

was due to an external cause—probably to the presence of a very deeply-imbedded bullet:

1. The sound, although it could not always be distinguished, uniformly appeared, when audible, *at the same spot*.

2. It was heard independently by Mr. Tainter, Dr. Stanton, and myself at the same spot. (If I recollect rightly, the lieutenant himself also located the sound, but my father could hear nothing.)

3. A blindfold test was then made. Mr. Tainter closed his eyes and turned away while the coils were moved over different parts of the lieutenant's back. The moment the sonorous spot was covered Mr. Tainter declared he could hear the sound. We are to repeat the experiments with our new instruments as soon as they are completed, and I shall report progress.

Yours, truly,

ALEXANDER GRAHAM BELL.

NOTE 13.—*Letter to Dr. Bliss.*

WASHINGTON, July 27th, 1881.

DR. BLISS:

MR DEAR SIR: Permit me to make a few remarks upon the value of the indications of the Induction Balance in determining the location of a lead bullet imbedded in the human body.

*Positive deductions concerning the location of the ball can only be safely made from positive indications of its presence. Negative indications may mean anything.*

For instance: If we hear a sound from the telephone connected with the balance every time the exploring coil is passed over a certain part of the body, this may be taken as proof positive that a metallic mass is to be found in the neighborhood of the sonorous spot. If, on the other hand, we fail to obtain audible effects, we are not entitled to conclude that the bullet is absent from the part explored, or that it is imbedded at a greater distance below the surface than the penetrating distance of the instrument used, for the bullet may be within any part of the area explored and close to the surface without affecting the balance if it is flattened, and if it is so located that the plane of its face is nearly perpendicular to the plane of the face of the exploring coil.

A few words may not be out of place here concerning the experiment made last night upon the person of the President.

Before entering the President's room, I applied the telephone to my ear, and heard a peculiar spluttering sound which it was found impossible to extinguish by any adjustment of the coils. I satisfied myself, however, that the arrangement was in a sensitive condition, by holding near it a flattened bullet. The hearing distance appeared to be about 4 cm. When the exploring coil was passed over the back of the President near the spine, no definite pulsation of the sound was heard; but when the coil was first passed over a portion of the front part of the abdomen near the right side, I heard at one point a sharp and sudden reinforcement of the sound. Upon moving the coil backwards and forwards a number of times over the same spot, I was unable to verify the observation. I should state here that, when a perfect balance is