American Bell Telephone

Supreme Court of the United States.

OCTOBER TERM, 1886.

THE TELEPHONE APPEALS.

[JANUARY 24—FEBRUARY 8, 1887.]

113	AMOS E. **DOLBEAR** ET AL., Appellants, *v.* THE AMERICAN BELL TELEPHONE CO.	U. S. C. C. Mass.
667	THE **MOLECULAR** TELEPHONE CO. ET AL., Appellants, *v.* THE AMERICAN BELL TELEPHONE CO. ET AL.	U. S. C. C. S. D. N. Y.
668	**CROSS APPEAL IN SAME CASE.**	
1092	THE **CLAY** COMMERCIAL TELEPHONE CO. ET AL. *v.* THE AMERICAN BELL TELEPHONE CO. ET AL.	U. S. C. C. E. D. Pa.
1164	THE PEOPLE'S TELEPHONE CO. ET AL., Appellants, *v.* THE AMERICAN BELL TELEPHONE CO. ET AL.	U. S. C. C. S. D. N. Y.
	[DRAWBAUGH CASE.]	
1165	THE **OVERLAND** TELEPHONE CO. ET AL., Appellants, *v.* THE AMERICAN BELL TELEPHONE CO. ET AL.	U. S. C. C. S. D. N. Y.

ARGUMENT OF E. N. DICKERSON, Esq.,

FOR THE AMERICAN BELL TELEPHONE COMPANY.

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

Reported by F. M. ADAMS.

NEW YORK:
EVENING POST JOB PRINTING OFFICE, COR. BROADWAY AND FULTON ST.
(Law Telephone 541.)

1887.

CONTENTS.

PAGE

The composite "Polyform" defense made up of incongruous and inconsistent elements, and the contribution of each defendant to it..... 1

Dolbear's contribution and character. His attempt to obtain money from Bell and his appearance for the Western Union in the Dowd case..... 2

The Molecular Company's contribution of law and philosophy..... 7

The Overland-and-Drawbaugh combination contribute Drawbaugh's story and the impossible charges of fraud..... 10

The Clay Company's no-title defense..... 11

Reis' history and career in Germany..... 12

Sylvanus P. Thompson's employment to exploit the Reis story..... 13

Reis' exhibition at Giessen in 1864, and Professor Buff's lecture and publication. Reis' machine could not talk..... 15

The alliance between the Department of Justice and the infringers..... 18

The results of their joint enterprise are incompetent in law and worthless in fact. The witnesses from Germany 20

The diploma given by the University of Heidelberg to Professor Bell in 1886, as the inventor of the speaking telephone, expresses the sentiment of scientific Germany..... 20

The Gray defense.

Gray's combination with the Western Union in 1877..... 23

Dolbear joined in the combination but was found to be useless as a "prior inventor"..... 24

Gray's caveat; the origin of the idea of the speaking telephone in his mind; and his earliest date of conception..... 26

PAGE

The instrument of Gray's caveat will not talk..... 26

Gray's character. He testified as a witness that Bell was the first inventor of the Magneto telephone, and yet in his sworn application at the Patent Office claimed that invention for himself..... 27–33

Gray, in private correspondence and public lectures, confessed that Bell was, and that he was not, the first inventor of the speaking telephone..... 28

Bell's Figure 7 will talk, and in the way pointed out in his specification..... 36

The judgment against the Western Union in the Dowd case..... 37

Mr. Gifford's affidavit, and the termination of the Dowd suit..... 39

Bell and Gray at the Patent Office..... 43

Bell's application, Gray's caveat, the threatened interference, and the proceedings in the Office..... 44

Throughout these, Wilber, Examiner, showed himself unjustly hostile to Bell, and unduly favorable to Gray. 47

The Harmonic multiple telegraph of Varley and others.... 49

Bell introduced the "undulatory" principle into that..... 50

A further and different modification of the undulatory current gave him **the speaking telephone**..... 51

The obstacles Mr. Bell encountered..... 51

The fraud alleged a year ago to have been practiced by Bell against Gray was exploded by the New Orleans decision..... 52

Last week the appellants for the first time invented a new charge of fraud utterly inconsistent with the old one 55

The new charge of forgery and fraud..... 56

Bell's liquid transmitter is a working instrument, and Gray's water transmitter is not. Explanation of the details of the working of these instruments..... 56

Bell's successful water transmitter of March 10, 1875, and its mode of operation..... 61

Other features about variable resistance instruments, and about certain advantages of the undulatory current, which are not in the Brown specification and are in the Bell patent, are not found or hinted at in the Gray caveat, and therefore could not have been stolen from it..... 63

When the charge of forgery is compared with the papers

PAGE

themselves the utmost scope that can be given to it is a charge that Bell defaced his own correct specification by interlining into it words, every one of which was either unmeaning or injurious..... 66

The charge of forgery as stated in the appellants' brief.... 69

The various certified copies of the specification, including the patent itself, and the correspondence between counsel about the erroneous print, and the reprint of it..... 66–71

Mr. Bell's visit to Washington in February, 1875, and his description of it in his letter to his parents, on March 5, 1875. He did not obtain underhand knowledge of Gray's harmonic telegraph application, but only learned of Gray's apparatus from public exhibitions and newspaper descriptions of it..... 78

Mr. Edmunds, senior counsel for the Drawbaugh and Overland Companies, now exonerates Mr. Bell from all complicity with ang wrong, if any was committed by any one..... 81

Bell's good faith and honesty proved by his cotemporaneous publications of that which a dishonest man would have concealed, and by his sending to Gray the published account of his own use of the liquid transmitter..... 82

The George Brown specifications..... 84

The relations between Mr. Bell and Mr. Brown..... 85

The variable resistance plan conceived of and stated by Mr. Bell, May 4, 1875..... 86

The particular contrivance, known as the liquid transmitter, for working out that plan, invented and put into his American specification in January, 1876..... 87

Not put into the Brown specifications because it did not seem important enough to induce Mr. Bell to take the trouble to alter them under the circumstances of the case, and in view of the difficulty he already had to get Mr. Brown to do anything..... 87

The whole description of the speaking telephone, fig. 7, *and of the new principle by which he transmitted speech, is described in identical language in the George Brown specification, and in the American patent.* The insertion of the liquid transmitter *alternative form* was not of itself important, and has not been deemed so by any Court..... 89

PAGE

Bell's honesty and good faith is again proved by the fact that he sought for and found the George Brown specification in 1878, voluntarily offered it, and himself put it in evidence..... 95
The written records disprove all charges of interpolation.. 96
The suggestion of forgery has no thinkable foundation. It does not explain and is inconsistent with the facts which the appellants themselves admit..... 97
Mr. Edmunds' repetition of the story about Mr. Orton proves the fallibility of memory..... 98
The McDonough defense.—It was tried in the Patent Office, and condemned as a mere reproduction of the Reis musical telephone..... 100
The Varley harmonic telegraph patent, and the Clay Company's comments on it..... 103
Explanation of the terms "intermittent current" and "undulatory current," and of the symbols by which they are commonly expressed..... 104
The Varley harmonic telegraph patent explained 107
The Holcomb defense; the House-patent defense.. 110
The House-patent defense, admitted by Mr. Lowrey in his printed brief to be absurd, is published in the newspapers, and set up in the Government case, as the only new ground of attack on the Bell patent..... 111

The Drawbaugh case.

Unwarrantable attacks by the appellants on Judge Wallace's decision 113
Drawbaugh's autobiography. The facts and testimony about it..... 113
Drawbaugh's finances; the truth and the facts about them. 117
Mr. Matthews, the Baltimore American, and his letter to counsel. The truth and the evidence about that... 119
The patent itself produced. It proves what the specification was on March 7, 1876. Explanation of the practice in the Patent Office 121
The "spurious brood" of decisions..... 124
The just scope of the Bell patent. Galileo's telescope as an illustration 125
The Drawbaugh frauds.
The measure of proof required to support a claim so stale and suspicious..... 130

PAGE

The Drawbaugh story depends largely upon mere dates, a subject upon which memory is proverbially weak... 130

Drawbaugh's methods of debauching dishonest witnesses and deluding honest ones..... 131

The small value of memory of dates, especially among witnesses situated like Drawbaugh's..... 132

Mechanical speaking telephones at Drawbaugh's shop..... 133

Drawbaugh a charlatan and impostor..... 134

His visit to the Centennial. His conduct about it absolutely inconsistent with his story..... 135

The origin of the Drawbaugh claim.

Chellis and Moffitt investigated his telephone work in 1878–'9. His only work then pretended, consisted in telephone improvements made in 1878, and they declined to touch these because of the Bell patent, and because he could not antedate it..... 137

Drawbaugh acquiesced in this, and did not assert the contrary..... 138

Origin of the present Drawbaugh enterprise..... 139

They knew that Drawbaugh could not antedate Bell, but found in 1879 that an ignorant neighbor would swear his instrument back, and on that they started a speculation based on a sale of the story to those who would buy without investigation..... 142

Their conduct in 1879, and subsequently, proves that such was the character of the Drawbaugh enterprise..... 143

The frauds they have committed in deluding honest men into swearing to what the conspirators knew to be false—*the water ram story*..... 145

The Philadelphia tests of 1885 and the Hunnings transmitter fraud..... 146

Defendants' witness, Captain Moore, their most reliable witness, confirmed by Drawbaugh, kills their case... 150

The treatment of Mr. Bell by the great scientific societies of the world contrasted with the attacks made on him by those who assail his honor only because they are greedy of his profits..... 154

The Bell telephone annex to the Department of Justice 156

Conclusion.

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

Supreme Court of the United States.

THE BELL TELEPHONE APPEALS.

[HEARD JANUARY 24 TO FEBRUARY 8, 1887.]

ARGUMENT OF Mr. E. N. DICKERSON FOR THE AMERICAN BELL TELEPHONE COMPANY.

FEBRUARY 3, 1887.

Mr. Dickerson: May it please the Court:—Our learned and respected brother, Mr. Edmunds, towards whom, if he will excuse the liberty I take, I may say that, in consequence of something he said in this case, I feel more kindly than I ever have felt before, told your Honors, in his pleasant banter, that our side did not read the scriptures, but that his did. I do not propose to traverse that assertion just now, and I ask a suspension of the judgment of the Court until we can produce the proof; but I will admit that his side reads the good book, and that in it they found these words of wisdom: "In the multitude of counselors there is safety." I always supposed that to mean safety for the counselors. He also probably found in that same book an account of a very celebrated and just man who was clad in a coat of many colors. Perhaps these various appellants are trying to imitate him. The imitation, if that be their purpose, falls short in the circumstance that the virtue is wanting.

I think, however, that I know where the theory of this argument came from; and that my brother Lowrey will agree with me, because he also knows the same facts, and must perceive its true origin. I think it came from that distinguished man, Thomas A. Edison, otherwise called the "Wizard of Menlo Park." The "Wizard," like his

prototype, Jack Falstaff, whom he resembles very much in many ways—for he is a man of infinite jest and humor—was troubled at one time with a disease that Jack Falstaff suffered from, and called "Consumption of the purse." Jack never found the remedy; said he, "Borrowing only lingers and lingers it out; but the disease is incurable." But Edison, being an inventor, found the remedy. He invented a trade mark—it is a very good one—and he called it "Polyform": brother Lowrey knows all about it. And he first printed that on bottle labels, and then went about to apothecaries and bought all the kinds of drugs he had been told were remedies for rheumatism, and mixed the ingredients all together, and put them into his bottles, and sold them for a dollar a bottle, under the attractive name of "Edison's Polyform," for rheumatism; to be bought in any of the apothecary shops in the country; and that cured the consumption of *his* purse without any trouble.

Now, our learned friends here, in imitation of the "Wizard of Menlo Park," have been mixing a kind of legal "Polyform"; and they have compounded the elements in a cauldron in the presence of the Court. My purpose, just now, is to examine what are the ingredients in this cauldron, and to see whether the "Polyform" is capable of curing the rheumatism which, for some years, has prevented all these infringers from walking abroad and filling their pockets out of our earnings.

What, then, are the contributions to this Polyform?

The Dolbear case contributes three ingredients: *First*—Dolbear says that Bell has invented the *only way in which it is possible to transmit speech*, and he thinks that he ought not to be such a hog as to try to keep it all himself; but if he is, why then he ought at least to invent some other way, and give that to the public, and then they will not be so unhappy about it. That is the first contribution of the Dolbear case.

Then Dolbear says: But if Bell is going to be such a hog as to try and keep it all, Dolbear does not infringe, because he is using one of the old, well known kinds of receivers for sound, which Bell never used, and which he thinks is not the equivalent of the receiver of the Bell patent. But Bell, as your Honors now know,

never patented his receiver at all; for Bell's patent is not for either the receiver or the transmitter; it is for a telephone, organized in such a manner as to generate and mould his new kind of currents with which your Honors are now familiar.

Then Dolbear contributes a *third* ingredient to this cauldron; which is, that Reis was the first inventor. But that he does with bated breath. My agreeable friend Maynadier did not press that at all upon the consideration of the Court; and the reason why he did not, your Honors now know. When Dolbear tried that plaster in Boston it made his joints stiffer than ever, and he does not care to try it any more. He merely suggests it in this case, and leaves others to be the sponsors for its efficacy.

But this Professor has put into this cauldron some other ingredients, which all go towards making this general polyform, and to which I would call your Honors' attention; for we are now trying to analyse the contents of this mess, and to see what it contains, in order to find out what is and what is not, in law, effective for the purposes proposed.

What he contributes is to be found on the 494th page of our general brief, and is a letter from him to Professor Bell:

"COLLEGE HILL, Mass., February 16th [1877].

"Professor A. G. BELL:

"Dear Sir,—The other day I visited your room at Exeter place, and was kindly shown your invention, the telephone, by Mr. Watson. I congratulate you, sir, upon your *very great invention, and I hope to see it supplant all forms of existing telegraphs, and that you will be successful in obtaining the wealth and the honor which is your due.*

"Yours truly,

"A. E. DOLBEAR."

But, the Professor changed his mind in the course of that summer, and on Aug. 1st he wrote another letter.

"Aug. 1st, 1877.

"Hon. GARDINER G. HUBBARD:

"Sir,—Since the conference I had with Prof. Bell, upon our mutual relations to the telephone, which we held in your presence, I have been looking for some

communication from you upon the matter, for I thought that I convinced Prof. Bell that *I had invented the speaking telephone ab initio, entirely independent of him, and moreover that the special form of it which he now uses*, namely, the vibrating inducing plate, in front of a fixed permanent magnet, *antedated his invention of the same thing by considerable time.*" * * * * "I, THEREFORE, ASK YOU IF, IN ALL FAIRNESS, YOU WILL NOT CONCEDE TO ME A SHARE IN THE PROFITS OF THIS INVENTION.

"At the request of Messrs. Lee & Shepherd, publishers of Boston, I have written a small treatise upon the subject of telephony, and it is now in press, and will *probably* be issued in about ten days. I have endeavored in this book to give the full credit to Prof. Bell for his invention, and have described with drawings his apparatus, including the device, patented January 30, 1877. All the facts in relation to the claims of Prof. Bell, and also my own, will thus come before the public, and become well known to purchasers of telephones.

"I think it will then be perceived that my rights are equal to those of Professor Bell, and this must diminish the sale under that patent."

And then a virtuous streak came over him.

"I HOPE THAT THERE IS NOTHING THAT I HAVE SAID THAT WILL LOOK TO YOU LIKE AN IMMORAL ATTEMPT."

Why, who could suspect it? No man could suppose that! Why should he put in that *caveat?*

Well, in a figurative sense, he was kicked out of doors; and then he turned up at the Western Union Office. At that time, in 1877, the Western Union Company were preparing to infringe the Bell Patents, notwithstanding the astonishing fact, according to brother Edmunds, that the President of the Western Union would have nothing to do with it until the fall of 1878. He turned up at the Gold and Stock Telegraph Company (a subordinate of the Western Union), and in September, 1877, just one month after this moral letter, made a contract with the Gold and Stock, in which he agreed to transfer to them *his two inventions*, and they agreed to give him one-third of the profits of the telephone to be realized out of the business of telephony (see Contract, *Dowd*, i, 314). In consequence of this and of Gray's contract, a company was formed December 6, 1877, called the American Speaking

Telephone Company, which exists to-day (*Dowd*, i, 129). Then, relying upon those representations, Dowd, who was simply a telephone operator for this American Speaking Telephone Company, and who was sued by us, put in his answer, and averred and swore to it—*first*, that Professor Dolbear was the inventor of the *entire telephone* before Bell (*Dowd*, i, 7); and, *secondly*, that he was the inventor of the *improvements of* 1877, before Bell (*Dowd*, i, 9). And the case went to trial upon those issues.

This Professor, however, when he was called upon the stand in the Dowd case, to make good the representations under which that Gold and Stock Company had agreed to give him one-third of the stock of this new company, of course went down at once. He made no pretense that he was the inventor of the Bell Telephone. On the contrary, he told the story truthfully; because this gentleman is incapable of telling any lie *under oath;* and he had already written to Bell (May 6, 1877) the true story, which was that the first time he ever thought of making a speaking telephone was when reading Sir William Thomson's remarks about the success of Bell's Telephone at the Centennial. He had read, he said, that very eulogistic account of it, published by Sir William Thomson, who recounted in England his wonderful experience at the Centennial, using this emphatic language (*Molecular*, ii, 1799):

"Who can but admire the hardihood of invention which devised such very slight means to realize the mathematical conception that if electricity is to convey all the delicacies of quality which distinguish articulate speech, the strength of its current must vary continuously, and as nearly as may be in simple proportions to the velocity of a particle of air engaged in constituting the sound."

That was the first Dolbear ever thought of a telephone; and, of course, like an honest man, he would not swear to anything to the contrary. (See his letter to Bell, *Dowd*, i, 299; *brief*, 490.)

When the Western Union found that this gentleman was too honest to tell anything *on the stand* that was not the truth, they of course had no further use for him; and he was again figuratively kicked out of that place, having left poor Dowd in the lurch, who had sworn, on those rep-

resentations, that Dolbear was the inventor of these two Bell inventions. And when we brought our action against him here, that streak of integrity which overcame him on that occasion, still pursued him; and he did not even set up in his answer that he ever invented anything about the telephone. He relies upon his newly discovered, what I may call *anti-hog principle* of patent law—that an inventor is not to be allowed to keep *all* that he invents, but must give somebody else a share out of decency.

At that time, may it please your Honors, there was a very active market for first inventors. The Western Union Telegraph Company, supposed to have an overflowing treasury of large dimensions, had begun to infringe. They would not buy Bell's patent, which they might have done, and had a fair chance to do. They preferred to infringe it; because, your Honors, no man knows whether a title to a patent is good until it has been tried in Court; and it seems foolish to spend money in buying a title that never has been tried. But infringe it, and be sued, and get it tried—why then you have got something that you can buy with safety. It is like a judgment for a debt—it settles the question without any receipt in full; and the Western Union Company was engaged in trying that experiment, and they tried it to their satisfaction.

But there was a great demand at that time for first inventors. That demand, may it please the Court, has continued very active ever since. The price of first inventors is going down just now; but for a long time it was quite high; and a good many first inventors got their price. Figuratively speaking, the woods are full of them yet. We have had two or three within the last two months—two or three "*first inventors*"—and we expect to have them to order at any time from now till the expiration of this patent. The Western Union had two: they had this gentleman; and another gentleman who has been described to your Honors as a person of singularly pure and simple character, very liable to be deluded and deceived by such an artful and designing man as Professor Bell; and *his* name was Gray.

The Western Union Company set up the Reis defense in that Dowd answer; but being electricians, so to speak—

that is, being managed by electricians, and therefore knowing that that was absurd, never called a witness to swear it anticipated. It was put in as a matter of form. No *electrician* would set up the Reis thing as an anticipation of the Bell patent; but when we get speculators or people like that in Court, why then they will set that up, or anything else; but not the Western Union. They set up two first rate defenses, *if true*, namely:—that Dolbear had invented both of Bell's patented inventions; and that Gray had invented both. The difficulty with them was that they were *not true;* but, in point of common sense and in law, they were excellently good defenses. Not so the Reis defense.

Now comes the Molecular case, which contributes its share to this Polyform. It brings four ingredients, one of which is a matter of fact, and one a matter of law; one is a mixed matter of law and fact, and another is a matter of moral philosophy; and they are all put in to make up this general result that is hoped will be so effective here.

Their first is, that Bourseul and Reis described the invention of Bell in circumstantial detail, so that any one can read it out of their descriptions; and it needs, therefore, no invention to do it after those full explanations have been given to the world. That is the Reis part of it, which my learned brother Lowrey so fully and ably argued.* That is the first contribution.

To the law question I cannot do justice without reading it. It is in brother Lowrey's brief at pages 155–6. He says that the interpretation of Bell's patent *ought to be such* as to secure Mr. Bell in the exclusive enjoyment of that tin and bladder contrivance on the table, known as fig. 7 of the patent, which he says he takes great pleasure —and we know he does—in admitting to your Honors was the invention of Professor Bell. He says that no other man ought to share it with him in this world; but that he

* The difficulty with this argument is that all the expert witnesses *for the defendants* agree that neither Bourseul nor Reis *ever knew or ever described* the mode of operation invented by Bell, and therefore that the world never was instructed by them how to make a speaking telephone; and that the Reis machine is in capable of transmitting speech when operated in the way designed by its inventor, which was "circuit-breaking." (See witnesses cited *infra* and *brief*, pp. 230 *et seq.*

ought to be confined strictly to that. Let me read you his exact statement. Says he (*Molecular brief*, 156):

"Such an interpretation secures what Bell invented, *and enough of what he* DISCOVERED to enable him to work his invention, while not excluding other inventors from access to the universal storehouse."

Now that, as a proposition of law, is entirely bright and new. It is not even fly specked. It has never yet been subjected to the criticism of this cruel and heartless world. He presents it with that perspicacity so characteristic of my brother Lowrey on all occasions. Let Bell have enough *of his own discovery*, says he, to work that tin and bladder machine like fig. 7; but let the rest of us get into his storehouse that he made, the key of which he found, and the contents of which we think we can use a great deal better than he can. That is the law part of this contribution.*

Then the moral philosophy part is, that the reason why Reis' invention did not get into public use at all, was, that Reis freely *gave* it to the world. Well, brother Lowrey, like other self-respecting gentlemen, would not like to take presents from strangers. No gentleman does. A man who would consent to take a present from an entire stranger is—well, we should call him a "cad" in social life—and brother Lowrey's high sense of the character of a gentleman makes him revolt at the idea of taking a present from any one unless from some intimate friend. For instance, brother Lowrey would accept a present from me, and I would from him at any time; but from an entire stranger, that is too much! But, his idea is that while self-respecting men will not accept a present from Reis, they may steal it from Bell, because that is a thing

---

* The Constitution calls for "securing to authors and *inventors* . . . the exclusive right to their respective writings and DISCOVERIES."

By the statute the specification is to describe "his invention or DISCOVERY," and to "explain the *principle* thereof, and the *best mode* in which he has contemplated applying that *principle*." Having thus treated "invention" and "discovery" as co-extensive, and having contrasted them with the mode in which he has contemplated applying it, as something much more restricted, it provides that the patent shall be in the broader terms—for the "new invention or DISCOVERY."

This subject is in our *General Brief*, p. 346.

any gentleman-Turpin may do. That belongs to the chivalry of the middle ages. Your true knight won't beg, or accept a gift; but he will take it by force; and that is honorable. And he thinks that is the way to account for the *fact* that people who would not take Reis' telephone as a gift are ready to steal in order to get Bell's. So my learned friend puts that bit of moral philosophy into this cauldron, and he does it with great evident sincerity.

Then he contributes another, and it has always struck me as a very powerful one—a mixed question of law and fact. I keenly felt the force of it when it was first brought out on the stand. I think I never have quite recovered from the effect of it from that time to this; and that is that, after all, Bell *never thought he invented* a telephone at all—that the contrary supposition is an entire mistake—that Figure 7 is not a telephone, never was meant by him to be one; that it is in fact a "*multiple telegraph*," and never was meant to be anything else. And, that your Honors may have no doubt about it, he has had it sworn to by a competent witness; and according to the theory of the Drawbaugh case, that whatever is sworn to by a competent witness is true, he thinks he has proved it. I am going to read that testimony. I think it will be refreshing, if your Honors will turn to it. It is on the 459th page of the Molecular record.

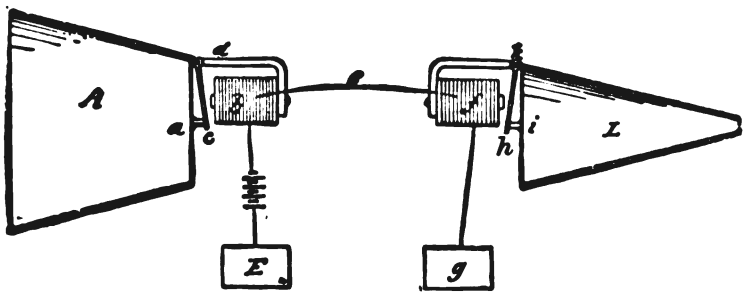
This expert for my brother Lowrey (*Prof. Brackett*) had testified in his direct-examination to a question put to him in the Molecular case, as follows (*Molecular*, i, 451):

"Mr. Bell *designed and described Figure 7* as an apparatus for the purpose of transmitting *at the same time a number of independent sounds to be converted into a number of independent messages, just as he described Figure* 6, having a number of transmitters and a number of receivers on the same line."

On that I was cross-examining him; and I asked him to tell the Court how he thought Mr. Bell "designed" that thing to operate as a multiple telegraph; and he answered (*Molecular*, i, 459):

"The meagreness of Professor Bell's specification, so far as relates to Figure 7, does not enable me to say how Professor Bell himself would proceed at the date of said

specification. Several alternative methods are readily imagined by which this may be done; for instance, *one person may apply the contracted conical end to the external ear, while one or more persons may simultaneously, having their ears in the neighborhood of the reverse side of the membrane, distinctly hear and interpret such continued musical notes as the apparatus there shown was fitted to transmit*, and by attending to their continuity or interruptions in accordance with the telegraphic code, understand the signals designed to be transmitted."



BELL'S PATENTED TELEPHONE, FIG. 7.

That was a charming picture. Imagine one with this conical receiver *L* of fig. 7 at his ear, brother Lowrey and his party all around him, standing with their "*ears in the neighborhood*," and each one picking out his message, which a crowd of persons at the transmitter are delivering in "*musical notes*" simultaneouly and in a miscellaneous way into that other conical instrument *A*. That is what this witness swore, in his judgment, was what Professor Bell meant when he wrote this specification, and invented this instrument, figure 7. That always struck me as very persuasive; and that is the Molecular contribution here.

Then we come to the *Overland-and-Drawbaugh-combination*-defense. There the scene changes. Your Honors perceive that it is inconsistent with the theory of Drawbaugh to admit that Reis was the inventor of the telephone; because, if he were, the patents that Dan Drawbaugh and Co. are going to have by Act of Congress when this Court decides that he was the American "Faraday" who did it, would be of no value; for the Reis publications would have destroyed them. And therefore it

is necessary for them to make a flank movement on the rest of the party, and to say that Reis did *not* invent the speaking telephone; that he never had that invention, but only had a musical telephone. But they say that Drawbaugh did invent it. He invented it frequently from 1866 to 1880; and he is liable to invent it a good deal more if he lives.

They also assure us that Gray invented it; but he invented it after Drawbaugh did, and before Bell. So that there are two stops—two valves, so to speak, in the case,—either one of which is fatal to Professor Bell; but neither of which is fatal to that prospective glory which is coming out of the Drawbaugh invention when they get their Act of Congress passed.

Third—The combination also sets up that Bell did not invent it at all; but being a man, as they say, of "transcendent abilities," he devoted his talents with great success to a miscellaneous variety of felonies, in consequence of which he came out with a first rate, highly scientific description of a telephone in his pocket, mixed in with a kit of burglars' tools; and upon that he has succeeded in imposing upon the world, and has presented himself as the most successful specimen of crime that ever yet has appeared on this footstool. All of which is due to his "transcendent abilities" as a scientist.

And thereupon, they present to us a magnificent tableau, as it were on a stage: Drawbaugh and his partners about him, triumphant. Under the floor of the stage, in the cellar, Bell chained, and a felon. Columbia, in her Phrygian cap, waving the American flag in joy that she has destroyed a fair name and a fair fame, once jewels in her diadem; and the whole ending in the final scene of Drawbaugh and his partners ascending behind the painted clouds on the wings of twenty or thirty millions of Drawbaugh's stock. That is the picture presented by that combination.

Then we have the next contribution, which is known as the *Clay* case. That brings in two other ingredients, one of which is the Varley patent; and my learned friend from Philadelphia assured your Honors with perfect sincerity, I have no doubt, that Varley had a speaking tele-

phone; and not only so, but that we had admitted he had, and had sworn to it ourselves, so there could be no kind of doubt about it—which is all news to us.

And then he presents another defense, which may be called the Sairy Gamp or Mrs. Harris defense. Your Honors will remember that Betsey Prig said to one of those esteemed females, "I don't believe there ain't no sich person as Mrs. Harris." And this defense is that he "don't believe there ain't no sich company as the Bell Telephone Company." I characterize that as the Mrs. Harris or Sairy Gamp defense.

That, may it please your Honors, fills the pot, and makes the polyform:

> "Round about the cauldron go;
> *In the poison'd entrails throw—*
> Toad, that under coldest stone,
> Days and nights hast thirty-one
> Sweltered venom sleeping got,
> Boil thou first i' the charmèd pot.
> Double, double, toil and trouble;
> Fire burn; and cauldron bubble."

The "gruel is thick and slab;" and the question is whether it will cure this kind of rheumatism. And that is what I am going to discuss.

Reis in Germany.

Before going into the other parts of the case I will take up the fag end of the Reis defense, which my brother Storrow demolished upon what is contained in the publications. But, there is another part of that defense—that is the testimony *in pais*. We had supposed that the publications abroad were all that in law could constitute a defense. We had supposed that under the statute it would be entirely immaterial whether the Bell invention itself, in its highest degree of perfection, existed in every farm house in Germany, if it were not published or patented in a manner to convey that intelligence to the world. We thought that was the law; but have to admit that we have been instructed by events.

