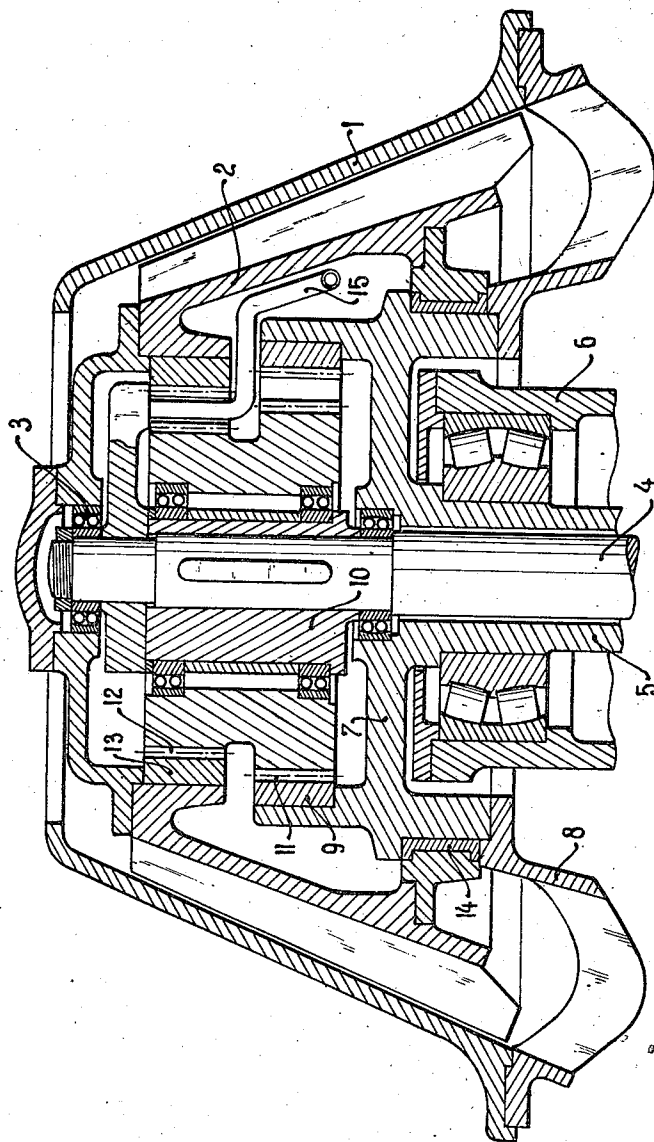


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CENTRIFUGAL MACHINE
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CENTRIFUGAL MACHINE

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3 Claims. (Cl. 210-69)

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This invention relates to a centrifugal machine comprising a scraping drum for dehydrating humid materials. In centrifugal machines of this kind both drums rotate with a small difference in speed relatively to each other with the object to have the dried material continuously discharged.

In order to obtain a compact driving gear in centrifugal machines of this kind it has been proposed to provide both the centrifugal drum and the scraping drum with an internally toothed rim with each of which a pinion meshes, the gear ratio being such that the drive affords the desired small difference in speed between the centrifugal drum and the scraping drum. In said known centrifugal machines the spindle of the scraping drum is supported in a fixed sleeve arranged below the drum and on which the pinions are eccentrically and rotatably supported, so that the constructional height of said centrifugal machine is relatively large.

It has also been proposed to reduce the constructional height of centrifugal machines of the kind referred to by providing the hollow driving spindle with an internal toothed rim arranged within in the scraping drum, said latter itself being provided at its inner side with an internal toothed rim and the pinions meshing with said toothed rims being mounted on a common shaft secured in a rotatable holder. With said centrifugal machine the scraping drum is mainly supported on the boss of the outer drum, but said construction does not afford a reliable support for the scraping drum.

The invention has for its object to remove said drawback of the known centrifugal machines and yet to reduce the constructional height or length thereof. According to the invention the scraping drum is supported on a fixed shaft, which is surrounded by the drum and by the hollow driving spindle and on which shaft the pinions are eccentrically and rotatably supported.

The drawing shows both drums of the centrifugal machine in longitudinal section.

Into the centrifugal drum 1 the scraping drum 2 is mounted which is supported on the fixed shaft 4 through the intermediary of the bearing 3. The drum 1 is driven by a hollow spindle 5 which is supported in the member 6 of the stationary framing and terminates in a flange 7 to which the drum is secured by means of a connecting ring 8.

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The flange 7 also carries the internal toothed rim 9. Secured on the shaft 4 is an eccentric sleeve 10 on which a double pinion 11, 12 is rotatably mounted. The toothed rim 11 of said pinion meshes with the toothed rim 9 of drum 1 and the toothed rim 12 meshes with an internal toothed rim 13 provided at the inner side of drum 2, so that the motion of the hollow driving spindle 5 is transmitted through the intermediary of the toothed rim 9 to the pinion 11, 12 which on its turn drives the scraping drum 2 with the desired small difference in speed.

The scraping drum 2 is provided with a running ring 14 so that the interior of the drum forms a closed gear box to which lubricating oil may be supplied by means of a bore provided in the fixed shaft 4. The oil dripping from the gears 9, 11, 12, 13 is thrown against the inner wall of the drum 2 and from there returned to the oil reservoir by means of the scraping tube 15.

What I claim is:

1. A centrifugal machine comprising a rotatable outer drum secured to a hollow driving shaft and comprising a scraping drum located within the outer drum and supported on a stationary shaft surrounded by said hollow shaft and on a flange carried by the hollow shaft, said hollow shaft carrying an internal toothed rim arranged in the interior of the scraping drum closed by said flange and said scraping drum being also provided in said closed interior space with an internal toothed rim, pinions meshing with said toothed rims being eccentrically and rotatably supported on said stationary shaft.

2. A centrifugal machine comprising a rotatable outer drum secured to a hollow driving shaft and comprising a scraping drum located within the outer drum and supported on a stationary shaft surrounded by said hollow shaft and on a flange of said latter shaft, said flange carrying an internal toothed rim arranged in the interior of the scraping drum closed by said flange and said scraping drum being provided in said closed interior space with an internal toothed rim, pinions meshing with said toothed rims being eccentrically and rotatably supported on said stationary shaft.

3. A centrifugal machine comprising a rotatable outer drum secured to a flange of a hollow driving shaft and comprising a scraping drum located

Within the outer drum and supported on said flange of said hollow shaft and on a stationary shaft surrounded by said hollow shaft, the flange of which carries an internal toothed rim arranged in the interior of the scraping drum closed by said flange and said scraping drum being provided in said closed interior space with an internal toothed rim, pinions meshing with said toothed rim being eccentrically and rotatably supported on said stationary shaft.

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