

3

FIG. 3 shows each knot formation according to the invention in the partial illustrations A and B. FIG. 3A displays a knot line which runs along the axis of the coil body 2 in a straight line.

The wire 3 is looped around the coil body 2, then pulled through underneath itself and placed again above itself and above the neighboring second wire 4 before it is wrapped around the coil body 2 again in a new loop. The same procedure in a symmetrical pattern is used for the wire 4, resulting in the knots (redirection points) 5. The redirection points 5 are placed next to each other in a straight line along the axis of the coil body 2. The center of FIG. 3A shows how the wire 3 is placed to form a point of direction change. This means that the wire 3, which was looped to the right up to this point, is looped to the left after the reversal point the knots 5 following after this reversal point 14 are created in the previously described way.

The second wire 4 is represented in FIG. 3 as a broken line. A similar knot line, which is not depicted in the illustration, is created for this wire on the backside of the coil body 2.

If a linear knot line is created the coil will act as a magnetic dipole under an electrical current.

FIG. 3 also shows how the knots can be placed in a V-shape. Each knot is shifted slightly against the neighboring knot along the circumference of the coil body 2. The center of FIG. 3B illustrates how creating a directional reversal point 14 forms the typical V-shape. The directional reversal point 14 is at the tip of the V.

If the coil according to the invention is built as shown in FIG. 3B with reversal points 5 in a V-shape, the coil will act as a magnetic tripole under an electrical current.

What is claimed is:

1. A coil comprising a coil body having an axis, and windings of a first electrical wire and windings of at least one more electrical wire around the coil body, each of the wires having a first and a second end, a loop connecting the second end of the first wire to the first end of a first of said at least one more electrical wire, electrical connections connected at the first end of the first wire and at the second end of a last of said at least one more electrical wire, wherein the individual windings of the first wire and the windings of the at least one more wire begin at starting points which are shifted against each other along the circumference of the coil body, and wherein each wire crosses under itself after about one rotation at a redirection point and each wire crosses over a next adjacent winding along the axis of the coil before being wrapped around the coil body again, so that the windings of different wires alternate along the axis of the coil body.

2. A coil according to claim 1 wherein said at least one more electrical wire comprises a second electrical wire as an additional electrical conductor wrapped around the coil body and wherein the first and the second electrical wires are electrically connected with each other at one end of the coil.

3. A coil according to claim 1 or 2 wherein the direction of the winding of at least one electrical wire is reversed at least once along the axis of the coil.

4. A coil according to claim 3 wherein the direction of the winding is reversed at a redirection point.

4

5. A coil according to claim 1 wherein the redirection points of the first electrical wire are shifted around the circumference of the coil by approximately 180 degrees against said at least one more electrical wire.

6. A coil according to claim 1 or 5 wherein the redirection points of one of the first wire and said at least one more wire form a straight line parallel to the axis of the coil.

7. A coil according to claim 1 or 5 wherein the redirection points of one of the first wire and said at least one more wire form a zigzag line along the coil.

8. A coil according to claim 7 wherein the redirection points of one of the first wire and said at least one more wire are placed along the coil in a V-shape.

9. A coil according to claim 7 wherein the direction of the windings of the wire is reversed at the points at which the zigzag line formed by the redirection points intersect in an angle.

10. A coil according to claim 1 or 5 wherein the coil body has a cylindrical shape.

11. A coil comprising a coil body having an axis, a first wire and a second wire, each of the first and second wires including a plurality of half hitch loops arranged around the coil body, adjacent pairs of the half hitch loops of the first wire being interspaced by a half hitch loop of the second wire, a linear segment of the first wire joining each adjacent pair of half hitch loops of the first wire and a linear segment of the second wire joining each adjacent pair of half hitch loops of the second wire, each linear segment in the first wire crossing one of the loops of the second wire and each linear segment in the second wire crossing one of the loops of first wire, each of the wires having a first and a second end, a reversal loop connecting the second end of the first wire to the first end of the second wire, and electrical connections connected at the first end of the first wire and at the second end of the second wire.

12. A coil according to claim 11 wherein the linear segments of the first and second wire are arranged parallel to said axis.

13. A coil according to claim 11 or 12 wherein the linear segments of the first and second wire include end points at which the linear segment integrally joins the half hitch loops.

14. A coil according to claim 13 wherein the end points are arranged parallel to said axis.

15. A coil according to claim 13 wherein the end points are arranged in a zigzag line along the coil body.

16. A coil according to claim 13 wherein the end points are arranged in a V-shape along the coil body.

17. A coil according to claim 13 wherein the coil body is cylindrical.

18. A coil according to claim 17 wherein the end points of the first electrical wire are shifted around the coil body by approximately 180 degrees with respect to the end points of the second electrical wire.

19. A coil according to claim 13 wherein the direction of the loops of at least one of the first and second wires is reversed at least once along the axis of the coil.

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