

[54] GAS-OPERATED POSITIVE DISPLACEMENT PUMP

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[58] Field of Search 417/394, 478

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[57] ABSTRACT

To pump liquid using a source of gas pressure, a gas-operated positive displacement pump includes an outer tubular rigid wall and an inner movable wall forming a cylindrical liquid chamber which communicates with a liquid inlet and a liquid outlet, both including check valves to permit liquid to flow into the liquid chamber through the liquid inlet and out of the liquid chamber through the liquid outlet only. Within the cylindrical liquid chamber, is a tubular gas chamber formed of an elastomeric wall capable of contacting the movable wall of the liquid chamber to compress it to cause liquid to leave and pull it back to draw liquid into the chamber, the inner air chamber being adapted to receive gas under pressure and then vented to the atmosphere alternatively. Gas between the movable wall and elastomeric wall may be squeezed into the gas chamber and held there to form a vacuum connection between the movable wall and elastomeric wall.

17 Claims, 3 Drawing Sheets

