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MAGNETIC MATERIAL AND PROCESS OF
MAKING THE SAME

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3 Claims. (Cl. 252-1)

The object of this invention is to provide a method or process by which I produce a new material or composition of matter having peculiar magnetic and other properties not heretofore possessed by any known material, so far as I am aware.

The novel magnetic properties or characteristics are strikingly shown when a piece of the material is brought within a magnetic field, as adjacent one pole of a magnet. The first effect is an attraction and movement of the piece of material towards the magnet pole, as in the case of any magnetic material, but, as the end of the piece of material reaches the magnet pole, or adjacent one edge thereof, instead of stopping and being held against the pole, as would be the case with ordinary magnetic material, it continues to move past the pole, which apparently exerts a repelling action on that part of the piece of material which first approached or was adjacent the magnet pole.

I do not attempt to account for this peculiar property of the material, which apparently possesses the property of changing its characteristics in a magnetic field when approaching and reaching the maximum intensity of the magnetic field to which it is subjected.

In the preparation of this material, I take rock or stone containing silica, alumina, lime and magnesia. This is ground and treated with sulphuric acid, sufficient acid being used to form a paste.

I then take a magnetic material, such as magnetic oxide of iron (magnetite) and treat with sufficient sulphuric acid to form a paste, which paste is added to and mixed with the rock paste above described, and then the following ingredients added thereto:—phosphorus, white arsenic and tungsten metal.

The heavy paste thus formed is then shaped into bricks or other form suitable for smelting and melted in a suitable smelting furnace and run into moulds of any desired form.

An analysis of the material thus produced shows that it is composed of the following:—silica, 33%; alumina, 6%; lime, 2%; magnesia, .75%; ferric oxide, 56%; phosphorous, .06%; sulphur, .01%; arsenic, .5%; tungsten, 1.5%.

The material hardens when cooled and becomes extremely hard and tough, which properties render it useful for many purposes, in addition to its utility in connection with a source of motive power and electrically or magnetically operated mechanisms, etc., on account of its peculiar magnetic properties, heretofore described.

It will be understood that the specific example of materials and method used in the preparation of this novel magnetic material are those which I have found to be desirable and which will produce the results desired but I do not wish to be understood as limiting myself to such particular materials or method, as I believe it may be possible to vary the same without departing from the spirit of the invention as defined in the appended claims.

What I claim as new and desire to secure by Letters Patent is:—

1. The process of making a composition of matter, which comprises grinding together silica, alumina, lime and magnesia and treating with sufficient sulphuric acid to form a paste, forming a second paste of magnetic material and sulphuric acid, mixing the two pastes together and adding phosphorus, white arsenic and tungsten thereto, mixing, smelting and cooling the resultant composition, thereby forming a hard material capable of changing its magnetic characteristics while under the influence of the same magnetic field.

2. The process of making a composition of matter, which comprises grinding together silica, alumina, lime and magnesia and treating with sufficient sulphuric acid to form a paste, forming a second paste of magnetic oxide of iron and sulphuric acid, mixing the two pastes together and adding phosphorous, white arsenic and tungsten thereto, mixing, smelting and cooling the resultant composition.

3. A material or composition of matter capable of changing its magnetic characteristics while under the influence of the same magnetic field, comprising over fifty percent of ferric oxide, over forty percent of silica, alumina, lime and magnesia, and a smaller proportion of phosphorous, sulphur, arsenic and tungsten.

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