

POSITIVE DISPLACEMENT PUMP COMPRISING AN EXTERNALLY ASSISTED VALVE

ABSTRACT

A positive displacement pump having a valve with an actuation guide for assisting its actuation. The valve may be configured for controlling fluid communication relative to a chamber of the pump with the valve actuation guide positioned external to the chamber and configured to assist in the controlling. The valve actuation guide itself may include an arm extending into a valve actuation assembly below the valve. In such embodiments, the arm may be reciprocated by crankshaft, hydraulic, or other means. Alternatively, the valve actuation assembly may include electromagnetic means for assisting in actuation of the valve.

Fig. 2