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. 524,172, dated August 7, 1894.

Application filed May 14, 1894. Serial No. 511,239. (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 Use between the Electrodes of Battery-Telephone Transmitters, of which the following is a specification.

The invention consists in an electric and microphonic boron and also in the process by which the said electric and microphonic boron is produced.

The process consists in reducing a salt of boron by heating it with sodium or potassium and again heating the product to a white heat in the absence of air.

I take boracic acid and fuse it at a white heat until it assumes the appearance of agate. I then pulverize it and mix it with metallic sodium or potassium in proper proportions to reduce the boracic acid. The mixture is then heated in a closed vessel, care being taken to prevent the access of air. After cooling, the mixture is dissolved in water and filtered, thus producing amorphous boron. This when dried at a reddish white heat in the absence of air produces electric and microphonic boron in granular condition. The grains form an excellent variable resistance medium for use between electrodes in battery telephones of the Hunning's or granular type.

I claim—

1. A microphonic element composed of boron having electrical conductivity.

2. The herein described process of producing a variable resistance medium for battery telephones consisting in reducing a salt of boron 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.