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**Yang et al.**

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(54) **MAGNETIC SHEET FOR RADIO FREQUENCY IDENTIFICATION ANTENNA, METHOD OF MANUFACTURING THE SAME, AND RADIO FREQUENCY IDENTIFICATION ANTENNA USING THE SAME**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 138 days.

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(30) **Foreign Application Priority Data**

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(51) **Int. Cl.**  
**H01F 1/147** (2006.01)  
**H01F 1/16** (2006.01)

(52) **U.S. Cl.** ..... **148/121**; 148/120; 427/131

(58) **Field of Classification Search** ..... None  
See application file for complete search history.

(56) **References Cited**

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(57) **ABSTRACT**

Provided are a magnetic sheet for use in a radio frequency identification (RFID) antenna, an RFID antenna including the magnetic sheet, and a method of manufacturing the magnetic sheet, in which the magnetic sheet includes an amorphous alloy selected from the group consisting of Fe—Si—B, Fe—Si—B—Cu—Nb, Fe—Zr—B and Co—Fe—Si—B. The magnetic sheet is made by laminating amorphous alloy ribbons made of an amorphous alloy between magnetic sheet layers formed of alloy powder including at least one amorphous alloy and then compression-molding the amorphous alloy ribbons, to thereby control microcrack of the amorphous alloy ribbons and enhance characteristic of an end-product. The magnetic sheet is also thin, and has an excellent magnetic permeability, and a simple manufacturing process.

