

flange 27 comprises an inner recess 28 having a diameter corresponding to the inner recess of the sleeve 25. The sleeve 25 is further provided with two recesses 29 and 30 which are opposite each other in the radial direction and in which locking pins 31 and 32 are secured for example by means of an adhesive. The magnet 11 itself is disposed on the outer periphery of the sleeve 25 and for this purpose can also be secured by adhesive to the sleeve 25.

As again apparent from FIG. 1 the pump wheel 7 and the shaft 16 connected thereto are disposed on the journal 12, the shaft 16 being supported over its entire length on the journal 12 so that in spite of the plastic material for the shaft 16 there is no danger of sagging. For the passage of the shaft 16 through the base plate 3 and a connecting flange 23 of the hood 9 the latter have passages 34 and 35. As also shown by FIG. 1 the hub 24 with the magnet 11 mounted thereon is disposed in the example on the region of the shaft 16 projecting into the space 10 of the hood 9, the locking pins 31 and 32 engaging in the corresponding locking recesses 19 and 22 respectively. In the embodiment illustrated the locking recesses 19 and 23 and the locking pins 31 and 32 form a bayonet fastener which builds up its locking action after a rotation of the hub 24, the locking pins 31 and 32 initially being introduced into the axial regions 20 and 36 respectively of the locking recesses 19 and 22. After rotation of the hub the locking pins 31 and 32 are introduced into the radial regions 21 and 23 of the locking recesses 19 and 22 respectively, whereafter the locking pins 31 and 32 engage behind the corresponding adjacent wall regions of the shaft 16 so that the hub 24 is prevented from sliding down the hollow shaft 16.

Thus, to assemble the gear pump 1 described above before fitting the hub 24 to the shaft 16 it is only necessary to secure the journals 12 and 13 in the cover plate 4 of the pump housing 2, whereafter the pump wheels 7 and 8 can be fitted to the journals 12 and 13 respectively. In the fitting of the pump wheel 7 the shaft 16 connected thereto is also disposed on the journal 12, whereafter the hub 24 with the magnet 11 is secured in the manner described above on the shaft 16. All other assembly for final connection of the cover plate 4, the base plate 3 and the housing center portion 6 as well as the securing of the hood 9 on the pump housing 2 can be performed in the usual manner.

The assembly steps described above show that the gear pump 1 according to the invention can be assembled in extremely expedient and rapid manner and that because of the provision of two stationary journals 12 and 13 a number of complicated production and assembly steps as otherwise necessary in gear pumps with rotating shafts for the pump wheels 7 and 8 can be omitted. On the other hand, in the gear pump 1 according to the invention the drive connection between the magnet 11 and the driving pump wheel 7 is nevertheless insured in extremely simple manner by means of the shaft 16 constructed as hollow shaft and in spite of the formation thereof from plastic adequate stability is achieved because the shaft 16 is mounted over its entire length on the journal 12. On the other hand, the wear is not increased because the shaft 16 like the pump wheels 7 and 8 can be made from a wear-resistant plastic with

very good antifrictional properties which is moreover resistant to all the agents usual in particular in medicine.

We claim:

1. Gear pump, in particular for medical purposes, comprising a pump housing having a base plate, a cover plate and a housing center portion which is disposed therebetween and therewith defines a pump chamber having an inlet and an outlet, at least two pump wheels being disposed in said chamber, one of which drives and at least a further of which is driven, the driven pump wheel having a bearing opening and consisting of plastic and rotating with its bearing opening to form a plastic-metal antifrictional pairing directly on a stationary journal of metal which is mounted in the pump housing, characterized in that

- (a) the driving pump wheel also consists of plastic and is connected to a drive shaft of plastic,
- (b) the drive shaft is constructed as a hollow shaft couplable to a drive member and in a passage recess passes unguided through the base plate and that the driving pump wheel is disposed on a stationary journal of metal mounted in the pump housing,
- (c) the driving pump wheel like the driven pump wheel forms with the surface of the journal a plastic-metal antifrictional pairing,
- (d) the drive member is disposed outside the base plate of the pump housing and is constructed as the magnet of a magnetic coupling, and
- (e) the journal for mounting the driving pump wheel extends into the axial region of the drive member and supports the hollow shaft from the inside to form a plastic-metal antifrictional pairing.

2. Gear pump according to claim 1, characterized in that the material of the pump wheels and of the shaft is polytetrafluoroethylene.

3. Gear pump according to claim 1, characterized in that the driving pump wheel and the shaft constructed as a hollow shaft are made integral with each other.

4. Gear pump according to claim 1, characterized in that the journal of the driven pump wheel is guided only in the cover plate (4).

5. Gear pump according to claim 1, characterized in that the stationary journals are adhered into the cover plate.

6. Gear pump according to claim 1, characterized in that the magnet is disposed on a hub which is secured to the hollow shaft.

7. Gear pump according to claim 6, characterized in that the magnet is adhered to the hub.

8. Gear pump according to claim 6, characterized in that the hub is provided with a recess whose inner diameter is adapted to the outer diameter of the shaft constructed as hollow shaft.

9. Gear pump according to claim 8, characterized in that at least one locking pin projects radially inwardly into the recess of the hub and engages in a matching locking recess of the hollow shaft.

10. Gear pump according to claim 9, characterized in that the connection between hub and shaft is constructed as a bayonet fastener and that the hub is disposed on the shaft.

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