

UNITED STATES PATENT OFFICE.

HARLESTON CORBETT GESNER, OF NEW YORK, N. Y., EXECUTRIX OF
GEORGE W. GESNER, DECEASED.

INSULATOR FOR ELECTRIC APPARATUS.

No. 815,418.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed June 26, 1905. Serial No. 267,323. (Specimens.)

To all whom it may concern:

Be it known that GEORGE W. GESNER, deceased, late a citizen of the United States, did invent a certain new and useful Improvement in Electric Insulators, of which the following is a specification.

In United States Letters Patent No. 604,580, granted May 24, 1898, No. 642,320, granted January 30, 1900, and No. 670,775, granted March 26, 1901, to the said GEORGE W. GESNER, are described and claimed certain processes of making alloys of iron and hydrogen, the product being in the form of a pig or ingot, powder or scale. According to these patents articles consisting of the alloy may be produced by remelting the pigs, powder, or scale and pouring the liquid alloy into molds by forging or rolling heated masses of the alloy, or by heating the powder or scale and welding and shaping it by forging or rolling.

The present invention is a body of iron and hydrogen which is refractory, resistant to oxidation and corrosion, and of high specific electrical resistance, being thereby admirably fitted for use as an insulator for electric apparatus. To produce such an insulator, the alloy of iron and hydrogen is finely powdered and a body of the powder is placed in a refractory open mold or saggar and heated at a temperature of from 2,000° to 2,600° Fahrenheit for about one hour until the particles cohere to form a body of the desired strength. The resulting body is removed from the mold and preferably slowly cooled in ashes or pulverized charcoal or in an annealing-furnace, and its surface may finally be smoothed by grinding or otherwise. When an insulator of greater strength is desired, the powdered

alloy may be slightly and uniformly moistened with water or other fluid and subjected to light pressure within the mold. The body must then be fired for a somewhat longer period than when uncompressed.

To increase the electrical resistance of the body, fire-clay may be mixed with the powdered alloy before it is shaped and fired.

While the described article is of such high resistance that it will ordinarily be used as an "insulator" and is therefore so termed, it will be obvious that it may be employed as a resistor or resistance heater for use with high potentials. Its resistance may also be decreased by firing the body of the powdered alloy in a closed mold.

I claim as the invention of the said GEORGE W. GESNER—

1. An electric insulator or high-resistance body, consisting of an alloy of iron and hydrogen, as set forth.

2. An electric insulator or high-resistance body, consisting of particles of an alloy of iron and hydrogen fritted into a coherent mass, as set forth.

3. An electric insulator or high-resistance body, consisting of a mixture of an alloy of iron and hydrogen and a material of higher specific resistance than said alloy, as set forth.

4. An electric insulator or high-resistance body, consisting of a mixture of an alloy of iron and hydrogen and fire-clay, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HARLESTON CORBETT GESNER,
Executrix of George W. Gesner, deceased.

Witnesses:

HENRY Q. HOWE,
GEORGE S. CARR.