

Eliot. ME. Nov. 22d 1886.

Friend Pope, I have drawn off a table of values of  $C$ , corresponding to different values of  $[a]$ , commencing at  $.4 a$  & increasing by tenths of  $a$  up to three & two tenths of  $a$  then I jump to twenty five times  $a$  where the current is ninety nine & a little more than one half percent of its maximum, which it would reach at the end of eternity. You will see that the current at the end of five tenths  $a$ , is one hundred & ninety times as large as it was at the end of  $4$  times  $a$ , at the end of six tenths  $a$  it is thirty two times as large as at the end of five times  $a$ , & at the end of ~~one~~ once  $a$ , it is three & one tenth times as large as at the end of nine tenths of  $a$ . Also at the end of thirty tenths of  $a$ , it is only one & one ninth times as large as at the end of twenty nine tenths of  $a$ . So from the end of the fourth tenth to the beginning of the seventh tenth, it rises in value about five thousand times. In other words, on my artificial cable the current increases in value about five thousand fold in the fifty sixth part of a second, & since the PULT responds to sudden jerks as it were, this seems sufficient to account for its uncommon behavior I have not time to write more this morning,

truly yours,

M. G. Farmer.

Eliot. Me. Nov. 25th 1886.

Dear Mr. Pope;

Your letter was duly received, I had tried some of the experiments which you suggest, especially the one to put the pult two or three hundred feet away, which I did, & it made no difference. I think too that I tried the other one to cut the cable in two different places, I do not remember certainly about it, & will try it again after Mr. Keefe comes home, about the middle of next week.

truly yours, Moses G. Farmer.

Eliot. Me. Nov. 29th. 1886.

F. L. Pope Esq.

Dear Sir; your letters were duly received & I will make such of the experiments as I can soon as I can, I have two of Dolbeare's instruments, & one of Marshall's, it will be needful for me to have made a new induction coil before I can make them to my satisfaction. The common relay with front stop, is the only instrument that acts at all like the pult, & that not exactly like it, but I have not time this morning to discuss the matter, so will reserve it for another occasion,

very truly yours,

Moses G. Farmer.

