation is of course carried on during the descent of the milk to the bottom of the bowl, as indicated by the arrows in Fig. 1, the cream of course going to the center and rising. The milk then passes under the partition and the process of separation continues during the time it takes for the same to pass to the top of the bowl, where the skim-milk passes through the tubes B<sup>5</sup> and the cream through the opening B<sup>4</sup>. It is well known



that the amount of milk that may be passed through the separator in a given time is regulated by the size of the discharge-opening. Heretofore it has been necessary to make  
5 these openings quite small, so that the milk would remain in the separator a long time in order that the process of separation might be completed. It has been found that with the use of the bell-shaped partition the discharge-  
10 openings may be made larger and the capacity of the separator increased, other conditions remaining the same.

Having thus described my invention, what I claim as new therein, and desire to secure  
15 by Letters Patent of the United States, is—

1. In a centrifugal cream-separator, the combination of a separating-bowl, a tube formed on or fixed to the central bottom portion to project upwardly therefrom and to ad-  
20 mit milk to the interior of the bowl, a bell-shaped partition open at its upper and lower ends and contained wholly within the liquid-space of the separating-bowl, a sleeve detach-

ably secured to said tube, and means for connecting the sleeve and the bell-shaped partition so that the partition is firmly supported  
25 in position within the separating-bowl.

2. In a centrifugal cream-separator, the combination of a separating-bowl, a tube formed on or fixed to the central bottom portion to project upwardly therefrom and to admit milk to the interior of the bowl, a shoulder on said tube, a sleeve designed to be placed on said tube with its lower end resting on said  
30 shoulder, means for holding the sleeve downwardly upon said shoulder, a series of radial blades fixed to the said sleeve to approximately fill the liquid-space of the separating-bowl, and a bowl-shaped partition fixed to or supported by said radial blades, substantially  
35 40 in the manner set forth and for the purposes stated.

CLAUS HOHNSBEHN.

Witnesses:

C. BUESING,

F. H. MUNGER.