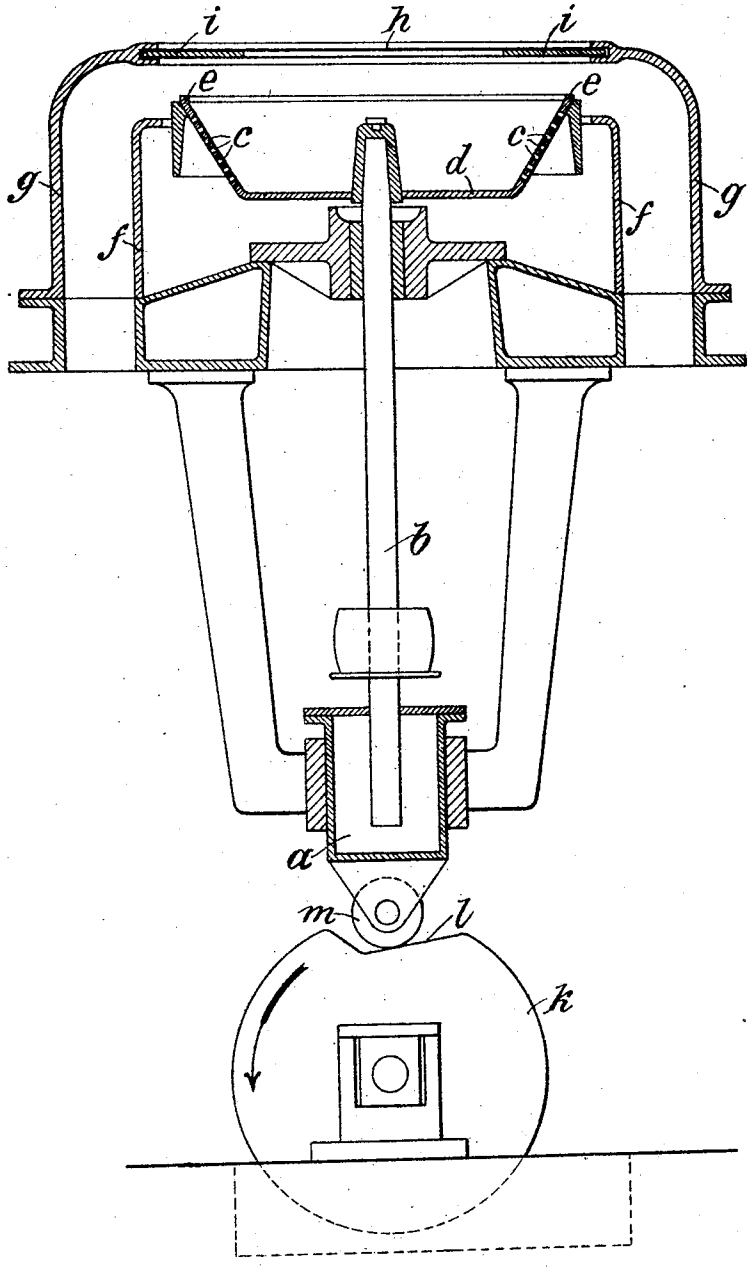
L. VON MAY.

CENTRIFUGE.

APPLICATION FILED MAR. 16, 1920.

1,410,146. Patented Mar. 21, 1922.



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UNITED STATES PATENT OFFICE.

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CENTRIFUGE.

1,410,146. Specification of Letters Patent. Patented Mar. 21, 1922.

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(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1921, 41 STAT. L., 1313.)

To all whom it may concern:

Be it known that I, LEOPOLD VON MAY, a citizen of Czecho-Slovakian Freestate, and residing at Ung-Ostra, Czecho-Slovakian Freestate, have invented certain new and useful Improvements in Centrifuges, (for which I have filed applications in Germany, filed June 26, 1915; in Austria, filed June 28, 1915; in France, filed Nov. 7, 1919; in England, filed Jan. 12, 1920, and in Sweden, filed Dec. 31, 1919,) of which the following is a specification.

