

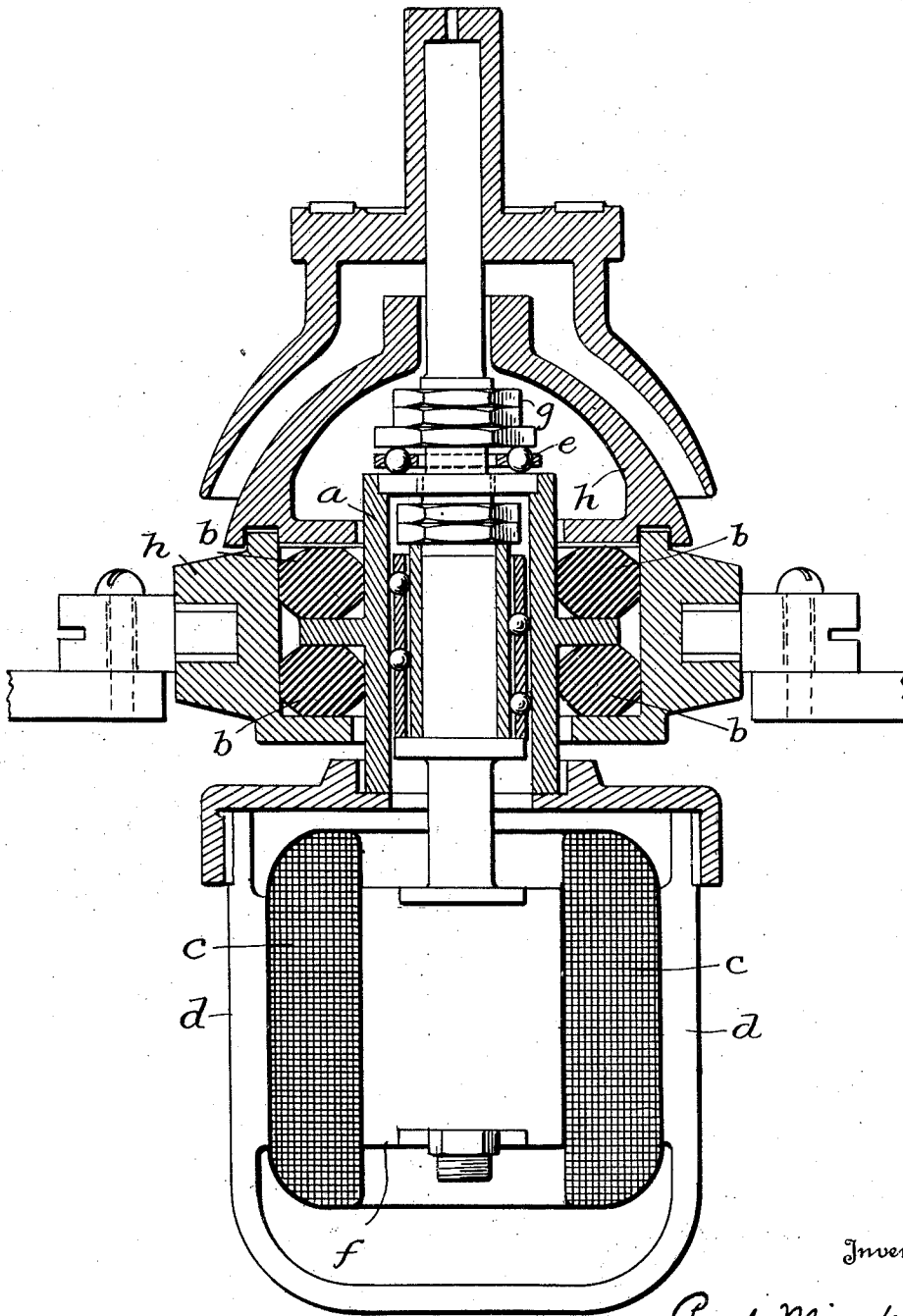
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ELECTRICALLY DRIVEN SPINNING CENTRIFUGAL APPARATUS

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ELECTRICALLY-DRIVEN SPINNING CENTRIFUGAL APPARATUS.

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The perfection of the spinning centrifuge for the manufacture of artificial silk is of great economical importance, because by means of such a centrifuge the spinning and twisting process, hitherto made one after the other may be assembled to one single proceeding of manufacture.