The history of the matter is this: There was a gentleman in England, named Sylvanus Thompson, with a "p"

—a professor of that name—of whom Du Moncel, the great French scientist, said: "You must not confound him with Sir William Thomson, *who is an electrician.*"

Mr. Lowrey: Would you mind mentioning where that is stated? I have not been able to find it.

Mr. Dickerson: Well, I will not stop to do that. It is not a part of my argument. Let me get off a little fun now and then.

Mr. Browne: Then let us know when you get to the argument.

Mr. Lowrey: Yes; let us know when it is argument, and when it is fun.

Mr. Dickerson: I will give you any time you wish to get up and talk, if you desire it. (A pause.)

Well, this gentleman wrote a book in 1880—called, "Lessons in Electricity"—and in it he said that Bell was "THE INVENTOR OF THE ARTICULATING TELEPHONE;" and he went on and described how and why he was, and how Reis was not. Afterwards he was employed as an expert by the English infringers of that fragment of the Bell patent remaining in England—because there is but very little of it left there, in consequence of its not having been patented when it should have been by George Brown—and he went to Germany to study up the Reis defense; and then wrote a book in the interest of the infringers, for the purpose of establishing the fact that Reis, and not Bell, was the inventor of the "articulating telephone." In that book, by way of giving it credit, he says that "Professor Dolbear *admits*, in unequivocal terms, the whole claim of Reis to the invention of the telephone" (p. 41). Professor Dolbear and Professor Thompson were working this little game together. Dolbear was the American infringer; and this gentleman was employed by the English infringers; and they worked the thing together—Dolbear furnishing a man by the name of Stetson to aid in procuring the proofs, and the Professor going with him to hunt this German ground over. This book then came out, with Professor Dolbear's "*admission*" in it that Reis was the inventor of the telephone; and he has been admitting it ever since as hard as he can (see Thompson's deposition, *Overland*, ii, 1140). In that

search in Germany the two found seven persons who were willing to say that the telephone of Reis was a talking telephone in 1860–'61, and thereafter, and they wrote letters to that effect, which are all published in that book—*seven persons*. I have got their names, but your Honors are not particularly interested in that. Thereupon, when the Overland case came along in this country, the Overland people conceived the idea that it would be a good thing to prove by these seven persons, or by such others as could be found, that notwithstanding the publications to the contrary, the Reis telephone was really a first-rate talking telephone in Germany in 1860 to '64. So they took out a commission in the Overland case (and it is before you, and made a part of the evidence here), subject, of course, to objection, and sent that abroad; and they managed to get the depositions of five or six of these German persons who knew that Reis was the inventor of the telephone. That was all ruled out by his Honor Judge Wallace as incompetent, as we think it obviously is; and that ruling is before your Honors to pass upon here on appeal.* (See it all in our brief, p. 280, *et seq.*)

Then, in that not very satisfactory situation, some further steps were taken, which resulted probably from this:—in that book of Thompson's was published a poetical and glowing account, making one's heart bleed in sympathy with the misfortunes of the great public benefactor Reis, in which it was said that the "crowning achievement of Reis' career" was at a certain meeting at Giessen (a town in Germany) where were there assembled all the great scientific men of Germany, Professor Helmholtz among the rest.

Professor Helmholtz is the person who made the last of

* As illustrative of the peculiar secretiveness of Reis, read the testimony of Ehren, one of the German witnesses (p. 725, *Mol.*). He swears: "Our principal attention, studies and experiments were devoted to the *speaking telephone, and* REIS AND I WERE THE ONLY MORTALS WHO HAD KNOWLEDGE OF IT. His first experiments in the presence of a few acquaintances, like Albert & Son, mechanics, concerned only the transmission of musical sounds; THE STRICTEST SECRECY WAS PRESERVED CONCERNING THE SPEAKING TELEPHONE."

This accounts at once for the fact that all of Reis' publications are silent in respect to the talking capacity of his telephone, and for the general consent of the scientists of that day that it could not speak. It seems a pity that Reis did not mention it to any one but this lunatic.

the fundamental discoveries in acoustics on which the telephone is based. After laborious investigations for eight years, he published, in 1862, that most elaborate book called "The Sensations of Tone," in which he analyzed the voice, and gave us the geometrical curves by actual experiments, and by mathematical demonstration, and artificially produced the vowel sounds. By the simultaneous use of a number of circuit-breakers acting upon resonant chambers, with a man to manage and vary the resonant chambers, he produced "*a*" and "*e*," and the other vowels by a very complicated and ingenious apparatus, which enabled him to perform those wonderful analyses which have made him famous. He stands to-day at the head of the physicists of the world; and that work which he did is one of his chief claims to that high distinction. He was at that Giessen meeting, along with a number of other eminently scientific men—in fact the most eminent scientific men in Germany.

I notice that my brother Lowrey in his brief says that the trouble with Reis was that he could not get his invention known by scientific men; that he did his work "in a corner," as it is put in the brief; and he tells us that, as he understands it, the societies before which he exhibited were not scientific; they met in country places, and were not of much consequence; and that is in part why Reis failed. But Thompson says that "this occasion was the crowning point of Phillip Reis' career," and he tells us who were there, and what lectures were delivered. Among others, a Professor Buff, a man of high science, read a lecture at the same time Reis explained his telephone, and was assisting Reis; and the eminent men, Thompson says, were all congratulating Reis—clustering around him—telling him what a great man he was, and what a great thing he had done. But the poor fellow had just strength enough to climb up to that point of success; and then he sank, and gave it up, and from that time on for some years he could not be revived. It must have been a kind of asphyxia that overcame him on that occasion, as some men in the world are asphyxiated by flattery.*

* See the story all told in the volume entitled in the Molecular case, containing the "Testimony of Rudolph Messel et al.," p. 87. Also our brief, p. 154, p. 292*d*.

Well, we thought we would look up the matter, and see what this Professor Buff had said about it. Professor Buff published his own lecture, given on that occasion, immediately after the event; and it is found on page 69 of our little volume entitled "Reis-Bourseul Publications." What Professor Buff lectured about was this Reis receiver, which your Honors know about—this little knitting needle thing; not that *specifically*, but that phenomenon—that is, the effect produced upon iron rods by passing currents of electricity around them, known as the Page effect, which my brother Storrow has explained to you; and in his publication, just coming from that meeting when, according to Thompson, Reis had the talking telephone,* he writes (this quotation and the whole story about this meeting are in our brief, pp. 154, 193, 292*d*):

---

*This trash, by Thompson, does great injustice to Reis, who never entertained any of the opinions attributed to him. On the contrary, his work was fully appreciated, and he attained all the success he hoped for. His theory was "*circuit-breaking*." He worked it out in the most perfect manner, and his apparatus is so extremely sensitive that it is almost impossible to make any sound near it that will not break the circuit. He brought the machine to great perfection as a mere *circuit-breaker*. He knew that his apparatus had only scientific interest, and he said so. His expectation has been fully realized about it; for it has gone into institutions for scientific education, and is to-day regularly made and sold by Koenig, in Paris, and by Albert & Son, in Frankfort, and by Hauck, of Vienna, for the very use designed for it by Reis, and it will always remain, as he hoped, a piece of scientific apparatus of interest. Reis never published the reason why it did not talk, and obviously did not know it; but before Helmholtz published the true explanation of quality, Reis had adopted Willis' explanation (p. 18, Reis' Pamphlet), which was that varying amplitude (or "swellings," as he called it) was the distinction between vowel sounds, and he thought at one time his apparatus could vary the amplitude, and so produce vowel sounds. When Helmholtz proved that "*form*" and not *amplitude* was the cause of "*quality*," Reis must have seen the error of his theory, which he had exhibited in the curves explaining why his apparatus did not give vowel sounds (p. 18), but he never published anything about it. He did, however, freely sell his instrument with a circular admitting it could not talk, and attributing to it its true merit; and in his published circular (p. 51, Reis' Pamphlet), he thus writes *of his perfected telephone*, August, 1863, "THE SUBJECT HAS BEEN SO HIGHLY APPRECIATED BY THE MOST RENOWNED MEN OF SCIENCE, AND I HAVE RECEIVED SO MANY ENCOURAGEMENTS, that I have striven since that time to improve my originally very imperfect apparatus, in order to give to others also the *facility of experimenting*. I am now able to offer an APPARATUS WHICH SATISFIES MY EXPECTATIONS."

To this circular he added a note referring to Muller and Pisco for descriptions; both of which say that the apparatus cannot talk.

"This tone," [meaning the singing tone from the iron rod under the Page effect, which your Honors heard here the other day] "appearing only as a secondary phenomenon, has been utilized with success by Dr. Reis, of Friedrichsdorf, in the instrument which he invented and named 'the telephone' for transmitting tones telegraphically, by means of the *periodic impact of the sound waves of the same against an elastic skin.*

"The arrangement is such that the skin, which vibrates in equal periods with a source of sound acting upon it, serves *as a means for interrupting the electric current*, which, at a distance, circulates around an iron wire, the ends of which are clamped upon a resonating plate.

"UNFORTUNATELY, BY THIS OTHERWISE INGENIOUS ARRANGEMENT, THE PITCH ONLY OF MUSICAL TONES WITHIN SEVERAL OCTAVES, BUT NOT THE QUALITY OF THE SAME, COULD SO FAR BE TRANSMITTED THROUGH WIRE CIRCUITS."

That was Professor Buff's own cotemporaneous publication of what he knew and said in Reis' presence, and in the presence of those to whom Reis had just been exhibiting his telephone, at that famous 1864 meeting, where they tell us Reis had astonished the scientists by talking to them with his telephone, and then let it die out afterwards on account of his native modesty—like Drawbaugh who had very much the same disease.

Well, that made it necessary for the other side to do something. We produced this Buff publication and something had to be done to repair damages. Therefore there was sent abroad this same Mr. Stetson, during the last summer, this time in the employment of the United States, and paid out of its treasury—a kind of Minister Extraordinary—to scour this field again, and see if he could not find something that would neutralize the publication of Professor Buff. He went abroad and flourished the American flag for all it was worth. He astonished those Dutchmen immensely; because, although they are very much used in Germany to receiving favors from us—we send them a great deal of pork and a great deal of oleomargarine and other nice things—yet to send out a special agent to make them believe that the telephone was not an American invention was a degree of generosity which they had not expected, and they were highly elated and grate-

ful.* He ploughed the ground faithfully and found *one more German*, in addition to his former find, and so reported to the Department of Justice. Then came the time to issue a commission to take this new testimony which had not been already taken in the Overland case and ruled out by Judge Wallace; and this is what was done:

Will your Honors now look at the book, a copy of which I hold in my hand, and which is a part of the case. It is entitled "Molecular Telephone Case—Testimony of Rudolph Messel," and others. A contract, or a tripartite treaty, so to speak, found on page 1 of this book, was entered into between the high contracting parties:—the United States, party of the first part; the American Bell Telephone Company of the second part; and the Molecular Company of the third part. It was a treaty which occupied a good deal of time in negotiating—I think fully two months—but it was finally worked out, and the ratifications were exchanged in New York. It was a treaty for several purposes. It states that it is made

"Upon the request of the defendants, and Grosvenor Lowrey, Esq., *counsel for other parties who are or may be in litigation* against the American Bell Telephone Company."

Brother Lowrey was then and now is counsel for "another party"—the Department of Justice. In that treaty, at page 3, it is thus stipulated:

"IN CONSIDERATION THAT THE UNITED STATES SHALL PAY A PART OF THE EXPENSES OF TAKING THE TESTIMONY

---

* In Stetson's letter to one of the witnesses he was persuading to testify against Prof. Bell, at page 52 of the same record, he thus writes:

"I am, as I think I informed you, sent here by the Solicitor-General of the "United States, to inquire respecting the work of Phillip Reis upon the telephone. "* * The case is not in the interest of any company, brings no pecuniary ad- "vantage to the Government, but is undertaken in order to settle definitely the "question *who is entitled to the honor* of having invented the telephone."

The only true statements in that letter are, that he was sent by the Solicitor-General, and that no pecuniary advantage accrues to the Government from his embassy.

Another of these witnesses (page 65, q. 7), whom Stetson was persuading to testify, *just for the honor of the thing*, says: "Stetson showed himself always for Reis *contra* Bell," which is also true.

UNDER THIS COMMISSION, the American Bell Telephone Company, for itself, its successors or assigns, by its officers and lawfully authorized agents, hereby agrees and stipulates that any testimony taken in this case in pursuance of the commissions or letters rogatory referred to in this stipulation may be used as evidence for the plaintiff in any suit lawfully brought, or which may hereafter be brought by the United States or any officer thereof, in behalf of the United States, to cancel or annul" —the Bell patent.

The astute counsel of the United States also endeavored to guard the Government against the possibility of being estopped by the decision of this Court on this testimony so furnished by its means, by saying:—

" But such admission or rejection, or use, is not in any way to involve the United States, or affect the next stipulation herein."

Like other treaties, this one could not be signed by inferior parties; so it was signed by the Bell Company itself; and then my brother Storrow and I, in our inferior capacity, signed it as counsel.* We wasted a good deal of time upon it, but we thought it was well spent; because no one could tell but that somebody or other might at some time offer us a foreign mission; and then we would have had a little diplomatic experience to start with; and so we thought we had spent a couple of months in learning diplomacy that might be likely to bear fruit,—it might be handy some time or other, if anybody should ever appoint us Ministers Plenipotentiary abroad.

Upon that the commission went out—the United States paying a part of the expense. It was a kind of going in "on shares," like a whaling voyage. The proportions of the expense are not specified. They call this sort of operation a "lay" in the fishing business. There one party furnishes the money and the flag, another party furnishes the bait, and other parties furnish the labor; and whatever they catch they divide according to the "lay," whatever that may be.

---

* This treaty is signed

"AMERICAN BELL TELEPHONE COMPANY, by *W. H. Forbes*, Prest.

"G. A. JENKS, *Solicitor General, acting Attorney General in this matter*," and by the various counsel.

And this was done upon that principle. The United States furnished the flag and the money; the infringers furnished the enterprise and labor; *the Bell patent was the "bait."* You see that the infringing telephone companies themselves had got rather hard up. The Courts had pulled their hands out of our treasury by these injunctions; and they did not want to pay the expense of this fishing voyage—didn't have the money, in fact; but the United States Treasury is full—they are trying to find ways to spill the money out of it—and so the infringers got the United States into the "lay," and the proceeding was carried on in a regular business way for the purpose. I do not know what the lay is exactly—they have not told us that; but we may suppose that the party with the greatest amount of money paid gets the greatest share.

The expense must have amounted to from three to four hundred dollars. There was the round ticket of the messenger who went out—(although a round ticket in the winter time is cheap)—and then there was stationery, and the postage stamps, and the fees of the examiners who took the testimony,—all had to be paid. It will be in the next deficiency bill, I suppose.

Well this commission went out, and the witnesses who were examined had not been examined before; and their testimony is returned to your Honors in that book. They originally undertook to get *seven witnesses out of all Germany;* but two of them would not swear. One of them was Professor Quincke, a gentlemen of high character in Germany no doubt, and one of the Heidelberg faculty; but, while this performance was going on, the Heidelberg University had its five hundredth anniversary; and by way of illustrating it, and doing itself honor, **gave Professor Bell the diploma of that great institution as the inventor of the telephone, and for the great good it had done and must continue to do to mankind.** Standing at its door was this emissary of the United States, insisting that Bell was not the inventor, and that a German citizen named Reis was. But he could not convince them, for they gave Mr. Bell that diploma. And so Professor Quincke would not be a witness. We, however, admitted afterwards that if he had been willing

to be a witness, he would have sworn to just what he said in the letter which he wrote to Thompson some years ago; and so, by our formal consent, that letter is to be considered as evidence for the Molecular Company in the case, and they have printed it as part of their supplemental record.

They got five witnesses, and we admitted one more, and that makes six. Two of these were school-boys, twelve years old at the time of the event—very respectable school-boys, no doubt. My brother Lowrey has assured me, upon private information he has, that one of those school-boys (he is not a school-boy any longer, because this unfortunate time rolls us all on—he is full-grown now)—but brother Lowrey assures me he has found out that he is a most respectable man. But he *was* a school-boy, only twelve years old at that time; yet he tells us that not only did the Reis telephone talk, but he says that he assisted in making the telephone himself. That is, says he, "I made some parts with my own hands—for instance, an orifice" (p. 6, q. 4). Well, we believe that. Twelve years' old boys are in the habit of making holes; their mothers can vouch for that; and I think he must have done it, too. The other twelve-year-old boy was the brother-in-law of Reis himself. He never got so far as to make an "orifice"—or at least to tell of it—but I think he must have done it also.

They were both school-boys at that school, and they testify that this Reis thing did talk there; that Mr. Reis would stand in a building a hundred feet away, and talk to the transmitter, and *they would all stand around the knitting needle receiver placed on the table;* that Reis would read a book into the transmitter—and it was a kind of every-day exercise—he would read a book into it; and they could all hear the reading, standing, as they did, around the table. Well, it overcame us with great sorrow—and we have not entirely recovered from it—that so valuable an art should have been lost. There is no telephone before this Court now that can do it: and it is distressing to think that that art should have perished. These boys say that they cannot remember enough about it to do it again; but that it did it then they are sure.

Then, they got another gentleman, who is a tanner;

and he testifies "Yes; it was so;" and he gives a drawing of the instrument (p. 80, q. 9). In my copy of the record they have not printed that drawing, although they had a wood-cut to do it with; but we have it printed in our general brief (p. 292 *q*). It is the cone of the Bell receiver—a tapering cone—which the witness says was put to the ear. That was the Reis receiver of that day, *according to this witness.* No such thing as that is in the published accounts of Reis; but that was it, if our tanner is not mistaken. He has been used to listening to these Bell receivers, and its effect upon his imagination has been so great that he swears Reis had that very thing in 1860, and that they put it to their ears then as we do now.

And that, may it please your Honors, is the testimony which is to supplement the publications, and to abolish Professor Buff. These boys testify to that particular Giessen occasion. Their testimony was taken in order to spoil Professor Buff; and it has spoiled him—if they can be believed. There is something, however, about cotemporaneous published statements that appeals to the prejudices of the human mind, and is hard to be overcome. It don't seem to be easily overcome by a twenty-five-year-old memory of a twelve-year-old school-boy. That prejudice is a misfortune for the other side. We have lots of it in the Drawbaugh case; ten-year-old and twenty-year-old memories, as against cotemporaneous publications. They *there* say, "away with your cotemporaneous publications; those were not revised; memory is a great deal better." And so they have got it here. And that, may it please your Honors, is the new testimony, on which we make some comment in our brief; and we conclude that in that treaty the United States were outwitted by the infringers, and have lost their money.

The Gray Defense.

That brings me, if your Honors please, to a part of this case, namely, the Gray defense, which has grown into immense proportions. Your Honors perceive that it over-

shadows everything else here. It is the last vain hope of the infringers, that Gray may now be made to serve the purpose of reviving them.

Let me give you a history of the Gray defense.

When the Western Union was hunting about for first inventors they found a couple; and Gray was produced as one of these first inventors of the telephone, and is set up in the answer in the Dowd case. He was set up with a proper and adequate plea, under section 4920, Revised Statutes; namely, that Mr. Bell "had surreptitiously obtained a patent" for that of which Mr. Gray was "the first inventor, who was using due diligence" in the Patent Office to procure a patent; and the whole story of this caveat was set out in the answer in the Dowd case in 1877, on pages 15 and 16 of that record. He is also set up again in the Molecular case and the Overland case under a similar plea. It is all quoted, and all the references to the record are given in our general brief, p. 423, *et seq.*

Gray was a party to that Dowd litigation. Dowd was a name only—the real party was the American Speaking Telephone Company, and Dowd was their agent. That company was organized for the purpose of infringing the Bell patents and bringing on the issue, which resulted as I will presently show you. That company was to be composed of three parts; Gray and his partner, S. S. White, of Philadelphia, were one part. White was a person very well known as a wealthy man, the manufacturer of dental supplies (he is since dead), who supplied money to inventors in a very generous way, taking a share of their patents, out of which sometimes he got a profit, and sometimes loss; but it is a very noble use of money for capitalists to assist inventors with capital, to develop their ideas, taking an adequate and proper share out of the profits. Mr. Sam White and Mr. Gray had gone into partnership on equal shares in Gray's prior inventions in telegraphy; and they owned one-third of this American Speaking Telephone stock between them.

One-third of that company was designed for Dolbear, the other first inventor; but when he turned out to be such a poor reed as he was—for he would not swear to any-

thing*—they kicked him out of that. And, as brother Lowrey knows we have been accused—and he knows where and how—of having cheated Dolbear by not getting him that one-third. But we had nothing on earth to do with it. It was done by the Western Union—our enemy we were fighting with; and he was properly kicked out by them. We never owned any of that stock, or had any interest in it. But he lost his third, because he could not give a consideration for it, although they had covenanted that he should have his third, founded upon his promises, which he was too honest to perform; and since that time, as brother Lowrey knows, for he signs the bill, we have been accused of cheating Dolbear out of his invention; and it is one of the grounds for annulling the Bell patent set forth in the Government bill of complaint.†

---

* Dolbear is set up, in the Overland and Molecular answers, as a prior inventor; and his deposition, taken in the Dowd case, is introduced. That defense must, therefore, be passed upon. Our general brief, p. 488, *et seq.*, shows that the moment he was put under oath on the witness-stand, he acknowledged that there was no foundation for such a claim; *and in his own case* (No. 113, Dolbear's Appeal) *he does not set himself up as a prior inventor.*

† This bill, after charging that Bell stole his invention from the Gray caveat on the 27th of February, and smuggled it into his patent under the guise of the formal and regular amendments made at that time on record—which story is abandoned here, and substituted by the story that Pollok and Bailey stole it between the 14th and 19th of February, and fraudulently inserted it in the patent without Bell's knowledge—his crime consisting in availing himself of it afterward—proceeds with the fraud on Dolbear. It is Sec. IX., p. 15 of the bill, as follows:

"Your orator further says that Amos E. Dolbear, soon after making said invention embraced in said patent No. 186,787 (*i. e.* The Bell patent of 1877), entered into a contract and bargain with the Gold and Stock Telegraph Company to manufacture, use, and sell his said invention, which said corporation had exclusive control of said invention, and made, used and sold said telephones of Dolbear for the space of nearly three years, when the said American Bell Telephone Company and the said Western Union Company, in litigation then pending between them, in what is known as the Dowd case, agreed to compromise their differences, *and appropriate to themselves the entire profits arising from telephones in the United States*, and *suppressed the fact as to the said invention of said Dolbear of said device, and that said Bell had appropriated and patented the same.* * * * And your orator charges that for the fraud aforesaid the said last named patent, No. 186,787, is invalid, *and ought to be cancelled and made void by the decree of this Honorable Court.*"

"Suppressed the fact!" We published Dolbear's own testimony in the Dowd case, and have consented that anybody who wanted to use it might have it. And then we antagonized Dolbear by suing him.

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

But after the eviction of Dolbear, the Gold and Stock Company, a subordinate of the Western Union Company, owned two-thirds of that stock, and do so to this day; and Gray and his partner owned one-third.

After the Bell patent was established by the judgment against Dowd, that company got one-fifth of the profits of the Bell Company for the patents and property surrendered by the Western Union Company, as will appear hereafter, and its stock became valuable; and Mr. Gray sold four or five hundred thousand dollars' worth of that to the community, and got his money—*all founded upon the fact that Bell was the first inventor, without which it was worthless, and which fact he is now trying to destroy.*

Well, that suit went on under the Gray defense, which was the only defense; and Gray was called upon as a witness. The counsel for Dowd in that case were two very eminent and justly honored gentlemen—one of whom we have the pleasure to claim as our friend here to-day, my brother Browne; and the other of whom has gone to his reward, our lamented and good brother Mr. George Gifford. They were the counsel of the Western Union Company in that case. In their hands Gray went on the stand and told his story, fighting for that one-third of the business of telephony in the United States; and his story was that the first conception he had of a telephone distinct enough to mention to any one or to put upon paper, was on the 11th day of February, 1876, which was twenty-two days after the Bell specification had been sworn to, and was waiting in the hands of Mr. Pollok to be filed. He said that he then made a sketch of his idea, and gave it into the hands of his very able and respectable counsel in this town, Mr. Baldwin, to file as a caveat; which Mr. Baldwin did, on the 14th day of February, 1876, on the afternoon of that day—the Bell application having been filed in the morning of that day. He stated that he never had thought of the subject until after December, 1875, when he was at Milwaukee, and saw a string telephone; and at some time afterwards it occurred to him that that might be developed into an electrical telephone; and that set his thoughts upon following up that clue, and he worked out in his mind what is in that caveat, made a

sketch, put his name upon it, and its date, and filed it in accordance therewith. All of this is carefully stated in our general brief, pages 423 to 446.

It also appeared by his testimony that he was at the Centennial when the Bell telephone astonished the world, and he heard it talk; that he doubted whether it was done by electricity, and suggested that it might have been done with a wire, according to the old string or lover's telegraph system; and that he went with Professor Barker—(he did not prove all this then, but Barker has since, as a witness for the Overland and Drawbaugh Companies in these cases)—and they went and examined the wires to be sure it was not a fraud, before he would believe it was an electrical telephone;—all of that is in this case. That when he believed, after hearing Bell's telephone talk, and after satisfying himself, like the doubting Thomas, by putting his fingers into the wound, he concluded that he would try his conception which he had got on paper; and so he made one, but he could not get anything through it. And I say now to your Honors, in passing, *that that is the only time that that experiment was ever tried, from that hour to this, by Mr. Gray and his party*, so far as known to the world; and that it is practically impossible that that Gray caveat thing should talk when made like the drawing, all of which I will show you in due course.*

It was of great importance to Gray in the Dowd case to show that his caveat exhibited a practical talking telephone, but the only proof attempted was that of an expert, E. S. Renwick (*Dowd*, vol. 1, p. 231), who thus testified:

"*I have never had an opportunity to test the operation of a* TRANSMITTING INSTRUMENT SUCH AS THAT DESCRIBED IN THAT CAVEAT; *but from the statement of Professor Bell in reference to the use of such instrument* in Philadelphia, as published in his lecture * * I am of opinion that *it is capable of transmitting articulate speech*, and I KNOW BY ACTUAL TRIAL that A RECEIVING INSTRUMENT constructed like that represented in said caveat * * will receive and render audible articulate speech."

Gray had tried that transmitter himself at Philadelphia,

* We understand that an apparatus belonging to the Molecular Company, and labelled as a Gray transmitter and receiver, was sent to the conference room. No such instrument was put in evidence in any of the cases.

and *it would not talk* (see General Brief, pp. 442–4). He knew too much to give his expert an "opportunity" to try it again; but he gave him the "*receiver*" to try with Bell's or some other operative transmitter (a powerful carbon microphone was used), and *that* would work of course; and this was put into the Dowd case as the best Gray could do to prove that his paper conception was operative. I will show you hereafter that Professor Bell's Philadelphia liquid transmitter, on which Renwick relied, was quite different in principle from Gray's caveat.

Then, we ask your attention to the deposition of Elisha Gray, which will be found at page 127 of the first volume of the Dowd record, which is the fourth volume in sequence of the general record in the Overland case. This question was put to him by my learned brother Browne, counsel for the Western Union, or for that combination (*Dowd*, i, 129):

"Q. 56. Was this (Bell) apparatus which you saw at the Centennial the first one you ever saw in which an induction diaphragm was used in combination with an electric magnet as a telephone transmitter?

"A. It was.

"Q. 57. *Was such combination for the purpose of a telephone transmitter new with Professor Bell, so far as you know?*

"*A. It was, so far as I know.*"

That is, Bell was at any rate the first inventor of the *magneto telephone*—the one that works by waving an armature in the transmitter like fig. 7.

That was sworn to in 1879. Yet in 1877, after he made his contract with the Western Union Company to have one-third of the profits of the telephone business under their auspices, he filed an application in the Patent Office *claiming to have been the first inventor of that very magneto telephone*, and swore that he was its inventor, and it is in this record. That is the gentleman who has been characterized here as "That very simple-hearted man who is deluded by Mr. Bell." The application and oath are on page 724, in the second volume of the Dowd case. The magneto telephone, of which Gray knew Bell was the sole inventor, figures as Gray's fig. 5 of his application, facing page 719, and Gray swore to it as *his* apparatus.

Now, we will go back a little. Mr. Bell had become famous at the Centennial, June 25, 1876, and afterwards, and on February 21, 1877, certain events occurred, after you understand which, I think your Honors will not care to hear a great deal more about this "*simple-hearted*" gentleman. On the 146th page of the Dowd record, volume one, at the bottom of that page, Mr. Gray opened a correspondence with Professor Bell. It was the first letter which ever passed between them (*Dowd*, i, 146).

"February 21, 1877.

"My dear sir:

"I give a lecture in McCormick Hall, this City, Tuesday evening, 27th inst., on the *Telephone*, as *I* have developed it."

Pause there a moment. That seems to say that he has developed a *speaking* "telephone." That is not what he meant. The word "telephone" had been employed by him for a couple of years, and properly employed, to signify his harmonic telegraph. There is no dispute about that. That all appears here. But that led to a great deal of confusion in those days, because Mr. Gray was known in the community, and had been for a couple of years, as the inventor of *a* "telephone," and had it on exhibition, as your Honors will see in a moment here. And so he used that term "telephone," and used it properly. The usual term for the Bell invention was a "speaking telegraph" in those early days, and so it was called by Gray and others generally. It was not called a "telephone" until some time after the patent. But to resume Gray's letter:

"I give a lecture in McCormick Hall, this city, Tuesday evening, 27th inst., on the Telephone, as I have developed it. I also connect with Milwaukee, and have tunes and telegraphing done from there. I should like to explain and exhibit your method"—

Of what? Telephone? No—

"*of transmitting vocal sounds as well, but do not feel at liberty to do more without permission from you.* I should explain it as *your method and not mine*, although the office records show a description of THE TALKING TELEGRAPH filed by me the same day yours was filed. *The*

description is substantially the same as yours. I was unfortunate in being an hour or two behind you. There is no evidence that either knew that the other was working in this direction. With our facilities I can get up an apparatus on a day's notice that will answer. I have a copy of your last patent. Please telegraph at my expense, on receipt of this, yes or no, and I will act accordingly.

"Yours truly,

"ELISHA GRAY."

To which Mr. Graham Bell answered by telegraph:

"BOSTON, Feb. 24, 1877.

