No. 624,424. Patented May 2, 1899.

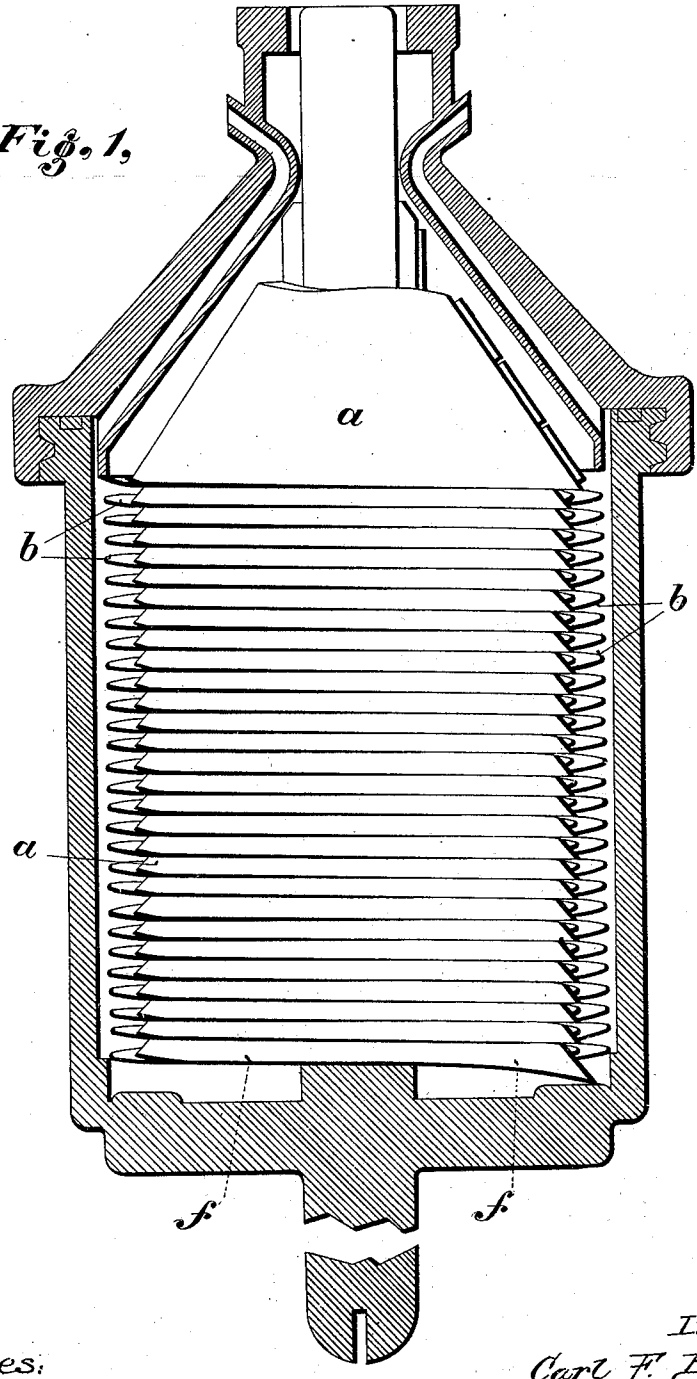
C. F. BERTRAM.

CENTRIFUGAL CREAM SEPARATOR.

(Application filed July 8, 1897.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



Witnesses:
John Enders Jr.

Inventor
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Att'y.

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(Application filed July 8, 1897.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