**5 Claims, 12 Drawing Sheets**

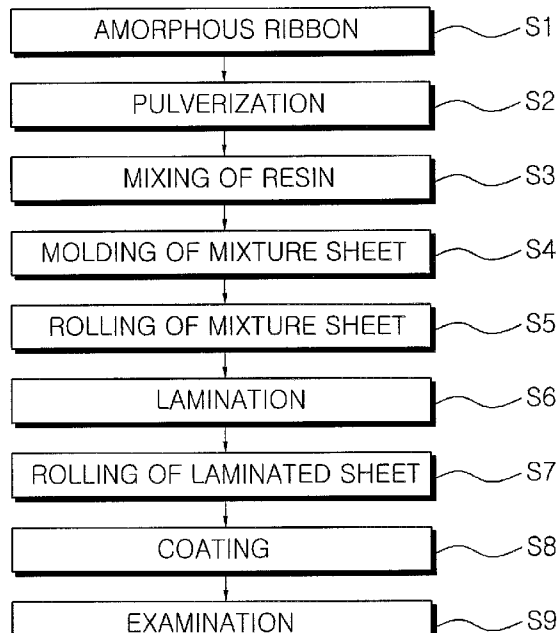


FIG. 1

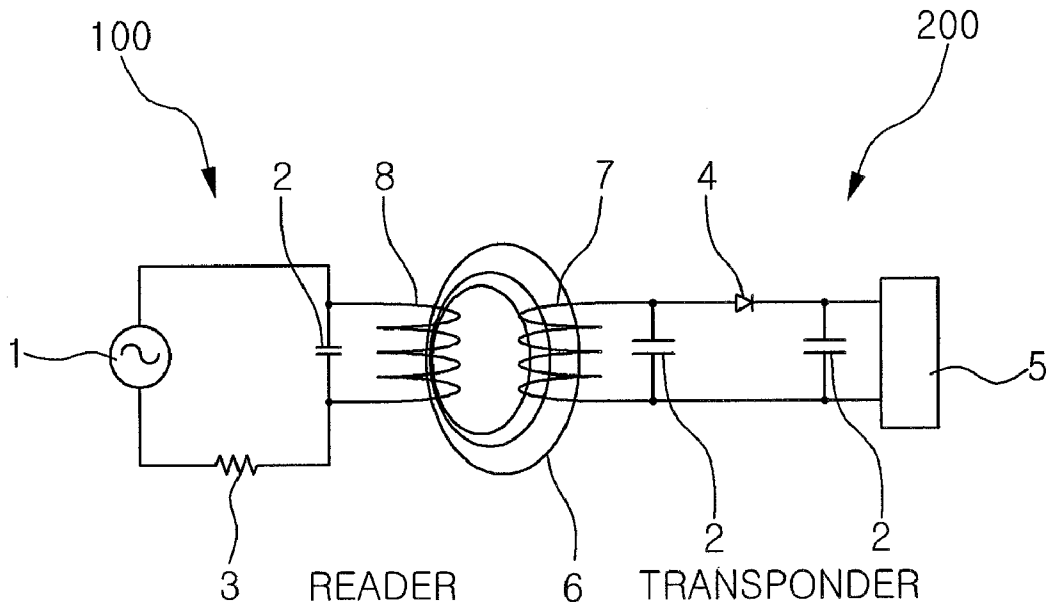


FIG. 2A

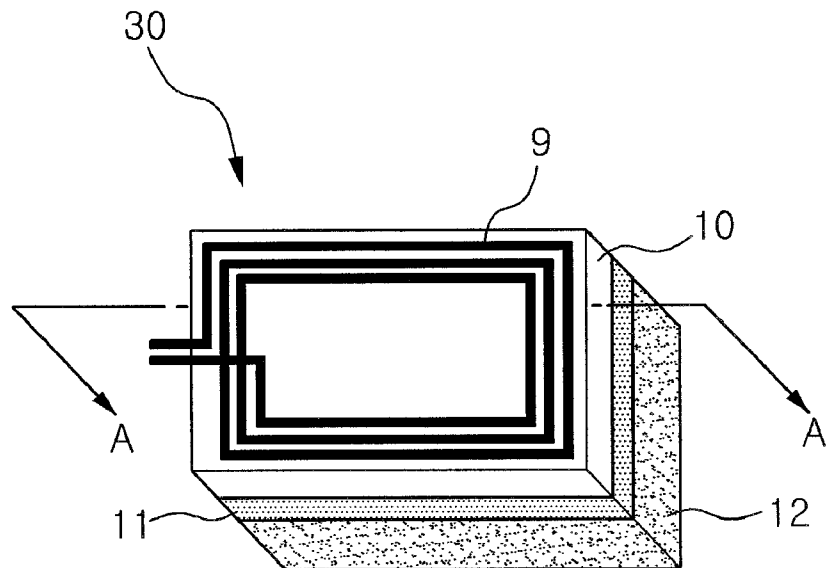


