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The invention relates to the mechanical engineering, in particular to the geared motors, and may be used in the low-power drives for obtaining a slow rotation of the output shaft, for example, in the instruments.
The frontal geared motor, according to the first variant, contains a body 1, wherein there are placed a drive with gear-wheels, which includes two central gear-wheels 2 and 4, one 2 of which is mounted into the body 1, the other 4 – rigidly coupled with the driven shaft 11, and placed between them a satellite gear 6 with two gear rings 7 and 8, as well as the mechanism for displacement thereof. Novelty consists in that the satellite gear 6, the outer lateral surface of which is made spherical, is mounted onto a spherical support 12, rigidly coupled with the driven shaft 11. The mechanism for satellite gear displacement includes units of piezoelectric elements 9, uniformly placed onto the inner lateral surface of the body 1, connected in series to the electric power source and placed into the channel, made in a closed sinusoidal line, onto the outer lateral spherical surface of the ring 10, freely placed into the channel, made onto the outer lateral spherical surface of the satellite gear 6. Each of the units of piezoelectric elements 9 contains two piezoelectric elements, generating mechanical lateral strains, between which is placed the piezoelectric element, generating mechanical longitudinal strains.
The frontal geared motor, according to the second variant, is characterized in that the satellite gear 6 is freely laced between the central gear-wheels 2 and 4, and its outer lateral surface and the inner lateral surface of the body are made spherical and come in contract with each other.
The frontal geared motor, according to the third variant, is characterized in that the satellite gear 6 is freely placed between the central gear-wheels 2 and 4, and its outer lateral surface is made spherical.
The frontal geared motor, according to the fourth variant, is characterized in that the satellite gear 6 is made of two symmetric parts with an equal number of teeth. Both parts of the satellite gear are freely placed onto the spherical support 12, rigidly coupled with the driven shaft 11, and onto their spherical surfaces of the hubs, coming in contact with the spherical surface of the support, there are made longitudinal grooves, wherein are freely placed the rounded ends of the pins, the other ends of which are rigidly fixed into the spherical support 12. The mechanism for satellite gear displacement contains an odd number of at least three electromagnetic devices, connected in series to the electric power source, uniformly mounted round the circumference, onto an annular prominence, made onto the inner part of the lateral wall of the body 1, and made into the clearance between the symmetric parts of the satellite gear 6. Each electromagnetic device contains a coil with winding, which is rigidly fixed onto the annular prominence, and a core, made of magnetostrictive material, the ends of which come in contact with the inner frontal surfaces of the satellite gear symmetric parts.

Claims: 4
Fig.: 5