

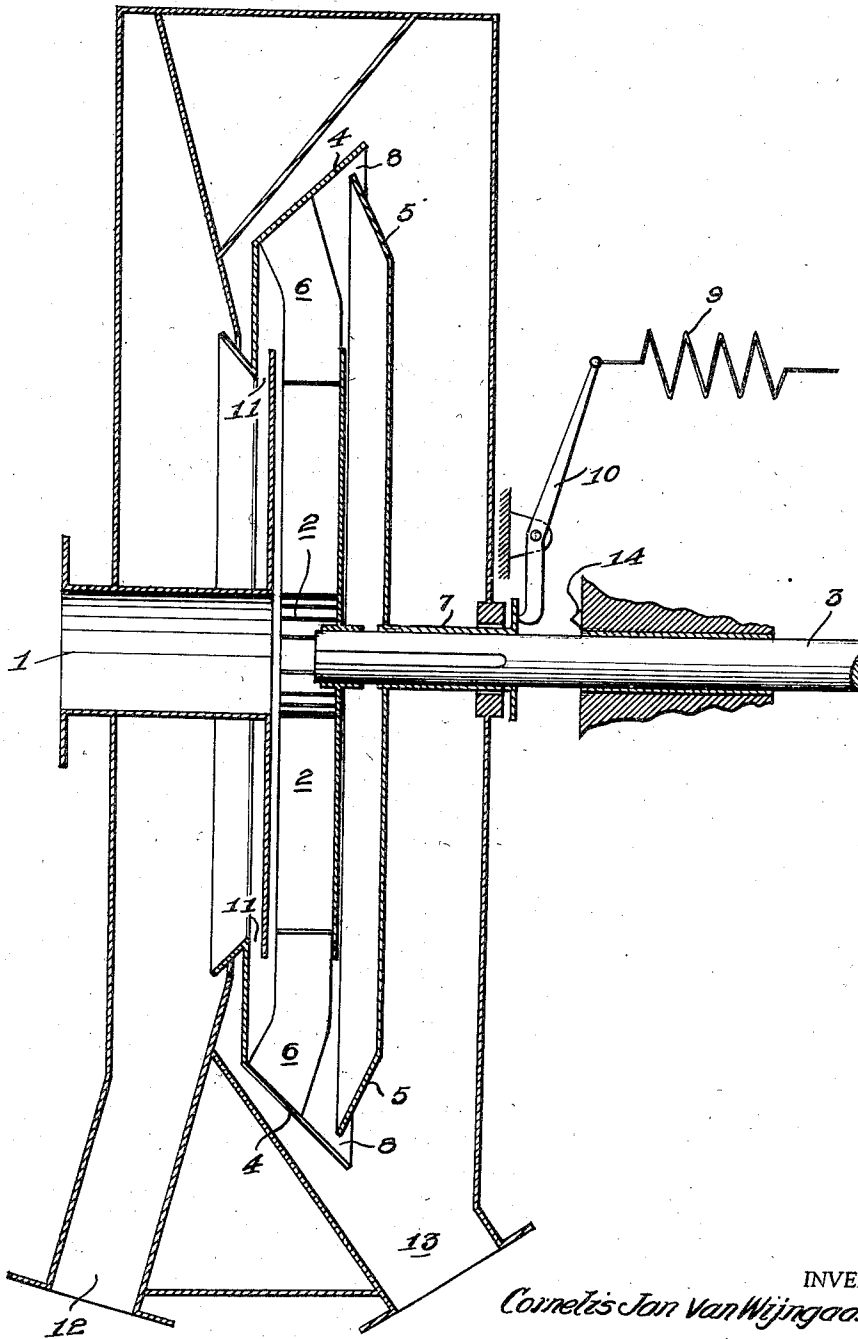
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ROTARY PUMPS

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ROTARY PUMPS

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1 Claim. (Cl. 233-46)

This invention relates to a rotary pump and has for its object to render such a pump capable of separating the components of a mixture of substances supplied to the pump, for instance sand and water. The invention will be explained with reference to the drawing showing an axial section of an embodiment.

It consists of a centrifugal pump having an inlet 1, and a bladed rotor 2 driven by a shaft 3. The pump housing consists of two parts 4, 5 both rotating together with the rotor. Part 4 is secured to the rotor by spoke-like elements 6, and part 5 is axially movably splined to the shaft 3 by means of a hub 7. The parts 4 and 5 are normally held together and contacting as at 8 by means of an adjustable spring 9 acting upon hub 7 by means of a lever 10.

The rotor 2 conveys the mixture, for instance of sand and water, into the rotating housing 4, 5. Due to the

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centrifugal force the sand is moved to the outer side of the housing. The water collecting on the inner side is discharged through a slot 11 and further through an outlet 12.

When a certain quantity of sand has accumulated in the housing, this sand will push part 5 to the right against the action of spring 9, and escape through the gap formed at 8 to the outlet 13. When a certain quantity of sand has escaped, the spring force will again predominate and close the gap, etc.

A stop 14 limits the width of the gap.

What I claim is:

In a rotary pump having a rotor, a rotary mixture collecting chamber situated substantially around the rotor, said chamber being provided with an inwardly disposed outlet for the light component, said chamber consisting of two annular parts having opposed conical walls with the periphery of one of said walls fitting within the periphery of the other of said walls and providing a peripheral gap between them, one of the parts being splined on the drive shaft of the rotor for axial movement so as to open or close said gap, and means resiliently engaging the hub of said movable part and biasing said part axially toward the other part to close the gap but to yield under the influence of the heavy material accumulated in the rotary chamber.

References Cited in the file of this patent

UNITED STATES PATENTS

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