"If you refute in your lecture, and in the Chicago *Tribune*, the libel upon me published in that paper, February sixteenth, I shall have no objection. Please answer."

That article in the *Tribune* is here in this record.

To this telegram Gray wrote this answer the same day:

"Your telegram received. In answer, I would say, first, that I do not know what article you refer to, but will see the paper of that date."

Then he goes on and comments upon what Bell called "libels;" but I will not take time to read that letter in full as it is not important.

The *Tribune* "article" complained of by Bell, and disclaimed by Gray, your Honors will find on *Dowd*, page 149, if you will be kind enough to look at it. It says:

"Many of the Eastern newspapers are favoring their readers with sketches of Professor A. M. Bell, 'the inventor of the telephone.' Meanwhile *the real inventor of the telephone*—Mr. Elisha Gray, of Chicago—minds his own business and apparently concerns himself not at all about the spurious claims of Professor Bell. Persons acquainted with the subject need not be informed that Mr. Gray's claims are incontrovertible. *Science long since recognized them. They were established in the columns of the Tribune years ago, before Professor Bell was so much as heard of. They are officially approved in the Patent Office at Washington, and they have already brought in large returns in money, as well as reputation to the inventor.* TALKING BY TELEGRAPH AND OTHER SPORT OF THAT DESCRIPTION MR. GRAY HAS NOT PAID MUCH ATTENTION TO AS YET, BECAUSE THERE IS NO PRESENT INDICATION IN IT OF ANYTHING MORE THAN SPORT; but the principles involved

in it were discussed by him, and have all been used by him in a practical manner."

There your Honors see an explanation of the words "telephone" and "telegraph." Gray has been working the musical "*telephone*" for multiple telegraphy for two years, and has got money out of it. That is the article that Mr. Bell referred to when he said, "if you refute the libel upon me" then you can show my talking telegraph, not otherwise.*

To this Mr. Alexander Graham Bell replied, and here is the letter which, in this case, the learned counsel has brought forward as evidence of fraud on the part of Mr. Bell upon Mr. Gray. Your Honors will see that it was written March 2d, *nine days after* the February 21st letter, in which Gray had acknowledged Mr. Bell as the inventor of the "method of transmitting vocal sounds," which made the talking telegraph; but according to the learned counsel this letter was written in order to deceive and hoodwink Mr. Gray into that very *former* admission. That letter to Gray is a very courteous one in which Mr. Bell says (*Dowd*, i, 150):

"I have not generally alluded to your name in connection with the invention of the electric telephone, for we seem to attach different significations to the word. I apply the term only to an apparatus for transmitting the voice (which meaning is strictly in accordance with the derivation of the word), whereas you seem to use the term as expressive of any apparatus for the transmission of musical tones by the electric current.

"I have no knowledge of any apparatus constructed by you for the purpose of transmitting vocal sounds, and I trust that I have not been doing you an injustice. It is my sincere desire to give you all the credit that I feel justly belongs to you.

"I do not know the nature of the application for a caveat to which you have referred as having been filed two

---

*[GRAY TO BELL.] "March 5, 1877.

"I found the article I suppose you refer to, in the personal column of the *Tribune*, and am free to say it does you injustice.

"I gave you full credit for the talking feature of the telephone, as you may have seen in the Associated Press dispatch that was sent to all the papers in the country, in my lecture in McCormick Hall, February 27th. * * * I described your apparatus at length by diagram."

hours after my application for a patent, *excepting that it had something to do with the vibration of a wire in water*, AND THEREFORE CONFLICTED WITH MY PATENT.* My specification had been prepared months before it was filed, and a copy had been taken to England by a friend. I delayed the filing of the American patent until I could hear from him. At last the protests of all those interested in my invention, deprecating further delay, had their effect, and I filed my application without waiting for a conclusion of negotiations in England. It was certainly a most striking coincident that our application should have been filed on the same day.

"I have been kept so busy during the past few days correcting the examination papers of my normal school that I have been unable to write."

That is the fraudulent letter, according to Mr. Hill.

Adjourned to Friday, February 4, 1887, at 12 M.

February 4, 1887.

Mr. Dickerson: If your Honors please. At the close of the argument yesterday I had presented the correspondence between Mr. Gray and Professor Bell, in 1877, after the issuing of the Bell patent, upon which correspondence one of the very grave and serious charges against Mr. Bell has been founded; and I had read to your

* How he got this knowledge Prof. Bell states in his deposition (*General Brief*, 468; *Dowd*, i, 529).

The notice to him from the Patent Office, February 19, 1876, pointed out that the caveat interfered with "the 1st, 4th and 5th clauses of claim" (Dowd., vol. 2, p. 58). The proposal to declare an interference between the application and the caveat had been set aside by the Commissioner before Bell reached Washington, and supposing that he had a right to know what "interfered with his application" he asked Examiner Wilber what he referred to in his official letter of February 19th. Wilber declined to show him the caveat, but pointed out to him, IN HIS OWN SPECIFICATION, THE LIQUID TRANSMITTER PASSAGE as the one with which the caveat interfered—having already notified him in writing of the claims with which it interfered. Bell's application covered all liquids, and he inferred that Gray had mentioned water, which was well known for the purpose of offering resistance to current, as Gray has shown also (see his deposition, *Dowd*, i, 122; *Brief*, 436). But if Wilber had shown the caveat, it would have not been of any consequence, because the application could not have been altered to take it in, and because the application already contained it, as Wilber had perceived at once upon reading the two papers, and had acted upon that fact in suspending Bell's application.

Honors the two letters, the first of which was from Mr. Gray, recognizing Professor Bell as the inventor of the speaking telegraph. My learned adversary, Mr. Hill, in his argument before you, commenting upon those letters, said to the Court—and I read from the stenographer's notes, so as not to be mistaken:

"*The subject matter in controversy* at that time, between Mr. Bell and Gray, was this variable resistance matter—*this variable resistance telephone*. Mr. Gray never made any claim to the magneto telephone, with its back and forth current. This was the only subject in controversy. Mr. Bell wrote to Mr. Gray *on the subject in controversy*, trying to convince him that that *subject matter belonged to him, Bell.*"

Now, may it please your Honors, there was no "*controversy*" of any kind, excepting a controversy between those gentlemen at that time as to some supposed libelous statements. The correspondence *opened* by Mr. Gray's letter asking leave to exhibit, on an occasion when he was exhibiting his own musical telegraph (which he called a "telephone"), Professor Bell's "*method of transmitting vocal sound.*" So that they began with no controversy on that subject; nor did there arise one during the correspondence at any time. But, as my learned adversary has said to your Honors that Mr. Gray never claimed to have been the inventor of the "magneto telephone"—a statement which seems to have been controverted by what I said to your Honors yesterday without pausing to read you the reference (inasmuch as I supposed you might look at it in the record, if it were ever necessary to do so),—I now take the liberty of asking your Honors' attention to it in the record. It is in the second volume of the Dowd case, at page 719.

There you will find Gray's application for a patent for the broad art of telephony, containing three plates. The first plate is for the details of his caveat drawing; the second is for his caveated machine in operation; and the third is for *the Bell magneto telephone.* You will recognize it at a glance. There are pictured two persons engaged in speaking; or one in speaking and the other in listening to it. It differs from this Figure 7 of the Bell patent only in the circumstance that the converging cones

are similar at both ends, and of slightly different shape; whereas in Bell's patent one is a tapering cone and the other flaring. That is the only difference between the two forms of apparatus.

If you will turn over now to *Dowd*, ii, 723 (Overland, 3845), and will look at the paragraph in the specification, beginning with the words "Figure 5," I will read that to you:

"Figure 5"—[that is the Bell magneto telephone with Gray's mouth-pieces to it]—"shows two instruments similar to that shown in Figure 1" [Figure 1 being the Gray receiver of the variable resistance instrument] "arranged upon circuit to act both as receivers and transmitters, *the operation being the same*,"—

"*The operation being the same.*" That, your Honors, is one of the issues raised here—that the operation is not the same in the variable resistance telephone and the magneto telephone, as a whole. But Gray, being an electrician, knows that it is, and he presents both instruments as alternative forms, and each of them capable of supporting the broad claim for the "operation" which he made in that application as broadly as Bell made it in his patent.

—"the operation being the same, *although the variations of the current strength are produced in the case of the transmitter first described by variation of resistance, while in the other case they are produced by the inductive action of the armature upon the fixed magnet.*"

Now, if you will turn over to the next page, where the oath of Mr. Gray is, he there swears—

"Elisha Gray, the above named petitioner, being duly sworn, deposes and says: That he verily believes himself to be the original and first inventor of the art of transmitting vocal sounds telegraphically, AND APPARATUS THEREFOR DESCRIBED IN THE FOREGOING APPLICATION; *that he does not know and does not believe that the same were ever before known or used, and that he is a citizen of the United States.*"

I have read to your Honors the testimony of this gentleman, two years later than that oath, in which he swore that he never had seen a magneto telephone until he saw it at the Centennial; that he did not believe anybody was

its inventor but Mr. Bell; and moreover, that when he did see it, he doubted whether it was possible to be done, and went and examined the wires to make sure it was not a string telephone.

The Chief Justice: That affidavit was made in October, 1877.

Mr. Dickerson: Yes, sir; in October, 1877. It was made in consequence of Gray becoming a party to the Western Union organization to attack and defeat the Bell patents, when they formed the company known as the American Speaking Telephone Company, and brought Gray and Dolbear into that combination, by contracts which are in this record; and in consequence of that arrangement Gray filed his application, and of course, if he could have succeeded, it would have put into the hands of the Western Union Company the art of transmitting speech telegraphically including the magneto telephone of Bell.

I now return to the first volume of the Dowd record, in which that correspondence between these gentlemen is continued, and ask your Honor's attention to another letter, which followed those I read yesterday.

I read from the 150th page the letter I referred to yesterday in part, which letter contains, among other things, according to Mr. Hill, that plot which Professor Bell had devised to delude Gray into believing that he, Bell, was the inventor, and that Gray was not. He wrote to Gray (*Dowd*, i, 150):

> "My specification had been prepared months before it was filed, and a copy had been taken to England by a friend. * * * It was certainly a most striking coincidence that our applications should have been filed on the same day."

That letter, which is the delusive one, your Honors will perceive is dated March 2d, whereas Gray's letter which acknowledged Mr. Bell as the true inventor was on February 21st, some two weeks earlier. So that delusion operated, so to speak, *retrospectively.*

Mr. Gray then replied to that letter, on page 151, and this is very interesting reading:

> "My Dear Sir,—I have just received yours of the 2d

inst., and I freely forgive you for any feeling your telegram had aroused. I found the article I suppose you refer to in the personal column of the *Tribune, and am free to say it does you injustice.*"

I read that article to you yesterday.

"I gave you full credit for the TALKING FEATURE of the telephone"—

Not for Mr. Bell's *special form,* but for—

"*The talking feature of the telephone,* as you may have seen in the Associated Press dispatch that was sent to all the papers in the country, in my lecture in McCormick Hall."

When did he do it? In his public lecture of February 27th; several days before that delusive letter was written to him by which Bell was going to persuade him to surrender the credit for the *variable resistance* plan as one *device* under the general principle of the telephone.

"There were four different papers represented at the lecture, but only one—the *Tribune*—alluded to my mention of you, except the press dispatch. I described your apparatus, at length, by diagram."

"Of course, you have had no means of knowing what I had done in the matter of *transmitting vocal sounds.* When, however, you see the specification, you will see that the *fundamental principles are contained therein.* **I do not, however, claim even the credit of inventing it, as I do not believe a mere description of an idea that has never been reduced to practice—in the strict sense of that phrase—should be dignified with the name invention.**"

When that letter was written, March 5th, 1877, the incidents of the Centennial had occurred, and there Gray had seen Mr. Bell's invention reduced to practice. He had seen it reduced to practice by the patent specification, because any electrical mechanic could take that figure 7, reproduce it exactly, and he had the talking telephone. And, if Mr. Bell had had the good fortune to have had in his service so skillful an electrical mechanic as Gray was (because Gray was at the head of a great manufacturing electrical establishment; possessed of great mechanical skill, with unlimited command of resources and workmen), Bell's

first rude instrument he made, and which he knew was the talking telephone, would have talked just as well as any telephone of to-day. But, Mr. Bell is not a mechanic.* He has no skill with his hands, and was under such circumstances that he could not command the aid of any one who had any first-rate skill—which I will presently show you; and so his apparatus only "mumbled," as the papers show, and did not talk well. But, with the eye of science, with a perfect knowledge of the principles that were contained in it, with the certainty that that would do it if put into a proper mechanical form, he had no doubt about it, and took his patent for it without incurring the expense of making a new set of instruments to repeat the experiments. Of course, he took the risk that the thing would talk; but he did not think that was any risk at all, as it was not.

Bell's Fig. 7 will talk, and in the way pointed out in his specifications.

Now, may it please your Honors, another matter that was at issue in this case of the Dowd or Western Union controversy, was that the Bell patent did not describe a talking telephone; that is to say, that although the principles it described, the law that it laid down—the lines upon which a telephone must be constructed—were fully described; yet, that fig. 7 itself was not and could not be made a talking telephone. Thereupon, in that controversy, the defendants, as is always customary as every judge who has had much experience in patent causes knows, produced a witness who testified that he had made fig. 7, and it would not talk. Well, sirs, it requires an adroit mechanic (but he can be found always) to make it so that it will not talk. We generally assume that no man is so big a fool that he cannot make a machine so that it will *not* act—if he wants to. There are some things that cannot be made so they won't act—as an India rubber ball

* Read Bell's answer 577, page 1688, *Drawbaugh*, complts. ii. He says: "I was not a skilled electrician, and did not perhaps carry on my experiments in the same manner they might have been carried on by one more familiar with electrical subjects. My experiments, therefore, took on very much of the character of research for the sake of information."

for instance; but when it comes to any organism anybody can make it so it will not act. And so this gentleman made fig. 7 so that it would not speak. But the Western Union Company, as I have said before, were electricians; and, as the testimony in this case shows, Mr. Pope, a very skillful electrician, and one of their chief men, proposed to bring that to the legal test for the purposes of defense, if possible. Thereupon he handed the Bell patent to the mechanics in his workshop. Make that fig. 7, said he, with the skill of ordinary workmen. They made it; and it came out a talking telephone.* That ended the defense that this was not a talking telephone; and it is not presented to this Court in the briefs.

The judgment against the Western Union.

As your Honors may suppose, after that was known, and after this testimony of Mr. Gray went in—these letters, and the like—brother Gifford, who was the leading counsel for the defense, got very tired. He saw at once that there was no use to fight that fight any more. Thereupon he advised his clients that they had no defense; and that the only thing they could do, and the best thing they could do, was to scramble for such a settlement as would be most advantageous to them. And so a judgment was entered in Boston, by the counsel of both parties who appeared before his Honor, Judge Lowell, Circuit Judge, and stated to him the facts I have here recounted to you by which the defendant was convinced; and they asked him, upon that statement, to sign his name to the judgment which established the Bell patent, so far as a judgment can do it, by the submission of the Western Union Company, with all its great resources, and with the command of all knowledge there is in the world.

Now, such a judgment, may it please your Honors, as the courts have always held, and properly held, is the most convincing kind of a judgment. Judges may be mistaken in a controversy between parties who have convinced themselves on the two sides of a question, and have argued it; and they may enter a judgment that ultimately

* See General Brief, pp. 298 to 311.

is wrong; but the party who knows it all cannot be mistaken about his rights; and when he goes into Court and honestly, and after due study and advice, lays down on the bench of the Court his *cognovit*, that is the best judgment that can be rendered. At any rate it is an estoppel, legal and equitable, against Mr. Gray; because he was a party to that judgment; he was the defendant in the case, not by name, but through his agent Dowd, who was the agent of his company, in which he was the owner of one-sixth of the stock; and he was the person on whom the defendants relied for a defense.

Well, sirs, as is generally the case, other infringers came along, and this judgment stood in their way. It was very formidable; for that which the Western Union could not contest—how could anybody else contest? There was one answer to it which was readily coined. It would enter the brain of any infringer immediately. It was: this is a collusive judgment; it is a mere sham contrived between these parties to defraud the public. And they set that up in the first case we had in Court after that judgment had been entered; and we had to meet it as we could. It is set up by my brethren here in the Molecular case, in their answer, with circumstantial accuracy.* It has not been insisted upon here, I presume out of deference to my brother Browne, who was the counsel for the Western Union in that case, and who entered that judgment; and he would hardly brook the charge that he had been a party to a collusive judgment.

* The answer of the Molecular Company pleads this charge in the most offensive way:

"Defendants are *informed and believe* that the statements in the bill of complaint in the tenth paragraph thereof, as to the case against Peter A. Dowd, *are incorrect, misleading, and untrue;* that it is true that such a suit was commenced, and that evidence was taken therein, *but that it is not true that the defendants became satisfied that said Bell was the true, original and first inventor of the electric speaking telephone,* or of the alleged inventions covered by said patents; that, on the contrary, *defendants were satisfied that they could successfully defend said suit,* and complainants were apprehensive that the defendants would succeed in their defense; and thereupon a contract or agreement was made, pursuant to which, *in consideration that the* DEFENDANTS WOULD ACCEPT LICENSES FROM COMPLAINANTS, a very large share in the profits of all the business, and royalties of the complainants were given to said defendants; that the settlement of said suit, *so far from being a concession to the claims of complainants was a concession by complainants to the validity of defendants' defense.*"

Then, may it please your Honors, this charge was so grossly made, so outrageous, so insulting, that our beloved and deceased brother Gifford felt himself bound to come forward and vindicate himself. He then had ceased to be the counsel of the Western Union, and never was of the Bell Telephone Company. He came forward; and if your Honors will be good enough to take up our general brief in the Bell Telephone cases at page 2, I propose to let brother Gifford tell you the story, as he can tell it to you much better than I can :*

"George Gifford, being duly sworn, deposes and says : I am a counsellor-at-law. In the years 1878, 1879 I was one of the counsel of the Western Union Telegraph Company. At that time the Gold and Stock Telegraph Company, a company connected with the Western Union Telegraph Company, had manufactured and were controlling the use of many thousands of telephones, and had established telephone exchanges, auxiliary to their telegraph business, in the City of New York and elsewhere. The telephones controlled by this company were composed of a receiver, now generally known as the 'Magneto receiver,' and understood to be substantially the thing described in Bell's patent; but they were of a form which was claimed had been constructed by Phelps and Gray. The transmitters were carbon microphone transmitters, constructed under the plans of Edison and Phelps, and were in controversy in applications for patents by Edison and Phelps, and contained the induction coil covered by the Page patent, also owned or controlled by the Western Union Telegraph Company."

A word in passing. Your Honors see in this Blake telephone transmitter that little induction coil, in the back of the box, which is known as the Page coil, or the Ruhmkorff coil. That was invented in this country in 1830, by Dr. Page, at that time an Examiner in the Patent Office. The law was that he could not patent anything himself, because of his official relation to the Patent Office; and therefore he did not patent it, and it went into large use. Many years afterwards Congress passed an act for the relief of Dr. Page, and gave him the right to patent that invention—of course, saving the rights of all persons who

* This affidavit, made and filed in 1882, is also in the Molecular supplemental volume of record.

had them in use. That was a special act, expressive of national gratitude to Dr. Page who had done very great service in the art of electricity by very many inventions, and this among the rest. Congress, as it was fit they should do, gave him a patent by special act. That patent he sold to the Western Union Company for a large price; and the Western Union Company brought a suit under it; and I had the pleasure of conducting that suit on the part of the company, before his Honor Mr. Justice Blatchford, who sustained that patent. At the time of this controversy under the Bell patent that Page patent was owned, under that decision, by the Western Union Telegraph Company. This sheds a good deal of light upon some other things here. But to proceed with Mr. Gifford's testimony:

"A bill in equity was brought against a defendant, Dowd, who was understood to be one of the agents of these companies, and the suit was defended by the Western Union Telegraph Company. An answer was filed, setting up a great variety of defenses, all of which will appear by reference to the record itself. Among other defenses the European publications relating to Reis' inventions were relied upon, and it was alleged that Bell's telephone, as described in his patent, was not capable of talking.

"Elisha Gray was also set up as a prior inventor, and the inventions of Edison and Dolbear were pleaded.

"A very vigorous defense was made by the Western Union Company"—

And you may well believe it, when Mr. Gifford was at the head of it—

—"and testimony at great length and at great expense was taken in support of the answer. *After the testimony was closed, or substantially closed, on both sides, I was convinced that Bell was the first inventor of the telephone, and that the defendant Dowd had infringed said Bell's patent by the use of telephones in which carbon transmitters and microphones were elements, and that none of the defenses which had been set up could prevail against him;* and I advised the Western Union Company to that effect, and that the best policy for them was to make some settlement with the complainants.

"For the purpose of effecting such a settlement, the position of the Western Union Telegraph Company was very strong. They owned, or controlled, what is known

as the Page patent, and which covered the 'induction coil' used in the transmitters of the telephones, and was of great importance to them. They also owned or controlled two patents of Gray for harmonic telegraphs, which it was contended would be infringed by the use of the Bell telephone,"—

Some details of contrivances in those patents, your Honors—

—"and they controlled *applications* for patents by Gray for a receiver used in a telephone, and by Edison for carbon transmitters and microphones, which it was claimed and expected would be granted in the Patent Office over Blake, whose transmitter the Bell Telephone Company claimed to control, and had in use. The situation then was that while I believed that Bell was the inventor of the telephone described and claimed in his patent, and that his patent covered the various forms of telephones controlled by the Western Union Telegraph Company in which carbon transmitters and microphones are elements, yet the Western Union Company controlled patents and inventions which it was claimed might cover all known *forms* of telephones."

That is, while the broad claim for the speaking telephone belonged to the Bell Company under the Bell patent, the particular *instruments* the Bell Company used contained, so it was claimed, *devices* covered by the Western Union patents,—the Page coil for one thing.

"Under my advice, a negotiation was opened with the complainants on the basis of the claim which the Western Union Telegraph Company made, that the telephone used by the complainants was an infringement of the patents and applications for patents owned or controlled by the Western Union Telegraph Company. I met Mr. Chauncey Smith, counsel for the Bell Telephone Company, by arrangement, at the White Mountains, where we remained for a week in negotiation. I opened the negotiation on my part by admitting that Bell's patent was valid, and that the defendant infringed it; and those questions formed no part of any discussion between us; but I claimed, on the part of the Western Union Company in view of their patents, that all the patents should be put together, and that they should have one-half interest in the joint property. This claim was refused by Mr. Smith, and the negotiation failed at the White Mountains. Upon our return to New York, however, the principals themselves took it

up, and the negotiation resulted in the surrender by the Western Union Company to the Bell Telephone Company of certain telephones, lines and exchanges, and in their giving to the Bell Telephone Company an exclusive license under all the patents which they claimed were infringed by the telephones."

At that time, your Honors, the Western Union Company had established exchanges in ten cities, all over the United States, and had a vast number of telephones out, *mostly magnetoes* (*Brief*, p. 29; *Clay*, 401).

"In exchange for these licenses the Western Union Company got a small interest, much less than I claimed for them in my conference with Mr. Smith, in the results of the combined patents, and the entire business was left in the hands of the Bell Telephone Company.

"The negotiations on the part of the Western Union Telegraph Company were conducted by a committee of three, composed of Dr. Green, Gen. Stager, and George B. Prescott, who at that time was the electrician of the Western Union Telegraph Company, and Vice-President of the Gold and Stock Telegraph Company, and the author of a book on 'The Speaking Telephone.' The negotiations lasted for some months, and every step was vigorously contested until all the points were agreed upon, and the settlement met my approbation as counsel. The proceeding was adversary from beginning to end; but in view of the facts as they appeared in evidence, it was conceded in behalf of the Western Union Company in the beginning of the negotiation that Bell was the first inventor of the telephone. If the Western Union Company had prevailed in their interferences, the Bell Telephone Company could not have used in their business the Blake transmitter, or any other form of carbon transmitter, and, inasmuch as the carbon transmitters with the induction coil are valuable improvements in the telephone, the Bell Telephone Company would have been compelled to purchase them at the Western Union Company's price.

"*This settlement never would have been advised by me, if I had not believed, upon the record, or through facts which I could ascertain, that the Bell patent was valid, and that all microphones and carbon transmitters, as far as I know or could ascertain, infringed it.*"

That, may it please your Honors, is a voice from the grave.

There was one other matter in connection with this

Gray defense in the Dowd record which you will see, if your Honors will be good enough to turn to page 156 of volume 1 of the Dowd record. Mr. Gray had delivered a lecture in New York, in April, 1877, on *his* telephone—that is the harmonic telegraph—which was reported in the New York *Tribune;* and this is the report (*Dowd*, i, 156):

"After the first part of the programme had been executed, Mr. Elisha Gray came forward and addressed the audience. He was aware that great confusion existed in the popular mind as to what *this telephone* could perform."

He was speaking of *his* telephone,—his harmonic,—not his water transmitter, but his harmonic telephone, which I explained yesterday; the harmonic telegraph, called "a telephone."

"IN PARTICULAR IT HAD BEEN CONFOUNDED WITH THE SPEAKING TELEPHONE INVENTED BY PROF. A. GRAHAM BELL, OF BOSTON. PROF. BELL, MR. GRAY SAID, WAS PRESENT IN THE AUDIENCE."

Professor Bell *was* present, and he rose, and was cheered by the whole of that audience. Mr. Gray was asked on the stand, "Is that a true account?" He says, "It is." Your Honors can see why brother Gifford was very tired after those things were put in evidence in the Dowd case.

The Alleged Fraud on Gray.

Now, I will ask your Honors to turn to the record of the proceedings in the Patent Office, in regard to Bell's and Gray's applications and patents. You will find them in the second volume of Dowd, at page 58, for Bell; and at page 685 for Gray.

I will give it to you in a better form. In the Dowd record the application of Mr. Bell is accidentally printed with those absurd mistakes in it. In the *Drawbaugh* case, Overland proofs, p. 729, and also in *Overland*, iii, 1977 (some extra copies of these sheets are stitched together in the pamphlet you have), it is printed exactly as it is on the files, with the lines all in the same relation to each other. Turn now, if your Honors please, to the 58th

page (or page 17 in the pamphlet), where the first official action in this matter by Wilber appears. Writes Mr. Wilber, Examiner, to Messrs. Pollok and Bailey, in a regular official letter, under date of February 19, 1876, in regard to Bell's application:

" In this case it is found that the first, fourth, and fifth clauses of claim relate to matters described in a pending caveat.

" The caveator has been notified to complete, and this application *is suspended for ninety days, as required by law.*"

To this comes a reply from Messrs. Pollok & Bailey, which I read:

" Hon. COMMISSIONER OF PATENTS,

" Sir:

" In this matter we beg to acknowledge receipt of official letter, notifying us of the suspension of our application for completion of an interfering caveat.

" We respectfully request, before it is concluded to suspend our application for three months, that you determine whether or not our application was not filed prior to the caveat in question.

" We have inquired the date of filing the caveat (inasmuch as we are entitled to the knowledge), and find it to be February 14, 1876, the same day on which our application was filed. If our application was filed earlier in the day than was the caveat, then there is no warrant for the action taken by the office.

" We suggest that an examination of the books in the Examiner's, Mr. Moore's and the Chief Clerk's rooms be made, with a view of determining this question.

" We can say that our application was filed early in the day on February 14th, and at our request was on the same day sent to the Examiner; we also call attention to the fact that our client's oath of invention is dated January 20, 1876."

Now, sir, that demand being made, Mr. Wilber himself refused to accede to it. In another aspect your Honors have been assured that he was our *confederate* at that time; that we had paid him a price; and that he was in our power to do our bidding. But that is another aspect of this case. I am looking at the record now, and not at imputations.

Well, Mr. Wilber, (our confederate in this business, as they say,) suspended our application, *contrary to law*—would not act on our application—but sent us to the Commissioner, *with an argument against us:*—

"February 24, 1876.

"Respectfully referred to the Honorable Commissioner, for instructions. *The regular practice in the office has been to determine dates of filing by days alone*, and in accordance with such practice I suspended the application herein referred to on account of a caveat, the application and caveat being filed upon the same day, viz., February 14, 1876.

"*In view of the practice above noted*, I paid no attention to the alleged difference between the times of filing on same day.

"Respectfully submitted,

"Z. F. WILBER, Ex'r."

Your Honors would know at once that that chap must have been our confederate, from that letter. It went then to the Commissioner in person, Mr. Spear, who heard Pollok and Bailey on it; and he filed the following decision:

"The application, in order to become liable to suspension to await the completion of his application by a caveator, must have been filed 'within the year' of the life of the caveat."

And then he decides what is the law; that *punctum temporis* in such cases is to be considered. (*See our general brief*, 448, *et seq.*) And he sent it back to the Examiner, and directed him to be guided by that principle, in determining who was first. Thereupon Wilber officially decided February 25, 1876, and endorsed on the papers:

"The cash blotter in the chief clerk's room *shows conclusively, that the application was filed some time earlier on the 14th than the caveat.*

"The application was received also in 118"—that means his room; room 118—"by noon of the 14th, *the caveat not until the 15th.*"

Then, if your Honors please, the application proceeded. But, we were suffering from the fact that the mischief

had been done, if it were a mischief. Mr. Gray had been notified of our application, of which he had no right to be notified, and we were liable to have him come in with an application and force us into interference, and fight us in the Patent Office for years, perhaps. The mischief had been done.

Now, I turn you to where that was done (page 685 of the same Dowd record), where you see this letter to Gray, *from the Commissioner in person*, according to statute:

"DEPARTMENT OF THE INTERIOR,
"U. S. PATENT OFFICE,
"WASHINGTON, D. C., Feb. 19, 1876.

"Sir,—You are hereby notified that application has been made to this office for Letters Patent for telephonic telegraph, &c., with which the invention described in your caveat, filed on the 14th day of February, 1876, APPARENTLY INTERFERES; *and that said application has been deposited in the confidential archives of the office under provisions of section* 4902 *of the Revised Statutes*"—which are quoted.—

"If you would avail yourself of your caveat, it will be necessary for you to file *a complete application within three months from date;* three days additional, however, being allowed for mail.

"R. H. DUELL,
"Commissioner."

