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An Axially-Compact Gear Assembly.

Abstract:

An axially-compact gear assembly (11) wherein a drive motor (1) is provided within a hollow cavity of a gear shaft (2), the drive motor (1) having a rotary drive shaft (4) that is coupled to the said gear shaft (2) by suitable locking means (3). The gear shaft (2) is rotatably connected to the rear end of the drive motor (1) by means of a rear end bearing (6) located in a motor housing sleeve (10). The drive gear (2) is meshed with a driven gear (7) to provide translation movement, for example to multi-finger grippers, end effectors and the like. Providing the motor (1) within the hollow cavity of the gear shaft (2) allows for the reduction of the overall axial dimension of the gear assembly (11) thereby reducing the physical space needed for such an assembly.

Fig. 1