

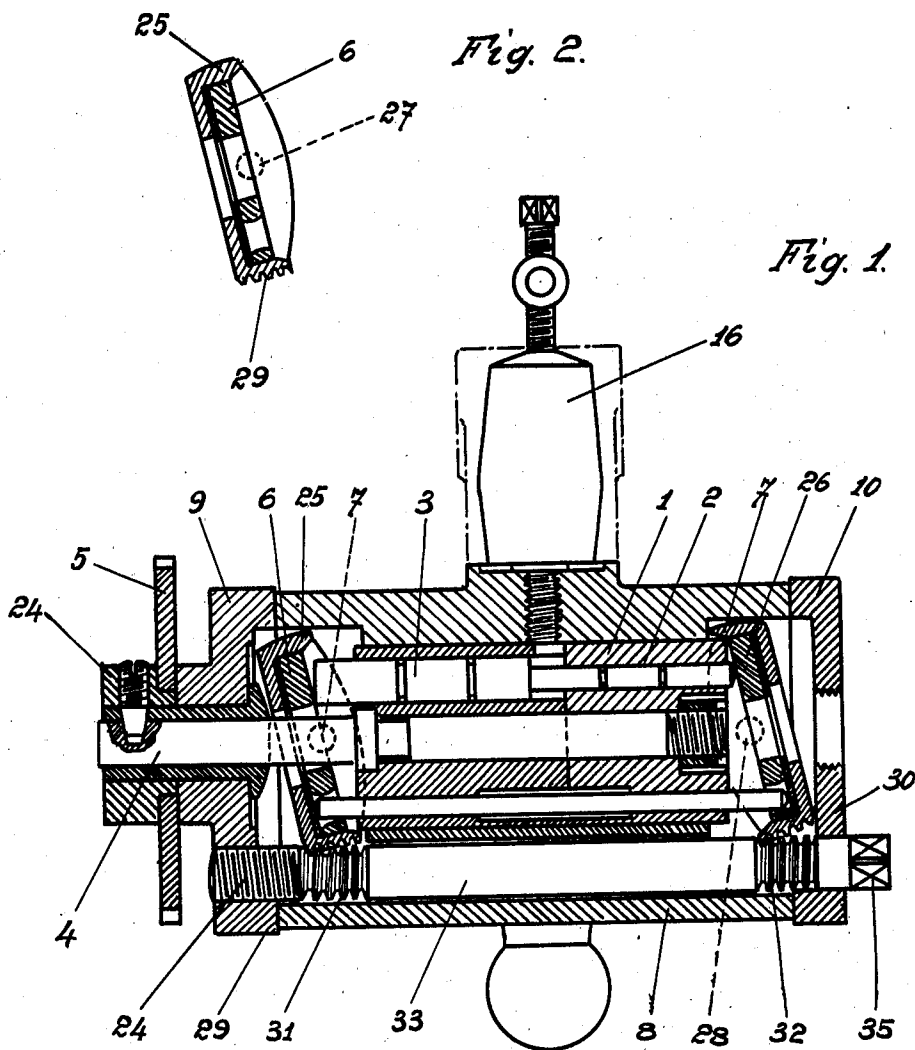
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PUMP

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PUMP.

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The present invention relates to a pump for liquids of great density, that is, for viscous liquids, with pistons moving in a rotatable pump body, both ends of said pistons being applied against inclined caps or sockets. The stroke of the pistons is modified by the change of position or the shifting of the inclined caps. The novelty consists in that the two inclined caps are provided with teeth in which the thread of a screw spindle engages. By moving the screw spindle the two inclined caps are at the same time shifted.

An embodiment of the invention is illustrated on the accompanying drawing.

Fig. 1 is a longitudinal section of the pump.

Fig. 2 is a section through the inclined cap.

On the drawing 8 is the pump housing, 9 and 10 the two ends of the housing. 1 is the rotor carried by the shaft 4 and controlled by any means desired, for example, by means of a gear 5, whose hub 24 is keyed on the shaft 4. 2 and 3 are the pistons movable in the cylinders. 16 is the air chamber, 6 and 7 are the two piston controlling rings, and 25, 26 are the inclined caps or sockets, with whose surfaces the rings 6, 7 are in continuous contact during the rotation of the rotor, in which rotation the rings take part. The ends of the pistons 2 and 3 contact with the rings while a connecting bar 7' is slidably mounted longitudinally through the rotor at a point opposite the pistons and has its projecting ends loosely seated in openings in the rings to ensure of the proper movement of the caps 25 and 26 in timed relation with respect to each other. 27, 28 are the pins attached to the housing 8 and on which the caps 35, 36 are arranged. 29, 30 are the toothed sectors or surfaces of the caps 25, 26, which engage in the teeth 31, 32 of the regulating shaft 33. This shaft is screwed at 34 in the end 9 of the housing 8 and provided with a square head 35 in which engages the wrench or handle for rotating the shaft 33.

If the regulating shaft 33 is screwed in more or less, so as to be moved in one direction or the other axially for a greater or less distance, the toothed portions 31, 32 act on the tooth sectors 29, 30, whose caps 25, 27

act in the same manner as two racks. The two caps then swing on their corresponding pins 27, 28 and each assume a different inclination according to the case.

Obviously, the two caps 25, 26 and their sectors 29, 30 are identical and the teeth 31, 32 of the shaft 33 which regulate the inclined position are also identical. The result thereof is that each time the regulating shaft 33 is set in operation the two caps 25 and 26 swing out about the same angle and are always parallel.

By axially moving the regulating shaft 33 for a suitable distance it is possible to alter the inclined position of the caps 25 and 26, and thus the efficiency of the pump between the lower limit of zero and desired upper limit.

It is to be understood that the constructional details may vary from those described and shown without departing from the scope of the invention.

Having thus fully described the invention what is claimed and desired to be secured by Letters Patent is:—

1. A pump of the character described including a casing, a rotor rotatably mounted therein and provided with cylinders, pistons arranged in the cylinders and projecting beyond the edge of the rotor, apertured rings arranged at an inclination of the respective ends of the casing and contacting with the projecting ends of the pistons, a bar also slidably mounted through the rotor and of a length longer than the combined length of the pistons and loosely connected at its ends with the apertures in the rings, caps surrounding the rings and each provided on a portion of the peripheries with teeth, and a screwed spindle adjustably engaged with the casing and also provided with teeth for engagement with the teeth on the caps to simultaneously shift both of the rings and caps upon adjustment of said spindle.

2. A pump as claimed in claim 1, wherein the pivots extend in diametrical points from each of the caps and are journaled in the opposite sides of the casing so as to rockably support the caps, substantially as and for the purposes set forth.

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

ROMUALDO BORLETTI.