

## A WISH.

Another year for Jesus!  
How can I wish for you,  
A greater joy or blessing,  
A fellow-worker true!  
Eternity with Jesus  
Is long enough for rest;  
Thank God that we are spared to work  
For him whom we love best!

## ELECTRICITY AND THE TELEPHONE.

BY JOHN S. WHITE, LL.D.

"Will not you and a dozen of your boys who are most interested in scientific subjects come to our office in Cortlandt street next Thursday afternoon, to see what we have done in perfecting the long-distance telephone?" Such was the courteous invitation which came from the manager, Mr. Howlett, one day in March, and you may be sure the invitation was promptly accepted. "Ask some friends," he said in the same note—"some of your graduates who are in Harvard, if you please—to meet you at our Boston office at the other end of the wire." This we did, and the appointed day and hour found us at the office, with Mr. Howlett ready to explain to us the working of the wonderful new "transmitter."

"Everybody," he said, "is familiar with the ordinary telephone and its vagaries, and with the efforts that a novice makes to have himself understood, shouting wildly into the tube, and expecting that the louder he shouts the more clearly he will be understood; and everybody, too, is familiar with the thousand and one irregular sounds that come over the wire unbidden, from the butchers and bakers and candlestick-makers who are endeavoring to talk at the same moment over some neighboring wire to their customers. But here is an instrument which has been freed from all the irregular vibrations by the curious discovery that by placing upon the tympanum half a teaspoonful of pure carbon, in the form of fine grains, the sound is strained, purified as it were, coming to the ear, no matter from what distance, with a vividness and resonant quality that would seem possible only at a distance of a few feet. Now if you will sit down here a moment and speak into this tube—speak, please, in your ordinary tone of voice, but speak well into the tube—I think you may find somebody whom you know two hundred and twenty-five miles away in Boston."

With a feeling akin to awe, as if I were in the presence of some supernatural power, I took the suggested seat, the boys crowding about me in suppressed excitement, and called into the tube, "Halloo, who is there?"

"Halloo! is that you, papa?" came from the other end, as distinctly as if my boy was standing by my side.

"Yes. Is that really you, Eliot?"

"Why, certainly. And I heard somebody else speak to you in the room. It was Graham Stokes, wasn't it?"

"Yes," I replied. "And I hear the clock ticking in the room where you are. And that is Fiske, of '92, is it not, who laughed then?"

"It was, and no mistake. Hold your watch up, and see if I can hear that tick too," said Eliot.

This I did, and then struck the repeater, and, to the amusement of us all, he was able to tell accurately the hour of my watch, hearing it with perfect distinctness through this marvellous wire which traversed a thousand feet of house-tops and miles of subways under the streets of the city, stretching out upon its course through Connecticut northward, beneath the waters of a dozen rivers, through as many separate

cables, bearing these various sounds with all the force of actual presence; every intonation, every peculiarity in the quality of tone being conveyed with such wonderful perfection that the listener at either end of the wire could instantly call the names of all his acquaintances with whom he spoke, many of whom he had not seen for months.

"Ask your son to wait a moment," said Mr. Howlett, "and I will introduce you to a gentleman in Syracuse." And taking up another instrument, he called up some one at the other end and handed me the tube.

"May I ask who you are?" said I. "I am a stranger," came back the response, "who has been invited to take a peep at this wonderful instrument for the first time. I live in Cleveland, and my name is Adams."



them nearly five hundred miles apart:—"Why, Mr. White, is it possible that I am talking with you in Boston?"

"It certainly is." "I remember you as a little fellow of four years of age when you used to live in Cleveland. This is wonderful, isn't it?"

