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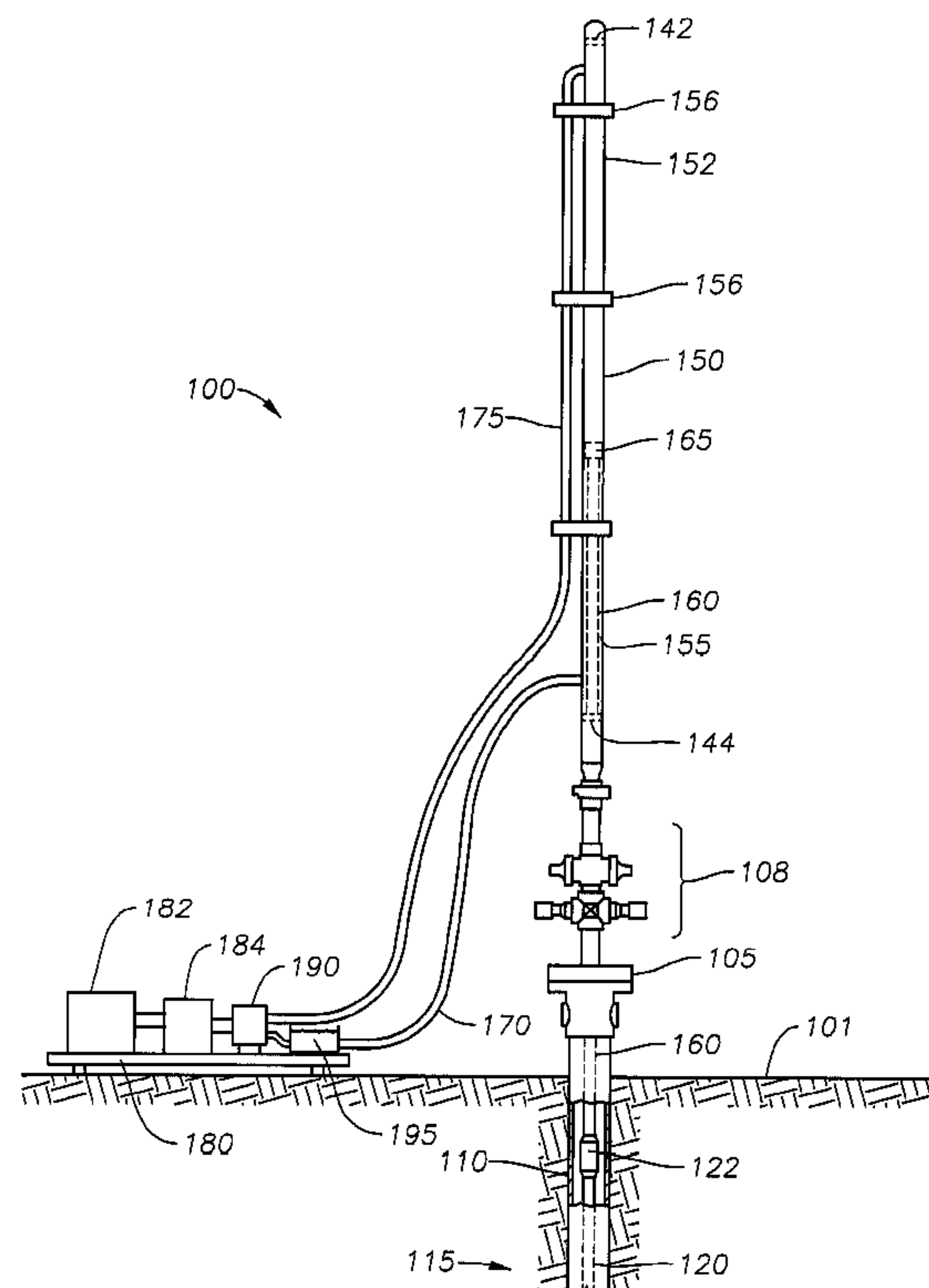
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(54) **Titre : DISPOSITIF DE POMPAGE HYDRAULIQUE DE Puits DE PETROLE ET METHODE DE POMPAGE DE FLUIDES
D'HYDROCARBURE D'UN TROU DE FORAGE**

(54) **Title: HYDRAULIC OIL WELL PUMPING SYSTEM, AND METHOD FOR PUMPING HYDROCARBON FLUIDS FROM A
WELLBORE**



(57) **Abrégé/Abstract:**

A hydraulic oil well pumping system is provided. The system uses a pump to exert hydraulic pressure against a reciprocating piston over a wellbore. The piston is connected to a rod string and downhole pump for pumping oil from a wellbore. The system includes



(57) Abrégé(suite)/Abstract(continued):

an electronic control system that controls movement of the piston as it moves between the upper and lower rod positions by cycling the hydraulic system between (i) an "upstroke" condition wherein the pump is pumping oil through the oil line into the hydraulic cylinder to move the piston to its upper rod position, and (ii) a "neutral" condition wherein the pump is no longer pumping oil into the hydraulic cylinder, but is allowing oil to flow back through the oil line in response to gravitational fall of the piston. The control system is programmed to cycle based upon a volumetric calculation of hydraulic oil in the cylinder without reference to position sensors along the wellhead. Wellhead conditions or placement of the hydraulic cylinder inside the wellbore may prohibit attaching physical sensors at the wellhead. A method for pumping oil from a wellbore using such a system is also provided herein.