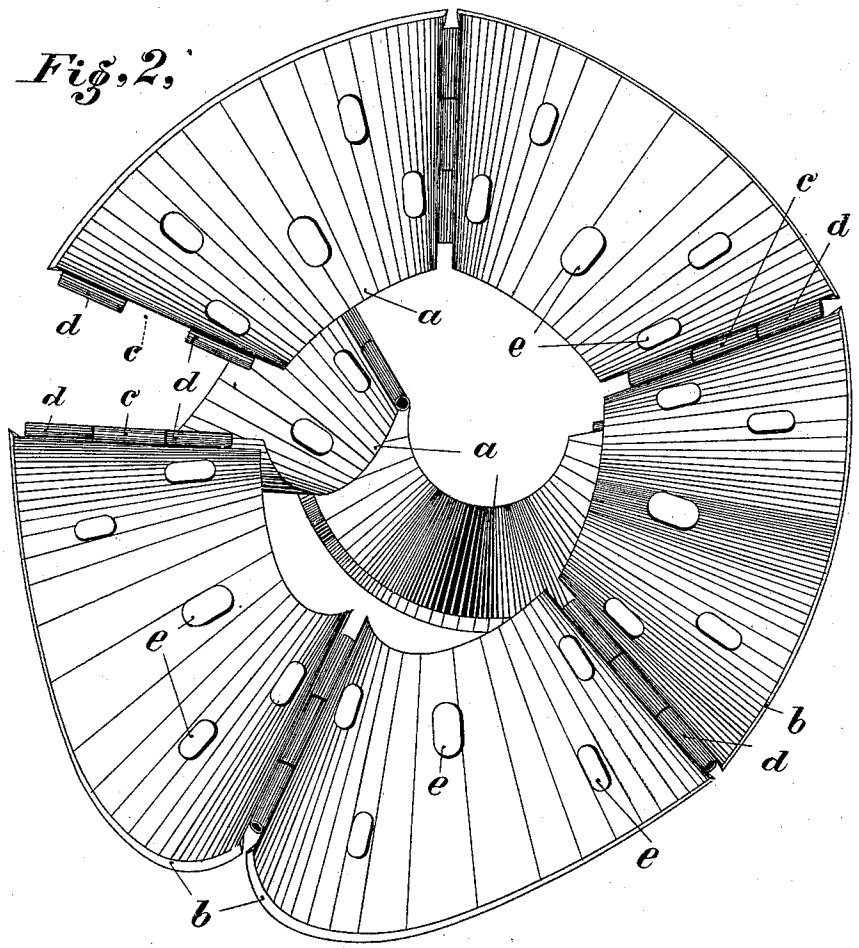
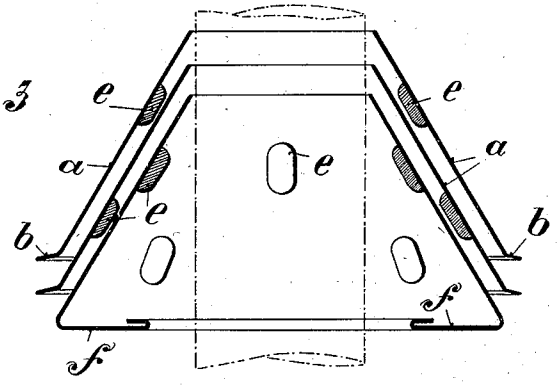


Fig. 3



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UNITED STATES PATENT OFFICE.

CARL FRIEDRICH BERTRAM, OF WEIMAR, GERMANY.

CENTRIFUGAL CREAM-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 624,424, dated May 2, 1899.

Application filed July 8, 1897. Serial No. 643,867. (No model.)

To all whom it may concern:

Be it known that I, CARL FRIEDRICH BERTRAM, engineer, a subject of the Grand Duke of Saxe-Weimar-Eisenach, residing at Weimar, in the Grand Duchy of Saxe-Weimar-Eisenach and German Empire, have invented new and useful Improvements in or Relating to Centrifugal Separating-Machines, (for which I have obtained Letters Patent in Great Britain, dated August 14, 1897, No. 14,892,) of which the following is a specification.

My invention relates to the construction of a helical interior part for centrifugal machines, such as are employed in the separation of milk, which is hinged and serves to throw up and skim the milk.

This invention is illustrated in the accompanying drawings.

Figure 1 is a sectional elevation of the interior of a centrifugal machine. Fig. 2 shows the device in plan, partly opened out; and Fig. 3, a vertical section through part of the inner part.

In order to obtain in centrifugal machines, especially in those for separating milk, a better effect by dividing the liquid into thin layers, and thus obtain a better division, the use of circular or helical inner parts has been suggested. Such parts have hitherto consisted of a continuous strip of metal bent or formed as a screw, with threads at an angle to the axis and partially overlapping one another. Such strips have the drawback that they can be drawn out or uncoiled only very little, and accordingly can be carefully cleaned only on the upper and lower edge, but not over their whole surface. In order to enable such a strip, formed into a screw, to be thoroughly cleaned, each complete thread is according to the present invention composed of several sections, which may be perforated, connected by hinge-joints *c d d*, so that the strip can be unwound in the opposite direction, so as to allow the upper and lower side of the strip to be wholly exposed, whereby it may be thoroughly cleaned when required. The helical inner part according to the present invention is therefore made in the shape of a continuous spiral *a*, Fig. 1, which possesses a partially-continuous lower edge *b* and in which the adjacent radially-divided sections of each thread or ring are connected together by hinge-joints *c d d*. Owing to the arrangement of the hinges, such a spiral can be easily opened up and then thoroughly cleaned on both sides. As, however, the separate parts are attached to each other by hinges *c d d*, they can be easily closed up again and the coiled-up metal strip easily introduced into the drum of the centrifugal machine, the spiral or helical spring fitting tightly in the drum owing to the elasticity of the separate coils and being fastened in the drum in the usual manner. The hinges *c d d* have an advantageous effect, as they act as stops or baffles for the milk to be separated and also aid the action of the drum. The lower coil of the helical metal strip is preferably provided with a bottom *f* bent inward.

The subject-matter of this invention is the same for which I obtained Letters Patent of Great Britain, No. 14,892, of the year 1897.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In centrifugal separators, a helical inner coil therefor, the said coil comprising a series of hinged sections adapted to open upwardly, the lower turn of the coil being turned inwardly to form a stiffening-web, substantially as described.

2. In centrifugal separators, a helical inner coil therefor, comprising a series of hinged sections, the openings in said sections, and the inwardly-projecting stiffening-flange *f* of the lower turn of the coil, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CARL FRIEDRICH BERTRAM.

Witnesses:
CARL KÄFER,
THEODOR MÜLLER.