Electrically driven spinning centrifuges, having an undivided spindle, suspended in one single neck-journal-bearing or a thrust-bearing and at the lower end of which the rotor of the electromotor is fixed, while at the upper end the spinning vessel may be arranged, are already known. As in the known devices the bearings for the spindle with the rotor and also those of the stator are rigidly connected with the casing of the centrifuge, these systems are to be considered in fact as rigid ones, for they do not allow a play to the rapidly rotating spindle for making a free oscillating movement. Rigid systems of this or similar kind, however, are not appropriated, because they rotate without jerks only if they are balanced ideally.

As known it is impossible to balance perfectly in permanent working the spindle of centrifuges with its loads arranged thereon, because the spinning vessel is permanently subjected to the corrosion and the conditions of load also change intermittently during the operation by the alterations of the spin-cakes. The spindle of the centrifuge practically therefore is always not balanced. Such spindles have naturally the tendency to deviate from the balanced position and to make an oscillating movement.

If the spindles are, as known, rigidly journaled, these movements are violently prevented. The consequence is that vehement jerks occur, interrupting not only the regular process of spinning and winding off of the threads, but endangering the whole device and causing a rapid wear of the bearing.

A manufacture absolutely reliable is obtained by a spinning centrifuge with divided spindle, the lower part of which is rigidly journaled, while the upper part is guided elastically in a particular manner.

The present invention has for its object to provide a spinning centrifuge having an undivided spindle, a single journal-bearing and eventually a thrust bearing for the spindle with an elastical bearing for the latter.

Trials proved, that the embedment of the guiding bearing in rubber affords a security for the complete suppression of the occurring excentric jerks in such a measure, that this system permits the use of an undivided, that is a rigid axle, if the total construction is made correspondingly.

In the single figure of the drawings is shown a vertical section of a preferred embodiment of this invention.

The embedment of the neck-journal-bearing *a* between two strong collars *b* of india-rubber, shown in the drawing, is so stable, that the basket *d* carrying the stator *c* of the motor may be fixed centrally without adjustment of the sleeve *a* of the bearing. This latter carries at the top a thrust-bearing *e*, on which the spindle with the rotor *f* is suspended in known manner by means of a fixed flange or collar *g*. The spindle with the rotor and stator are now journaled within the stable casing *h* of the centrifuge by means of the collars of india-rubber elastically in such a manner, that excentric movements cannot cause any jerks, in whatever direction they may occur.

It has already been tried, to obtain a jerkless movement of spinning-centrifuges by supporting the whole casing of the centrifuge by means of elastic materials. A result could not be obtained, because in this case the casing of the centrifuge was caused by the rigid connection with the spindle to receive the occurring excentric jerks, whereby violent vibrations are brought about in the casing of the centrifuge, consuming a great deal of the driving power, and endangering on their part again the soft rotation of the spinning-vessel. According to the invention the oscillation of the casing is avoided by arranging an elastic material between the casing and the sleeve of the bearing, so that all jerks are suppressed immediately at the spindle itself. The good effect is naturally diminished in a corresponding measure, if the deforming capacity of the elastic material is influenced by unsuitable pressure or the like.

I claim:

1. In a spinning head a shaft, means in which said shaft is antifrictionally mounted, an electric motor pendently mounted below and on one end of said means and arranged to drive said shaft and a rubber support for said means.

2. In a spinning head, a shaft, means in

which said shaft is antifrictionally mounted, an electric motor stator rigidly connected to the bottom said means, a rotor for the motor on said shaft and rubber discs supporting
5 said means, said motor pendently arranged below the anti-friction mounting.

3. In a spinning head, a shaft, antifriction bearing supporting the shaft, a casing surrounding said shaft, a sleeve between said
10 shaft and said casing, a flange thereon, a rubber packing between the sleeve and casing on each side of said flange, an electric motor stator hung on the lower end of said sleeve and a rotor therefor on said shaft,
15 said electric motor partaking of all the movements of the sleeve.

4. In a spinning head, the combination with the driving shaft of anti-friction bearings supporting said shaft, a casing surrounding said shaft, a sleeve between said
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shaft and said casing and having a radial projection, and rubber rings between the casing and the sleeve, on opposite sides of the radial projection and an electric motor on the lower end of the sleeve and partaking of
25 all the movements thereof.

5. In a spinning head, a shaft, a sleeve intermediate the ends of the shaft, means to anti-frictionally journal the shaft in the sleeve, an electric motor stator connected
30 to the lower end of the sleeve and a rotor therefor on said shaft, a flange on the sleeve, yielding means engaging the flange and supporting the sleeve for universal motion, said sleeve being the sole support for said
35 shaft and motor.

In testimony whereof I have signed my name to this specification.

PAUL MINCK.