Let me explain that to your Honors. That notice which is printed here is an official blank in the Patent Office, and is filled up simply by inserting the names of the parties. It is a carefully guarded and prepared blank, under the statute; and your Honors see that it says to the caveator that an application is in the office which "APPARENTLY INTERFERES" with his caveat, but it gives him no information whatever, excepting that. It notifies him to come forward and perfect his caveat into an application, and *then* the office will consider whether his perfected application does interfere or not; at present it only "apparently" does. Now, the reason of that rule is that a caveat is, so to speak, a blank sheet of paper, upon which the caveator is at liberty to write anything he pleases afterwards. If he can get information of what is in a pending application he can write all that into his caveat, and get the benefit of the date of his caveat, if he chooses to be dis-

honest; and so the law has guarded the patentee carefully by the statute and the printed form.

On the other hand, the application filed is a completed thing and cannot be altered. It is deposited, by law, in the "*confidential archives*" for ninety days; and it must remain there to be assailed by any other application written afterwards—which possibly may be copied from it, if the caveator is dishonest, and the examiner informs him how to do it.

Our "*confederate*" Wilber, however, was not to be trammeled by any such statute as that, because naturally he liked to ladle out a little fraud to both sides—he being a fair-minded man; and so on the same day he *unlawfully* wrote a letter to Mr. Gray, in addition to that statutory notice from the Commissioner, telling him what was in our patent. Here it is on the top of page 687 (*our brief*, 449):

"E. GRAY, care W. D. BALDWIN.

"In relation to the foregoing notice in relation to your caveat, it may be well to add"—

Not very well for us; very well for Gray.

—"that the matters in the application referred to seem to *conflict with your caveat* in these particulars, viz.:

"1st. The receiver set into vibration by *undulating* currents.

"2d. The method of producing the *undulations* by varying the resistance of the circuit.

"3d. The method of transmitting vocal sounds telegraphically, *by causing these undulatory currents*, etc.

"Z. F. WILBER,
"Examiner."

Now there are no such words in Gray's caveat at all as any one of these expressions. *It was giving Gray information, and inviting him, by an unlawful letter, to come into the office and use that information obtained from Bell's application in writing up his caveat to meet our application.* As it has turned out, however, we are much obliged to Wilber for having done that thing; because the office there pointed out at once, with precision, just wherein our application and Gray's caveat were alike. Wilber recognized at once the speaking telephone, and the

principles of it, in our application, and wrote them down for Gray's benefit; we have always considered that letter very valuable; for, when anybody has said that our patent does not describe a speaking telephone, we have pointed him to the official action, taken four days after the filing, in which the Examiner pointed out that very thing, and gave notice of it to Gray.

Well, sir, that letter was written, and Gray received it. He says he did. He was a partner of Sam White; and they were in Philadelphia when they received this notice and this information; and did not choose to proceed. He had not got anything there that was worth proceeding on; and he knew that in the nature of things he must be too late; because his caveat was written only on the 14th, and the application, filed on that day, *must have been prepared* much earlier (*see our brief*, p. 452).

Let me compare at a glance the situation of those two parties at that time. Mr. Bell was utterly poor (and it is all in the record); and his whole support was his capacity to teach the dumb to speak; and that was not a very profitable employment. He had no resources of his own, and was dependent upon the assistance of such friends as he could induce to help him in developing his magnificent ideas.* On the other hand, Gray was here backed by Sam White, with no end of money, and capable of doing anything he pleased. And that was the situation in which these two parties presented themselves to the Patent Office.

---

* Mr. Bell's testimony (*Drawbaugh*, complainants, ii, 1676) states his condition in 1875, and two letters written at that time of themselves exhibit it (*ib.*, i, 125, 133). He had nothing but his daily teaching of deaf mutes to live on. He could not do justice to the electrical work he was engaged on without devoting all his time and strength to it. He says:

"There seemed to be no alternative but to give up either my profession or my electrical experiments. I *could* not give up my profession, and I *would* not give up my experiments.

On March 18, 1875, he wrote (*ib.*, i, 125):

"I have put off all pupils and classes until April 12. Flesh and blood could not stand much longer such a strain as I have had upon me. Professional work is all in confusion and the only way is to cut the Gordian knot and throw up everything until the end is achieved."

So he gave up all his teaching for an indefinite time, and borrowed a little from a companion teacher to live on for the moment (*brief*, p.60)

Let me give you a little picture from the testimony. Mr. Hubbard was the supporter of Mr. Bell in this application—*not in the application for the telephone;* with that he had no concern—but in the application for the harmonic telegraph part of it. With that he had every concern, because he was the partner, under contract with Mr. Bell in regard to it.

Let me explain one thing more which I think will set the minds of your Honors right about this "*harmonic*" business. This patent is not for the invention of the "harmonic telegraph" as you have been told; that was old. It contained in one part the invention of a *new mode of working the harmonic telegraph*, namely, the "*undulatory mode.*" The whole principle of the harmonic telegraph, as exhibited in this patent, was old, and was in part a matter of interference between Mr. Gray and Mr. Bell in former applications in the office; and moreover the harmonic telegraph before it was improved by them had come down to them from a long time prior—from Varley's patent, for instance.

Your Honors have heard some discussion about the principle of that. It was there done by "circuit-breaking." A tuning fork was set at one end of the line to break the circuit by vibrating—as it must do according to its own law at a uniform rate; and every time it made and broke the circuit it transmitted an impulse, or a wave, or what Varley, having a taste for Latin, called an undulation, along the line, in unison with its own rate—say middle C, 256 times a second. Then, at the other end of the line, was a stretched wire, or magnet, or condenser—any quantity of forms of receivers will do it—and every time there came an impulse, this wire, or condenser, or whatever it was, sounded in unison with it, and the same tone was produced at both ends. Now, you may send a number of such independent impulses along the line, and if you keep them in dissonance enough so as not to coalesce, they will all keep separate, and if you have a number of receivers that are respectively tuned up in unison with the several transmitters, each receiver will pick out from that set of coming impulses its own rate of vibration; because it has impressed in itself, by its structure, the capacity to

respond easily to that rate and not to any other; and the impulses that make it operate are coming along the line with others from other similarly tuned transmitters; if I make it understood. It responds to those of its own rate coming from its own mate; it does not respond to impulses of a different rate, coming from other transmitters. That is the described circuit-breaking mode of multiple telegraphy. It had been, first, if I remember it rightly, in Varley's patent; and then Mr. Gray and Mr. Bell were engaged in developing it into a practical, useful multiplex telegraph; for Varley had only suggested it as a duplex, and they were busy in making a *multiplex* of it.

When Mr. Bell conceived this idea of using true "*undulatory*" *currents*, that were to be made in unison with the sonorous vibrations of the inciting cause, that was a complete new revelation; it came like a flash to him. He thus got rid of all the troubles of the old circuit-breaking method in multiple telegraphy. The diagrams which he gives in the beginning of his patent illustrate that. He there shows and says, that when you send a number of independent *broken* impulses over the line, if you make them too frequent, one will drop in, as it were, into the vacant place behind the other; just like having a number of horses driving around the ring, with gaps between them; and presently one comes in and fills up one gap and then another; and it is a continuous string and there is no division. Whereas, if you are sending *undulatory* currents they are capable of going simultaneously over the line without coalescing; just as any number of discordant tones simultaneously go through the air, excited by whatever cause, and each one travels along with the others; and if you can seggregate them at the end, as our ears do—for we can tell when a dozen people are talking who they are, and hear them all—then you can use that as a multiplex telegraph. That was a brilliant conception; and that idea he was working in upon the basis of the old multiple telegraph; and thus converting it into an "*undulatory*" multiple telegraph from a "*circuit-breaking*" multiple telegraph.

That application of the undulating method forms the greater part of this patent. Mr. Hubbard was interested in his development of the multiple telegraph, but did not

care anything about this speaking telephone, because he could not see how the thing could be done, and he did not believe it. It was incredible to him, and not only to him, but to men of the highest science. For even Sir William Thomson said at the Centennial, "*That which yesterday I would have declared impossible, I have to-day seen realized.*" What was impossible to the conception of the greatest living electrician, might well seem impossible to the conception of a merchant. Therefore Mr. Hubbard was in revolt at Mr. Bell for spending any time upon that application of his undulatory system; and insisted, "Spend it all upon what my interest is; for I pay the money for the experiments, though I pay you nothing for your time." The crew, sirs, were in revolt. It is exactly like an historic picture. We have all heard that touching story of Columbus. He stood upon the deck of his ship, and he saw the Continent before him as plainly as if it had risen above the horizon. With the eye of science he had penetrated the convex between, and to him it was reality. His ignorant crew said, "No, go no further; turn back. Turn back, or we will cast you into the sea." That was this picture exactly. But he said, "For God's sake, one day more; and if we do not then see land I will return." There is not much doubt who was the discoverer of America. Nor is there any doubt about the ignorance which very nearly defeated his sublime purpose, and which he with his great courage, and his scientific imagination, overcame and conquered. That made him the hero of the centuries.

Mr. Hubbard, in the first volume of the Dowd record, tells that story (*Dowd*, i, 433):

"Q. State whether or not Professor Bell talked with you during the summer and autumn of 1875, upon the subject of the electrical transmission of speech, and how much his mind seemed to be occupied with that subject?

"A. He did speak with me. His mind seemed to me to be occupied with it a great deal more than was to my pecuniary advantage, as I did not then believe the transmission of speech could ever be made commercially valuable; *and I at several times remonstrated with him for spending so much time upon that subject.*"

He was furnishing what little money there was used

for experiments; and he remonstrated with Mr. Bell. And, if I might trespass far enough to say it, he told Mr. Bell that he should not marry his daughter unless he abandoned the telephone.

Mr. Lowrey: That does not add much to the other things that are not in the record.

Mr. Dickerson: No; it does not add much; because it is proved he remonstrated, and that is just one way he did it.

Mr. Lowrey: That is just as much proven as a great deal of the rest.

Mr. Dickerson: This is proved on the record.

Now, may it please your Honors, that was the situation at the time these patents were taken out.

Go back with me now, if you please, to the history of this litigation. Beginning with the Dowd case, it was pleaded that Mr. Gray was the inventor; that Mr. Bell had "surreptitiously" obtained his patent for that which Mr. Gray had invented, the caveat for which was on file; that the Commissioner of Patents had unlawfully decided the question of dates—it is in the amended answer in the Dowd case, the first amendment, I think—and it all broke down, as your Honors see it must have broken down upon the testimony itself; for whatever might be true, Mr. Gray admitted *that the first he ever* DID *was on February* 11, 1876, *to make a sketch. That ended the question, because Mr. Bell had sworn to his application on the 20th of January before; had conceived, invented it, written his application for it in October of the year before; and, therefore it was entirely unimportant what Mr. Gray did or did not do after that time.* But, sirs, the litigations all went on, and, as the infringers increased, by degrees this monstrous calumny began to grow. At first it was confined to that legal plea, and the evidence accompanying it; but it began to grow in dimensions until, like a tornado, it was sweeping through the air and carrying everything before it. Mr. Bell had committed a monstrous fraud on the office; he had bribed the Examiner; he had stolen the Gray caveat—and that grew into immense proportions. Whoever has read the newspapers in the last two or three

years can hardly see one where that story is not told: and it came ultimately to assume that form in the Courts.

The story was—and it is here in these papers also, in these briefs—that Mr. Bell arrived at Washington, which was true, on the 27th or 28th of February, after the Commissioner had overruled Mr. Bell's "*confederate*" Wilber, who was really trying his best to *prevent* Bell from getting his patent, and the application was going on—arrived in Washington; and then, the caveat having been rejected from the case—it being no longer in his way—he bribed the Examiner with $100 to show it to him. Poor fellow! He would have liked to have seen the color of $100 in those days. That for this bribe Wilber showed him the caveat, and *he wrote that caveat into the official amendments which are in that application.* Your Honors will see there were two or three regular official amendments made, which appear in the file. That story got into the Courts.

Our learned brethren tell us in their brief, at page 200 :

"The public, *for some reason*, has long suspected the existence of this conspiracy, and the Executive Department of the Government has taken steps to ferret it out."

Well, the "*reason*" why the public has "*long suspected*" it, is that it was set up in these defenses ; it was published by them as part of their defense ; and true it is, may it please your Honors, that the public has long suspected it, and has had good *prima-facie* reason to suspect it; because it has been set up by the defendants, *and by the Department of Justice in lawsuits*, and published upon the wings of the wind to the uttermost parts of the earth.

That " suspicion," however, came to trial in the New Orleans case, the decision of which is in this little book, page 184, in which Gray and Wilber, and the whole gang were witnesses, and in which the Court decided (*our general brief*, 479):

" *The fact that Bell's invention certainly dates from January* 20, 1876, and that it covers a speaking telephone, transmitting articulate speech by means of an undulatory, oscillatory, or vibratory current of electricity, renders it unnecessary to pass upon the evidence *relating to the tergiversations and claims of Gray;* the alleged frauds of

Bell in advancing his application for a patent; the illegal conduct and conflicting statements of Examiner Wilber; and many alleged vices and irregularities, *the evidence of which forms the bulk of the record, and apparently the main defense in the case.*

"AT THE SAME TIME, IT IS PROPER TO SAY THAT IN ALL THE EVIDENCE, WE HAVE FOUND NOTHING THAT SHOWS THAT BELL HAS DONE OR CAUSED TO BE DONE ANYTHING INCONSISTENT WITH HIS RIGHT TO BE CALLED AN HONEST MAN—WITH CLEAN HANDS."

Mr. Justice Harlan: Mr. Dickerson, is the evidence in the New Orleans case here?

Mr. Dickerson: No, your Honor, it is not here, but the facts are. That is the decision. The Court, you see, states the substance of the defense in that opinion.

Well, may it please your Honors, the argument which I now address to you, and which I addressed to that Court, is this: The hypothesis in that case was that Mr. Bell had got the Gray caveat in his patent by these formal amendments, made regularly after the 27th February. But there stood his application, with all of what they say is the Gray caveat in it, *sworn to on the 20th of January, and filed on February 14th, and declared by the Examiner on February 19th to contain the substance of the caveat, before he ever amended his application in respect to these immaterial things;* and, therefore, I said to the Court:

"It might be admitted, your Honors, for the purpose of this case, that not only did Mr. Bell bribe the Examiner, but he murdered the keeper of the seals, carried off the whole contents of the record room, turned the Examiner out and took the whole thing to Boston, and set it up in his show, and called witnesses to prove how and why he did the deed; and yet he could not lose his patent by that action. He is entitled to his patent, if he is the first inventor; and if he has committed any of these crimes, he must be punished for them by law; but you cannot confiscate his patent for that reason: there is no such punishment for crime in the statute."

That, of course, was unanswerable; and therefore, it was not very important whether the story was true or false; for the whole of the Gray caveat was in his specification of the date of January 20th, three weeks before the Gray caveat existed.

THE NEW FRAUD THEORY.

Then, your Honors see, there was an urgent necessity to reconstruct that theory. That had been broken down. That was no longer tenable. Mr. Bell had gone through the most fearful ordeal, and had come before the Circuit Court of the United States to meet a stack of affidavits a foot high, to which he made no reply, except the record and his own affidavit, and had been discharged out of the Court as "an honest man, with clean hands." It was therefore necessary to reconstruct that theory. It was an urgent necessity. Hence the theory which has been newly invented since that time, and which if true is entirely competent. I am making no objections whatever to its relevancy and competency. If the evidence in this case proves that Mr. Bell stole out of Gray's caveat his invention, and interpolated it in his application, after it was sworn to and filed, and before Wilber suspended it, why, it is proved, and we must suffer the consequences. It is competent under the plea that Mr. Bell is not the first inventor, and that he "unjustly and surreptitiously" got his patent for that of which Gray was in truth the first inventor. It must be passed upon here. We don't object to the issue. We have something to say about whether it is proved. *We don't think it is;* but we don't dispute the entire propriety of the issue. We demur to the evidence.

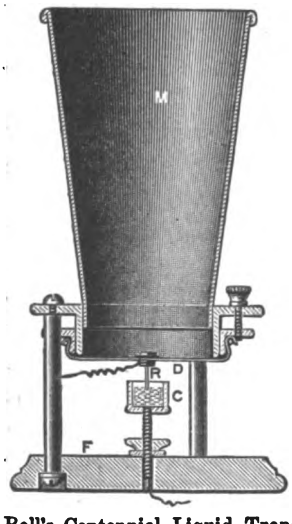
The new hypothesis, founded upon the testimony now presented to your Honors, is this; and I shall state it with circumstantial accuracy, as it is detailed in the briefs of the learned counsel who filed them, and as it has been orally stated to your Honors by Mr. Hill:

The present *first* assertion is, that between February 15 and 19, 1876, or thereabouts, Wilber delivered the Gray caveat to Pollok and Bailey. The *old theory* was that Mr. Bell had got it himself, paying Wilber $100 for it, when he went to the Patent Office *after* the interference business had been settled, about the 28th of February, for he was not in Washington until February 26th or 27th.

Second, that Pollok and Bailey then—there being no time to communicate with Bell, who was in Boston—had to act promptly in his absence; because their *confederate* Wilber,

who assisted them in their fraud by giving them the caveat, was determined to suspend Bell's application in four days, and to defeat his patent if possible; which he tried to do on the 19th.

Bell's absence was a fortunate circumstance; because it has let the Professor out of the crime to a certain extent and brought it all upon Pollok and Bailey, who it is said interpolated in the application a certain part of the invention which they had stolen out of the Gray caveat without Professor Bell's knowledge. This ingenious hypothesis is proved by the assumption that Mr. Bell would never have committed so clumsy a theft as Pollok and Bailey did; who, being ignorant, and not having any very clear conception of the difference between water and mercury, described in the Bell application a wire dipping into *mercury;* whereas, in the Gray caveat *water* was the liquid named. And the distinguished counsel who argued this case with such exceptional ability, assured your Honors that any tyro would have known that *mercury* will not do, and that he must have *water* in the transmitter. Well, at one time, we felt tempted to avail ourselves of that argument for our friend the Professor, and let *that* excuse him from participation in that crime; but conscientiousness prevents us from doing it. We must be honest with the Court, and we cannot conscientiously do it. *The mercury transmitter is the form which Mr. Bell exhibited at the Centennial, and here is the original mercury instrument itself, now historical, which was at the Centennial.* A picture of it is in evidence, and is on the card of exhibits in your hands, at the lower corner of Plate IV.; and I have caused it to be put upon a large diagram, that your Honors may see it at a distance. There it is,—one of his Centennial exhibits,—the mercury transmitter.

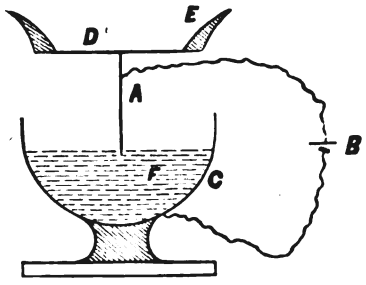


Bell's Centennial Liquid Transmitter.

Here is a cut of the actual instrument used at the Centennial.

I have also a cut of the working parts enlarged for convenience.

In this second cut, *D* is a horizontal diaphragm to be spoken to from above. *E* is a section of the frame that holds it. *A* is a rod dipping into the vessel *C*. The vessel *C* is of brass—that is, of a conductor of electricity. It is filled with some liquid which is a tolerable conductor of electricity—mercury, or acidulated water. The current comes from the battery *B* by the wire, goes to the rod *A*, then, from its lower ends radiates off in all directions through the liquid to the metal cup *C*, and then by the wire to the battery *B*. The current does not, and is not expected to go direct from the lower end of the rod *A* to the *bottom* only of the cup *C;* it goes in all directions through the liquid. Mr. Hill says that such a thing cannot work. But it *does*. That is a *fact proved in this case*, and no expert denies it.

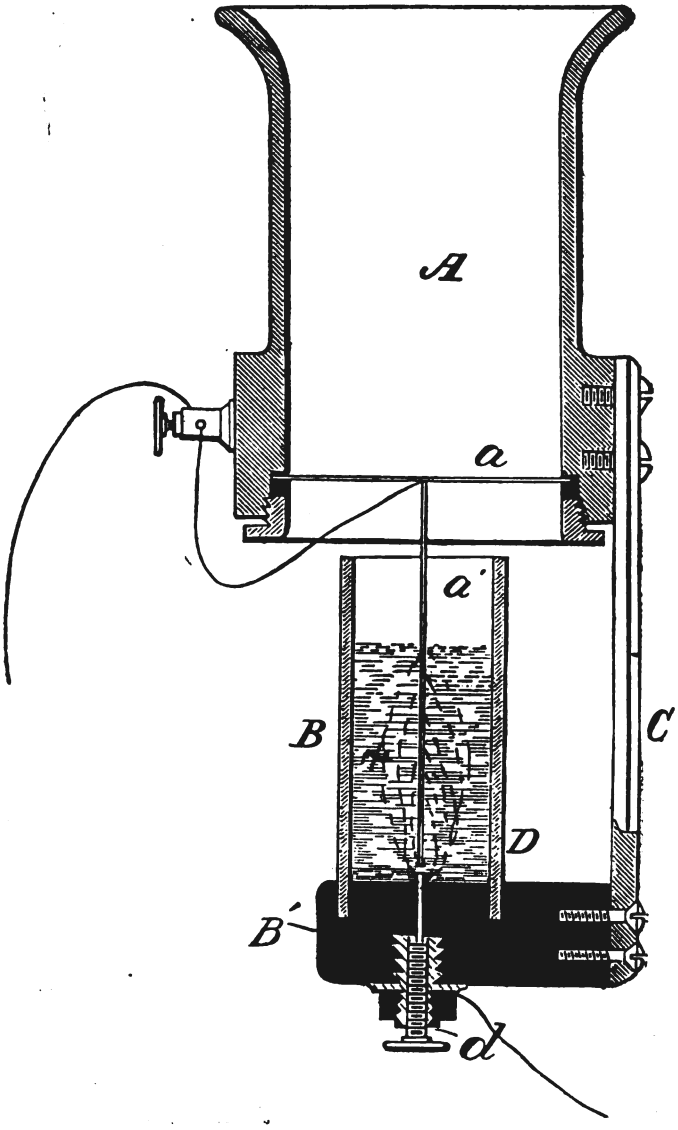


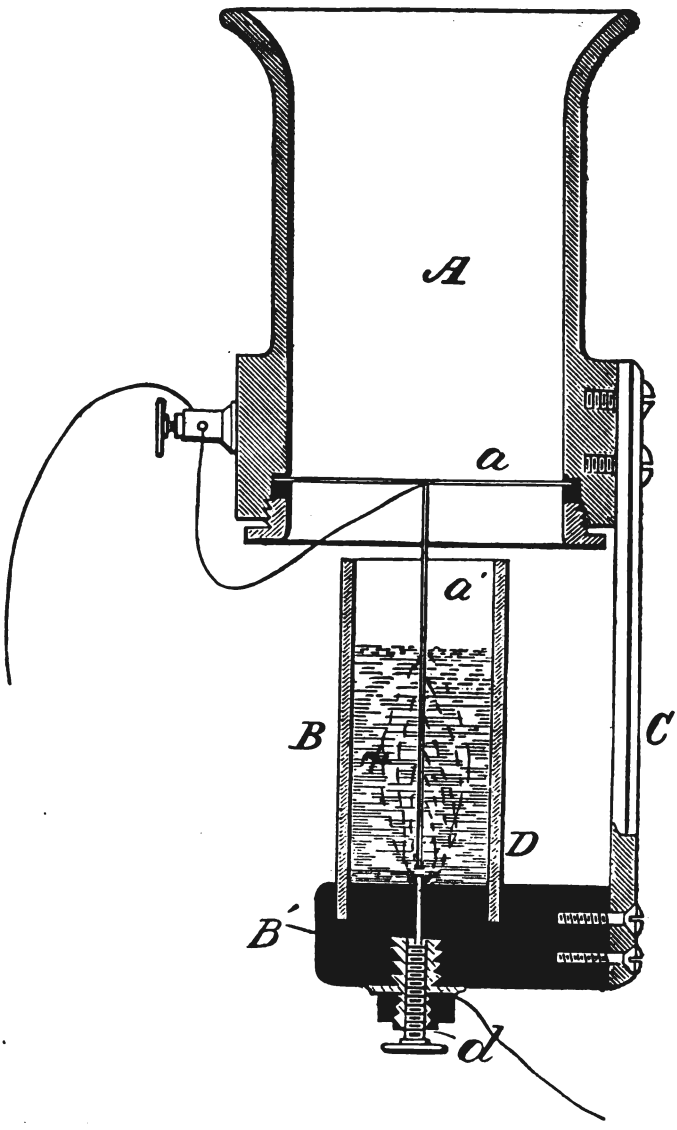
Working Parts of Bell's Centennial Liquid Transmitter.

A *tyro*, your Honors, would think just what Mr. Hill thinks; but a man of science like Bell would know it was just otherwise. There it is—the thing itself as it was at that time. One of the most certain kinds of knowledge,—and it is a very common kind in the world among the ignorant,—is to know for sure "what ain't so."

Now, let me show your Honors what the explanation of all this part of the confusion is. I will take the liberty to do it on the blackboard here. Your Honors have the picture before you; but I can show it to everybody on this diagram much better. There is the Gray caveat diagram—or rather it is a fac-simile of the improved drawing of his application of October 29, 1877. There is the Bell's mercury transmitter of the Centennial Exhibition. Your Honors will observe that in the Gray caveat that rod *a'* runs all the way down to the bottom,

or very near to the bottom, of the deep cup of water, leaving a little gap between its end and the opposite wire, or "pole," as it is called; and my electrical expert adversary described to your Honors, and described truly, how that thing was *intended* to work—it will not work that way, but how it was *intended* to work—which was that the current was going to pass from the end of *a'*, the upper one of these wires or "poles," to the end of the opposite pole. Upon the diagram your Honors have before you you will see the narrow gap near the bottom, between the poles, where the current is supposed to pass from the descending wire to the opposite wire. That looks all right. Even Sir Isaac Newton made a hole for the kitten, and one for the cat, without observing that the kitten could go through that cat hole; so others may be excused who fall into a similar mistake. Now, the trouble is this: ordinary water is a conductor —rather by its impurities than otherwise. Every part of that line of wire to its end is bursting with electricity, so to speak—a kind of a sausage machine, stuffed. The electricity is trying to squeeze out everywhere, and it does. It squeezes out wherever it can find a hole. It is like water in a leaky vessel—it will leak out through every opening, how small soever may be some of the holes, and how large others: it does not choose its passage. Consequently it is squeezing out of this vertical wire as if it were porous, and running through the water to the opposite pole. I now draw these curved lines from the upper wire, passing through the water to the lower pole, to illustrate how the current flows in the Gray caveat machine. In it the vessel *B* must be of glass or there would be no possibility of operation at all, because the currents would flow *laterally* from the wire to the vessel from end to end, and thus connect with the opposite pole entering that vessel through its bottom; and accordingly the caveat states that the "wire extends into a vessel, *B*, *made of glass or other insulating material.*" But the variation in the thickness of the film of water produced by the exceedingly small range of motion in the vibration of the diaphragm when spoken to, causes so infinitesimally small a difference in the resistance of the film of water between the ends


A
a
a'
B
C
D
B'
d


A
a
a'
B
C
D
B'
d

of the poles, that this great flood of electricity that is coming down from all along the wire completely masks the effect of the vibration. So that the minute vibration of the upper "pole" affects an exceeding small percentage of the whole current, and therefore can produce no sensible result in the receiver. In Gray's form the depth of immersion has nothing to do with it—that cup might be a foot long just as well as two inches.*

I draw on this Gray transmitter curved lines, marked *x*, from the upper wire, passing through the water to the lower pole of the apparatus, by way of illustrating how the current is escaping from the upper wire and flowing to the lower one all the time. Of course, these curves are only illustrative. The impulses do not go in curves, probably, but in straight lines, as we suppose; and the most of them go from the *surface of the wire* nearest the end, and gradually diminish towards the surface of the water; but *some* pass out of the wire wherever it is submerged.

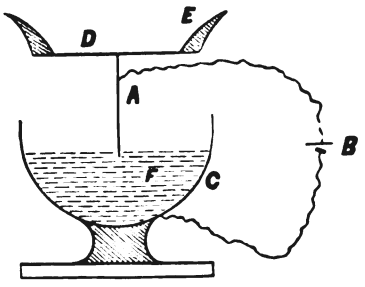
On the other hand, what the "tyro" saw—Bell by name—was a different principle altogether. He was probably incapable of conceiving such an absurdity as that Gray caveat. That is not the way to make a liquid transmitter. The liquid transmitter is to be made by "immersing" the "conducting wire" in the "mercury or other liquid"

---

* This Gray transmitter *per se*, Gray did not invent at all, as he testifies, and as has been truly said to the Court. Gray swore in the Dowd case (p. 125, q. 49), in regard to this transmitter, that: "The fact that the longitudinal movement (in water or other fluid of poor conducting quality) of a wire, or some good conductor of electricity, with reference to another wire or metal conductor, produces variations in the resistance of an electric circuit proportional to the amplitude of movement *was old in the art at that time;* so that the last link of knowledge necessary to solve the problem in my mind was furnished in the capabilities of the longitudinal vibrations of the string of the before mentioned so-called lovers' telegraph."

It has been truly stated to the Court that Edison had a patent for that very apparatus, worked by a finger key instead of a diaphragm, as a transmitter for the Morse telegraph—its operation there being to arrest the spark, and, of course, to increase and diminish the flow of the current as the poles approached or receded from each other. See also our brief, p. 326, which shows where other inventors used this liquid resistance to regulate current strength.

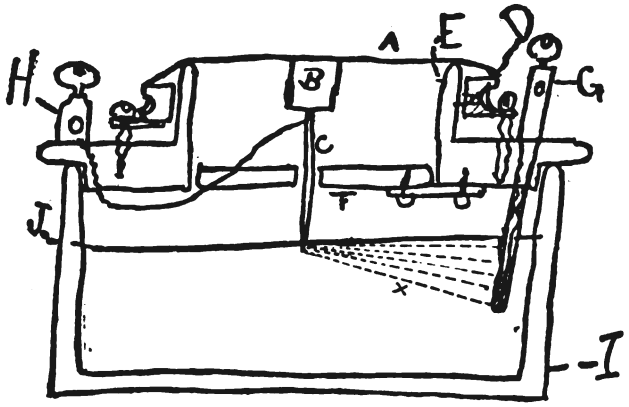
more or less "deeply," which liquid is to conduct it, not through a thin film of water to an opposite pole, as in Gray's case, but laterally—it may be in every direction—to the containing vessel, which is itself the conductor and opposite pole, or to a parallel wire, which is the same thing; and then the quantity of electricity passing will depend upon *how far the pole is immersed*—how much surface is exposed—not upon how far its end is away from the opposite pole as in Gray's. Then you can have any kind of liquid conductor, such as salt water, or acidulated water, and the like. The flow is regulated by the depth to which the vibration of the diaphragm "immerses" the wire, and not by the distance to the opposite pole. The principles are as far apart as the two poles.



