

LOW TORQUE GATE VALVE MECHANISM

ABSTRACT

A gate valve apparatus provides a manually operated gate valve with an operation mechanism that reduces the force required to actuate the gate valve and minimizes the number of handwheel turns required. Disclosed is a gate valve apparatus including a valve body, a bonnet, a gate, a ball screw arrangement, a gear reducer arrangement and a handwheel. The ball screw arrangement, gear reducer arrangement, and the handwheel are associated with the valve stem and gate such that rotational force applied to the handwheel is converted by the gear reducer arrangement and the ball screw arrangement into linear force applied to the valve stem and then to the gate.

FIGURE 1

