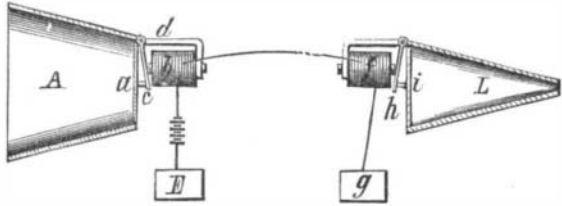


THE TELEPHONE.—JUDGE LOWELL'S OPINIONS COMMENTED UPON.—INGENIOUS TRANSFORMATIONS.

BY NOTSERP.

A few days ago I chanced to see a small pamphlet that is being sent out by the American Bell Telephone Company to their agents, and containing the decision of Judge Lowell in relation to the alleged infringement of the so-called Bell telephone. Having been wrestling with the element electricity, experimentally and otherwise, for a number of years, and with acoustics and other forms of telephones, I at once found the pamphlet very interesting and exceedingly amusing.

Now, basing my opinion upon Judge Lowell's decision, I cannot believe that he had very much aged telephonic information laid before him by the defendants; for if he had his conscience would never have allowed him to render such an opinion. I may look at the judge's printed opinions in too



Bell's Apparatus.

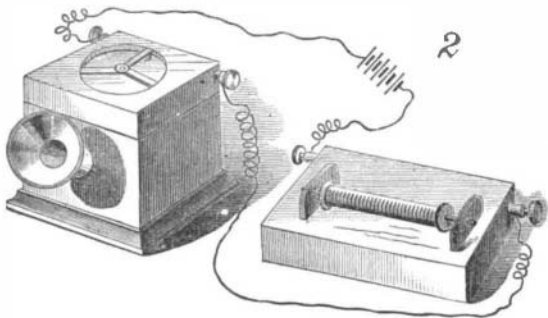
strong a light, and I may not understand them just as he would have me; but be that as it may, I do think that when he rendered this now famous decision he little thought of what valuable material he was furnishing for the future use of the defendants. Take the following for example—the Italics are mine:

"There is some evidence that Bell's experiments with the instrument, described in Fig. 7 (see Fig. 1), before he took out his patent, were not entirely successful; but this is now immaterial: for it is proved that the instrument will do the work, whether the inventor knew it or not."

Now, if that is rock bottom law, Bell and his followers (especially the "followers"—for Bell is out of the business, slick and clean) must feel a little squeamish; because—according to the above ruling—the father of the telephone, and the rightful claimant, would be the person who took out the first patent upon an instrument or apparatus that would transmit articulate speech, "whether the inventor knew it or not."

Who is the fortunate parent?

Reiss, undoubtedly, was the first to discover and make public the fact that articulate sounds could be transmitted telegraphically. But, according to Judge Lowell, Reiss can-

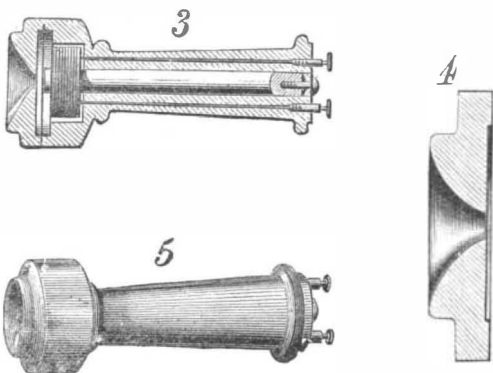


Reiss's Telephone.

not be credited with it, because, before Reiss's discovery there were thousands of instruments in use, and being made daily, that would transmit articulate speech, "whether the inventors knew it or not."

There is great satisfaction in knowing that Reiss cannot come down on us for exorbitant rentals, because he is not protected (?) in so doing by U. S. patents.

Why did Reiss neglect to patent his discovery and apparatus? Probably because he did not attach much importance to the discovery, or else that he was satisfied that he had not made an invention, and was too conscientious to try to inveigle any one into the belief that he had. It would not do to credit it to Reiss anyway, because he *did know* that his apparatus (telephone) would work, and gave an exhibition of the same (see Fig. 2) before a body of learned gentlemen, as early as 1861—fifteen years before Bell's patent was applied for.



