Nov. 8, 1927. 1,648,678

W. EHLERS

COMPOSITE METAL ARTICLE

Filed Jan. 18, 1926

Fig. 1.

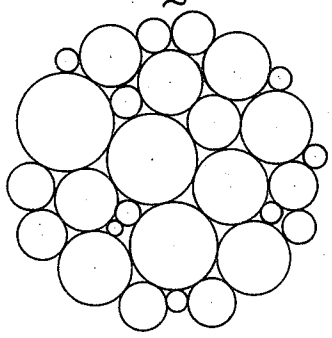
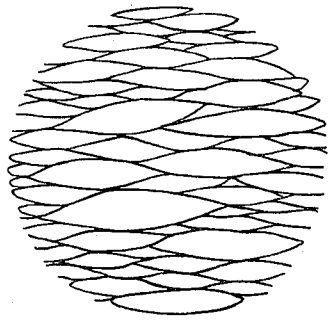


Fig. 2.



Inventor:
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by Alexander Saint
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UNITED STATES PATENT OFFICE.

WALTHER EHLERS, OF BERLIN, GERMANY, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

COMPOSITE METAL ARTICLE.

Application filed January 18, 1926, Serial No. 82,169, and in Germany February 4, 1925.

My present invention relates to the construction of metal bodies from powdered material, and more particularly to bodies especially adapted for electrical purposes such as magnetic cores or resistance elements.

In the construction of such bodies, particularly for magnetic purposes. it is desirable that the space occupied by the body shall be filled as completely as possible with the magnetic material.

The object of my invention is to provide a construction whereby this desirable feature may be attained.

It has been proposed heretofore to employ powder particles of various shapes and sizes in the construction of articles of the class described such for example as round particles of different sizes as well as flaky particles.

I have found, however, that a better utilization of the space may be obtained by the use of metal particles all of which or the greater part of which are of approximately spindle shape. By the terms "spindle shape" I mean shat the metal particles are approximately circular in cross section and taper from the middle toward each end.

In the accompanying drawing, Fig. 1 is an enlarged view of a portion of an article made of round particles of different sizes and Fig. 2 is a similar view of an article made of spindle shaped particles.

It is obvious from an inspection of these figures that the spindle shaped particles on account of their pointed ends render possible a better utilization of the space than do the round particles. By pressing the spindle shaped particles together there may be obtained a firm and compact body which in the case where magnetic materials are used will have a good degree of permeability.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A composite metal body made up of closely compacted spindle-shaped particles of metal.

2. A composite magnetic body made up of closely compacted spindle-shaped particles of magnetic material.

3. A composite magnetic body largely made up of closely compacted particles of magnetic material, the greater part of said particles being approximately spindle-shaped.

In witness whereof, I have hereunto set my hand this 17th day of December, 1925.

WALTHER EHLERS.