(No Model.)

L. M. DEVORE.

ORNAMENTAL WIRE COIL.

No. 382,220. Patented May 1, 1888.

Fig. 1.

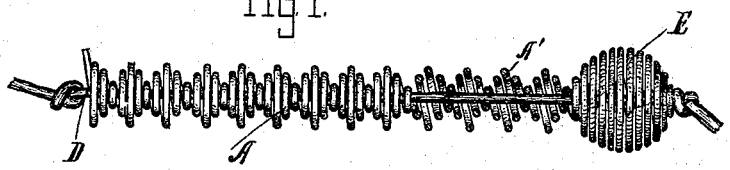


Fig. 2.

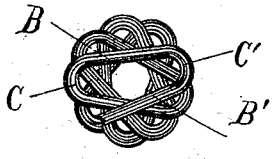


Fig. 3.

Fig. 4.

Fig. 5.

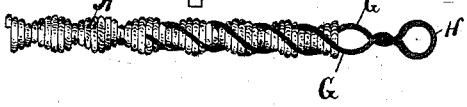
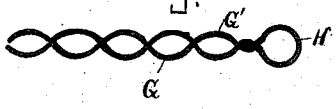


Fig. 6.



Witnesses.
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UNITED STATES PATENT OFFICE.

LEVI M. DEVORE, OF FREEPORT, ILLINOIS, ASSIGNOR OF ONE-HALF TO ROBERT H. WILES AND WALLACE GREENE, BOTH OF SAME PLACE.

ORNAMENTAL WIRE COIL.

SPECIFICATION forming part of Letters Patent No. 382,220, dated May 1, 1888.

Application filed July 22, 1887. Serial No. 244,963. (No model.)

To all whom it may concern:

Be it known that I, LEVI M. DEVORE, a resident of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Ornamental Wire Coils; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

In the drawings, Figure 1 is a side view of a coil having its nearer half removed. Fig. 2 is an end view of the same. Figs. 3 and 4 are similar end views showing different forms of coils. Figs. 5 and 6 show means for attaching the coil.

The invention is shown in the drawings as a coil whose outer surface is not cylindrical, but which presents alternate grooves and ridges passing spirally about the coil's axis.

In the body of the coil A, Fig. 1, the successive spirals or turns of the wire are identical in form, each being oblong in end view with two long approximately parallel sides, B B', connected by shorter rounded end portions, C C'. The corresponding points upon the successive spirals are not in a straight line, for each spiral is displaced with reference to the preceding in the direction of rotation about the coil's axis, and, as shown, always in the same direction. For this reason the rounded ends of the spirals form a ridge passing spirally about the axis of the coil, and the long sides B B' form a corresponding spiral depression. If the displacement of successive spirals be uniform, the ridges form a regular curve passing about the coil's axis with more or less rapidity, according as the angular displacement of the spirals is greater or less.

The inner surfaces or sides of all the sides B B' of the spirals are all tangent at their middle points to a cylinder whose diameter equals the distance between those sides, and whose axis is the axis of the coil; or, in other words, there will be a cylindrical passage through the coil from end to end. The ends C C' all lie in the surface of a cylinder having the same axis and a diameter equal to the entire length of the spiral as seen in Fig. 2. A cord may be passed through the middle of the coil from end to end, and if it be knotted at proper points the knots strike the ends of the coil when extending force is applied and prevent undue extension and consequent "set" of the wire. When the angular displacement of the spirals as above described is quite considerable, the coil appears a cylinder with depressions in its surface, and if in the light gives a novel and pleasing effect when formed from bright wire, for the regular progressive change in the angle of the sides, reflecting light to the eye, gives a series of brilliant points and of shades arranged in curves.

The coil's surface may be made more complex by giving each spiral three straight sides, as in Fig. 3, and indeed there may be any number desired. So, too, the sides may be outwardly convex or concave, it being only necessary that the spirals, some or all, be not circular in end view.

Any portion of the coil may be enlarged or diminished; but the drawings show enlargement at the end only, where the enlargement forms an ornamental ball, E. Fig. 5 illustrates a method of attaching to the coil and of adjusting its distance from any point of attachment—as, for example, when the coil is used for suspending any object. A rod, G G' H, is bent into a loop at its middle, and the two parts G G' are then coiled spirally to fit the spiral depressions in the surface of the coil. The rods, when thus coiled, may be advanced over the coil A by rotation throughout its entire length or any part thereof. In either case the elasticity of the rods and coil causes the parts G G' to grasp the coil with such degree of firmness that there is no danger of accidental slipping. At the same time the rod-arms G G' may, by proper application of force, be rotated backward, carrying the part or loop H farther from the end of the coil, and since but a small number of turns about the coil A are necessary for security, this gives a practical and convenient means of raising or lowering the whole coil. The rod is equally practical as a means for attachment if one of the branches G G' be removed; but in such case the number of turns about the coil must evidently be greater.

The coil illustrated and described may be

used for various purposes, many of which are evident without suggestion or specification. It may not only be substituted for an ordinary coiled spring in any mechanical device in which ornamental appearance is desirable, but it forms also a very handsome cord, taking the place of twisted cords of silk, wool, or other fiber in various situations, and it may also be substituted for rigid structures of wood or metal in cases where flexibility and elasticity are not essential. For instance, I have used it as a spring for supporting a bird-cage, as a hat-cord for military hats, as a cord for looping curtains, as a covering for seams in upholstering, and as a substitute for wood or metal rope moldings, and these are only a few of the many uses to which it is adapted, either by reason of its form or its mechanical construction, or both.

What I claim is—

1. As a new article of manufacture, a non-circular wire coil having its successive turns or spirals permanently displaced in the direction of rotation about the coil's axis, whereby corresponding points upon successive turns of the coil form a spiral curve about the coil's axis.

2. As a new article of manufacture, a wire coil whose spirals, viewed singly in the direction of the coil's axis, are non-circular, each being displaced with reference to the preceding in the direction of rotation about the coil's axis, substantially as set forth.

3. A wire coil whose spirals, seen in the direction of the coil's axis, are non-circular, each spiral being permanently displaced with reference to the preceding in the direction of rotation about the coil's axis, and whose spirals vary in size or diameter, substantially as set forth.

4. In combination with a wire coil of the form shown and described, a cord or rod passing within and along the axis of said coil and provided with knots or enlargements, substantially as set forth.

5. The combination, with a coil having spiral depressions in its surface, of a spirally-coiled rod adapted to advance by rotation along said depressions and engage the coil, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

LEVI M. DEVORE.

Witnesses:
M. STOSKOPF,
CHARLES MCNAMARA.