

No. 848,037.

PATENTED MAR. 26, 1907.

B. LJUNGSTRÖM.
CENTRIFUGAL MACHINE.
APPLICATION FILED SEPT. 22, 1905.

Fig. 1.

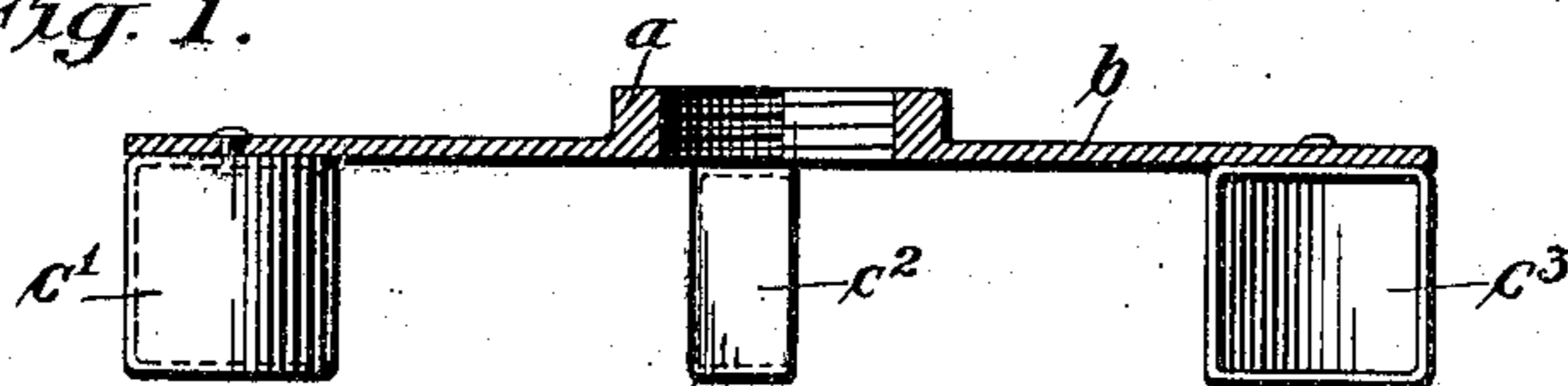


Fig. 2.

