CLAIMS

1. A probe unit comprising:

a plurality of contact probes each of which has one end that is brought into contact with a contacting electrode, the one end being an end in a longitudinal direction;

a first ground member connected to an external ground;

a second ground member provided around each of the contact probes;

a first connecting member electrically connected to the first ground member, and electrically connected to one end of the second ground member;

a second connecting member electrically connected to the first ground member, and electrically connected to another end of the second ground member; and

a probe holder configured to hold the contact probes, the first ground member, the second ground member and the first and the second connecting members.

2. The probe unit according to claim 1, wherein each of the second ground member is a conductive member provided around the contact probe, electrically connected to the first and the second connecting members, and configured to extend and contract in a long-axial direction.

3. The probe unit according to claim 1 or 2, wherein each of the first and the second connecting members is a plate-like conductive member.

4. The probe unit according to claim 3, wherein each of the first and the second connecting members has an insertion hole through which the first ground member is passed, and a part of which is brought into contact with

the first ground member.

5. The probe unit according to claim 1 or 2, wherein each of the first and the second connecting members includes:

a base portion made of an insulating material; and

conductive members provided on outer surfaces of the base portion, the outer surfaces being surfaces on sides where the respective first and the second connecting members are connected to the second ground member, the conductive member being electrically connected to the first ground member.

6. The probe unit according to claim 5, wherein

the base portion has an insertion hole allowing the first ground member to be passed therethrough, and

the conductive members are configured to extend across the surfaces on the sides where the respective first and the second connecting members are connected to the second ground member, to an inner wall of the insertion hole.

7. The probe unit according to claim 5 or 6, wherein the conductive member is a film made of a conductive material film.

8. The probe unit according to claim 5 or 6, wherein the conductive member is a plate-like member made of a conductive material.

9. The probe unit according to claim 1, wherein the second ground member includes:

an insulating pipe member provided around the contact probe; and

a conductive member provided to an outer circumference

of the pipe member, and electrically connected to the first and the second connecting members.

10. The probe unit according to claim 9, wherein the conductive member has a plurality of through holes passing through in radial directions that perpendicularly intersect with a longitudinal axis of the conductive member.

11. The probe unit according to claim 1, wherein

the first connecting member contacts one end of the first ground member, and

the second connecting member contacts another end of the first ground member.