Bell's Liquid Transmitter.

Look now at Bell's Centennial liquid transmitter itself here present, and you will see that the vessel is of brass, instead of glass, as required by Gray's caveat, and is itself a part of the circuit, and that the current coming from the upper pole is just touching the liquid, whatever it is, and must flow laterally to the entire circumference of the brass cup. The thin-pointed stem dipping into the mercury, as used at the Centennial, was *black lead* taken out of an ordinary wooden lead pencil. The picture of it is on Card IV., at the lower left-hand corner, and on p. 56, *supra*.

If your Honors will now look at the upper corner diagram which is on Card IV., you will there see Mr. Bell's water transmitter—made in Boston on the 10th of March, 1876, three days after his patent was dated, and *now* asserted to be a copy of Gray's caveat drawing. This is the important fact; because this used *water*, and it is said that Bell stole it from Gray's caveat. Here is a cut of it. I have just added the dotted lines, marked *x*.



That, your Honors see, is made upon the principle I have been describing to you, and illustrating on this blackboard, and in unison with Bell's patent, in which he says: "The "*more deeply the conducting wire is immersed in the* "*mercury or other liquid, the less resistance does the* "*liquid offer to the passage of the current.*"

In that apparatus the current enters at *H*, passes through the wire to *C*, which is one "pole," the point of which just dips into the liquid—which in that case was water more or less affected with salts or acid to make it a good electrical conductor. From that point it flows laterally towards the opposite "pole" *G*, which is a rod of metal dipped into the liquid to an indefinite depth, and which you see is parallel to the pole *C;* and which might just as well be a brass ring surrounding the pole *C* like the Centennial instrument, so far as its operation is concerned. When the pole *C* is caused to vibrate vertically by the air waves beating on the diaphragm *A*, you will see that it does not get any nearer to or further away from its opposite pole (the rod *G*) at all, as in Gray's case—it only is "immersed more deeply" into the liquid, which gives more area of contact between the rod and the liquid, enabling more current to go from the rod to the liquid, giving out from itself into the liquid a greater quantity of electricity thereby, the effect of which is that its deeper immersion causes the liquid to offer less *relative resistance* to the passage of the current.

Now, I will imagine that lines are drawn from that

point of the pole *C* over to the other pole *G*, which represent the flow of the current. I draw them as dotted lines and mark them *x*. You observe that there is no approximation of the opposite poles at all in this action. They are parallel to each other. They do not get nearer to each other at all. But the dipping of the wire *C* deeper into the water lets out more electricity from that, as I might say, sausage machine, squeezing it out at the end, and it runs to wherever there is a pole to take it.

The Chief Justice: Is that change, that dipping in, caused by the vibration?

Mr. Dickerson: Yes, your Honor, the diaphragm overhead vibrates with the voice, and "*immerses*" the point of *C* "*more or less deeply*" into the liquid.

You now see the distinction between these two devices. They are both supposed to be—they both are properly called—liquid transmitters; but they work on directly opposite principles. One works upon the principle of approximating the two opposite poles and having a film of liquid between them, whose thickness is varied by the vibration; and the only useful effect of the reservoir of water is to keep that film between the poles, and supply loss from decomposition; while the other operates upon the principle of immersing one of those poles in the liquid more or less deeply, and thereby delivering more electricity or less.*

Now, according to Mr. Hill, that is what our ignorant

---

*Even Mr. Bell's excellent form of liquid transmitter is of no practical value in comparison with his magneto-telephone, as improved by his invention of 1877. The magnetos went into very large practical use for two years, *containing no invention of any other man than Bell*, notwithstanding this liquid variable resistance transmitter. Before the capacity of carbon to make a good variable resistance (or microphone) transmitter was discovered, every large city in the country had an exchange with magneto instruments alone. And to-day, in Boston, there is a five-hundred-subscriber exchange which never has substituted the microphones for the Bell magnetos (*brief*, 29; *Clay*, 401).

The magneto is by far the *best articulator*—its defect being what Bell foresaw in his letter of May 4, 1885, when he described the advantages of the alternative, variable resistance plan, and said it "*is chiefly defective on account of the feebleness "of the induced currents.*" When brought into the vicinity of telegraph and other electrified wires the inductive action of those other lines drowns out the feeble magneto currents more easily than they can drown out a battery current from a microphone—hence the preference for the microphone.

friends Pollok and Bailey wrote into the specification of Bell, when they stole it out of the office and amended it *by trying to copy* Gray's caveat, but not knowing enough to do it properly; and any tyro would know, says the learned electrician, that that would not work. In Bell's plan it makes little difference what liquid is used—so long as it is a conductor; but Gray has to use water or some other *high* resistance liquid that is a *bad* conductor, in vessels of non-conducting material. Mr. Bell can use *any* liquid; because the principle of the action of the two machines is entirely different, and the vessel *need not be* of non-conducting material, nor *insulated* from the opposite pole.

I am sorry to have to reject that *tabula ex naufragio* which the learned counsel so kindly cast overboard for my friend Bell to float ashore on; but I believe the wreck is not there; I think we had better stay aboard the ship.

All that is in our brief, page 470, as I have explained it; but your Honors will understand it better, I take it, now that I have given you this visible illustration of it.

I think that my friends Pollok and Bailey would have been very happy if it could have been proved upon them that they invented that in 1876; because then it was a new truth in the world, and it is one of the foundations on which Mr. Bell's fame rests; but Mr. Bell, although he has got lots of fame, and might spare a number of its foundation stones, is not going around giving them away just now.

But then Pollok and Bailey did something more, according to this ingenious hypothesis. After inventing these things, and writing them in Bell's specification, in the absence of their client and without instructions, merely to keep their hands in that kind of fraud—for fear they might get out of practice if they didn't do it to every specification they had—they put something more in. It is the fourth in the enumeration of advantages that our patent contains, and is in these words:

"FOURTH.—That cable dispatches may be transmitted
" more rapidly than by means of an intermittent current
" or by the method at present in use; for, as it is unneces-
" sary to discharge the cable before a new signal can be
" made, *the lagging of cable signals is prevented.*"

That they interpolated also in the fullness of their hearts and knowledge!

Well, I suppose, it is not charged that they got that out of the Gray caveat; because this advantage you see has relation altogether to the application of Bell's undulatory current to multiplexing *cables;* and that was a new suggestion made at that time by Pollok and Bailey, out of their own heads, according to the simple, ingenious, and self-evident fraud hypothesis which has been presented to the Court by Mr. Hill. Well, that was a pretty good suggestion. Pollok and Bailey did that *ex gratia,* for fear Bell would not think of it himself afterwards. There was no occasion to do it, so far as the Gray caveat was concerned, for it was not there; but while their hands were in they thought they would finish this thing up and make a clean job of it.

But they did something more besides putting in that "mercury or other liquid" transmitter, *that will not work according to Mr. Hill.* They put in three other inventions in that paragraph. They are on the second page of the specification, as follows:

"Electrical undulations may also be caused by alternately increasing and diminishing the resistance of the circuit, *or by alternately increasing and diminishing the power of the battery.*"

All that battery part is not in Gray's caveat, and there is no suggestion of it; that is altogether a new set of ideas.

"The internal resistance of a battery is diminished by bringing the voltaic elements nearer together, and increased by placing them farther apart."

"The reciprocal vibration of the elements of a battery therefore occasions an undulatory action in the voltaic current."

None of that is in the Gray caveat. There is no "*reciprocal vibration of the elements of a battery*" suggested in the Gray caveat.

"The external resistance may also be varied."

That is indicated in the Gray caveat in that water transmitter, but his *plan* of doing it will not work. But that

we pass by. What Pollok and Bailey put in, in addition to the other two new things, as Mr. Hill tells us, is:

"The vertical vibrations of the elements of a battery in the liquid in which they are immersed produces an undulatory action in the current by alternately increasing and diminishing the power of the battery."

All that, these ingenious patent agents invented and wrote into the patent, after making the mistake of putting in that "mercury or other liquid plan"—being "*tyros*" and not knowing mercury from water. Partially by these other additions they were probably trying to mend their error. Perhaps they knew that "mercury" was a mistake; and they wanted to get even again by putting these other things in, and so not hurt their client too much by their too zealous but ignorant efforts to steal something for him.

Now, may it please your Honors, that is what, according to the theory of this ingenious counsel of Drawbaugh, was done by Pollok and Bailey; and having done that, they rested from their labors, and waited to see what would happen. Their "*confederate*," Wilber, then took up his part, *and proceeded at once to do what he could to defeat them, and prevent their getting a patent at all;* which I think was not fair on his part, because, after being paid to serve them, he ought not to have cheated them anyhow. *He suspended the application and argued against the Commissioner who overruled him.*

And then Mr. Bell arrived; and we have got a very circumstantial hypothesis of his performance. Mr. Bell arrived, and, as a man naturally would, he said to his agents, who had stolen something for him: "Well done, good and faithful servants;" and then he proposed to take a hand at it himself; so he went into the Patent Office and found his application perfect, *just as it is in the patent.* It has not an *i* dotted, nor a *t* crossed from what it then was, except those formal amendments made by himself, which are no part of this fraud, nor are pretended to be; although formerly they were the whole of it, *and are the whole of it in the Government suit.* He found his application in that fair condition, which it is said his agents had got it into by stealing out from the office the

papers he swore to, and substituting some new sheets in the same handwriting as the original. I say he found it in that condition, because the certified copy by the Patent Office, which your Honors have before you, and which was a file in this case, and which comes from the Massachusetts Court, shows *in ink* the exact text of this application before any pencil marks were made on it—if any were ever made. *It is in ink, certified in ink.* It is the text of this application, and of the patent issued upon it a few days later.* Your Honors have before you what we furnished you—namely, printed copies of the Massachusetts certificate, with the pencil alterations added. It is hardly worth your time to look for them, for this thing is so utterly contemptible; but there is the certified copy itself before you *in ink*, showing exactly *what was on file when the patent issued*, and what is in the patent; and thereupon, according to this wonderful theory, *Prof. Bell proceeded to mutilate his own record*—that is the hypothesis—he proceeded to mutilate his own record, by interlining into it the words "*all of which depend*," in pencil, which were not there in the fair written ink application, *and the effect of which was to impair that bit of forgery that his agents had done for him.* He interlined that in pencil, Mr. Hill says; and if he did, he tried to defeat, if possible, the fraud which had been contrived and executed for him

* There exists a well-known certified copy of the file of the Bell patent procured in the early spring of 1878, *by the man in whose interest these charges of forgery are made.* Mr. Elisha Gray and his associates in the American Speaking Telephone Company had a copy certified under date of April 9, 1878, and he printed and circulated many copies of it in this country and in England during that year—the year before the Boston certified copy was made.

These charges of forgery can never be made therefore *avowedly* by Mr. Gray, nor in any case in which he can be cross-examined. So many of his printed copies now exist that mutilation or suppression is impossible, and he would have to tell whether, when he fomented these charges, he did not *know*, from the proofs in his own hands, that the Bell application stood, in 1878, word for word, as it was printed in the patent, as it was fair written in ink in the Boston copy of April 10, 1879, and as it stands to-day on the files.

by his accommodating and ingenious agents. Well, he must have done it, because your Honors have been told so "*in all solemnity, and with a due sense of the awful responsibility of making the charge.*" You ought not have been told so, of course, unless it was true; but it was extraordinary—very—*that Bell should have attempted the ruin of his own patent, by doing a fraud.*

But he did more than that according to this wonderful story. He then proceeded to *mutilate that paper thirty-eight times.* He interlined thirty-eight interlineation, to confuse the thing so that no man could tell what it meant. For instance:—in the ink portion of the certified copy it is written—"The elevations *b, b, b;*" and then with his pencil he interlined "*c, c, c*"; because, probably, the future purchaser who should take his license might like to have a selection of letters to apply to the drawings. Bell couldn't foresee his customers' tastes in lettering, and he wanted to give them the whole alphabet to choose from. His customer might pay his money and take his choice, so to speak. Then, being of a literary turn of mind, he interlined more euphoneous synonyms for the original words in the text in many cases; as for instance "made" for "used"; "signify" for "indicate"; "softly" for "gently"; and many others. He had a fancy for polishing this thing up, and he did it thirty-eight times, and that was his contribution to this literature; and then he rested from his labors.

Then there came out of the Patent Office a certified copy of that application on the 7th of March. *That was the first certified copy that issued,* namely, the patent itself. That patent is necessarily a true copy of that application as it finally appeared in the office *after all the amendments had been made to it.* That is the first certified copy; and that is exactly like the *ink-written part* of the certified copy furnished in 1879, on file in Boston, and now here; and exactly like the papers *now* on file as shown by the photograph of October, 1885.

The Chief Justice: That certified copy is in the patent itself?

Mr. Dickerson: That is annexed to the patent itself, which the Patent Office issues when the application is

completed and made up. The application as completed and made up, and accepted and allowed by the Patent Office, goes to the government printer and gets printed and recorded in the Patent Office, and the patent is the certified copy of it—the first one; and thousands of them have been since issued in the printed form, which are copies of it.

Well, there is one explanation of this phenomenon that has not yet been given. No doubt my learned friends accidentally omitted it, because it may explain *rationally* how that *patent issued without any of these interlineations in it*, and I have no doubt they will accept the explanation. I have no doubt my friend Mr. Lowrey will accept it, without hesitation,—because it is scientifically correct and possible—and that is that when Bell did that job he used a pencil composed of sensitive ink, whose marks appear and disappear with heat and cold; and when the office made that first copy on the 7th of March it was a cold day,—very cold for these infringers,—and I have no doubt that if they will examine the meteorological record of that year they will find it was a cold day on the 7th of March; and hence Bell's mutilations disappeared when the paper was copied for the printer. In 1879, however, there came around a warm day, and then the Boston certified copy was issued, when suddenly these mutilations of the record all bloomed out; and then we caught the rascal. There he was, whoever did it, who mutilated our record; and he had put into it what they say would ruin our specification if it was there, and that copy is the proof. That it was there calls for no extrinsic proof; here is the Patent Office certificate right on your table, *with the pencil interlineations all in it*, and with a certificate at the end of it, says Mr. Hill.

Then the learned counsel invented—excuse me for saying invented—they saw, in the course of their consideration of this melancholy case, that some forgery had to be done by Professor Bell, when he got the certified copy in 1879 with all those pencil interlineations in it, and they supply that need in their brief in a very satisfactory way. It is at page 115 of Mr. Hill's brief, entitled "*Appellant's Brief on the Bell Patents.*" He there says:

"The most astounding part of the fraud, is the attempt to cover it up by again changing the record since 1879. Why was this delayed till so late a date, and why at that late date, attempted at all? We answer that, prior to the summer of 1880, although there was some interference litigation going on, and the Dowd suit had been commenced but settled by compromise, the different interests were, for the most part, only apparently in conflict, and were really under the control of the Bell Telephone Company and the Western Union Telegraph Company, which latter company now claimed to own both Gray's and Edison's inventions. *There was no great danger of ang damaging exposures in that connection*"—now in italics. "*But when the real litigation began in dead earnest, in the controversy with the People's Telephone Company*"—that is Drawbaugh—"*in the summer or early fall of* 1880, *there was danger that the Patent Office fraud might be discovered, and it clearly became of enormous advantage to remove all traces of it, if that could be successfully done.*"

You see it was our dread of brother Hill that made us do it. It was that Drawbaugh business that brought us to terms. We were so afraid that that mutilation of our record to our injury would be discovered by that smart party, that we determined to do something desperate. What we did is described in the other of their two briefs, page 223. This is the most convincing of all,—it is called the "*Supplemental Brief*,"—because this descends to the very basis of human conduct, and reveals the springs of human action. Nothing is so certain a test of human conduct as to unveil the springs of human nature. Like causes produce like effects. We know what gravity will do. We know what the human animal will do, under certain impulses; because our experience has taught us that. Therefore, this philosopher touches the very springs of this action and lays bare the very secrets of our hearts. Let me read it. What a head!

"Crime breeds crime. A foul deed perpetrated in silence and secrecy draws around a man an invisible line that separates him from his fellows. He is thenceforth set apart as the especial victim of circumstances. He is arrayed in a never ending but unequal conflict with the terrible Nemesis of retribution. The stern necessity is laid upon him of unceasing vigilance, of daring unscrupulousness, and of reckless effrontery in the commission of further

offenses; for only thus can he stave off the inevitable end. Mr. Bell, notwithstanding his transcendent intellectual abilities, proves no exception to the rule. There is evidence in this record, ample, complete and demonstrative, that subsequent to the 10th day of April, 1879, a crime of the most atrocious character was committed in the Patent Office at Washington; that this was done for the sole purpose of covering up and concealing the evidence existing in that office of the crime previously perpetrated there in February, 1876, as already outlined."

Now, sirs, you have got at the springs of this affair, the motives of human conduct laid bare. It was "*Nemesis*" that did the business. Bell is not responsible. You never can control Nemesis when he comes around. Bell had to go; there was no use in fighting Nemesis; and he went right off and robbed the Patent Office, and substituted a fair copy, exactly like his patent, that had been issued to him on the 7th of March, 1875—just like it exactly, word for word. He actually went and put back there that fair nice copy—to cover up what? *To cover up the fact that somebody had mutilated his record to his injury, before the issue of his patent, notwithstanding which, strange to say, his patent as issued was all right.*

Well, there was one simple and obvious explanation of the whole matter, which is, that that supposed copy, printed in the Dowd record, was a printer's mistake. That book was not the record itself, *it only purported to be a copy of the record*, and the record itself, when produced, explodes the whole theory.*

---

* The following letters and stipulation were produced to the Court:

ST. CHARLES HOTEL, NEW ORLEANS, LA.,
February 18, 1886.

H. C. ANDREWS, Esq.,
2 Wall St., New York.

Dear Sir,— . . . I want to make one correction in the original record of the Drawbaugh case. The file of the Bell patent is in evidence, but the copy of the application is not printed correctly. I believe there are no errors in it which are of any importance, BUT THERE WERE SOME PENCIL MARKS ON THE COPY THAT WENT TO THE PRINTER, IN THE DOWD CASE, WITH BRACKETS, ETC., AND THAT GOT REPRODUCED IN YOUR CASE. There has been lately printed a very careful and accurate copy from a photograph of the original papers, and I directed two copies of this to be sent to you from Boston. I propose to you to substitute that for the print that now exists among our exhibits in the Drawbaugh record, and also to stipulate, as enclosed, that the Court on appeal may, if it desires, refer to a certified copy made by the Patent Office, for greater accuracy.

Your truly,

J. J. STORROW.

Mr. Justice Harlan: Where in the record is the original patent, the one which you say was issued on the 7th of March?

Mr. Dickerson: It is in every record at the beginning. I can refer your Honor to it.

Mr. Justice Harlan: There are certified copies of that all through the record?

Mr. Dickerson: Yes, I think so.

Mr. Justice Harlan: I want to know which was the one that was in fact issued on the 7th of March?

Mr. Dickerson: Does your Honor refer to the paper itself, or to a copy of it?

Mr. Justice Harlan: The document itself.

Mr. Dickerson: I don't know. It probably is in our safe in Boston; the patent itself. I can send for it.

Mr. Justice Harlan: Is there a copy in the record certified on the 7th of March?

Mr. Dickerson: Yes, sir; brother Storrow will find it for your Honor, if you will indulge us.

Mr. Justice Matthews: There is not any that was certified on that day, is there?

Mr. Dickerson: Yes, sir; the patent issued under seal that day certifies that that is the specification.

Mr. Justice Harlan: But is there anything appended to that, that shows that that paper was issued on that day?

Mr. Dickerson: It is dated on that day, the 7th of March.

Mr. Storrow: The paper which is put in the case, as is usually the case in patent suits, is the printed copy fur-

---

[Mr. Andrews to Mr. Storrow.]

Law Office of Henry C. Andrews,
No. 2 Wall Street,
New York, March 25th, 1886.

Am. Bell Tel. Co. et al. *v.* People's Tel. Co. et al.

J. J. Storrow, Esq.,
40 State St., Boston, Mass.

Dear Sir,—Herewith please find enclosed stipulation, that parties may, on the appeal, refer to a copy of the Bell patent on file, certified to by the Patent Office.

Very truly yours,
Henry C. Andrews,
per F.

[Enclosure.]

CIRCUIT COURT OF THE UNITED STATES,
Southern District of New York.

American Bell Telephone Co. et al. *v.* People's Telephone Co. et al.

STIPULATION.

It is agreed that upon the appeal of this case the Supreme Court may, if it

nished by the Patent Office itself, which, under the statute, is filed in various clerks' offices, and serves as a certified copy.

Mr. Justice Matthews: I suppose one issued now would be dated the 7th of March?

Mr. Dickerson: No, sir; a certificate would be appended dated to-day.

Mr. Justice Harlan: Is there one with a certificate showing on its face that that paper in fact was issued on the 7th of March?

Mr. Storrow: That the actual physical paper put in here was issued on the 7th of March?

Mr. Justice Harlan: Yes, or a copy of it.

Mr. Storrow: Take, for example, the paper your Honor has got—this one——

Mr. Justice Field: I suppose if the patent was dated that day it would be issued many days after?

Mr. Storrow: You want to know the date when the paper actually came out of the office?

Mr. Justice Field: Yes.

Mr. Storrow: No, sir; that does not appear.

---

desires, *for greater accuracy*, refer to a copy of the Bell patent and file made and certified by the Patent Office.

L. Hill,
Sol'r for Def'ts.

[Mr. Storrow to Mr. Andrews.]

July 28, 1886.

H. C. Andrews, Esq.,

Dear Sir,— . . . The newly-printed file of the Bell patent should be printed with *great care*, line for line with the copy you have. It takes the place of the former one which was not correct. You may, if you please, put it at the end of the *complainants' proofs in reply*, as a complainants' exhibit.

I also send the argument you wanted.

Yours truly,

J. J. Storrow.

[Mr. Storrow to Mr. Crosby, Counsel for Overland Co.]

September 30, 1886.

Chas. P. Crosby, Esq.,

Dear Sir,— . . . . The copy of the Bell specification and file which was originally put into the Drawbaugh record is incorrect. *It was reprinted from a copy in another case which was carelessly done.* The differences are not important, but it ought to be exactly right, and I have agreed, for that reason, with the Drawbaugh counsel and with Mr. Peckham, that the Supreme Court may look at a certified copy for greater accuracy, and I have furnished them with a copy printed line for line from a photographic fac-simile of the original, made and certified by the Patent Office. The Drawbaugh people have reprinted it in the printing they are just doing. If you will put that in instead of the present one, I will furnish you as many printed copies of it as you need for the Supreme Court. When you get the record complete, I will, as I wrote you before, do

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

The Chief Justice: It strikes me that that may be explained. I want to know whether, when you print the patent in the record, you print any certificate with it, other than the specification itself?

Mr. Storrow: No, sir.

The Chief Justice: If there was no certified copy of the patent then the certificate would not appear?

Mr. Storrow: No, sir.

The Chief Justice: If you print the patent it is there without any certificate, except the patent itself?

Mr. Storrow: Yes; that is sufficient.

Mr. Justice Field: In point of fact was the patent issued that day or dated that day?

Mr. Storrow: The patent was issued that day, in point of fact, at that time. The patents come out about ten days after the day of their date. That was the practice at that time. I mean to say the physical paper.

Mr. Justice Field: I suppose it would appear to be recorded when dated; but as a matter of fact it is recorded after that time?

Mr. Storrow: No; it is recorded, as I understand—the

---

whatever the resources of my store-room will permit in the way of furnishing you extra copies, to avoid the cost of reprinting in the Supreme Court.

Yours truly,

J. J. STORROW.

In consequence of this letter and stipulation, the true copy of the specification was printed by Mr. Hill in his Drawbaugh record (Overland proof, p. 729), with the following foot-note on p. 764:

"[NOTE.—The above copy of file of Bell Patent No. 174,465, is here printed, out of its proper place, at the request of the complainants, as a substitute for the copy of the same file printed among complainants' exhibits, People's Case (compl'ts, vol. iv, p. 5.)]"

When those letters were exchanged, if Mr. Hill believed that Mr. Storrow had made a false representation to him about the origin of the printed copy in the Dowd case, he had only to consult the original on file, or to ask for further explanations; but instead of doing so, he signed the stipulation agreeing to the truth of the statement and referring the Court "for greater accuracy" to a certified copy by the Patent Office, *which he knew did not contain any of these pencil marks.*

This little circumstance, however, did not deter him from constructing his wonderful fraud theory, founded upon the hypothesis that this certified copy which had accidentally been pencil marked in the hands of counsel and carelessly printed by the printer, AS HE STIPULATED IT HAD BEEN, was in fact a true copy from the Patent Office; nor from assuring the Court on his final argument, that the copy brought into Court by the Clerk of the Circuit Court in Boston, where it had been ever since it was filed in 1879, had been "*doctored*" as he termed it, and that Mr.

specification is recorded, say on the 7th of March; then it goes to the printer, and the patent that is issued to the patentee is in print, and he did not get that physical paper, I think, for ten days or a fortnight after the actual issue, according to the practice in 1876.

The Chief Justice: But the patent itself, as issued, is or ought to be, an exact copy of the record of the patent in the office?

Mr. Storrow: Yes, sir.

Mr. Dickerson: It must be so.

Mr. Hill: No, your Honor.

Mr. Justice Bradley: What Judge Harlan wishes and what I should like to see also, is the copy that was made on the 7th of March.

Mr. Storrow: The proof of that would be the production of the patent itself.*

Mr. Justice Bradley: Would that show that it issued from the office on the 7th of March?

Storrow had abstracted the original one from the Clerk's office, from which the Dowd volume had been printed, and substituted another in which the interlineations were in his handwriting, and in which the ink-written part of the original was now in pencil, and *vice versa*. The invention of this last hypothesis was necessary after the Boston certificate was produced, which showed that the body of the specification, written *in ink*, was just like the patent, and that the pencil interlineations, whether made in the Patent Office or on the certified copy, only mutilated the application, and if really in the original on file in the Patent Office, would tend to destroy it. This exploded the elaborate hypothesis that Mr. Bell had himself made those injurious interlineations in the original on file in the Patent Office; and of course, Mr. Hill had to deny that the Boston certified copy under seal of the Patent Office, now produced, and the one from which the Dowd printed copy was taken was genuine—the difficulty with it being, that according to his fraud theory the *ink part of it should show in pencil, and the pencil part in ink.*

This invention looks very much as if made under the Nemesis theory of the brief, in which Mr. Hill philosophically remarks in regard to the supposed criminal in a supposed similar case: "He is arrayed in a never ending but unequal conflict with the terrible Nemesis of retribution. The stern necessity is laid upon him of increasing vigilance, of daring, unscrupulous and reckless effrontery in the commission of further offenses; for only thus can he stave off the inevitable end."

In this case, however, he did not stave it off—it came at once, and in the same place and hour when the new—forgery and theft—hypothesis was invented and proclaimed.

* The original patent was in the safe of the Bell Company at Boston. It was sent for and produced at the next session, and examined by the Court (*v.* p. 121, *infra*).

Mr. Storrow: The patent itself is dated on the 7th of March. That would not show the day when the physical paper was delivered from the office.

Mr. Justice Bradley: The patent is not dated in the record. There is nothing but the specification.

Mr. Storrow: If your Honor will look at this paper. This is the way the patent comes out——

Mr. Justice Field: As a matter of fact, I suppose patents are sometimes retained in the office. It seems not to have been the case with that patent.

Mr. Storrow: No, sir; the ordinary rule is, or was at that time, that about ten or twelve days after the date of the patent, everything was completed and delivered.

Mr. Justice Field: They are retained oftentimes for years.

Mr. Storrow: That was not this case.

Mr. Justice Field: What I want to get at is, when was it actually issued out from the office—delivered?

Mr. Storrow: The physical paper was delivered, according to the ordinary course of business at that time, about ten to fourteen days after the date of the patent; but it is recorded in a book in the office, I understand, at the time.

Mr. Justice Harlan: If it was issued two weeks after the 7th of March, would there be appended to that paper a certificate as of that latter date, showing that it was a correct copy of the patent?

Mr. Storrow: It is the patent itself which issues. A copy is retained, and that copy constitutes by law the official record. The way it is issued is this: The United States grant to A B a patent for the sole and exclusive right of doing so and so, "according to the annexed specification;" and then the printed specification is fastened to that; "in witness whereof," the Commissioner sets his hand on the 7th day of March, 1876,—although there may be ten days' or two weeks' delay between the 7th of March and the day when the paper is actually delivered to the petitioner.

Mr. Justice Harlan: Every other copy of that patent then, the one you have just described, would have ap-

pended to it, I suppose, a certificate of the office, showing the date at which it issued.

Mr. Storrow: If you go to the office to get a certified copy of the patent they say and certify, for example, under a certificate dated to-day, that the paper annexed is a true copy of the patent and specification issued on March 7, 1876. In practice in trying cases we do not generally get *certified* copies from the office, but buy for ten cents one of these printed copies which are printed by the office, under the statute, and they bear on their face the day of the date of the patent.

Mr. Justice Harlan: My inquiry was, if there was in this record an exact copy of the patent which was first issued to Mr. Bell, and proof of the fact that that is the thing which he first received from the office?

Mr. Storrow: I can answer it in this way. What was put into the record was one of the printed copies furnished by the office. These were actually printed by the Patent Office. [*The patent itself was produced at the next session and handed to the Court.*]

Mr. Justice Harlan: After the litigation was commenced?

