CLAIMS

1. A transformer comprising:

a core assembly, which is composed of a pair of E-shaped cores each having two side leg portions and a central leg portion between said two side leg portions, and in which end surfaces of said central leg portions and end surfaces of said side leg portions of said E-shaped cores oppose each other, respectively, and a gap is provided between said end surfaces of said central leg portions;

a primary coil formed by winding a round Litz wire around a perimeter of said central leg portion; and

a secondary coil formed by winding a rectangular wire around a perimeter of said central leg portion by edgewise winding,

wherein the secondary coil has a smaller number of windings than a number of windings of the primary coil, whereby the secondary coil outputs a lower voltage than an input voltage to the primary coil and a larger current than an input current to the primary coil, and

wherein a space for reducing leakage flux from said gap that acts on said secondary coil is provided between the secondary coil and the gap.

2. The transformer according to claim 1, wherein said secondary coil is wound only in a region opposing a side face of said central leg portion of either one of said E-shaped cores.

3. The transformer according to claim 1, wherein

said secondary coil is wound so that an inner peripheral surface of said secondary coil oppose~~in a region opposing~~ said gap, and

a space is formed between said gap and the~~an~~ inner peripheral surface of said secondary coil.

4. The transformer according to claim 1, wherein

said primary coil is wound so that an inner peripheral surface of said primary coil oppose~~in a region opposing~~ said gap, and

said secondary coil is wound so as to be divided in two regions opposing side faces of the respective central leg portions of said pair of E-shaped cores.

5. The transformer according to claim 1, wherein

said primary coil is wound so that an inner peripheral surface of said primary coil oppose~~in a region opposing~~ said gap,

said secondary coil is wound so as to be divided in two regions which oppose side faces of the respective central leg portions of said pair of E-shaped cores and which are equidistant from said primary coil, and

a connection point of said secondary coil, which is divided and wound in the respective regions, is used as a center tap.

6. The transformer according to any of claims 1 to 5, wherein said transformer is provided with a spacer which contacts with at least one of said primary coil and said secondary coil to perform positioning of said primary coil and

said secondary coil.

7. The transformer according to claim 1, wherein said primary coil and said secondary coil are arranged in the same axis with and in different planes from each other.