CLAIMS

1. A sensor device comprising:

a holder having an insertion hole;

a probe having a proximal end to be inserted in the insertion hole and having a portion to be inserted in the insertion hole, a diameter of the portion of the probe to be inserted in the insertion hole being smaller than a hole diameter of the insertion hole;

a piezoelectric element housed in the holder and configured to be brought into contact with the proximal end of the probe directly or indirectly, a vibration of the probe acting on the piezoelectric element; and

a prevention member disposed in the insertion hole and holding the probe to prevent the probe from contacting the holder, the probe being configured such that a tip of the probe is pushed against a measurement object to detect a vibration of the measurement object, wherein

the prevention member is an annular elastic member disposed between the probe and the insertion hole and configured to be brought into contact with an outer peripheral surface of the probe and an inner peripheral surface of the insertion hole,

the insertion hole includes a holding part provided with the prevention member and includes a small diameter part continuous to an outer side of the holding part and having a hole diameter smaller than a diameter of the holding part,

the sensor device includes a lid having a cylindrical shape whose inner diameter is larger than a diameter of the portion of the probe to be inserted in the insertion hole, the lid is configured to be inserted in the holding part of the insertion hole from an inner side and to prevent detachment of the prevention member from the insertion hole, and

the prevention member is configured to prevent the probe from contacting the lid.

2. The sensor device according to claim 1, wherein the prevention member is an O-ring.