

TO TALK ACROSS THE SEA

Dr. Pupin Has Invented a Plan for Ocean Telephony.

His Method Also Permits of Land Talking for Any Distance—He Got \$200,000 Outright.

The Electrical Review, published yesterday, announces the purchase by the American Telephone and Telegraph Company of the patents of Dr. M. I. Pupin of Columbia College, which, it states, cover ocean telephony and enable telephone messages to be sent over any length of land lines. It further states that the sum of \$200,000 has been paid to Dr. Pupin for this invention, with an annual salary to him during the life of the patents of \$7,500.

The invention, for which two patents were issued in June, 1900, is characterized as one of the most brilliant and exceptional inventions of Dr. Pupin. It was thought necessary in order to talk a given distance, say 500 miles, in underground cables, to employ large copper wires thickly covered with insulating material. The expense of such wires and material has been sufficient to prevent the construction of long underground circuits. Dr. Pupin's invention is declared to furnish a method whereby conductors of relatively small diameter covered with insulating material of moderate thickness may be used in place of the large and expensive conductors formerly thought to be necessary.

The theory upon which the invention is based is difficult to express in non-technical language, but it may be said to be a method of "fighting the devil with fire." One of the difficulties with which telephonists most contend is what they call "self-induction"; another difficulty is that which they call "static retardation"; a third difficulty is what is known as "resistance."

Dr. Pupin has placed these various difficulties in such a settled relation that they have expended their malign influence upon each other and have left the telephone current free to proceed upon its way unmo-
lested. In other words, he has "set a rogue to catch a thief," and these disturbers expending their evil strength on themselves, neutralize their destructive qualities.

The Electrical Review states: "Experimenting with artificial conductors, Dr. Pupin discovered that it was possible to telephone over vastly greater lengths of cable than had ever been possible before, and is able to make any desired length of telephone circuit easily possible. He has shown a design for inductance coils to be introduced at appropriate intervals in a transatlantic cable which would allow telephonic conversation to be held across the Atlantic Ocean. It is believed by those who have investigated the subject fully that the improvement which his inventions contemplate will enable telephony over land lines of any length that are in use to-day, and solves the difficult and attractive problem of ocean telephony."

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