Mr. Storrow: Yes, sir; I presume it was procured after the litigation was commenced; but the patent itself is delivered to the party, and he keeps it in his safe, and the Patent Office keeps its original record. Your Honors must understand there are two records; there is the application and the papers on file, that is one thing. After that is completed then there is a separate record made in the Patent Office in a book I think, and copies are distributed around amongst the clerks' offices and certain libraries. That is a record, not of the application as filed, but *of the patent itself, as it goes out.* Now, what is in the photograph furnished your Honors is a record of the application from the *files*—the original paper brought to the office by Mr. Bell on February 14, 1876. Besides that there is a record of the patent itself. The specification issued as a part of the patent is printed by the government printer. In this case the manuscript was sent to the government printer on March 3 or March 4, 1876. He prints *immediately* 150 copies. One of these is annexed to the patent itself,

which was delivered to Mr. Bell about ten days after March 7, 1876. Another is bound each week in a volume with all the issues of that week. That volume goes into a particular room in the office and constitutes the official "record" of *the patent as issued.* Others of this same print are by law lodged in the clerks' office in every district, and in various libraries. So that record is secure from any possible alteration.

If you order a certified copy of the *patent* you get a copy made from that record. But besides that, the Patent Office keep on sale, as required by statute, printed copies of this specification, and counsel generally take one of these, called an "office copy," furnished by the office, which is just as certain to be correct as a certified one, and put that in, instead of a certified copy. It may be that in one of these cases there was an actual certified copy; I have an impression that there was a certified copy put in. I will look to see if there was.

Mr. Hill: A question asked by one of the Justices was incorrectly answered by one of the gentlemen, probably by inadvertence. It was to this effect: whether the patent itself, as issued, would show the record of the Patent Office, would show what the record was in the Patent Office, and it was answered that it would. It would not show what the *application* and the record of *that* was in the Patent Office. The patent as issued on the 7th of March, would show simply the completed amended form.

Mr. Storrow: That is right.

The Chief Justice: I understand the patent shows the specification as accepted by the Patent Office, as the basis of a patent.

Mr. Dickerson: That is it. That is what I said.

Mr. Hill: Yes, sir; finally. It does not show the original *application.*

Mr. Dickerson: And therefore, on the 7th of March, when that patent was issued to Mr. Bell, it showed exactly the condition of the application as it had been amended and finally settled. *If that application had had in it these interlineations, they would have appeared in the patent; just as those amendments that were lawfully put in do appear in the patent.* Your Honors will see on the file the two or

three amendments that were added by Mr. Bell after the application was in the office. Those appear in the patent, all printed regularly. They appear in the file-wrapper as amendments with a marginal note. They are written fair in the patent; but the patent has in it all that was in that application that had passed the office as the subject of the grant.

Now, may it please your Honors, this question, if it is one, is a very great question; and it has been supported by what our adversaries say are circumstances pointing to the truth of the accusation. Therefore I will hurriedly pass over those circumstances to see to what they do point. The first circumstance is the letter that was written by Professor Bell to his father and mother on March 5th, in the year 1875. That is to be found, your Honors, in what is called the *Appellant's Supplemental Brief*, at pages 202 to 204. That letter is supposed to expose the fact that Mr. Bell, Mr. Pollok, Mr. Bailey, and Mr. Wilber were in a guilty conspiracy to defraud anybody who might come in their way—a kind of roving commission of that sort. I have already pointed out to you what a complete failure Wilber was as a conspirator when he came up to the critical point; for he tried to defeat his co-conspirators all he could, as the record shows; so that he may be considered a bad investment. But this letter of March 15, 1875, is brought as proof that Mr. Bell made the investment at that time, and had Wilber in his power. I shall not discuss that letter except to point out two or three paragraphs in it to which I call your Honors' attention.

Mr. Bell was then a young man, about twenty-eight years old, who for the first time in his life had been in Washington. In the letter he writes to his parents he says, "I had not time to see the sights, I was so busy day and night." He gives a most artless and simple account of what he did in that week, in the confidence of a full heart, to his sympathizing parents. Then he writes this:

"My lawyers were at first doubtful whether the examiners would declare an interference between me and Gray, as Gray's apparatus had been there for so long a time."

Of course the postulate of this case is that the Examiner

who was expected to do that simple act of declaring an interference, was their confederate—said to be so, in this brief—bound to them, so that each was in the other's power. But Mr. Pollok says, "My dear Mr. Bell, I am afraid this confederate of ours will not do that little simple thing for us, and declare an interference, because Gray's *apparatus* has been in the office for so long a time." His *application* had not been there, but his "*apparatus*" had, as my brother Storrow showed you, and also had been exhibited in Washington, and published to all the world. Now writes Mr. Bell to his father and mother, speaking of Pollok and Bailey:

"They feared I had but a poor chance, and my spirits at once fell to zero. *They said it would be difficult to convince them that I had not copied.*"

Well, generally, you can convince a confederate of almost anything.

The Chief Justice: This was the 5th of March, 1875?

Mr. Dickerson: The letter was written on the 5th of March, 1875; the events it described had taken place a few days before. This had nothing to do, you understand, with the speaking telephone. It was about a harmonic telegraph. It has nothing to do with this case except by way of inducement. He then proceeds—

"When, however, they saw the autograph telegraph developed from the idea of multiple telegraphy, they at once said that was a good proof of independent invention, as Gray had no such idea. *It further turned out that an examiner in the Patent Office (not, however, of electrical inventions) is a deaf mute, and knows me personally and by reputation,** AND COULD SURELY VOUCH FOR THE FACT OF MY BEING INCAPABLE OF COPYING GRAY."

Poor innocent! "Get thee to a nunnery." "Be thou as chaste as ice, as pure as snow, thou shall not 'scape calumny." In literature I know not a more beautiful and

* This young man had a good right to appeal to his reputation, for even at that early age he had been mentioned in the English translation of Helmholtz, by Ellis, in 1873, for his original researches in acoustics, by which he had made substantial additions to the fund of knowledge accumulated by the labor of Helmholtz. In the last edition he is again named as before, but this time with the addition that he is the "inventor of the telephone" (p. 108 of Helmholtz, last ed., note).

simple passage than that, flowing out of a pure heart. Here he was a stranger in this great city. It was feared by his agents that the Examiner would suspect him of copying from Gray; and he thought if he could vouch a poor deaf mute friend who could "*surely*" certify him, that would settle it.

When Desdemona said to Emilia :

> "Dost thou in conscience think—tell me, Emilia—
> That there be women do abuse their husbands
> In such gross kind? * * *
> Would'st thou do such a thing for all the world?"

she addressed the ears of a very incredulous person, and this answer came:

> "The world is a huge thing;
> For so small a vice
> 'Tis a very great price."

Emilia could not comprehend that pure soul; and that has been, in the whole history of the world, just the relation between the guilty and the innocent; neither can comprehend the other.

Counsellor Hill says he reads between the lines of that simple hearted letter. He says, on page 207, "Moreover, reading between the lines of this letter, *we are afforded a glimpse of Mr. Bell's real character. His moral sense was so dulled and blunted that he seemingly had no adequate appreciation of the wickedness of the proceeding in which he was participating. He actually gloried in his shame.*" Reading between the lines is not a new experience in the courts. A distinguished counsellor in a historic case, once read between the lines,—"Chops and tomato sauce. What does that mean? Are my client's affections to be trifled with by chops and tomato sauce? That is an offer of marriage when read between the lines." That was said to a Middlesex jury, and it prevailed against the simple-hearted Pickwick.

This letter, may it please your Honors, was written to his father and mother; and sirs, when that accusation was made in this court room—made with crushing malignity —there sat here that father and that mother; and they were pointed out and held up here to you as though they had been keeping a burglar's den, like Fagin and Nancy

Sykes, and as though the Artful Dodger was coming in with his plunder, and they were glorying in their shame. It was a cruel blow. Calumnies like that have abounded from the beginning. Thousands have been made to suffer from them through all ages of the world; but they are no less bitter on that account. The world's benefactors have ever suffered, and ever will suffer so. As I sat here and felt in my own heart that terrible blow, and looked upon the face of the man who delivered it, there flashed on the tablet of my memory that splendid picture which I lately saw in New York, where the Innocent stands bound before Pilate, and where the embodied evil spirit of vile humanity is represented by that base fellow, standing up in Court with open mouth, crying—"Crucify him, crucify him!"

But there was one gleam of sunshine here that broke through the clouds in that dark hour. In that fearful ordeal our learned and respected friend, Mr. Edmunds, counsel also for the Drawbaugh and Overland Companies, and Mr. Hill's leader, felt that fearful blow. Sympathizing with those aching hearts, he stood up and said that if there was a fraud, "IT WAS WITHOUT THE CO-OPERATION OF MR. BELL, AS I, AT THIS PRESENT MOMENT BELIEVE." For those wounded spirits I thank him now. It was the balm of consolation much needed then.

But I return to the line of proof by which they strive to fix this fraud upon these honorable gentlemen. The next proof offered by Mr. Hill (and I will read his words as he spoke them) is in the subsequent conduct of these fraud-doers. Said he:

"If there was no fraud perpetrated upon the Patent Office and upon Gray in 1876, we will expect to find Mr. Bell's subsequent conduct open, fair, manly, a heart exposed to Gray and to the world, as the heart of an honest man is always ready to be opened to the world. It turns out that the telephone which was then made, on the 10th of March"—that is, made by Mr. Bell in Boston—"immediately on the return of Mr. Bell to Boston, was Gray's liquid transmitter."

I have shown your Honors already it was not Gray's liquid transmitter; but here is the supposed unanswerable question put to us:

"Now what did Mr. Bell do?

"Did he publish that to the world as an honest man would have done? It was the moment of triumph. It was his invention. It was the moment of the fruition of all his hopes. All his struggles were ended and the problem was solved. His theories were verified. He was ready to stand forth to the world as the successful inventor of the speaking telephone. Did he publish that to the world as his invention?"

That the learned counsel thought, was an unanswerable question. It was answered, and the answer is in print, *printed in* 1876.

Mr. Bell did publish it. He published that very thing to the world on the 10th day of May, 1876, *sixty days thereafter.* I suppose he cannot be charged with dishonesty for not doing it sooner than sixty days. The American Academy met in Boston on the 10th of May, and Mr. Bell went before that institution, exhibited his liquid transmitter, and described it in the most learned paper in this record. I am going to refer you to it. It is in volume I, of the Dowd record, on page 157. It is headed "Researches in Telephony." There is a most learned and exhaustive essay upon the whole subject of "Telephony by A. Graham Bell," before the American Academy. You will see from the foot-notes what a scope and field of research there is, over all the literature and knowledge on the subject. It would require an electrician to read the article and understand it at all. He showed on that occasion his liquid transmitter, both mercury and water—and his magneto transmitter; and on page 165, under the head "13," he says (*Dowd*, i, 165; *Drawbaugh*, complts., iv, 75):

"A platinum wire attached to a stretched membrane, completed a voltaic circuit *by dipping into water.* Upon speaking to the membrane, articulate sounds proceeded from the telephone in the distant room. The sounds produced by the telephone became louder when *dilute sulphuric acid, or a saturated solution of salt, was substituted for the water.*

Audible effects were also produced by the vibration of plumbago *in mercury*, in a solution of bichromate of potash, in salt and water, in dilute sulphuric acid, and in pure water."

There he had it and there he described it. That was published in the proceedings of the American Academy. *Aye more, sirs, Mr. Bell sent a copy of it to Mr. Elisha Gray.* Gray acknowledges that he received it. He received it and read it before he went to the Centennial Exhibition, which was on the 25th of June of the same year. Here is his acknowledgment. I read from page 125 of the Dowd record, vol. 1. Gray was on the stand:

"When did you first have knowledge of Prof. Bell's invention of a telephone or apparatus for telegraphic transmission of articulate speech?"

It was Mr. Gray's own counsel asking him this question.

"A. I think the first knowledge I obtained was from a lecture delivered by Prof. Bell in Boston, some time in the spring of 1876. *A printed copy of that lecture was sent me by some one, and I am not now sure whether I received that copy before Prof. Bell's exhibition at the Centennial or not. If not, the first time I knew of it was at the Centennial, or about that time.*"

The hypothesis here is that there was a fraud to be concealed by Mr. Bell. Gray was the man who had been robbed, and from him it was to be concealed above all others. Mr. Bell delivered his lecture, described his liquid transmitter, sent a copy of it to Mr. Gray, who came on the stand and in this record acknowledged the fact. And then, the learned counsel gets up here and traduces Mr. Bell as a thief, and a concealer of stolen goods, saying that he never let the world know he had had that liquid transmitter, until it came out some years afterwards, in the course of these investigations. And as my brother Storrow says, Bell repeated the same statements in his London lecture about a year afterwards. *What do your Honors think of that?*

My brother Storrow kindly reminds me of another point, if any more were needed to pile this thing mountain high. In his interference proceeding with Gray, in his preliminary statement on this record, Bell told the story exactly as it was—that he made his first liquid transmitter in Boston on March 10, 1876, three days after his patent; when all the while, according to this ingenious hypothesis,

he was defrauding Gray, *and endeavoring to conceal from him* the fact that he had stolen his property. (This "statement" was put in evidence by Mr. Hill, and is in *Drawbaugh*, complts., iv, 1011.)

The Chief Justice: When was the interference declared? I have forgotten.

Mr. Storrow: The interference was declared March 26, 1878. This statement was sworn to November 20, 1878, and filed somewhat later. The London lecture was in 1877.

Mr. Dickerson: Yes; that was in 1877.

The Chief Justice: And the paper read before the Academy was read in 1876?

Mr. Dickerson: On the 10th of May, 1876, about sixty days after the date of his patent. He obtained his patent on the 7th of March, and about sixty days afterwards he delivered that lecture before that society. It was published in their proceedings, and he sent Gray a copy within a month. Having stolen it from Gray, and trying to conceal it from him, he took that public way of informing him of it; and Gray never opened his mouth until the year afterward, when he wrote him that letter which I have read, containing these words, "*I gave you the credit for the talking feature of the telephone.*"

THE GEORGE BROWN SPECIFICATIONS.

Now we come to another bit of corroborative testimony, according to this theory. Mr. George Brown was the Prime Minister of the Dominion in Toronto; or had been. He was not at that time, but he had been the Prime Minister in Toronto, and he was the editor of the leading newspaper in the Dominion. He was assassinated afterwards from political considerations. Mr. Bell having lived in Toronto, had become acquainted with this gentlemen. He was looking for somebody who would do him the favor to take out his patents for him in Europe on *all* his electrical inventions, and pay the patent fees, *for one-half of the results.* He had not a dollar to do it himself, and Mr. Hubbard tells you *he* would not do it. In his letter on the 28th of September, 1875, to Mr. Hubbard, his partner, he wrote (*Dowd*, i, 485):

"I have felt very anxious in the matter of foreign patents, and as I have not heard anything from friends on the other side to whom I applied for assistance in the matter, I thought I would see friends in Toronto and Montreal.

"My idea was to get a letter of introduction to Sir Hugh Allan and seek his aid in the matter. On consulting with *my friend*, Hon. George Brown (ex-Premier of Canada), he became much interested, and offers, *if the scheme seems likely to be a good thing*, either to take up the matter himself, or get two or three gentlemen to do so."

This gentleman, Mr. Brown, was a very busy man—ex-Premier and the editor of the largest newspaper. He might do it, or he might induce others;—and all that was required of him was the mere patent fees! Finally, Mr. Bell persuaded Mr. Brown as a "friend" to undertake to do it himself. What was it he persuaded Mr. Brown to undertake? Not this telephone alone; but to take out *five patents* for him in Europe. This telephone, your Honor sees, is the tag end of the fifth of those patents; five patents—the multiple telegraph and all the others. That was the bunch of things which Mr. Brown was to help him to patent. At that time he was very much in want of the means to buy his bread and butter, and Mr. Brown agreed with him—it is in the record—to pay him $25 a month while he was preparing to get these specifications ready—eighty cents a day.* He had not money enough to pay his board, and Mr. Brown was to pay him $25 a month. That, of course, was done as a personal favor by Mr. Brown, who did not care a tuppence about it. He took Bell up as a kind-hearted gentleman often takes up an inventor, fearing that he is visionary, hoping that something may come of it, and not caring much. That was the situation between him and Mr. Brown. Bell prepared his papers in October, 1875, in duplicate, one for this office, and one for Mr. Brown. Brown did not go abroad as early as had been expected, and the thing dragged on. Meanwhile, Mr. Bell, so anxious to get these things patented abroad that he would not patent them here for

* See contracts, *Drawbaugh*, complts, ii, 1681.

fear of forestalling the European patents, was waiting on Brown, who, being a man of affairs, was not going to Europe for this business, but was merely willing to do it when he did go. So Mr. Bell while waiting was studying over this copy of his specification in his own hands, constantly rewriting and improving it, as it now shows.

I now recall your Honors' minds to Mr. Bell's letter to Mr. Hubbard, May 4, 1875, *nine months before Gray's caveat was thought of*, that your Honors have read, but the importance of which could not have struck you so much then as it will now. In it he described the "*variable resistance*" plan for working out his new method with a circumstantial accuracy, and scientific detail, which cannot be excelled. I read it (*General Brief*, 50; *Dowd*, i, 464):

"Another experiment has occurred to me, which, if successful, will pave the way *for still greater results* than any yet obtained. The strings of a musical instrument in vibrating undergo great changes of molecular tension. In fact, the vibration represents the struggle between the tension of the string and the moving force impressed upon it. I have read somewhere that the resistance offered by a wire to the passage of an electrical current is affected by the tension of the wire."

He was diving deep into the arcana of nature—

"IF THIS IS SO, A CONTINUOUS CURRENT OF ELECTRICITY PASSED THROUGH A VIBRATING WIRE SHOULD MEET WITH A **VARYING RESISTANCE,** AND HENCE A PULSATORY ACTION SHOULD BE INDUCED IN THE CURRENT. IF THIS TURNS OUT TO BE THE CASE, THE OSCILLATIONS OF THE CURRENT SHOULD CORRESPOND IN AMPLITUDE AS WELL AS IN THE RATE OF MOVEMENT TO THE VIBRATIONS OF THE STRING. ONE CONSEQUENCE WOULD BE THAT THE TIMBRE OF A SOUND COULD BE TRANSMITTED. THE PLAN FOR TRANSMITTING TIMBRE THAT I EXPLAINED TO YOU BEFORE, VIZ., CAUSING PERMANENT MAGNETS TO VIBRATE IN FRONT OF ELECTROMAGNETS"—

That, your Honors, is Figure 7 of his patent,—

— "IS CHIEFLY DEFECTIVE ON ACCOUNT OF THE FEEBLENESS OF THE INDUCED CURRENTS. IF THE OTHER PLAN IS SUCCESSFUL, THE STRENGTH OF THE CURRENT CAN BE INCREASED *ad libitum*, WITHOUT DESTROYING THE RELATIVE INTENSITIES OF THE VIBRATIONS."

There, sirs, was the entire theory of the variable resistance transmitter with all its advantages described. He was diving deep into the secrets of nature, to wrest out of her reluctant grasp some fact that would enable him to work out his true conception. He tried that wire experiment, and it failed. He could then think of no other, and he put no other into his draft specification in October, 1875. But as he studied it over, at some time between October and the 10th of January, after Mr. Brown had got his specification which did not have it in, there occurred to him several devices that are now described in his patent—the liquid transmitter; vibrating the plates of the battery; and those other different things now in the patent.

Mr. Justice Harlan: How do you fix the 10th of January?

Mr. Dickerson: Because it is proved that at that date he had perfected his American application and sent it to Washington; and on the 20th in Boston, he swore to the fair copy made by a clerk in Washington.

The Chief Justice: When was the last meeting with Brown; was it in Toronto?

Mr. Dickerson: The last meeting with Brown was in New York on the 25th of January, when Brown came to New York *en route* for Europe. His coming there had nothing to do with this thing; but he came there to take ship for England, and there he met these gentlemen. He had these papers in his trunk. He had them long before; but that is of no consequence. These amendments made to the American copy in Bell's hands did not get into Brown's papers in Canada, of course, and when Brown came to New York they were not inserted.

But consider, now, Mr. Bell's situation. Here he was tagging onto the skirts of Brown to do this thing for him in Europe as a favor. What had happened before that time in respect to this telephone? Why, sirs, all that had happened, and all he could say to Mr. Brown—and he did say it honestly and fairly—was that this apparatus, Fig. 7, had never given satisfactory results, and that "A sort of muttering effect was perceived at the receiving end when a person talked very loudly at the other end" (see *Molecular*, ii, drawing next to page 1923). That is all he

could say to Mr. Brown. That is exactly what he did say to Mr. Brown in writing. He assured him, however, that that was the talking telephone, needing only better workmanship. But may it please your Honors, what would any man, not a man of high science, infer from that? Is that worth ten cents? Nothing but a muttering! The crew was in mutiny. The land was in sight through the convex, only to the eye of science—not to the crew; and all Bell could do, a beggar hanging to the skirts of the great man—that is what he was—all he could do was to beg him to patent these things in Europe, and to assure him it would all turn out as he said. What did Brown do? *He simply left the papers in his trunk, and never did a thing with them in Europe.*

But this question about the Brown dates has never been put to us before. During all these years of litigation it never has been suggested by or to a human being, until it was done at this bar and in this brief, that the Brown transaction had anything to do with the good faith of Prof. Bell; therefore it never has been considered a question of any consequence to prove the exact details of that transaction. All that is in these papers is what happens to be proved incidentally; but I tell you, sirs, that there is *no date fixed in this record when Brown got his copy of the specification;* you may be sure about that; there is no date fixed. It may be argued about, but that is all. It is open all the way from December 29, 1875, when the contract with Brown was signed, until January 25, 1876, when he sailed. Bell testified that it was between those dates, but he did not remember when.

The Chief Justice: When he got the papers?

Mr. Dickerson: When he got the papers. There is no date fixed; you may take that for sure. There is a false inference about it by this gentleman, who is looking out for a fraud, and who finds it in every stone and tree. It is an inference by him that it was at this time, or at the other time; but there is no such date fixed.

Mr. Justice Harlan: Let me ask a question just there of either you or Mr. Storrow. Mr. Bell, in his letter as late as March, 1877, that you read a part of awhile ago, to Mr. Gray, at Chicago, says that he prepared the specifica-

tion months before it was filed, and that he had sent a copy of it to England by a friend?

Mr. Dickerson: Yes, sir.

Mr. Justice Harlan: I suppose, of course, that was Mr. Brown?

Mr. Dickerson: Yes, sir.

Mr. Justice Harlan: Now the specification upon which that patent was based was completed on the 10th of January, and was sworn to on the 20th of January, 1876?

Mr. Dickerson: Yes, your Honor.

Mr. Justice Harlan: And there is no claim that there were any subsequent specifications sworn to?

Mr. Dickerson: None whatever, sir.

Mr. Justice Harlan: It was based on that. I suppose it is true from what both sides have said in the argument that there is a difference between the specification Mr. Brown had, and the one dated here and sworn to on the 20th of January, 1876?

Mr. Dickerson: Yes, your Honor.

Mr. Justice Harlan: What reason is suggested in the evidence, or what reason do you suggest, why, as Mr. Brown did not leave until nearly a week after the 20th of January, he was not furnished with the corrected specification? Why was he permitted to depart to England without being furnished with the corrected specification, which you say was corrected, you suppose, somewhere about the 10th of January?

Mr. Dickerson: Your Honor, I am not at liberty, of course, to open my mouth *about the fact*, for it is not in evidence. If it were, we could tell you all about it; but it is not. No such question was ever asked or suggested before this argument begun.

Mr. Justice Harlan: I have not had time, of course, to read the evidence.

Mr. Dickerson: I can tell you what is in the record. I have told you already what the relations of these parties were, and that this particular thing, this particular speaking telephone, was the tag end on half a page of one of the five specifications that Mr. Brown had in his pocket from some time or other before January 25th. Mr. Bell supposed—we all suppose now, and it is perfectly true in law—

that if those amendments to the American specification were not there, the patent would be just exactly as strong in law as it is with them in there; because that figure 7, in connection with the specification, discloses the whole method—a truth, which your Honor sees everybody swears to; and all variable resistance *devices* are mere detailed plans, alternative and equivalent forms, as Bell knew in May, 1875, when he described external variable resistance as the equivalent of the magneto device. It was a matter of no consequence in a legal sense. It was of some practical consequence, however, as exhibiting the fulness of the inventor's knowledge, and as excluding an argument which might be made that the things were not equivalents. Your Honors find in this case that they are sworn to be equivalents. Mr. Dolbear and other witnesses all swear they are plain equivalents; our enemies say they are; Gray himself in his application swore they were (p. 33, *supra*). Therefore it was of no consequence in a strict legal sense whether they were mentioned or not in the specification. In another practical sense, it was of some consequence to shut the mouths of cavillers.

Mr. Justice Harlan: Do you include in that remark all these corrections that the other side say were fraudulent?

Mr. Dickerson: Yes, sir, all. The others are for a mere choice of words—"used" instead of "employed," and so on.

Mr. JusticeHarlan: You say they could have all been omitted?

Mr. Dickerson: All omitted, every one.

Mr. Justice Harlan: And yet the Brown specification would contain the entire principle, or cover the entire principle, upon which this patent rests?

Mr. Dickerson: Yes, sir. The Brown specification is just as good as this one in law; but we might not shut up men's mouths by saying these are plain equivalents, when they would reply, "Why didn't you say so? Why didn't you tell us so?" But if they are equivalents, then they need not be stated; if they are not, then the statement of them does not make them so. Indeed the defendants' experts swear that the liquid transmitter part now under consideration is so vague that in law it is immaterial. No

one of our cases has ever rested upon it. All these decisions appealed from are founded upon the legal proposition that varying the resistance was the well known equivalent of varying the electro-motive force, when Bell made his invention, and was, therefore, an alternative way of getting the novel current produced by fig. 7, and the subject of claim 5; and none of them are founded upon the fact that these statements are in the patent.*

* See Judge Lowell's decision in Spencer case.

The only claim of the Bell patent of 1876 in issue here, is the 5th, in these words: "The method of and apparatus for transmitting vocal or other sounds "telegraphically as herein described, *by causing electrical undulations* (i. e. *varia-* "*tions in the strength of the current*) similar in form to the vibrations of the air "accompanying the said vocal and other sound, substantially as set forth."

The only drawing of any speaking telephone is fig. 7, which is in the Brown specification, and the only *specific* description of a speaking telephone or of the precise nature of the operation by which speech can be transmitted is in the paragraph which refers to fig. 7. That paragraph, and claim 5, based upon it, are identical in language in the Brown specification and in the patent.

That particular machine, fig. 7, causes the undulations or variations, by varying the electro-motive force which is sending the current to the line; the microphone does it by varying the resistance on the line. These two ways of causing varying strength of current were well known from the beginning of accurate electrical knowledge, and are expressed in Ohm's law of 1830, by the formula $C = \frac{E}{R}$; or, in other words, the strength of current is the result of the electro-motive force, divided by the resistance; from which it follows that a variation either in the electro-motive force, or in the resistance, produces a variation in the strength of the current. (See our Brief, p. 122 *et seq.*). Bell's invention was not in rediscovering Ohm's law, or in pointing out that the strength of current on a line could be varied, either by varying the electro-motive force or the resistance; but it was in the brilliant conception that the strength of the current, varied in unison with the variations of air vibrations accompanying sound, would transmit speech, and in devising *one* apparatus which would act in accordance with this new mode of operation. When that was done then Ohm's law gave the rule under which different forms of apparatus might be made to carry out this new mode of operation. Bell, who was familiar with the law, indicated various means of carrying out his invention—he having shown one in accordance with the statute in a practical working form; but if he had not, the art would have supplied them, and many were well known—for instance, House's patent for varying the strength of current by dipping the conductor deeper into water (Brief, p. 436). Morton, Dolbear, Benjamin, Waite, Young, and Channing, all experts for the defendants, agree that this is the operation (Brief, pp. 133–4); and no one denies the well-known principle, though the ways of doing it are very old.

The novelty which made the speaking telephone consisted in the new rule which Mr. Bell laid down and embodied in his fig. 7. The subsequent novelty which gave these alternative forms—such as the liquid transmitter—lay in employing these old devices or principles of *construction* to carry out Mr. Bell's *new mode of operation.*

Mr. Bell was mulling over this specification himself; putting these ideas in was a refinement; he was waiting day by day for Mr. Brown to go, so that he could file his papers here without losing his patent in Europe. You may imagine a man who had that great invention in his brain how he was working over it. He kept writing it and re-writing his specification as he says. That so-called *copy*, your Honors, in Mr. Brown's hands, was not a *copy*. It once was in October, '75, or when delivered to Brown; but in January, '76, it differs more than thirty-nine times from the American specification. It differs, as I told your Honors a little while ago, in that cable matter—the fourth advantage—which was put in by Mr. Bell. Why was not that given to Brown? It ought to have been according to the theory of the other side. The argument, your Honors see, touches it. Why was not that there? It is an important thing. It is more important in one sense than this variable resistance, because it is a new suggestion entirely, whereas the variable resistance comes in in the nature of an equivalent. That is a thing which does not suggest itself, as an equivalent does.

But I am going a step further. My brother Storrow suggests, what I read to your Honors, that Mr. Gray in his application for a patent in 1877, swears that those two plans are just the same thing. I read that to your Honors this morning (p. 33, *supra*). He swears to it and everybody else does. When I say everybody else of course I do not mean the gentlemen who are opposing that view of the matter *in argument*. They are not included in the witnesses.

That was the state of mind that Mr. Bell was in in regard to the subject. He was tagging on to George Brown to try to get him to do something, and hoped he would. What did George Brown do? He stuck those things in his trunk, went to Europe, and never took them out. He never filed an application. That is what he did—or rather did not do. He was a man of business, and he paid his $25 a month like a man; but when it came to doing the thing which it was a part of his contract to do, he felt himself, perhaps, at liberty to disregard it, since he had received no consideration for it, but in fact was paying

money to Bell for the privilege of doing it. No doubt his heirs are very sorry now he did not, because it would have given him one-half the Bell patent in Europe if he had.

Mr. Justice Harlan: Does it appear that he disobeyed the instructions?

Mr. Dickerson: Exactly what appears is that he did not make any application. There was no letter of instructions in the case; but there was the contract that bound him to do it, and he disregarded his contract; simply because he thought it was not worth the trouble or expense anyway, or was too busy in England to attend to it. That was the situation.

