

Letter from Alexander Graham Bell to Gardiner Greene Hubbard, August 14, 1875, with transcript

ALEXANDER GRAHAM BELL TO GARDINER GREENE HUBBARD. Salem, Massachusetts. August 14th, 1875. Dear Mr. Hubbard:

On glancing back over the line of electrical experiments I recognize that the discovery of the Magneto-electric current generated by the vibration of the armature of an electro-magnet in front of one of the poles — is the most important point yet reached. I believe that it is the key to still greater things.

The effects produced — though slight in themselves — appear to me so great in proportion to their cause — that I feel sure that the future will discover means of utilizing currents obtained in this way — on actual telegraph lines.

So important does it seem to me to protect the idea — that I think some steps should be taken immediately towards obtaining a Caveat or Patent for the use of a Magneto-Electric Current — whether obtained in the way stated above — by the vibration of permanent magneto in front of electro-magnets, or in any other way.

I should wish to protect it specially as a means of transmitting simultaneously musical notes differing in intensity as well as in pitch.

I can see clearly that the magneto-electric current will not only permit of the actual copying of spoken utterance , but of the simultaneous transmission of any number of musical notes (hence messages) without confusion.

The more I think of it the more I see that the method 2 of making and breaking contact so many times per second — is only the first stage in the development of the idea.

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When we can create a pulsatory action of the current which is the exact equivalent of the aerial impulses — we shall certainly obtain exactly similar results. Any number of sounds can travel through the same air without confusion — and any number should pass along the same wire.

It should even be possible for a number of spoken messages to traverse the same circuit simultaneously; for an attentive ear can distinguish one voice from another — although a number are speaking together.

Don't you think it would be well to take out a Caveat for the use of the Magneto-Electric Current?

In its present undeveloped state — it might be unwise to let Gray know anything about it — unless indeed we could secure the principle of it in a Patent.

Yours respectfully, A. Graham Bell. Gardiner G. Hubbard Esq., Cambridge.