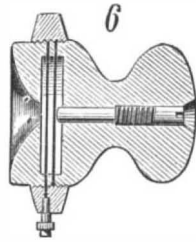
Morse, "his heirs or assigns," cannot bring in a legal claim for the telephone, because the Morse patents have expired. But then it might be credited to him, for two reasons: First, because he is dead and cannot object; second (Judge Lowell's

reason), because Morse's instruments will transmit articulate speech, "whether the inventor knew it or not."

Here is another quotation: "But Bell discovered a new art, that of transmitting speech by electricity." Now why not give Judge Lowell a patent for the discovery of a new art—the art of discovering that Bell was the discoverer of the art of transmitting speech by electricity? Certainly no one but Judge Lowell has made this discovery, therefore he is entitled.

How, in the name of common sense, Bell can be credited with making the discovery of "a new (?) art," when, as long ago as 1861, Prof. Reiss published and gave to the world full particulars of this same "new art;" and not only Bell, but all other scientists throughout the globe were acquainted with the facts? Perhaps they were not aware of it at the Patent Office at the time Bell put in his application. It is not well that the examiners in any department should be thoroughly posted; because if they were it would greatly lessen the number of new patents issued upon old devices, and that would never do, for the business of the Patent Office is to issue patents—the more the merrier. Never mind whether they will hold water or not; the Office grinds them out, medical college fashion, and the people must abide by the results.

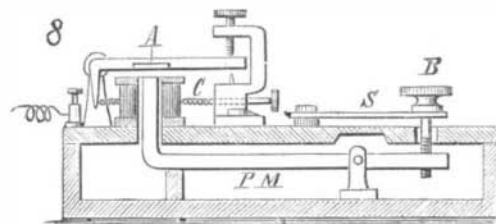
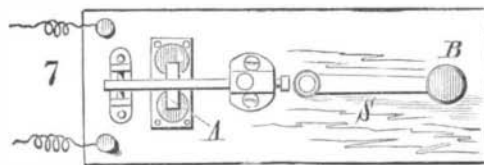
The judge is probably correct when he says: "It seems to me that the defendants use both the method and the apparatus of Bell." There is not a particle of doubt about that; but what did Bell use for his experiments, and as a model? Simply nothing but the methods and the apparatus of former experimenters. How much of the so-called Bell telephone, as now constructed (Fig. 3), was invented or contrived by



Dolbear's Receiver.

Bell? The most reliable information upon the subject credits the "permanent magnet" (as applied to an instrument constructed purely for telephonic purposes) to Prof. Dolbear, of Tufts College; the "converging mouthpiece," Fig. 4, to Prof. Pierce, of Providence, R. I.; and the general makeup of the instrument into the "butter-stamp" form, Fig. 5, to Edson S. Jones, of the same city. The butter-stamp form of telephone, Fig. 5, is the one now in general use. Compare it with Bell's apparatus, Fig. 1.

In referring to the Reiss telephone, the judge says: "The regret of all its admirers was, that articulate speech could not be sent and received by it," all of which is an exceedingly elevated mistake, for the Reiss apparatus will transmit articulate speech, and as perfectly as any of the hundreds of other forms that have since been constructed—a fact that is well known by telephone investigators throughout the land. Also, that "a Bell receiver must be used to gather up the sound before the instrument (Reiss's) can even now be adapted to a limited practical use." Bosh! Can it be possible that Judge Lowell *believes* such nonsense? Has he been mixed up in this case, all this time, and never heard of the simple little receiver contrived by Prof. Dolbear (Fig. 6)—an instrument that contains neither magnet nor helix; and yet it is a perfect receiver for the Reiss transmitter—a fact that explodes the above claim?

