

## Joining method for high-temperature oxide superconducting tape wire

Able to product high-temperature oxide superconducting tape wire over several kilometers without degrading superconducting properties

### Summary

Since the discovery of a copper oxide superconductor, the high-temperature (HT) oxide superconducting tape wire that can be used for cables has been developed. Currently, a joining method that can minimize the degradation of superconducting property is required to obtain stable low resistance. However, in the case of solder joint, superconducting property degradation and joining resistance variation have been a problem due to the need of temperature adjustment to ensure wettability and pressure. It was also difficult to produce long, stable-quality HT oxide superconducting tape wire of more than several kilometers.

This invention is able to provide a method of joining HT oxide superconducting tape wires that enables joining homogeneous or dissimilar tape wires that can suppress superconducting property degradation. This invention is characterized by the ultrasonic joining of overlapping portions of two tape wires through indium at room temperature and in an atmospheric environment.

### Effect

Joining HT oxide superconducting tape wires together while suppressing superconducting property degradation

Produce long and stable quality HT oxide superconducting tape wires

### Application

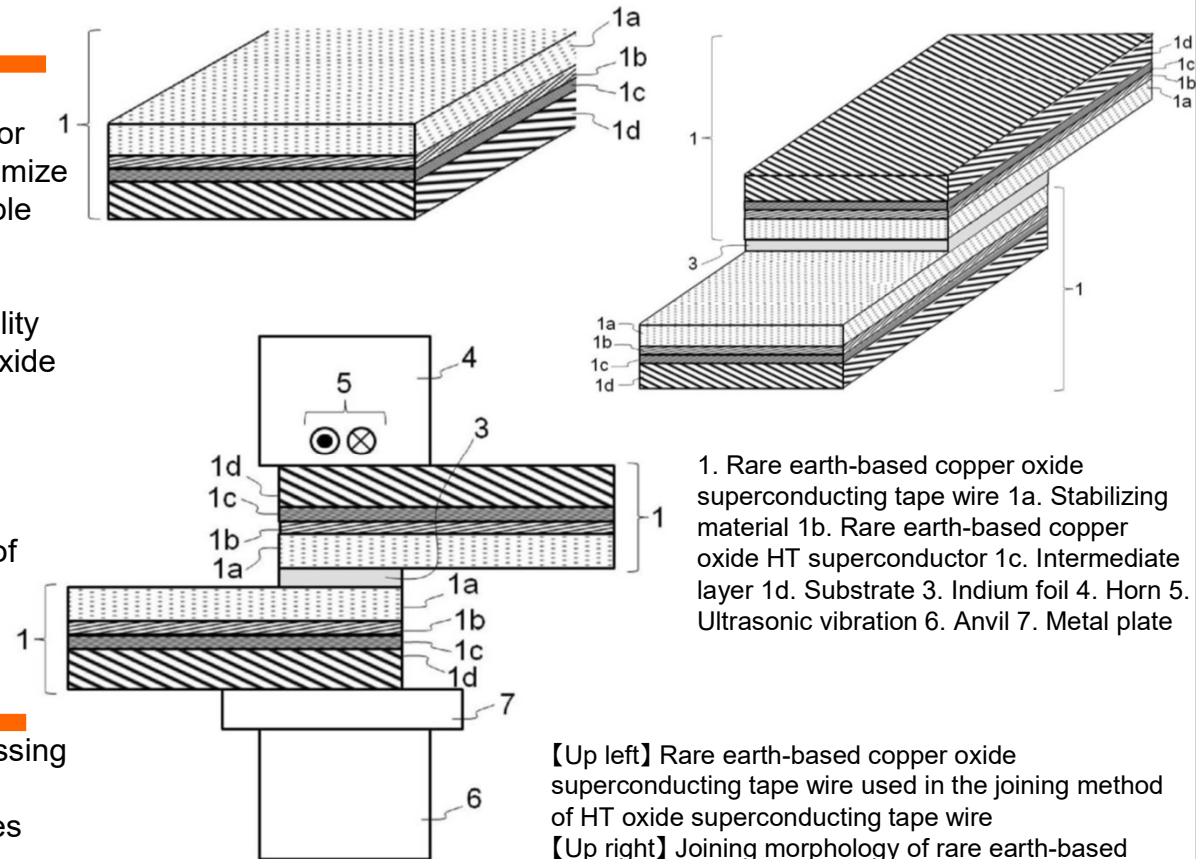
- Cable, coil, magnet and magnet system

### Patent Data Sheet

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