FIG. 2B

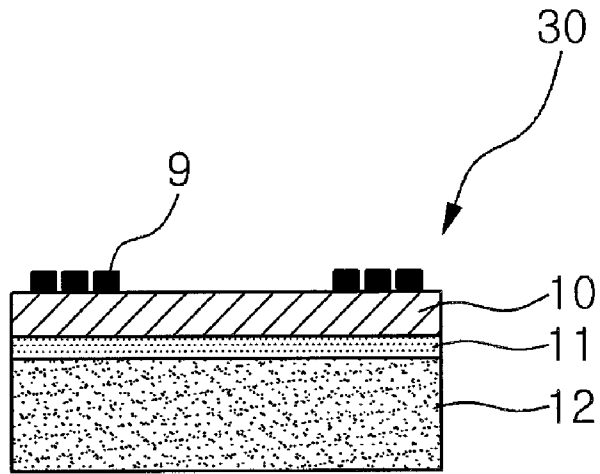


FIG. 3A

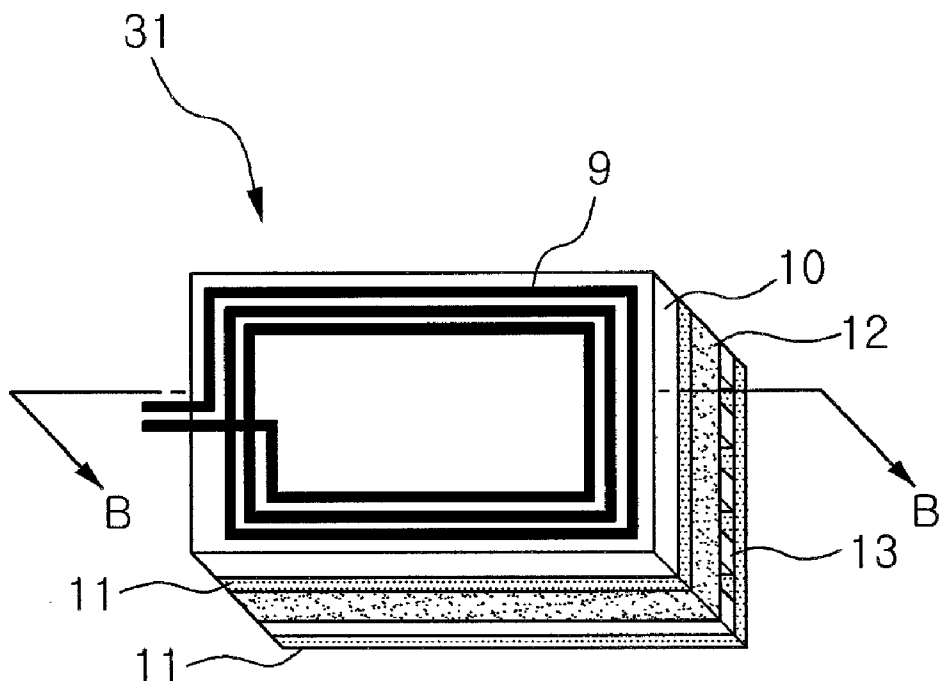


FIG. 3B

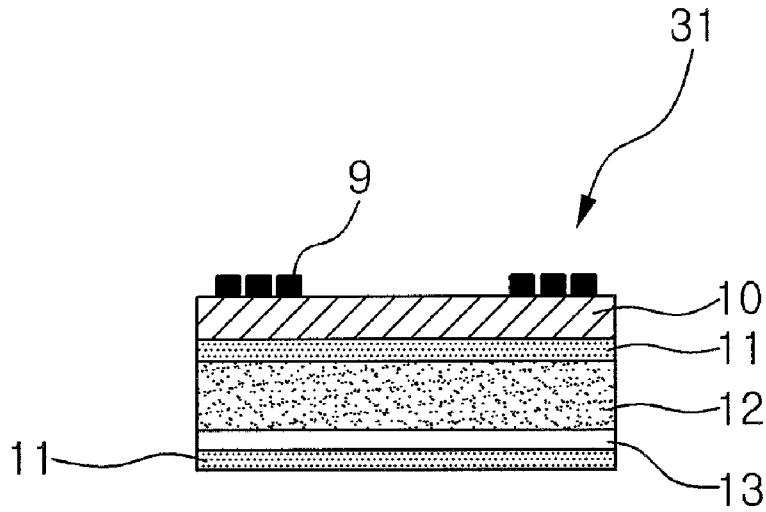


FIG. 3C

