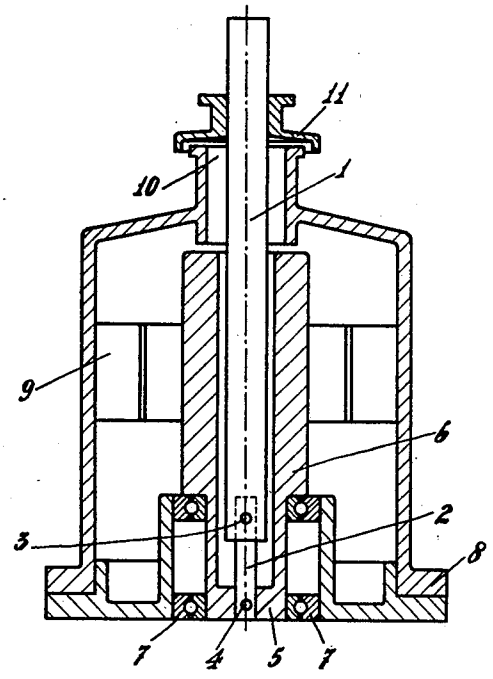
Aug. 17, 1937. R. W. H. HOFSTEDE-CRULL 2,089,933

DRIVING DEVICE FOR A CENTRIFUGAL SPINNING MACHINE

Filed Aug. 9, 1935



Inventor:
Rento Wolter Hendrik Hofstede-Crull.

By: Thomas W. West.
Atty.

Patented Aug. 17, 1937 2,089,933

UNITED STATES PATENT OFFICE

2,089,933

DRIVING DEVICE FOR A CENTRIFUGAL SPINNING MACHINE

Rento Wolter Hendrik Hofstede-Crull, Doetinchem, Netherlands, assignor to Naamlooze Vennootschap: Internationale Spinpot Exploitatie Maatschappij I. S. E. M., Doetinchem, Netherlands, a corporation of the Netherlands

Application August 9, 1935, Serial No. 35,460
In the Netherlands August 15, 1934

1 Claim. (Cl. 64—11)

The invention relates to a driving device for a centrifugal machine, in particular a centrifugal spinning machine, and has for its object to provide a simplified and improved construction.

It is already known to mount a spinning pot for artificial silk upon the end of a relatively long vertical spindle, passing through the hollow driving rotor of the spinning pot and supported in the bottom wall of said rotor. This spindle is made flexible either by making it thin throughout its entire length, or for a part only of its length, e. g. by weakening this part by a helical formation thereof, or by forming it of a thicker upper portion and a thinner lower portion the upper end of which latter is freely rotatable in the lower end of the thicker portion, while the lower end is freely rotatable in the bottom wall of the hollow rotor. Motion-transmitting springs rotating together with the rotor may then be used for driving the spindle.

In order to effect a simplification and improvement of these known constructions, according to the present invention use is made of a two-part spindle, comprising a relatively long thicker upper portion and a relatively thin lower portion, which latter portion is at its lower end attached in the bottom of the hollow rotor and at its upper end in the lower end of the longer upper portion of the spindle; thus, only this thin portion has to be made of superior flexible material, which may be chosen for the purpose in question and the thickness of which may be adapted thereto.

If, on account of vibrations to which the two-part spindle is subjected in operation, in the long run breakage of the thin spindle portion occurs, then the whole spindle need not be renewed but only the lower portion. As only this latter portion is made of superior material, the construction is cheaper than those in which the whole spindle must be made of superior material. By reason of the fact that the thin short lower portion of the spindle is coupled to the hollow rotor as well as to the thicker upper portion of the spindle, motion-transmitting springs need not be used.

If, by inadvertence or otherwise, the upper portion of the spindle should break, then only this portion, which is made of some non-superior material, has to be replaced.

The figure of the accompanying drawing is a vertical section of a driving device according to the invention selected by way of example.

As shown 1 denotes the upper relatively long and thick portion of the vertical centrifugal spindle and 2 the lower relatively short and thin portion. The latter portion, which is made of high-grade material, is coupled at 3, for instance by a transverse bolt, to the upper spindle portion, and at 4, for instance also by a transverse bolt, to the bottom wall 5 of a hollow rotor 6. This hollow rotor is rotatably mounted in ball bearings 7 in a casing 8 in which is also located the stator 9. The opening 10 in the top wall of the casing from which the upper end of the spindle portion 1 protrudes is covered by a protecting cap 11 mounted on the spindle portion 1 so as to prevent the ingress of acids.

It will be clear that the thin short spindle-portion may be readily interchanged. As a superior material for this spindle portion nickel-steel, chromium steel and in general well-known high-grade metals and alloys may be mentioned by way of example.

I claim:

In a centrifugal spinning machine, the combination of a supporting stator with an anti-friction bearing carried by said stator and rotatably supporting a rotor, said rotor having an axial bore extending into said rotor from the open end thereof, a drive shaft of relatively inferior metal and of diameter large enough to insure against breakage of said drive shaft, said drive shaft extending into said bore to a point adjacent the end of said bore, and said bore having a predetermined clearance about said drive shaft, and a resilient stub shaft axially and fixedly secured to the inner end of said drive shaft and to the end of said rotor in said bore, said stub shaft being of relatively smaller diameter and of metal having superior resilient and flexible characteristics, whereby the rotor is rotatably and resiliently supported by a drive shaft of sufficient stiffness to prevent whipping while the resilient stub shaft effects automatic axial alignment of the rotor and drive shaft by centrifugal action.

RENTO WOLTER
HENDRIK HOFSTEDE-CRULL.