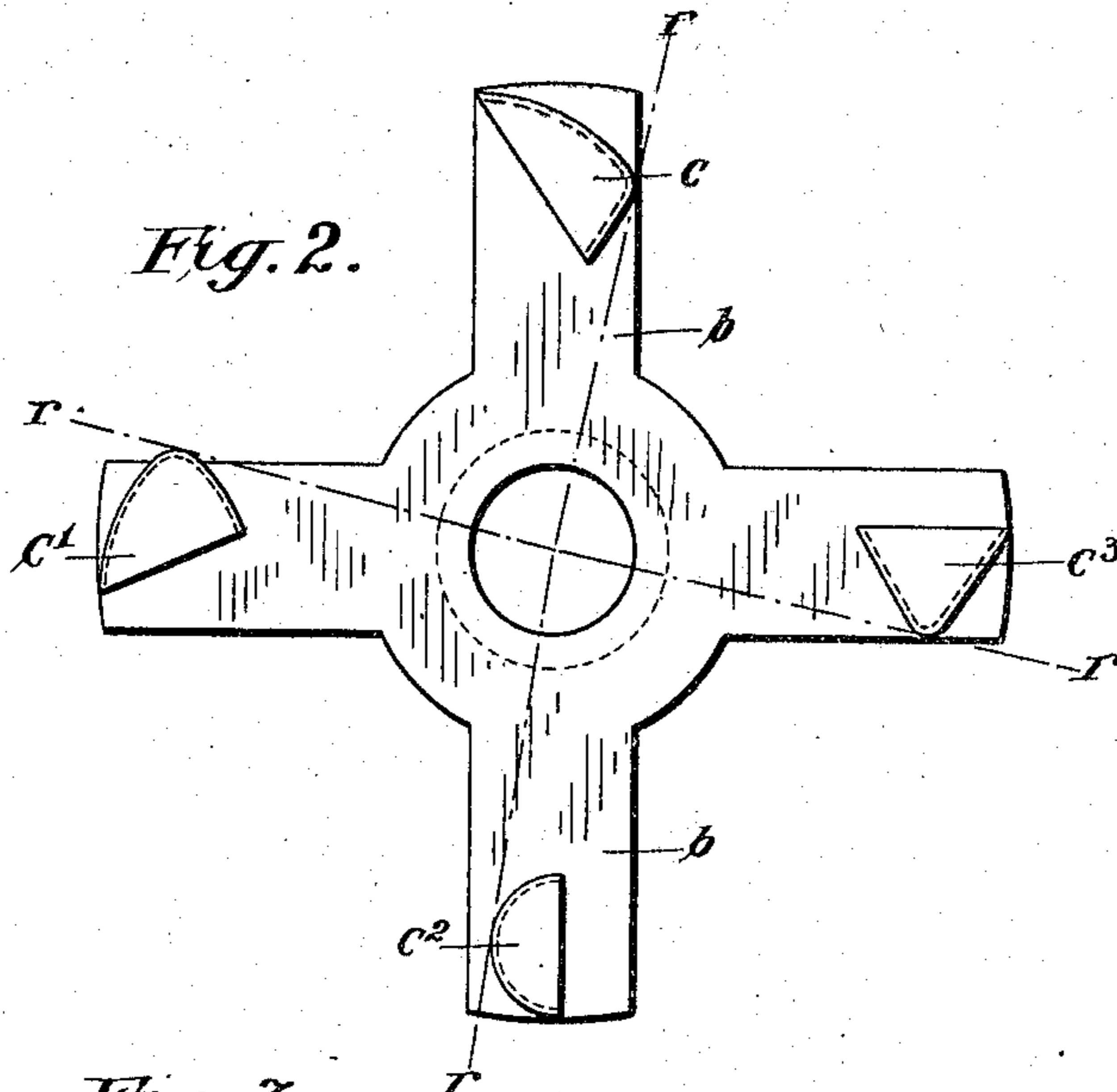


Fig. 3.