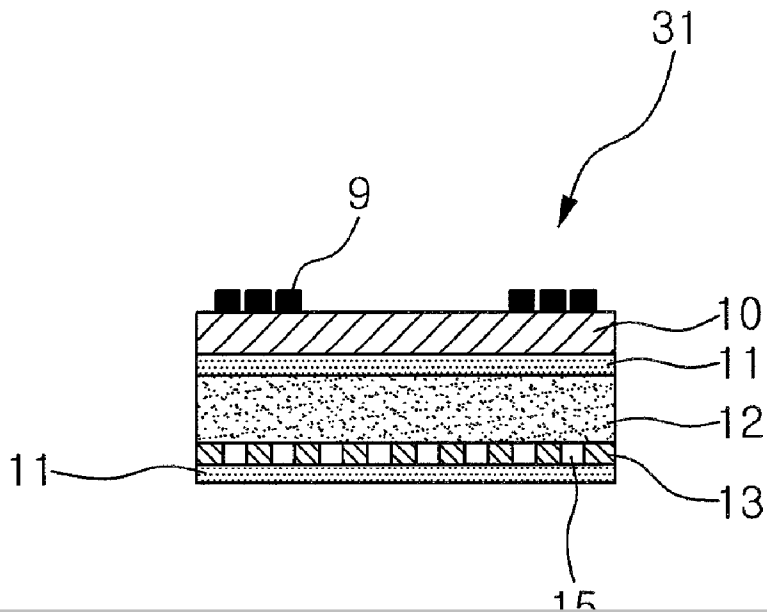


FIG. 3D

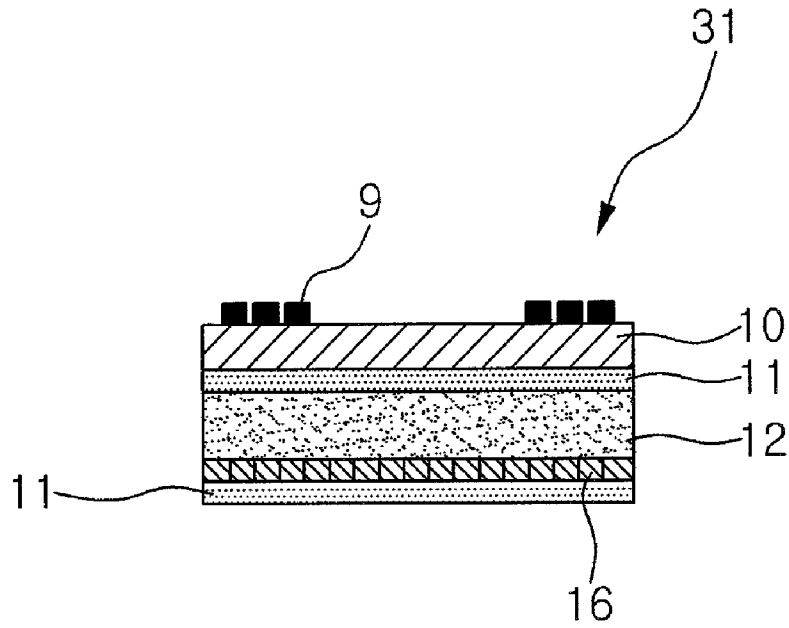
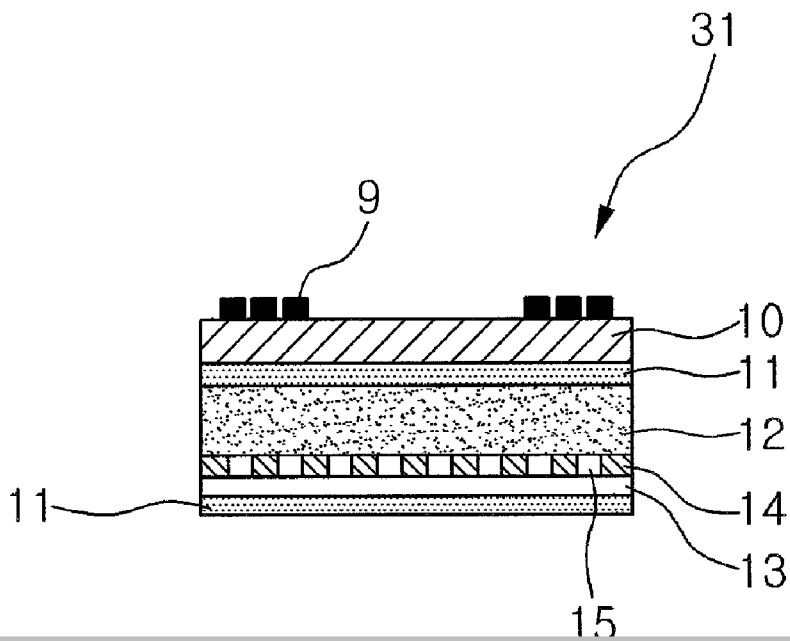


FIG. 3E



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