CLAIMS

1. A sensor device comprising:

a rod member including an axially extending fluid passage, the fluid passage being formed inside the rod member and configured such that fluid flows into the fluid passage;

a temperature sensor having a rod shape and thinner than the fluid passage, the temperature sensor being inserted in the fluid passage with a distal end of the temperature sensor being located inside the fluid passage, the temperature sensor being configured to detect a temperature of the fluid;

a pressure sensor communicating with the fluid passage, the pressure sensor being configured to detect a pressure of the fluid;

a fixing member configured to fix a proximal end of the temperature sensor; and

a retention member disposed in the rod member and configured to retain the distal end of the temperature sensor, wherein

the fluid passage is configured such that the fluid flows from the distal end of the temperature sensor toward the proximal end of the temperature sensor,

the fluid passage includes

a helically shaped passage disposed upstream of a location in communication with the pressure sensor, and

a linear passage continuous to an upstream side of the helically shaped passage, and

the retention member includes

an upstream retention member that retains the distal end of the temperature sensor and blocks the linear passage and

a downstream retention member that retains a portion of the temperature sensor closer to the proximal end than the distal end and blocks the linear passage, and

a communication hole into which the fluid is allowed to flow is disposed in a side portion of the rod member corresponding to the linear passage between the upstream retention member and the downstream retention member and in a side portion of the rod member corresponding to the linear passage downstream of the downstream retention member.

2. The sensor device according to claim 1, wherein

the rod member has a cylindrical shape in which the fluid passage is defined,

the sensor device further comprises an insert having a cylindrical shape whose outer peripheral surface has an helically shaped groove, the insert being configured to be inserted in the rod member so that the helically shaped passage is defined by an inner peripheral surface of the rod member and the helically shaped groove, and

the proximal end of the temperature sensor is inserted in the insert so that the insert constitutes the fixing member.

3. The sensor device according to claim 1, wherein

the upstream retention member has a cylindrical shape which is inserted in an opening at an axial end of the rod member and in which the distal end of the temperature sensor is inserted, and

the upstream retention member closes the opening.