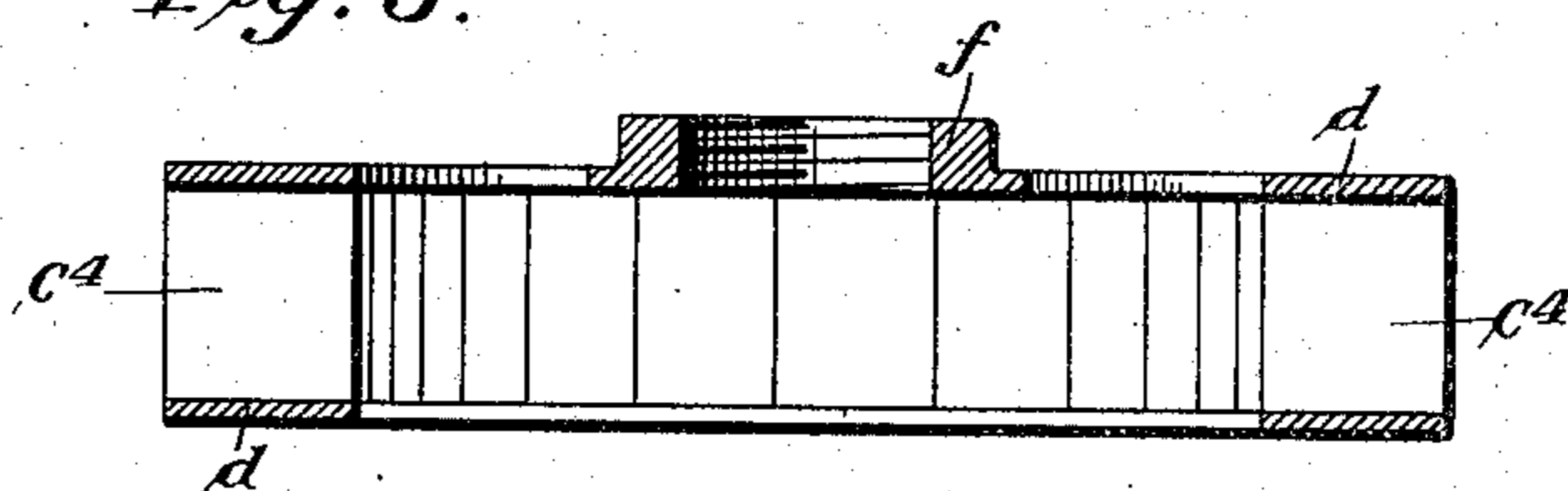
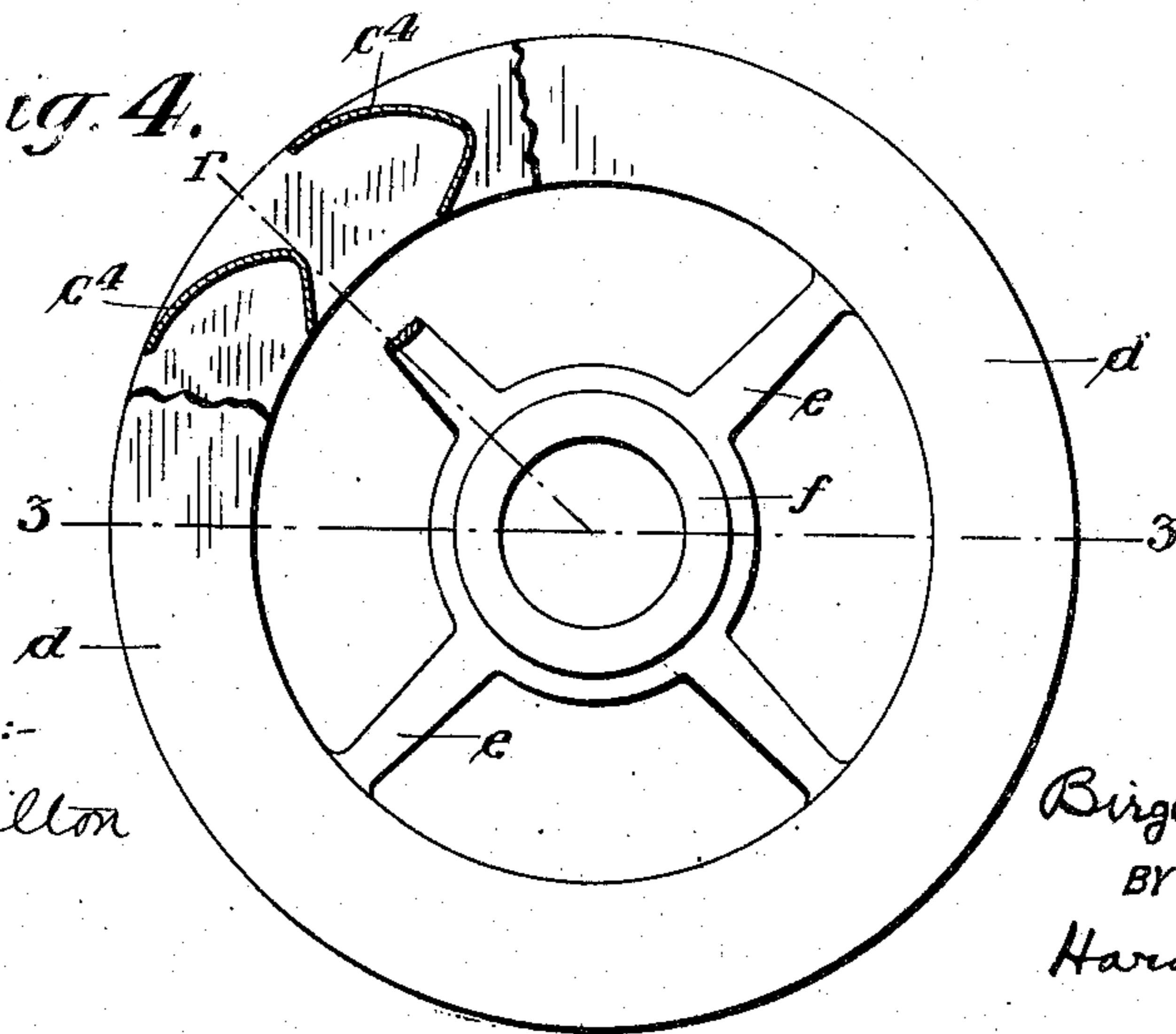


