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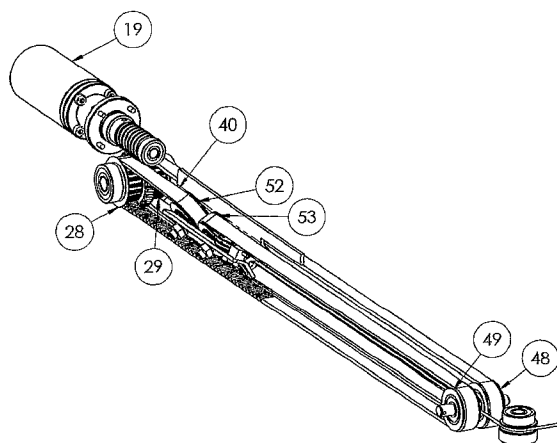
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(54) Title: DRIVE BELT ACTUATOR WITH DRIVE PULLEYS OF DIFFERENT CIRCUMFERENTIAL SPEED



(57) Abstract: This invention relates to an actuator and has particular reference to linear and rotary actuators, particularly those for use in the control of robotic arms. The invention provides a relatively low cost means of achieving substantially backlashfree rotary and/or linear motion. There is provided an actuator (10) comprising: a first drive pulley (28); a second drive pulley (29), the first drive pulley and the second drive pulley being interconnected to rotate together; a first driven pulley (52; 70); a second driven pulley (53; 72); an endless drive belt (40) engaging the first and second drive pulleys and the first and second driven pulleys; a motor (19) connected to drive the first and second drive pulleys to rotate and drive the endless drive belt; a driven member (50; 88; 71, 73) carrying at least one of the driven pulleys; the first and second drive pulleys being arranged so that upon rotation thereof the circumferential speed of the first drive pulley is different from the circumferential speed of the second drive pulley, the endless drive belt being looped around the drive pulleys and the driven pulleys so that the difference between the circumferential speed of the first drive pulley and the circumferential speed of the second drive pulley causes movement of the driven member.



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