But may it please your Honors, there is a little more than that. Our ingenious adversaries make the very *probable* suggestion that Bell cabled George Brown not to file his specification, because that would thereby expose this fraud that he had committed; that he cabled Brown not to file the English specifications.*

If it had occurred to these ingenious gentlemen to say it—Bell should have cabled Brown, "Insert these words in the application," because the English specification does not have to be signed by the actual inventor, and that would have been just as good a remedy, and he would not have lost his patents. It would have cost probably more than Bell had to spend, because there were seventy or eighty words in it; but at the same time it would have cured the supposed fraud just as well and a little better, for he would have got his English patents with it all in. But no; that fraud was going to be made public if the specifications were ever filed abroad, and so Bell cabled him not to file them! How simple and beautiful!

George Brown came home without making the application, to the great disgust of Mr. Bell, who thereby

* According to the fraud hypotheses, Mr. Bell found out that Pollok and Bailey had stolen Gray's invention when he went to Washington, February 27th. At that time Brown had been in London, in due course, about three weeks, and if he had done as he agreed to do, would have had the specifications filed as soon as he reached there, as Bell supposed he had done. Brown, unfortunately for Bell and himself, neglected it; and now we are told that he was cabled not to do it, as a part of the fraud, when Mr. Bell supposed he had done it two weeks earlier, at least. And, moreover, there were four other independent specifications besides the telephone one, all equally neglected by Brown.

lost the whole of his invention—not the whole of it, but the greater part of it, in Europe. When he came a year afterwards to make his application abroad, then the thing had been published upon the wings of the wind all over the world, and he had to pare down his specification to two or three trifles. But even then, may it please your Honors, when it got into court in England, the judges stretched the law just as far as they could, and said they were exercising a "judicial anxiety" to give the *inventor of the telephone* everything he could possibly get under that meagre patent. It is in this record. They felt a "*judicial anxiety*" to give Mr. Bell all they could, because he had lost his great invention by an act of generosity.

He had lost it by this circumstance: Sir William Thomson was so delighted with this thing at the Centennial that he begged of Mr. Bell a pair of instruments and took them home. He stood up in the *British Association* and showed them, and said:

"In the Canadian Department I heard 'To be, or not to be;' 'there's the rub,' through an electric telegraph wire; but scorning monosyllables, the electric articulation rose to higher flights and gave me passages taken at random from the New York newspapers: 'S. S. Cox has arrived' (I failed to make out the S. S. Cox); 'the City of New York;' 'Senator Morton,' 'The Senate has resolved to print a thousand extra copies;' 'The Americans in London have resolved to celebrate the coming Fourth of July.' *All this my own ears heard, spoken to me with unmistakable distinctness by the thin circular disk armature of just such another little electro-magnet as this which I hold in my hand*" (*Molecular*, 1799).

What a statement from such a man to such an audience!

Well, sirs, that act brought Mr. Bell's invention into knowledge in England so that it might defeat his patent. His great "*principle*" patent was defeated entirely, but he saved the metallic diaphragm of his 1877 patent. There was fortunately a little accident about it. The Philadelphia telephone would not work when Sir William Thomson got it there, because the diaphragm had got bent; and the Judges in Court held that that saved the patent in respect to the metallic diaphragm of the 1877 invention. Luckily it got bent, and it was that that saved him.

Sir William Thomson went on the stand and swore like a gentleman for Professor Bell. He tried to save him all he could from the consequences of that act of publication. He testified it had not operated when he exhibited it before the British Association; and the Court said, "with judicial anxiety to save this great invention in some way, we will save it on that;" and it did as far as possible. That is a charming little episode, all in the record, and in the English reported case (*brief*, 294).

Well, sirs, George Brown came back home and brought those papers with him unopened. According to the theory of our ingenious adversaries the first thing for Mr. Bell to do was to hunt up George Brown and say to him, "I have been committing a fraud here. Now don't tell anybody, but give me those papers and I will burn them." What did he do? There was an "interference" in the Patent Office declared between Mr. Gray and Mr. Bell on the telephone. Mr. Bell wanted to establish his dates as early as he could by the record. He rushed off to Canada to find George Brown, got those papers out of his trunk, brought them to the Patent Office, *and laid them there before Mr. Gray, with whom he was in interference;* and the drawing of that English specification is part of the exhibits in this case in that interference, while the papers were on the table for anybody who wanted to read them; and *Bell himself* put them all in evidence in Mr. Hill's own case (*Drawbaugh*, complts., ii, 1682). That was the way he was concealing the fraud then. He proved by the George Brown affair his *great* invention, fig. 7, and the whole description of its operation, as far back as the fall of 1875. The papers have upon them the endorsement of George Brown: "These papers were received by me from Prof. Alexander G. Bell in the winter of 1875–6, shortly before I left for England. I can fix the exact day by reference to my books and papers, but have not these at hand now" (*Molecular*, 2041).

His books and papers were in Canada. He wrote that endorsement stating that he could not tell when he got them without looking at his books and papers. He evidently did not get them in New York the day he sailed. He had to look

at his books and papers in Canada to find the date; and that is endorsed on the papers.

What do you think now, may it please your Honors, of the coherence of this scheme of fraud? Whenever some persons go about to discover the perpetrator of a crime they very often set a detective at work, and give him a theory. They tell the detective, "Such a man is the thief, and I want you to prove it." The detective will then turn everything into proof that this man so pointed out is the thief.

> "Trifles light as air
> Are to the jealous confirmation strong
> As proofs of holy writ."

It was on just such proofs that the Moor slew innocent Desdemona.

There are two notable instances where people have done this kind of thing. The Empress Mother, in the fourth century, went to Jerusalem on purpose to find the True Cross. She knew it was there, and, of course, she found it, and brought it back to Europe. That dear old lady has given consolation to millions of innocent, honest, faithful, good hearts; for she has shown them the wood of the true Cross. There is enough of it now to build a ship. And it has consoled many a drooping heart to get near to that piece of the true cross that that good old soul brought from Jerusalem.

There is another illustration in modern history. The famous Pickwick Club investigated archæological subjects. They went about England trying to find some archæological curiosity that would make them famous, and they found it. It was a Runic inscription upon a stone in the ground. They bought that stone, dug it up, and took it to their rooms and tried to decipher it. Mr. Pickwick was glowing with excitement. His fame as an archæologist was about to be established. He had discovered a wonderful Runic inscription, and "himself wrote a pamphlet containing ninety-six pages of very small print, and twenty-seven different readings of the inscription," as we are told by his veracious chronicler; very much like these briefs, but without their malignity. At last "Mr. Blotton, with a mean desire to tarnish the lustre of the im-

mortal name of Pickwick, actually undertook a journey" [say to Boston] "in person, and finding the man who dug up the stone for Mr. Pickwick, discovered that he had himself carved the inscription," which was as follows:

"Bill Stumps, his mark."

The narrative proceeds to state that "the Pickwick Club, as might have been expected from so enlightened an institution, received the statement with the contempt it deserved, expelled the presumptious and ill-conditioned Blotton from the society, and voted Mr. Pickwick a pair of gold spectacles."

There is no trouble at all in finding anything that you want to find, if you only know what it is when you go to look for it, and have a good imagination. It is the easiest thing in the world; and that is the way they have proved this fraud on Professor Bell.

There is something, however, better than any explanation. You want to know what was in the paper which was filed February 14, 1876. *We have the paper itself.* It is on the files of the office, and we have a certified photograph of it. Every certified copy known to exist is just like the present paper. That is physical proof that these passages were all there February 14, 1876, when the paper was filed. But, say the other side, perhaps that paper is a forgery. Why do they say that? The foundation for that charge turns out to be a misprint of the Boston exhibit—a bad print which these gentlemen *agreed a year ago was a misprint.* That is all destroyed now, and they have only one ground left. To meet the positive proof from the record that the application had the passage in it when filed, they can only say that upon the absence of a specific explanation in the record, on a subject on which no explanation was ever called for, and which, in all these years of litigation no one supposed raised a question until last week, you must

assume that Mr. Pollok and Mr. Bailey and Mr. Bell committed the forgery by stealing from the Gray caveat what was never there. No explanation is so impossible as that. We produce *record proof* which is conclusive; and to that they say, if we do not fortify it by the inferior proof from recollection which no one has ever called for, the Court *must* assume that we forged the record.

I dismiss that subject with the hope that your Honors are not going to decide in this case that Mr. Bell fraudulently altered his papers in the Patent Office to his own injury, committed a robbery to efface the evidences of his own silly crime, carefully preserved the proof of it and handed it to his enemies, and is now going about the world the most *successful burglar* extant.

MR. ORTON AND THE WESTERN UNION.

I come to another question; but I propose first to mend a little hole which was left open accidentally by my learned brother Storrow. He does not leave many holes open, in my experience. I have never known him to do so before. The argument was made by my learned adversary, brother Dickinson, and by his senior, Mr. Edmunds, that Mr. Orton, the President of the Western Union, would not use this telephone until 1878; from which was deduced a reason why Mr. Drawbaugh did not get his thing introduced, as even Mr. Orton would not have touched it. My brother Storrow showed you from the record that Mr. Orton did use it just as soon as he saw it, which was in 1877, in the spring; and that he went right at it, and got it as quickly as he could for his company; and that in the spring of 1878 Drawbaugh borrowed some of Mr. Orton's instruments and copied them. But still there is a little spark of testimony in the case to contradict brother Storrow, which my learned adversary I have no doubt will cite to you, if I do not anticipate him and cork that hole up.

Mr. Pope, who was testifying as a witness in the Drawbaugh case, by a slip of the tongue, first said it was in 1878 when Mr. Orton did it. He went back, however, the next morning, and corrected the record. He said, "I said 1878, but I meant 1877." There is that piece of mistaken

testimony on the record that Mr. Orton did this in 1878. Now, that little error misled our adversaries in New York. My friend Mr. Edmunds made an argument to the Court in New York—just such a powerful one as he made here—founded on that hypothesis: he made that very argument in New York, and his associate made it in New York in his printed brief. That printed brief is the same that is here, and the argument is repeated. Thereupon we exposed that error in New York; and if I remember correctly, my learned brother Hill apologized to the Court for the mistake they had been led into. Will your Honors do me the favor to turn to page 160 of the thinest book in the Drawbaugh case, which contains our oral arguments?

Mr. Hill: What book is that?

Mr. Dickerson: It is our oral arguments, in New York—the thin book. It is very near the end of the book, on page 160. At the bottom of that page the explanation is made by me, showing the references to the mistake that they were led into at that time; and I then made the argument that this error illustrated the fallibility of human memory; because there was my brother Edmunds, who knew all about that case a week before the argument, and had forgotten that correction in the record. I made that argument on page 161. Thereupon my brother Hill interrupted me. Look at the bottom of that page:

"*Mr. Hill:* The trouble with Mr. Edmunds was that he was accepting as true the statements of your expert, Mr. Pope."

So we showed how their mistake had happened, and it was apologetically explained to the Court why they had made that fallacious argument, upon a mistake which they had been carelessly led into by the fact that that date falsely appeared at one part of the record by some accident. Well, sirs, we had hoped that they would have remembered that, and not do it again. But they did that very thing right here again, notwithstanding their experience, which I think was about equal to the "explosion of a pistol." They forgot that explosion. Their memory went all to pieces again; and they spent two hours and a half

here arguing from that basis to the inference that Mr. Drawbaugh was therefore to be excused for not having made public his telephone earlier.

Here is a perfect illustration of the utter fallibility of human memory, when two such eminent gentlemen as Mr. Edmunds and Mr. Hill, with such intellectual training as they have had, cannot remember that they were knocked down by the butt end of a pistol eighteen months ago on that very mistake. Of course they did not repeat it here intentionally. It was a pure lapse of memory. But the Drawbaugh witnesses are said not to be afflicted with any such bad memories as that!

The McDonough Case.

I now come, if your Honors please, to the McDonough case, which has not been touched *orally* on our side nor on the other, but is set out fully in both briefs. It is all in ours, p. 524, *et seq.* Mr. McDonough invented what we call the tambourine telephone. It was made very large. I will take the liberty of handing it to your Honors for illustration; and the drawings of the application are here. Here in the lower member of Fig. 1, and section in Fig. 3, is the diaphragm A, as usual, that you speak to. Here D^1 is the little "hopping" piece on top of it. It is the same in substance as Reis' hopping piece, but is supported by a little vertical wire D, on which it rises and falls. It is itself in circuit, and is the circuit-breaker. That circuit-breaker forms the transmitter, and the wires lead to the receiver. Mr. McDonough was a wholesale manufacturer of furniture in Chicago. Having a little taste for science, and having got hold of the Reis publications, he thought he would make one of those things himself; and he modified it in respect to the form of that triangular hopping piece, and he modified the receiver by using a diaphragm on it like Bell's. Having done that he applied to the Patent Office for a patent on this thing, after the Bell patent was out, and called it a "teleloge," or far talker. The Patent Office rejected him, and said, "You can't have a patent for that, because it is anticipated by Reis, and it is not a talking telephone anyway" (*Molecular*, 1259; *Brief*, p. 524, *et seq.*).

Fig. 1

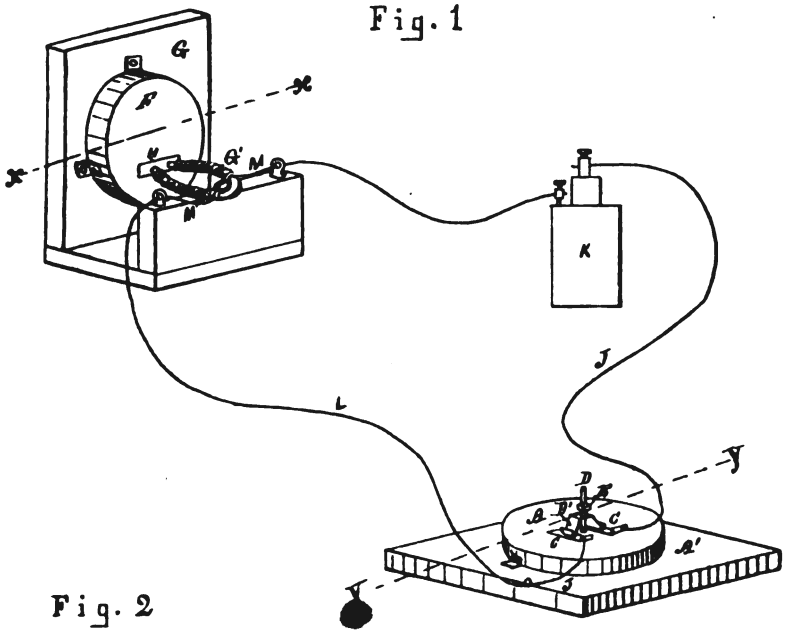


Fig. 2

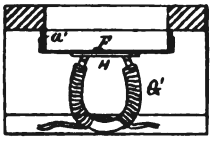


Fig. 3

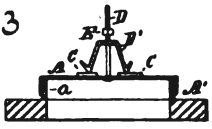
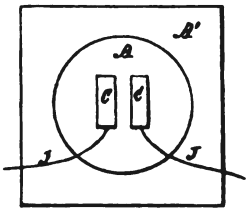


Fig. 4



WITNESSES=
Julius Wilcke
N. H. Sherburne.

INVENTOR=
James W. McDonough
By Gridley & Sherburne
attys

It was April 10th, 1876, when he made application; and the Patent Office rejected him because he was anticipated by Reis, *quoad* the whole machine, and by Bell *quoad* the receiver. The receiver was a diaphragm receiver, your Honors see, which was not the case with the Reis receiver. That was a Page effect receiver, or a receiver composed of a magnet only. His specification describes and claims his hopping piece as a "*circuit-breaker*," tells just how it works as a circuit-breaker; but he was under the delusion, which an ignorant man might well be, *that he could talk by circuit-breaking*. Reis' experience drove *him* out of that delusion in the end, though he set about to make his machine in 1859 under that impression; and this man, not knowing what Reis had taught in his writings about its incapacity, and only knowing the Reis machine, thought he would improve it in detail and that it would talk.

After he was rejected he attempted to amend his specification by writing Bell's invention into it, and Reis out of it, but was prevented, of course, by the office (*our Brief*, 528–9).

Then he tried to get into interference with Bell on the ground that he had a speaking telephone.

He wrote to the office, August 20, 1879 (*Molecular*, 1261; *Brief*, 530), as follows:

"I should like to ask a question, if not improper. Having fully described in my application filed April 10, 1876, a speaking telephone, am I not properly concerned in the case of Interference A?"

"A" was the principal speaking telephone interference, including such inventors as Dolbear and Gray, and a few other first inventors who have since disappeared.

To that letter a reply was sent him August 28, '77:

"That the judgment of the office was that he could not properly be a party in case *A*. If he thinks that judgment wrong his proper remedy is to move (by regular motion) to be made a party thereto."

To that judgment he submitted and therefore never got into direct interference with Bell, or with any one else on the speaking telephone, because he did not have a talking telephone.

His application also described his *receiver*. It was what is called the tambourine receiver. It was a hoop about a foot in diameter with a drum head in it, and a magnet (see his Fig. 1 and Fig. 2). It was in substance about the same thing as the Bell receiver, so far as that goes, only out of all proportion. At that time Gray applied for a patent for a receiver. Whereupon, under the old rule that his application was to be put in interference with everybody who *described* the thing, he was put in interference both with Bell and McDonough. That brought them all in a hotch-pot fight together. The Patent Office said to McDonough, in substance, in its decision, "You cannot prevail in that interference because you have not got any receiver *of a talking telephone;* you have got no talking telephone. You cannot pick out of an inoperative machine a useless part of it, but which, if put into another man's operative machine, might be made available for *his* purposes, by applying to it another invention, and then claim a patent for that to the exclusion of the patentee of the other machine who has conceived of and patented the mode of operation to which this detail is subsidiary." That is good law. The Patent Office so decided, and he was defeated in that attempt on the Bell patent. The very able opinion of Commissioner Butterworth, on page 535 of our general brief, states the case admirably.

McDonough then formed the usual telephone company, with several millions of stock; *not to use his apparatus, of course*—that was a Reis machine—but to use the ordinary telephone; and he was then sued in the Courts and enjoined. McDonough and his counsel also assisted the defense in *these* cases, by appearing voluntarily with affidavits to defeat us on motions for injunction; and afterwards on final hearing they came and testified, and made their proof, as a defense for these defendants in the Overland and Molecular cases. So their whole testimony is here. Mr. McDonough and his family as witnesses, and everything that he has got to prove—are all here. Then Mr. McDonough's counsel, our friend General Duncan, said to us that he would like to have an opportunity to talk about it himself here, and that the other side would not give him an oppor-

tunity; to which we said, "Well, we do think it is a hard case that you, who have prepared all your case, should not have an opportunity to talk about it; and although you put it in their hands and took your chances with these defendants, and gave it to them to use, we do think it is hard on you;" and we said, "We will give you an hour and a half of our time—although we can ill afford to spare it,—we will give you an hour and a half of our time if the Court will let you come in and talk." I thought we were doing about as much as could be expected of us, who are standing here to protect twenty millions of property against a horde raging around it like wolves around a sheep fold—I thought we were doing a great deal when we said—"We will give you a little of our time;" but we thought it was fair and gentlemanly to do it. General Duncan is a gentleman and a good fellow, and he felt that he ought to have a chance, and we thought so too. Our learned friends on the other side, as they told you, would not give him a hearing, after using his testimony, and we said we would. That is all there is of that; and that is how that case is before your Honors.

The Varley Patent.

Then there is the Varley patent. Our friend from Phiadelphia told your Honors a great deal about the Varley patent, and he told you that that patent anticipated the Bell patent; and if I heard him right—for I have not read his argument as it comes from the stenographer, but if I heard him right—he told you that our own witnesses had sworn to it, and that we had proved that that was a talking telephone. I think he said so. If he did not I beg his pardon, and I take it all back. I thought he said so, and if he did not say so, then there is no use talking at all; that is, if he did not say that was an anticipation, why, his talk was in vain. I will have a few words to say about that.

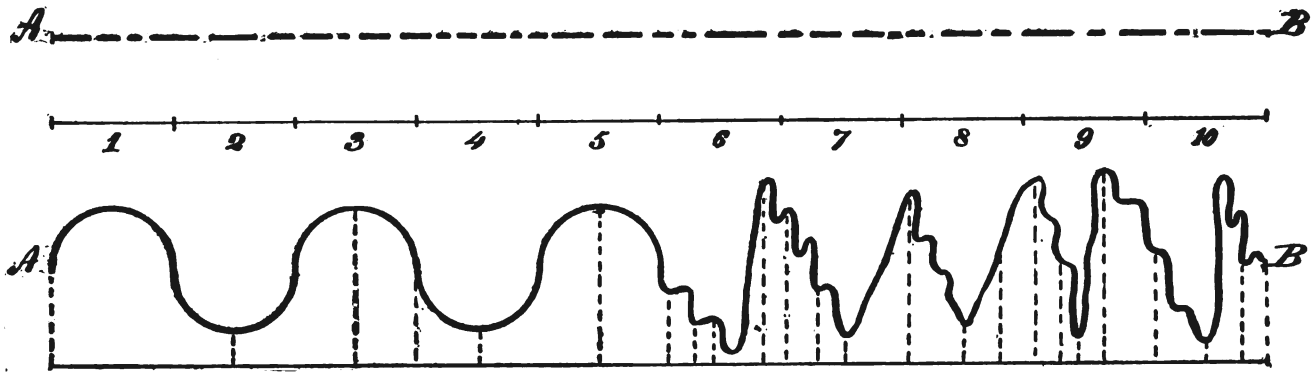
And here, may it please your Honors, I will ask your attention for a minute to another way of putting into your minds the conception of a current of electricity. Perhaps you have it as clear as could be desired now; but

yet it may be desirable to repeat it in some other form, When you look at Bell's patent picture—any of those pictures of a current of electricity—a broken current is made up, as it appears on the paper, of a succession of dashes or dots, as it may be. An undulatory current is represented by a curve like a wave of the ocean. Now, it may have occurred to your Honors' minds that that length of line represents the *line wire*, or is symbolical of the *line wire*. That is not the conception. The length of line occupied by these dots and dashes, or by this curve, *represents time, not space or distance*. If you get that idea clearly in your minds, then this thing will be at once transparent. It is *symbolizing an idea* by analytical geometry, and therefore is somewhat confusing to most of us; but fixing in your minds that that line represents *time*, and not space or distance, then it is clear at once.

What does it mean? A dot and a dash; a dash and a dot. It means that for so much of the *time* represented by that particular length, whatever it may be, the current is flowing on the line—is flowing for as *long a time* in proportion to the whole *time* represented by the diagram, as is the length of that dash in proportion to the whole length of the line as shown on the diagram. *That line represents time.* I hold up to your Honors this little diagram which represents the two things—the upper one an interrupted current like a Morse telegraph current, and the lower one an undulatory current like the Bell telephone current. Let the length of these lines *A*, *B*, represent ten seconds. Then during one part of a second the Morse current is flowing on the line; during the next fraction it is not; during the next it is, and so on.

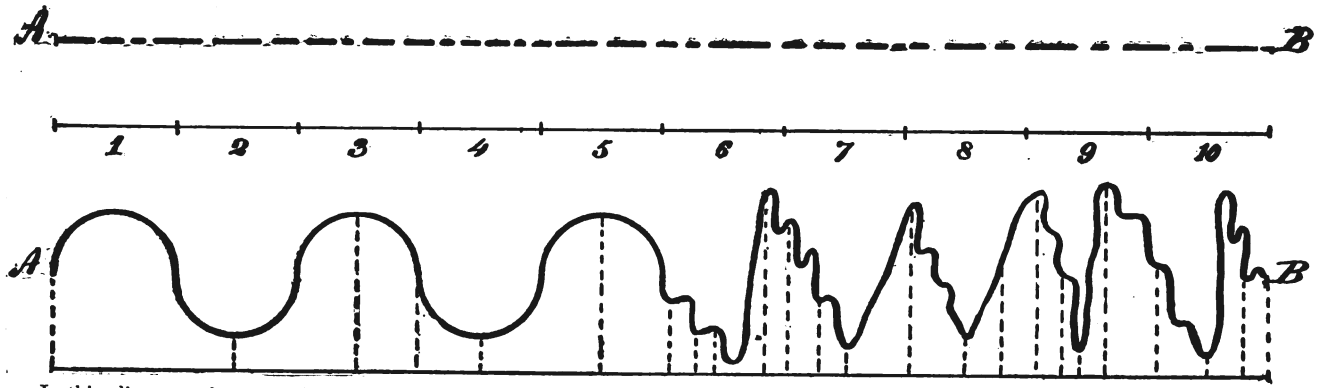
What is meant by the words—"current flowing"—is that the entire conductor or line wire is charged with electricity from end to end. There is no such thing as having one part of the wire charged, while another part is empty. The whole line is at once under the effect of electricity from end to end, for the second or whatever time the circuit is complete; and it is free of it for the next second, and so on.

Look now at the "undulatory current." There is no interruption at all, and the line is *always* charged with



In this diagram the upper line *A B* represents a Morse or Reis current of electricity, broken up into alternate periods of charge and no charge. The scale below it represents ten units of time to which both the currents may be referred. The lower line *A B* represents an undulatory current of electricity—the first half being a regular curve like a pendulum swing (p. 74, Brief), and the second half being a supposed talking curve, like the Blake curves (p. 79, Brief). The base line is the zero of current, or it may be a plus current like that produced by the battery in Fig. 7, while the curves above represent the effect of the magneto transmitter upon it. The dotted vertical lines represent the *strength of current* above the base line, or zero as it may be; and by measuring them, it can be told how strong the current is at any instant of time, the instant being shown upon the time scale above. This current is "*similar in form*," (supposing my curves to be accurately drawn) to one which would be produced by a Bell telephone if a tuning fork were sounded in the transmitter for the first half of the time, and, then one was to speak to it for the next half.

It must not be supposed that each curve represents a word. In the first place there must be several vibrations to last long enough to produce a sensation on the ear and brain. Each syllable takes on an average about a dozen to twenty vibrations. This diagram is only my off-hand representation.



In this diagram the upper line *A B* represents a Morse or Reis current of electricity, broken up into alternate periods of charge and no charge. The scale below it represents ten units of time to which both the currents may be referred. The lower line *A B* represents an undulatory current of electricity—the first half being a regular curve like a pendulum swing (p. 74, Brief), and the second half being a supposed talking curve, like the Blake curves (p. 79, Brief). The base line is the zero of current, or it may be a plus current like that produced by the battery in Fig. 7, while the curves above represent the effect of the magneto transmitter upon it. The dotted vertical lines represent the *strength of current* above the base line, or zero as it may be; and by measuring them, it can be told how strong the current is at any instant of time, the instant being shown upon the time scale above. This current is "*similar in form*," (supposing my curves to be accurately drawn) to one which would be produced by a Bell telephone if a tuning fork were sounded in the transmitter for the first half of the time, and, then one was to speak to it for the next half.

It must not be supposed that each curve represents a word. In the first place there must be several vibrations to last long enough to produce a sensation on the ear and brain. Each syllable takes on an average about a dozen to twenty vibrations. This diagram is only my off-hand representation.

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

electricity; but the *degree* of charge varies from instant to instant, and that variation is represented by the rise and fall of the curved line above a certain base, which may represent *no strength of current*, or may represent a *definite strength*, as you please. Now measure the height of any of the dotted ordinates between the base line and the curve, and that expresses the strength of current at that instant of time. It is so much at the end of one second, and so much at the end of another; and the symbols here represent how strongly the wire is electrically affected at any particular instant of time in that whole period included in the diagram.

If I have made that plain I think it will clarify the ideas which your Honors will have to entertain on this subject. *Time, not space or distance*, is symbolized by the length *A, B*, in both cases. In the telegraph, or in the Reis telephone current, the alternate horizontal dashes and blanks signify that a current of *constant strength* is on the entire line for a moment, and then disappears from the line. In the Bell telephone current the undulations signify that a current is on the entire line constantly, but that its strength varies in unison with the variations of the vibrations of air constituting sound; which is Bell's "*great and happy conception*," as Sir William Thomson defined it at the Centennial (*Dowd*, i, 495).

But there is no such thing in electricity as a *flowing current, or an onward movement of matter*, any more than there is a current of the luminiferous ether which we assume to be the medium of light. The sun imparts an impulse to the ether. That impulse reaches us in eight minutes about—ninety-two millions of miles in eight minutes. The impulse is translated through the ethereal medium at the rate of a hundred and eighty-two thousand miles a second. But there is nothing moves; I mean by that, there is nothing *traveling through space*, like a bullet from a gun.

There is an *impulse* transferred from molecule to molecule all the way through, like a jelly that is shaken, but nothing travels from end to end. We say that it takes many years for the light of Sirius to reach us. If Sirius were obliterated to-day that star would still shine in the

heavens for many years to mortal vision. Why? Because the impulse of light that struck the end of the wire (if I may symbolize it by a wire), has been transmitting itself along this way, and will not reach us for many years. It is unimportant whether it is followed by another. It is of no consequence whether it is or not. That star may have disappeared from the firmament and have been the lost Pleiad.

The transmission of electricity is much like the transmission of light through the ethereal medium.

Then again, there is no such thing, excepting conventionally, as a "*to-and-fro current of electricity.*" We use those terms for convenience; but we know what they mean, *and that they do not mean an actual flow of an actual current either way.* It is this: the molecules—for we must arouse our scientific imagination, and imagine molecules; which of course may not be seen—the molecules of a magnet, for instance, have what we call *polarity;* that is to say, if we take a piece of magnetized steel and let it swing freely in a horizontal position, one end will point to the north pole, and the other to the south. That is the exhibition of the fact that it is a magnet. Hence we say it has *polarity.* Now break that piece of steel into a thousand pieces, and each of those pieces has got a north and south pole in it, just as the entire bar has. Each one of those pieces will point to the north and south if left free to swing. So it is in electricity. We may suppose that the molecules in a wire charged with electricity are "*polarized.*" They point, not to the north and south, but they point to the copper end of the battery or to the zinc end; and we say the opposite ends are "*positive and negative,*" instead of north and south; just like the molecules of the magnet that point to the north pole. Now, you can reverse those molecules and make them point the other way; just as you can reverse a magnet. By taking the end of the wire circuit which was fastened to the copper plates and suddenly shifting it to the zinc plate and *vice versa*, all the molecules in the line wire change their polarity; and a compass needle swung at right angles to that line wire and near to it will suddenly shift itself end for end, and its north pole will point to the

south, or the reverse. *This is what is meant by that to-and-fro, or reversed current.* Perhaps the molecular arrangement in the line wire is reversed. At one instant the molecules point to copper, at the next to zinc; that is all.

