by a first probe, ultrasound, wherein the first probe is disposed on a surface of the pipe; receiving, by a second probe, the transmitted ultrasound, the second probe being disposed on a surface of the pipe opposite to the first probe; determining a thickness of the pipe at a surface on which the first probe or the second probe is disposed, wherein the pipe thickness at the surface on which the first probe is disposed is determined using ultrasound transmitted by the first probe, or wherein the pipe thickness at the surface on which the second probe is disposed is determined using ultrasound transmitted by the second probe; determining a celerity of the transmitted ultrasound through the liquid within the pipe based on the determined pipe thickness; and determining the pressure of the liquid based on the determined celerity of the transmitted ultrasound.

[0008] According to another aspect of the present disclosure, there is provided a device configured for determining a pressure of liquid within a pipe, the device comprising: a first probe; a second probe; and a control unit, wherein the control unit executes an application program to perform a method of determining the pressure of liquid within the pipe, the method comprising the steps of: transmitting, by the first probe, ultrasound, wherein the first probe is disposed on a surface of the pipe; receiving, by the second probe, the transmitted ultrasound, the second probe being disposed on a surface of the pipe opposite to the first probe; determining a thickness of the pipe at a surface on which the first probe or the second probe is disposed, wherein the pipe thickness at the surface on which the first probe is disposed is determined using ultrasound transmitted by the first probe, or wherein the pipe thickness at the surface on which the second probe is disposed is determined using ultrasound transmitted by the second probe; determining a celerity of the transmitted ultrasound through the liquid within the pipe based on the determined pipe thickness; and determining the pressure of the liquid based on the determined celerity of the transmitted ultrasound.

[0009] Other aspects are also disclosed.

Brief Description of the Drawings

[0010] At least one embodiment of the present invention will now be described with reference to the drawings, in which:

[0011] Fig. 1 shows an arrangement for using ultrasound to measure the liquid pressure within a pipe according to the present disclosure;

[0012] Fig. 2 is a device for measuring the liquid pressure according to the present disclosure;

[0013] Figs. 3A and 3B collectively form a schematic block diagram representation of a control unit of the device shown in Fig. 2;

[0014] Fig. 4 is a flow diagram of a method of measuring a liquid pressure within a pipe according to the present disclosure; and

[0015] Fig. 5 shows a system for remotely controlling and monitoring the device of Fig. 2.