Centrifuges are known having a ring rotatably mounted at the opening through which the centrifugal drum is charged. On drying the material to be acted upon this drum is closed by a cover lowered thereon. Such cover must be lifted off the drum whenever the dried material is to leave the latter, a leverage being required to such end. The drum itself can be neither raised nor lowered in these known centrifuges.

A continuously acting centrifuge constructed in accordance with this invention is distinguished from the known devices by the centrifugal drum being able to be pressed against a rotatable part of the casing enclosing the drum.

By directly pressing the centrifugal drum against a rotatable part fitted to the upper edge of the stationary drum casing certain technical advantages are attained with regard to centrifuges of the kind before mentioned. Such advantages are chiefly as follows:

The novel centrifuge is most simple inasmuch as the leverage, required for raising and lowering the cover in the known device and constituting a suspension for the cover, is dispensed with.

The material fed into the drum is conveniently and automatically covered, and the finished dry product as readly discharged by merely raising or lowering, respectively, the vertical drum shaft, which is done by means of a cam acting against a bearing supporting the lower end of the shaft.

The centrifuge will work correctly and without any fault, its drum in order to become closed or opened having to be displaced vertically only a short distance in either case.

As soon as the material under treatment has become as dry as is desired and sufficient, the cam is rotated, allowing the shaft to be lowered and the drum is by its own weight automatically displaced downward. A clearance is thus formed between the upper edge of the centrifugal drum and the rotatably-disposed edge of the drum casing, the dry product, continually acted upon by the centrifugal force, leaving the drum through such clearance.

The rotatable part fitted to the stationary drum casing may be made as a broad ring loosely disposed in an annular groove provided in the edge of this casing. The centrifugal drum is pressed against such ring so that the latter can share in the rotation of the rapidly revolving drum.

A centrifuge constructed in accordance with this invention is diagrammatically illustrated in the accompanying drawing which shows a sectional elevation thereof.

In a footstep bearing *a* the shaft *b* can rotate which is rapidly driven by any suitable means, such as a belt pulley and an electromotor or the like. The shaft *b* carries at its upper end the centrifugal drum *d* which is perforated as shown at *c*.

This drum has a narrow annular rib *e* fitted to its upper edge and is disposed to turn in a receptacle *f* which is to receive the liquid separated by the centrifugal action from the material under treatment. The drum *d* and receptacle *f* are contained in the stationary casing *g*. The casing *g* has an opening *h* for charging the drum *d*. Provided in the edge of this opening is an annular groove in which a movable part, shown to be a flat ring *i*, is inserted so that it can rotate therein.

For lifting the rapidly revolving centrifugal drum, forcing it against the rotatable ring *i* and lowering the drum a cam *k* may be arranged to act on a roller *m* carried by the lower end of the bearing *a*. On the roller *m* entering the recess *l* of the cam *k* the shaft *b* is lowered so as to form the before mentioned clearance between the ring *i* and the upper edge of the drum *d*, the material acted upon escaping through such clearance automatically. If, however, the clearance is to be closed in order to retain the material within the drum after the latter has been charged, the roller *m* moves onto the cir-

cular portion of the cam *k*. The drum then remains closed as long as the roller bears upon this portion of the cam.

I claim:

1. In a centrifuge, the combination of a centrifugal drum with a casing therefor, a rotatable part fitted to this casing so as to face the open end of the said drum, and means for displacing the latter in the direction of its axis of rotation, substantially as set forth.

2. In a centrifuge, the combination of a centrifugal drum with a casing therefor having an opening in face of the open end of the said drum and an annular groove in the edge of such opening, a ring held loosely in this groove, and means for displacing the said drum in the direction of its axis of rotation, substantially as set forth.

In testimony whereof, I affix my signature in the presence of one witness.

LEOPOLD VON MAY.

Witness:

FRANZ KRUTZL.