Fig. 4.



WITNESSES:-

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UNITED STATES PATENT OFFICE.

BIRGER LJUNGSTRÖM, OF STOCKHOLM, SWEDEN, ASSIGNOR TO AKTIE-
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CENTRIFUGAL MACHINE.

No. 848,037.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed September 22, 1905. Serial No. 279,650.

To all whom it may concern:

Be it known that I, BIRGER LJUNGSTRÖM, a subject of the King of Sweden, residing at Stockholm, Sweden, have invented a new and useful Improvement in Scrapers for Centrifugal Machines for Separating Solid Matter from Liquids, 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 relates to centrifugal machines for separating solids from liquids, and particularly to such machines wherein the solids are transported transversely through the layer of liquid from the periphery of the bowl to its center, whence they escape by means of scraper-wheels located within the bowl. Such a machine as set forth in the United States Patent to Ericsson, No. 773,489, of October 25, 1904.

It has been proved that centrifugal machines of this kind work in a very unsatisfactory manner when very finely pulverized materials—as, for instance, lime, kaolin, and whitening—are separated. This drawback is avoided by this invention, which has for its object to provide scrapers of such shape as to enable them to catch even solids of this kind and transport them from the periphery of the bowl to its center.

In the drawings, Figure 1 is a vertical section, and Fig. 2 an inverted plan, of a scraping device embodying my invention. Fig. 3 is a vertical section, and Fig. 4 a plan, of a modification.

In Figs. 1 and 2, *a* is the hub, from which brackets *b* project radially. To these brackets *b* scoops *c* *c'* *c''* *c'''* are secured. Said scoops are cup-shaped, closed at the top and bottom and open only in the direction of rotation, so that they form a sort of receptacle wherein the solids are caught.

In Figs. 3 and 4 the cup-shaped scoops *c''* *c'''*

are not provided with top and bottom walls, but are located between two rings or annular disks *d* *d'*, secured to spokes *e*, projecting radially from the hub *f*. The disks *d* are shown flat and extending horizontally and parallel with each other, although I do not confine myself to this arrangement. The disks *d* inclose the scoops *c''* *c'''* at the top and bottom, thus forming receptacles opening only in the direction of rotation, like the receptacles of Figs. 1 and 2. The essential characteristic of these scoops is that they are cup-shaped and formed and arranged in such a manner that with regard to a plane through the axis of rotation and the radius *r*, Figs. 2 and 4, they have their bottoms situated deeper than the edges. Shaped thus each scoop will form a receptacle capable of catching very small particles.

For the purpose of indicating some of the possible variations in the form of the scoops I have shown all of the four scoops in Fig. 2 as of different specific shape.

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

A scraping device for centrifugal machines for separating solid matter from liquids comprising scoops and a rotary support therefor adapted to be inserted within the bowl, said scoops being held in permanent relation to the rotary support in such position that relatively to a plane through the radius and the axis of rotation of the support their bottoms are situated respectively deeper than their edges.

In testimony of which invention I have hereunto set my hand, at Stockholm, Sweden, on this 6th day of September, 1905.

BIRGER LJUNGSTRÖM.

Witnesses:

CARL FRIBERG,
HARRY FR. ALBIN.