

ABSTRACT

A torque sensor for detecting a low torque with excellent accuracy. The torque sensor 1 includes: an input shaft 4 rotated by a drive of a drive source; an output shaft 8; a rotation transmitter 6 transmitting a rotary drive of the input shaft 4 to the output shaft 8; an elastic body 2 supporting the rotation transmitter 6 in a rotatable state and distorted as a reaction when a rotational resistance acts on the output shaft 8; and distortion detectors 16, 17, 18, and 19 detecting the distortion of the elastic body 2. When a rotational resistance of the output shaft 8 acts on the rotation transmitter 6, the elastic body 2 is distorted. The distortion detectors 16, 17, 18 and 19 detect the distortion of the elastic body 2, and the torque is detected based on the detected distortion. This structure does not require a planetary gear mechanism, and thus the output torque is not amplified, nor is the rotational resistance increased. Therefore the torque sensor can detect a low torque.