

UNITED STATES PATENT OFFICE.

WILLIAM W. JACQUES, OF NEWTON, ASSIGNOR TO THE AMERICAN BELL
TELEPHONE COMPANY, OF BOSTON, MASSACHUSETTS.

VARIABLE-RESISTANCE MEDIUM FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 524,173, dated August 7, 1894.

Application filed May 14, 1894. Serial No. 511,240. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM W. JACQUES, of Newton, in the State of Massachusetts, have invented a new and useful Variable-Resistance Medium for Battery-Telephone Transmitters, of which the following is a specification.

The invention consists in an electric and microphonic silicon and in the process by which the same is produced.

The said process consists in reducing a salt of silicon by heating it with sodium or potassium and again heating the product to a white heat in the absence of air. I mix fluorsilicate of potassium with metallic sodium or potassium in proper proportions to reduce the fluorsilicate of potassium. The mixture is then heated to redness in a closed iron retort. After the reaction has taken place the product is treated first with cold and then with hot water and filtered. The residue,

consisting of amorphous silicon, is then heated to a reddish white heat in a closed vessel from which the air is excluded. The product thus obtained is a granular electric and microphonic silicon suitable to be used as a variable resistance medium between electrodes in battery telephones of the Hunning's or granular type.

I claim—

1. A microphonic element composed of silicon having electrical conductivity.
2. The herein described process of producing a variable resistance medium for battery telephones, consisting in reducing a salt of silicon by heating it with sodium or potassium, and again heating the product to a white heat in the absence of air.

WILLIAM W. JACQUES.

Witnesses:

WILLIAM W. SWAN,
WILLIAM SULLIVAN.