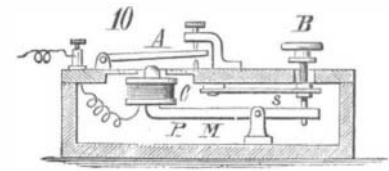
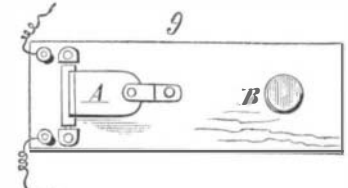


I devoted considerable time last winter to the examination of the Patent Office reports for the self-satisfaction of knowing what had been patented in the electrical line, in years gone by, that bore any relation to the articulating telephone of to-day. And, without entering into details, suffice it to say that I found one instrument—a "magnetic sounder"—patented by one Win. Humans in 1874, two years before Bell was heard of, and containing every part—armature, helix, and permanent magnet—of the most perfect magneto-telephone as now made; and without one particle of alteration in adjustment or change in construction, it answers nicely for transmitting and receiving articulate speech.

Within a few weeks I have had the pleasure of using these instruments, both double and single helix, for conversing

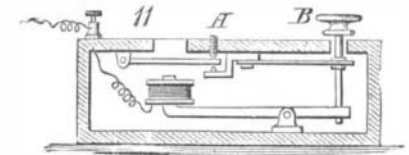
over lines of considerable length, and the results were quite satisfactory—equally as good as I have obtained from many forms of specially constructed telephones.

Fig. 7 is a top and Fig. 8 a side view of the magnetic telegraph instrument. A is the soft iron armature; C, the coils; P M, the permanent magnet; and in this instrument it is of horseshoe form, with both pole ends turned up at right angles, and carrying the coils, C. The spring, S, retains the magnet in its normal position. The instrument is operated by working the knob, B, in the usual way; and it is so simple in adjustment, etc., that the merest tyro cannot fail to understand. To work it as a transmitter and receiver of articulate speech, you will simply hold or fasten down the knob, B—which will bring the magnet and armature nearly together; then talk and listen closely to the armature, A. A paper cone fastened around the helix will augment the sound very materially; but it is not necessary, for it will work nicely without it or any changes or attachments whatever.



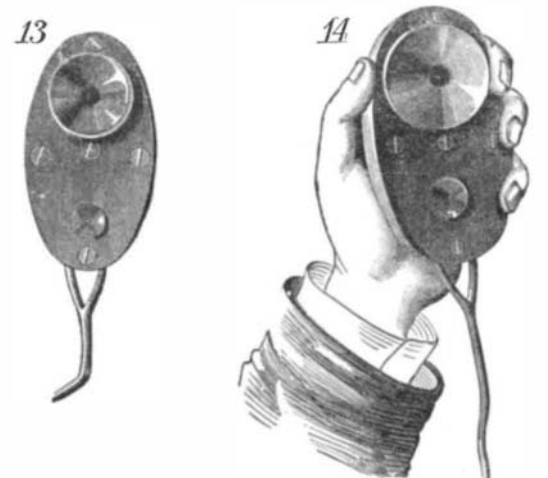
The single helix instrument is of a much cheaper form, and as a transmitter and receiver of vocal sounds is superior to the double helix sounder. Fig. 9 is a top and Fig. 10 a side view.

To save expense in finish the spring, S, and spool, C, are placed within the case; and all metal work reduced to the lightest and plainest form. In principle and operation it is identical with Fig. 8. To make it still less expensive in construction the armature can be placed within the case, as shown in Fig. 11, and the adjusting screw, H, left flush with



the top. The key knob, B, remains above the surface as before, for the purpose of operating it. And as a "sounder" it works equally well this way. Is there any difference (patentable) between Figs. 8 and 11? None whatever! Put on a converging mouthpiece over center of armature, like Fig. 12, and you can call it a "sounder," or a "telephone," whichever suits your fancy. No battery is required; and as to "currents"—whether they are vibratory, disturbed, undulatory, intermittent, or pulsatory—they are all there—"you pay your money and takes your choice."

Let us make the case in an oval form, instead of square, and bring the line wires out at the bottom, as shown in Fig. 13. Now compare it with the Phelps telephone, as illustrated



on page 23 of Prescott's book, "The Speaking Telephone, etc.," and as shown here, in Fig. 14, and tell me if they wouldn't make pretty fair twins?

Franklin, Mass., September 19, 1881.