And so the conversation went on, and so we chatted and talked that afternoon, a dozen of us, with as many friends in Boston, with strangers in Albany and Buffalo; and so we came to realize that if it were only possible to extend a wire between us and some other planet, like Venus, for example, so far away that if one could travel on a railway train at the speed of fifty miles an hour, day and night, he would be sixty years on the route, it would be possible to hear and understand an inhabitant of that planet at the other end, with almost an annihilation of space and

and unsuspected for thousands of years—an unknown power, an unseen force? As a profession—not merely as a business for the making of money—no field offers to-day greater attractions than the study of this wonderful force and its applications. No work is calling so loudly to the young man of scientific grasp and persevering industry. Probably not a thousandth part of the discoveries possible to the student of the present century have yet been made. Why, if sound can be thus miraculously reproduced—for we can hardly believe it to be carried or transmitted through such a distance—why, I say, cannot light, why cannot pictures and forms be reproduced through the intervention of this wonder-working current? Indeed, I believe the day will come when you may not only thus talk to your friends hundreds or thousands of miles away, but the face and form, the surroundings, the picture of the room your friend is in, may be accurately reproduced before you; and if to this you add the marvels of the phonograph, it will become possible to make and retain impressions such that you may recall at will the face, the words, the gestures of some friend long dead perhaps, and actually see him talking, and hear the well-known tones of his voice.

What would it not mean to mankind if all these wonders had been perfected at the time of the Christian era, and if to-day in any of our churches we could hear our Saviour pronounce the familiar words of His Sermon upon the Mount, if we could see His expression and His gestures, and hear the murmur of the multitudes about him!—*Harper's Young People*.

## AN INDIGNANT MOTHER.

BY MYRA SPAFFORD.

"She is very sick," said Dr. Robbie Proctor, in his grandfather's hat and his uncle's coat, with Aunt Katie's glasses seated astride his nose; "very sick, indeed!" and he laid his hand with professional skill on the kitten's paw. "If you do not follow my directions she will die, and there's no help for it. She has the small-pox and cholera and yellow-fever, all mixed up together. It would be hard for anybody but me to tell you so much, but I can tell." "O dear, dear me," said the frightened little mother, "I will be sure to follow your directions. To think that my child should have so many sicknesses all at once."

"Yes, it is very sad; and she must have a pint of brandy every ten minutes for the next fifty-five hours, or she will die, certain, true, black and blue."

Up rose the little mother, her face all in a glow of indignation. Gathering the precious child in the skirt of her dress, with true womanly dignity, she spoke in freezing tones:

"She never will, Dr. Robbie, and you need not think it. I wonder at you for saying such words in my mother's house, when you know she never lets a drop of brandy come into it, and does not believe in using it for anything! The idea that I would let my kitten play take brandy! I'm ashamed of you, Robbie Proctor, and don't want to have anything more to do with you."

So saying, she walked across the room and out at the door.

"Well," said Dr. Robbie, in great indignation, "if you won't do as the doctor says, how can you expect him to help you?"

"I don't expect it," came from the hall in freezing tones. "I never will expect help from a doctor who uses such dreadful medicine as that."

There was a sound of clapping of hands which came from the library, and papa's voice said:

"Three cheers for the little mother who has the 'courage of her convictions!'" —*The Pansy*.

"Why, how do you do, Mr. Adams?" said I. "I have not seen you for nearly thirteen years."

"Why, Mr. White, I am very glad to see you, indeed. Where have you been all this time, and how is your family and your little boy, whom I remember so well? He was four or five years old when I saw you last." Here was an idea that was almost an inspiration. Catching up the other tube, I called through it again, "Eliot, are you there?"

"Yes." "Well, I want to introduce you to an old friend, Mr. Adams, of Cleveland, who is at Syracuse this moment. Mr. Adams, let me make you acquainted with my son, who is now in Boston." And crossing the wires in my hands, this conversation, as I found a moment later, took place between

time, unless, as is possibly the case, electricity travels with the exact speed of light and even then there would need to intervene only three minutes between the question and the response.

And what can be this marvellous power which one moment acts as the willing servant of man, defying time and distance, and bringing two friends hundreds of miles apart practically into the same room together, and the next instant deals death and destruction to everything that comes in the way of its tremendous blow? To-day filling with light some mighty building—light that comes at the turn of the hand, the push of a button—and to-morrow destroys that same building with one terrific crash from heaven; capable of being summoned to do all the mechanical work of some powerful nation, after lying dormant