That is an illustration of the present conception of science on the subject of electricity; but it is symbolized, and well symbolized, by calling the effect a "*current.*" We have a simple way of ascertaining what kind of current it is, whether it is a copper current or a zinc current. That was discovered by Oersted in 1820. Therefore, we can tell which end is positive and which negative in an electrical conductor, just as we can tell which is north and which is south in a steel bar which is magnetized. We hang the magnet up by a string, horizontally, and it will point north and south, and we thus know which it is. That needle will also detect which is the positive and which the negative end of an electric current by reversing itself, end for end, when the current reverses from positive to negative. That is the whole of that matter, and that is what Mr. Bell means in his patent when he says:

"When therefore a permanent magnet is caused to vibrate in front of the pole of an electro-magnet an undulatory current of electricity is induced in the coils of the electro-magnet, the *undulations* of which correspond in rapidity of succession to the vibrations of the magnet, *in polarity to the direction of its motion*, and in intensity to the amplitude of its vibration."

With that in your minds, may it please your Honors, a word now about this Varley telegraph. My friend who argued that case is his own witness. No witness has said that Varley anticipates the Bell invention. Varley's machine was the first of the duplexes by *vibrating a tuning fork.*

The Chief Justice: What do you mean by duplex?

Mr. Dickerson: Doubling the signals on a line; using two sets of instruments at once on a single telegraph wire.

The Chief Justice: You are speaking of doubling telegraph messages?

Mr. Dickerson: Yes, sir; Varley's, I think, was the first duplex telegraph that operated by causing rapid undulations or waves on the line, as distinguished from a con-

stant battery current, and in conjunction with a battery current. It is too complicated to go into fully, but it is on page 930, Molecular case. It has two Morse circuit-breakers. The general proposition is what I wish to bring to your Honors' minds. Mr. Varley in his patent says that two kinds of currents of electricity can be used. He gives the illustration of a rope which is pulled backward and forward. That will communicate one sort of signal to the other end, by pulling it backward and forward; that symbolizes the Morse current. You can also *shake* that rope, and thus send a series of vibrations, or waves, or undulations along it; and that can be done while you are also pulling it backwards and forwards; so that two kinds of signals can be sent over the same rope at once. Now, that is a gross illustration of Varley's instrument, given by himself in his patent. Pull the rope backwards and forwards for one set of signals; and shake it for another. Keeping that in your Honors' minds, that is the bottom explanation of the Varley machine.

Looking at plate 1, you will see two Morse keys marked *c* and *g* on the drawing, one of which lets a constant battery current on the line, and one a rapidly broken current, or series of waves, produced by a tuning fork. That fork may be substituted, says the patent, by a "magneto machine rapidly rotating," which machine will send a rapid succession of to-and-fro undulations, or waves, or currents to the line; but it is necessary that this machine should be "controlled by a good governor," so as to send its impulses regularly as the tuning fork does; because the receiver is tuned to a certain pitch, and the impulses must agree in time with it, or the thing will not operate. One of these Morse keys operates his "pull" current, and the other his "shake" current.

That is his machine. It is unimportant to your Honors that I should go into it more fully, but that general sketch gives you a conception of it. What is important about it is, in one sense, that it has a Dolbear condenser receiver in it, in principle. Dolbear improved it a little for the purpose of the telephone by substituting Bell's comparatively stiff metallic plate for the tin-foil plate of Varley; but he gets his sound out of a Varley condenser, which is

two or more plates of thin metal, into one of which plates a charge of electricity goes from the transmitter, and that one attracts the other and causes it to vibrate in unison with the increase and decrease of electrical charge (see our brief, pp. 407–8). It becomes important in this case merely as showing one of the old forms of receivers substantially such as Mr. Dolbear uses. We have proved—and there is where my friend Ker got his opinion from—that, if *you put the Bell transmitter* to the Varley receiver, you have got a Bell talking telephone. We proved that; and my friend Ker infers therefrom that we proved Varley had a talking telephone. The inference is perhaps a little strained, but he did not seem to think so.

The Chief Justice: I don't remember—what did Mr. Varley have for a transmitter?

Mr. Dickerson: The ordinary Morse finger key. He had a finger key to his tuning-fork current.

The Chief Justice: It was for telegraphing?

Mr. Dickerson: Yes, sir; for duplex Morse telegraphing only. His tuning fork rapidly made and broke the circuit. That current was under the control of a finger key, and when sent to line by the key it operated a tuned receiver which was in unison with it.

Mr. Lowrey: And various other things, including a rapidly rotating magneto machine which would make, not a broken current, but a continuous current.

Mr. Dickerson: I am obliged to you for your suggestion. He states that in getting up his machine he can use a rapidly rotating dynamo machine, in place of the tuning fork circuit-breaker, which is perfectly correct and true, provided you regulate the dynamo by a governor *so that it will be perfectly uniform.*

Now, that makes a to-and-fro, and in one sense (a proper sense) an *undulatory* current. Every dynamo machine that ever ran makes an undulatory, to-and-fro current, in its natural condition; always has from the beginning. Rotate any dynamo machine without a commutator and it sends a plus and minus current to line; an undulatory current, if you prefer that term, and it is a very proper term; there is no difficulty about the term. That is as old as dynamo machines. Mr. Bell did not invent dynamo

machines, or an undulatory current. His invention was to have a current undulate *in unison with air waves.* That was his invention; not to make a *mere undulatory current,* which any dynamo machine will make. One of the difficulties with these street lights that we see about the streets is that the steam engine which runs the dynamo machine will not run steady; it will run irregularly; it is very undulatory, very uncertain, and therefore it will make the light more or less unsteady. The trouble is to make a steam engine dynamo machine run true. It tends to be very undulatory. That is all there is of that little Varley matter, and of the undulatory current.

THE HOLCOMB DEFENSE.—THE HOUSE PATENT.

Then there is another defense set up here called the Holcomb defense. That was set up by my learned friend Lowrey in the Molecular case, but it is, as I find by looking at his brief, abandoned. I use it only for the purpose of bringing in another matter which is in my friend's brief on that subject, called the House patent.

Mr. Lowrey: Not in my brief.

Mr. Dickerson: Yes; in your brief.

Mr. Lowrey: Not in mine.

Mr. Dickerson: Yes, sir; the House machine is in your brief.

Mr. Lowrey: I think not. You are mistaken.

Mr. Dickerson: Brother Lowrey says I am mistaken; he says it is not in his brief. Of course I may be mistaken; and so may my friend. We will see in a moment.

Mr. Lowrey: I suppose you mean by brief, the argument. I don't know but what there may be some reference to it there.

Mr. Dickerson: I am not saying that you set it up as a defense. I mention it for another purpose. Two years ago, when I argued the Overland case in Philadelphia, I said to the Court, "If you are going to wait to grant injunctions until the defendants exhaust all the defenses founded upon prior inventors who can be produced, we never can have an injunction. The woods are full of them." And I said, "And there is a Mr. House, who

was the inventor of the Bell telephone sixteen years ago, and can show it in a patent, and he will be set up as an anticipation;" and I further said, "Behind him in the dim distance, like the descendants of Banquo on the witch's screen, you can see them stretching out to the crack of doom." Well, I thought I was a prophet, and it turns out I am. During the last week the New York *Herald* and other papers have been full of the new discovery that the "House telegraph" is an anticipation of the Bell patent; and the public is told that this Court's decision is of not the least consequence on earth; because, however it may decide, the patent is eternally smashed by the House machine, *which is a newly discovered fact.*

I also put the House patent in evidence in the Molecular case long ago, and it is now before you on page 188 of that record. My brother Lowrey has studied that House patent there. On the 307th page of his brief, as I told your Honors, he says of us and of this famous House patent:

"Counsel for complainant are very fond of saying a Morse key and sounder delicately adjusted may be now made to transmit speech."

It can be, your Honors; and I say here it is a great deal better telephone than the Reis. You can talk through a Morse key and sounder. As far as I know you cannot through the Reis machine. Reis' ingenuity was so good that he made that thing so that it would surely break the circuit, *which was his object*, and of course it could not talk. You can talk through a Morse key and sounder; but the Reis telephone is about the only electric telegraph you cannot talk through. A watch chain piled in your hand, with a current of electricity passing through it, and a Bell receiver in circuit, is a good talking telephone. Let two nails be driven into a door and a third one laid across them, with a current of electricity passing through them and a Bell receiver in circuit, and if you talk to the door it is a fair talking telephone.* You can

* See a picture of this three-nail device on Card VI., lower line, next to Blake transmitter. With a Bell receiver between the ends marked +, and a board or door supporting the nails, the thing will transmit speech when the board is spoken to.

hardly gather up the fragments out of an electrical scrap heap anywhere without having a speaking telephone, *now that you know how*—except always anything Reis made, and that will not talk. It is wonderful how ingenious he was about it.

But, says my learned brother, about this House apparatus, in his brief:

"THE HOUSE TELEGRAPH PATENTS WHICH WERE INTRODUCED BY THE COMPLAINANTS THEMSELVES, USED IN THE LIGHT OF OUR MODERN KNOWLEDGE, UNDOUBTEDLY, IF PROPERLY ADJUSTED, TRANSMIT SPEECH. CAN IT BE SAID, HOWEVER, THAT THE HOUSE PATENTS ARE PATENTS FOR TELEPHONY, OR THAT THE LONG USE OF THE MORSE KEY AND SOUNDER ARE ANTICIPATIONS OF THE MODERN TELEPHONE."

Well, I should say it could *not* be said—not properly said. The same kind of talk is equally applicable to the Reis thing; that same kind of reason must be applied to it.

Mr. Lowery: Oh, no.

Mr. Dickerson: But if my learned brother Lowrey will look a little further in a certain other place that he and I know of, which I don't mention here, he will find that that House telegraph is set up as an anticipation of the Bell patent, with his name signed to it as an anticipation.

Mr. Lowrey: It must have been when I was very young. I have forgotten it.

Mr. Dickerson: No; it was done in the last thirty or forty days; but it was done after your brief here was written; that is the point. I would not say "Government suit" for the world just now, you know, brother Lowrey ——

Mr. Lowrey: That is fair; I admit it.

Mr. Dickerson: Brother Lowrey says it is fair. I am always fair. Brother Lowrey, who is the electrical expert in the Government suit, who is relied upon for that part of it, has set up the House patent in that case as an anticipation of the Bell patent. It seems a pity to give away so good a client as the United States by this publication here in this brief. I have no doubt brother Lowrey will go away and strike it out of the Government bill, because

he is fair, too. But then that won't leave anything new in that suit. It is the only new thing there is, beyond what is set up in these cases.

Mr. Lowrey: Reserve your anxiety about that suit until it is reached.

Mr. Dickerson: I am not anxious, you know. I am expecting that. I know we have got several years ahead of us in that. You and I will have many a good time on that, if we live.

JUDGE WALLACE'S DECISION ON DRAWBAUGH.

I am now, may it please your Honors, coming to the Drawbaugh case. If you will be good enough to take up the "Appellant's brief on the Drawbaugh evidence," and turn to page 277: I ask your particular attention to this because it assigns the errors of Judge Wallace that your Honors are expected to find and to deal with. I read the bottom paragraph on page 277:

"It may be fairly assumed that these two opinions, written by a judge presumbably fair, and intelligent, present the strongest argument that can be made against the Drawbaugh claim of priority of invention. The other arguments to which we have replied in the earlier parts of this brief, are the arguments of counsel," and so on.

* * * * * * * *

"Tested by this rule, it is not too much to say that the opinions of Judge Wallace in this case are, to a most extraordinary degree, *oblivious of proved facts, illogical and inconsistent; and that, if this was the best that could be said in answer to the Drawbaugh case, it was equivalent to admitting that no fair and logical answer can be made to it.*

"*First.*—ITS MISSTATEMENTS OF PROVED FACTS ARE SIMPLY ASTOUNDING.

"Take, for example, his assumption that the biography of Daniel Drawbaugh which appeared in Wing's History of Cumberland County, in the spring of 1879, was composed by Daniel Drawbaugh himself. Judge Wallace not only assumes this to be the fact, but basing his reasoning thereon, he proceeds to find Drawbaugh to be a vain, egotistical, silly person, who ought not to be believed on oath, and whose 'autobiography' 'suggests the charlatan.' The assumption as to the authorship of this document

seems to be the keynote to the whole theory of the learned Judge's decision.

"*When Judge Wallace wrote the scathing denunciation of Drawbaugh for his assumed authorship of the biography, there lay in the Judge's desk, among the exhibits in the case, the original manuscript of this biography, proved by the appellee's witness, Nesbit, and admitted by the appellee's counsel, in argument, to be in the handwriting of Mr. Hull, the publisher's agent for collecting historical information for his book, and admitted to be the original manuscript of the biography.*

"OF COURSE THIS FACT DISPOSES OF JUDGE WALLACE'S WHOLE ARRAIGNMENT OF DRAWBAUGH, WHICH IS BASED UPON THE GROSS MISTAKE AS TO THE AUTHORSHIP OF THE ARTICLE IN QUESTION."

Now that, may it please your Honors, is very astonishing; but it is the best that can be done, I presume. The fact is (about which there is no shadow of doubt or contradiction), that Daniel Drawbaugh contracted with Mr. Scott, the publisher of Wing's History of the County, that he would give Mr. Scott *ten dollars* if Mr. Scott would publish his biography in it; *that he agreed in that contract to furnish the biography himself;* that he got Mr. Hull, *who was not Scott's agent for that purpose at all* (what he did for Drawbaugh he did as between himself and Drawbaugh) to sketch it out for him,—Drawbaugh not being clerical in and of himself; that Mr. Hull wrote the manuscript under Drawbaugh's direction; that Drawbaugh copied it off in his own handwriting—perhaps not wishing to lose the glory of the authorship of so elegant a document—copied it off in his own handwriting, putting in the date of his birth, and sent it to the publisher, who again in his turn, by the lady who was his daughter and who was doing that literary work, cut it down, and took out some of the grandeur that was in it, as Drawbaugh sent it; and it was published in that shape. That is the testimony. There is not a word in this record to throw doubt on it, or contradict it in any degree. It was sworn to by all the witnesses without contradiction.* Judge Wallace put

* All the details and references are in our Drawbaugh *brief*, p. 222; *abstract*, 373-380; Mr Storrow's oral argument below, p. 115; Mr. Dickerson's argument below, p. 32.

it into his opinion; not as the basis of his judgment, but as illustrating the character of this man, who is an impostor and a fraud of the worst kind—as a mere illustration of character. And then, *after that opinion*, Mr. Hill proceeded to take testimony over again to mend his case, and meet that opinion if he could; and he did not open his mouth on this question; he did not call Drawbaugh to say "I did not write that biography." And all that having happened, he comes before this Court in this brief and denounces Judge Wallace as making gross misstatements and misrepresentations of the evidence, because—why? Because Mr. Hill, on the examination, put into the record out of his own possession (which was Drawbaugh's possession) the original manuscript of Hull, from which Drawbaugh made his copy. That manuscript had not gone to the printer's or it would not be here, you see. Drawbaugh had kept it himself, so far as it appears; because it came out of his possession. He put that in evidence himself, may it please your Honors; and on the basis of that paper, produced by himself, he says Judge Wallace has misrepresented the facts, because Judge Wallace believed the uncontradicted testimony of Mr. Scott, and of Mr. Scott's daughter, that that contract was made with Drawbaugh I have mentioned, and was evidenced by a memorandum fixing its date; because it was a subscription for ten dollars on condition that he should have his autobiography in the book.

The Chief Justice: Does the subscription show the condition?

Mr. Dickerson: No, sir. The subscription says $10; but the witness, Mr. Scott, swears that Dan subscribed on condition that he was to have his biography in this book; and he was to furnish it himself, and he agreed to furnish it himself. Your Honors see that Drawbaugh, who was suffering from that extreme poverty under which he could not get anything but molasses and potatoes to eat, would never have gone and paid $10 for a mere history of the county, unless it contained an account of his life; but that was one of the necessaries of life to him, to see himself in that shape; it was very necessary for him. He would wreck himself, and lose his telephone patents, to

get the ten dollars to pay for that, as a necessary; but if his biography was not put in, of course a mere pauper would never have paid ten dollars for a general history of his township which he knew already. It was peculiarly necessary for Drawbaugh to have it; because Drawbaugh is a man of perhaps the worst memory that your Honors have ever seen or heard of. When you come to read his testimony, you will see he has got the meanest memory with which a human being was ever afflicted; and it was of a great deal of importance to him to have by him a biography written by himself, so that from time to time he could look at it and see who he was, and what he had done, without which he never could have told the world; and so he would pay that ten dollars for the sake of having a well authenticated biography of himself that he could consult from time to time and find out what his name was, and other little things that belonged to him.*

Mr. Justice Harlan: What witness proves that he wrote it or copied it?

Mr. Dickerson: Mr. Scott testifies that Drawbaugh agreed to write it, and that he received it by mail, from Drawbaugh as he understood. Mr. Scott's daughter, Mrs. McDowell, testifies that it was in the handwriting of Drawbaugh when it was brought to her.

Mr. Justice Harlan: I think part of that deposition was read at the time Mr. Storrow was arguing, and my recollection is she says she *thinks* it was in Drawbaugh's handwriting.

Mr. Dickerson: She says: "it appears" to be in the same writing as papers admitted to have been written by Drawbaugh. But this was proved in 1882, and they took 300 depositions afterwards, and no man denied it. It was argued to Judge Wallace and a decision made, and then more testimony taken in the *Overland* case, and Drawbaugh would not go on the witness-stand to deny it. You see this was, *as they say*, the corner-stone of the opinion, and Mr. Drawbaugh could have come and contradicted it; for the case was open to him, and they put in thirty wit-

* See abstract of proofs, pp. 373 to 381, including all the witnesses; also oral argument, p. 31, *et seq.*

nesses after the decision. I take it, therefore, that that being a vital and important fact to them, *as they say it was*—it being proved in that way and not contradicted by Mr. Drawbaugh himself—must be taken as proved in a Court of Justice; that is all.

Now, that is the foundation of this extraordinary attack upon the judicial character of the Judge who so far offended the Drawbaugh syndicate as to decide that Drawbaugh and his partners were frauds.

I go a little further. On page 280 they tell you:

"Take, as another example, Judge Wallace's statements as to Drawbaugh's property, which are entirely wrong in very important particulars."

Then they give a part of Judge Wallace's opinion, which is exactly right. I don't mean to say that it may not vary a few dollars, one way or the other; but substantially, it is just right. I don't *know*, however, that it does vary at all. They compile against that opinion a statement from the county records to contradict it. Will your Honors do me the favor to look at page 281 of their brief. There is a column of figures, a book-keeping performance, in which they set out the mountain of debt under which this unfortunate person was laboring during all those unhappy years. I think I don't say too much when I say that your Honors would infer from reading that paper, as I certainly should, that Drawbaugh was indebted in the sum of about fourteen and odd thousand dollars, made up of different items: $310; $1,810; $910; $970; $910; $1,910; $2,000; $2,000; $1,800, and so on. I think your Honors will say that that statement is meant to convey to your mind the idea that that is the true state of his account; and whatever those items foot up represents the indebtedness he was under during all those years. Now, I shall surprise your Honors by saying that the whole table does not represent more than about $500.

It begins with $310, April, 1868. That was a mortgage on a house he bought for $2,300, which was there when he bought it, and which he afterwards paid off.

The next item is $1,810, which includes the first $310. The other fifteen hundred came about in this way:

Drawbaugh's father was an old man who needed the assistance of his sons; and Drawbaugh's brother was a prosperous man of business—Henry Drawbaugh, a man of means. He and Dan jointly bought a farm for the old gentleman, *Drawbaugh himself contributing one thousand dollars in cash*, and his brother contributing, I think, fifteen hundred dollars in cash, giving also jointly with their father a mortgage, or judgment note to the vendor for $1,500, and which he, according to the custom in Pennsylvania, filed in Court, and which constituted a judgment lien on the farm on which an execution might be issued on default. It was a very filial act of these two sons to the old man, and they did it; and the old man lived and died there, and the mortgage was paid out of the farm. Neither Daniel Drawbaugh nor Henry paid it or ever expected to, because their father's farm was enough to pay it, with a large margin, and it was paid by the sale of the real estate after the father's death, with a surplus; but until it was paid it stood here in the list as a debt for fifteen hundred dollars (*Drawbaugh*, Defendants' Exhibits, 269; defts., ii, 869).

Then Dan received a note for $1,000 as part payment for his patents sold to the Pump Company, and got it discounted, and it was not paid, but was on record as a lien against his property. When he came to be sued Drawbaugh set up for a defense—and the defense, as far as I can see, was a perfectly good one; at any rate, it has prevailed up to last accounts; the note has never been paid—he set up for a defense that the payee could have collected it from the maker, under such circumstances that his neglect released the endorsers. That defense has prevailed up to the close of the testimony in this case, and Drawbaugh never paid the note. That is one part of this indebtedness. He got the thousand dollars, however, for he discounted the note and got the money. It was assets, not debt (*Drawbaugh*, defts., ii, 871; defts' Exhibits, p. 47).

When Dan sold the house to Fettrow some of these judgment notes appeared on record which ought not to have been there, and so Fettrow would not pay the purchase money; thereupon Dan told him it was a mistake, and went and cleared off the whole except the $1,000 on account of

the endorsement I have mentioned, and then Fetrow paid the purchase money,—less $1,000—and Dan bought another house in Mechanicsville with that money and moved there for a year (*Drawbaugh*, defts, i, 371).

But the $1,500 purchase money note for the farm which he never paid nor expected to pay, and the $1,000 discounted note from which he got $1,000, and never paid it to this day, constitute the great part of that account, appearing over and over again as if they were new debts.

Dan paid off the $300 purchase money mortgage, which had stood for years, and of course might have stood forever, being secured on a $2,300 property otherwise free, at the very time when, *according to his testimony*, he was begging in vain around the community for money enough to apply for a patent for the great invention of the nineteenth century! He paid it in July, 1873.

And that account, may it please your Honors, is brought before you to sustain the claim that Drawbaugh was a man of extreme poverty, and that he was under all this terrible load of debt, and how on earth could he squeeze fifteen dollars out to file an application for a patent for this great invention? That I think is very rough on the Court. It is very rough, may it please your Honors, to charge a judge with a dishonest statement of the pecuniary accounts of this person upon such a showing as that!

Then my learned friends in their brief tell your Honors that Mr. Matthews, that lawyer, and editor, and gentleman of Baltimore, " wrote a letter which was before the Court, stating *that no reliance whatever was to be placed upon his recollection of the facts thus cited by the Court;*" and yet after that the Judge gave credit to his statements, when he had retracted them. May it please your Honors, that letter is here; it is in the record; *it confirms Mr. Matthews' statements.* Judge Wallace decided that it did confirm his statements. It is one of the most scrupulously accurate corrections of an entirely immaterial statement of fact. Mr. Matthews' conscience was so tender that he feared that some little trifling statement that he made, utterly unimportant, might possibly affect the case; and just as any conscientious lawyer would do, he wrote, " I

don't know what the force of that statement may be. I said such and such a thing. If it is important I wish to correct it." It was not important. Nobody says it was, or that it had the least relation to the main question. He wrote that letter, and it was put in evidence in this case. It was put in evidence under circumstances that I shall never forget. It was another pistol shot, that killed the man who was looking down the muzzle as quick as a flash; and it was done in this way: Mr. Hill had heard that Mr. Matthews had written some letter, and brother Edmunds, with that delightful suavity and frankness that characterizes him, turned around to brother Storrow, who sat there and said: "I feel it my duty to ask brother Storrow whether he has not received a letter from Mr. Matthews qualifying his testimony." Well, when anybody asks the counsel on our side of this case whether they have done any rascality he need never wait more than about ten seconds for an answer. We have had that question asked us a great many times, and we generally are ready to answer it. We had the answer at my house; we hadn't it in court; we had to go home to get it. We had it in my house and brother Storrow said, "Yes, that gentleman did write us a letter which is in Mr. Dickerson's house in Thirty-fourth street. If you will just be good enough to wait until to-morrow morning we will produce it;" and they waited until to-morrow morning; and brother Edmunds, who had asked the question, and who had looked down into the muzzle of that gun to see whether it was loaded, went away that night, and he was not there when the funeral occurred. It occurred the next morning. The letter was produced and here it is; and your Honors will read it when you come to it. That ended that charge. That bomb-shell exploded. The gentleman who was at the trigger end of that gun wished he had been at the muzzle end. And yet, here the same farce is played again. After having been exploded once, having kicked the man that pulled the trigger into the middle of next week when he pulled it once before, here it is brought up again and put before your Honors as an evidence of the utter recklessness with which a Judge like Judge Wallace has dealt with the testimony in this case. You will find the

letter and the whole matter at pages 1 to 5 of my oral argument in New York, where Judge Wallace ordered the letter to go into the record.

Adjourned to Monday, February 7th, 1887, at 12 M.

FEBRUARY 7, 1887.

Mr. Dickerson: May it please your Honors: Since the adjournment of the Court on Friday we have sent to Boston and procured the original patent which I now present to the Court. The patent itself, dated March 7, 1876, reads: "a description of which invention is contained in the specification, *a copy of which is hereunto annexed.*" The specification which is annexed to this patent is therefore a copy of the specification as it was in the Patent Office when the patent issued, March 7, 1876. If your Honors will compare this copy with the certified copy brought from Massachusetts, you will find that that part of the Massachusetts copy which *is in ink* agrees word for word with the copy which is "hereunto annexed;" and that therefore whatever interlineations are to be found in that Boston copy must have been put in at some time after this patent was issued. They were not there when this certificate was issued on March 7, 1876. Whoever put them in, whether in Boston or elsewhere, did so, not at the time when it is supposed by the hypothesis of our adversaries they were put in, namely, before the patent issued,—*but afterwards.*

Mr. Justice Bradley: Will you allow me to look at that for one moment?

Mr. Dickerson: I will give it to you.

Mr. Justice Bradley: I was absent a few minutes on Friday when you were on the subject of Mr. Brown's conduct in taking the paper to England, and therefore did not hear if you made any explanation of the difference between that copy and the one in the Patent Office.

Mr. Dickerson: Yes, sir; but I will make it again in a moment.

Mr. Justice Bradley: I would like to know how it occurred?

Mr. Dickerson: I will make that explanation in one moment. Now, sirs, the specification which is contained in the Brown papers *has thirty-eight different readings*, besides the absence of the cable matter which is in the American patent. There are thirty-eight different readings, all of which are to be found in the pencil memoranda on the Boston certificate, *supposed* to be a copy in that respect issued by the Patent Office, according to the hypothesis of our adversaries.

The Chief Justice: They correspond to the pencil memoranda; that is to say, the pencil memoranda correspond with the papers that Brown took.

Mr. Dickerson: Yes, sir; the Brown papers correspond precisely with the pencil memoranda—*as to the interlined matter.* The *ink-written* matter in that Boston certified copy, which your Honors have before you, which we may assume for the purpose of the argument was the certificate, is exactly the same as the patent certificate of the 7th day of March, 1876, which is in your hands this morning, and as the paper now on the files. That explains itself without any further comment.

We also have on the table—as his Honor Mr. Justice Harlan asked the question—one of the bound volumes of certified copies, made according to the statute. Periodically under the statute, the Patent Office issues certificates, and bound volumes, which are to be deposited according to law in certain places,—among other places *here.* That certificate is the certificate of what the specification of each patent is at that time. We have that here.

The Chief Justice: That corresponds exactly with the Boston manuscript without the pencil memoranda?

Mr. Dickerson: Yes, sir; it corresponds exactly with the *ink portion* of the Boston specification, and with the patent as it was issued. The Boston specification, or the Boston copy you have here, contains in its ink-written part what is in the patent specification exactly; but it is there in two or three fragments, because the amendments that were formally made, and which came to be written in and included in the patent, are on separate slips in the file wrapper, and so appear in the certificate.

Mr. Justice Bradley: In other words, at the date of the

issue of the patent, March 7, 1876, these portions which are contended to be introduced, no matter in what way, were in it; they were there on the 7th of March, 1876; when the patent was issued?

Mr. Dickerson: Yes, sir.

Mr. Justice Bradley: These, what are called interpolated portions, were in the specification at that time?

Mr. Dickerson: Were and were not; that is to say, all that part about the liquid transmitter was in. All the other thirty-eight things were not.

Mr. Justice Bradley: I mean the portion that is contended on the other side to have been wrongly interpolated; that portion relating to the variable resistance, and the fourth claim—they were in the specification?

Mr. Dickerson: Yes, sir; all were there.

Mr. Justice Bradley: They were in the specification on the 7th of March when the patent was issued, at any rate?

Mr. Dickerson: Yes, sir; but thirty-eight alterations besides, of one sort or other, out of the Brown specification were not; their *assumed* presence in April, 1879, the date of the Boston certificate, is supposed to be corroborative of the fraud hypothesis.

The Chief Justice: Then as I understand it, the application was made for the patent on the 14th of February, and on the 7th of March when the patent was issued, and when the first certificate as to the specification was given, all the disputed matter was in the specification?

Mr. Dickerson: Yes, your Honor; and all that is said to have been fraudulently put in *by Bell* was not; that is, all the thirty-eight alterations which appear interlined in pencil in the Boston exhibit were not.

The Chief Justice: All the disputed matter was in the specification?

Mr. Dickerson: Yes, sir; all the matter charged to have been taken out of Gray's caveat.

The Chief Justice: Thus showing that the alterations, as you argue, and it seems to follow—if there were any alterations made in the specification—they were made between the 14th of February, when the application was originally filed, and the 7th of March when the patent was issued?

Mr. Dickerson: The application, plus the formal amendments made by formal letter February 29th, was exactly the patent issued March 7, 1876. If there is anything in the patent which was not in the application of February 14th, it must have been put in between February 14th and March 7th. The pencil interlineations in the Boston paper, —those thirty-nine George Brown words,—were not on any paper which was on the files of the office on March 7, 1876. They were either made in Washington after March 7th, and certified up by the clerk according to Mr. Hill's hypotheses, or they were made in Boston upon the certificate after it arrived there. It is immaterial to us which.

THE "SPURIOUS BROOD" OF DECISIONS.

In my argument on Friday I omitted to refer to the different decisions which have been rendered in this case from the beginning. Mr. Justice Lowell, in his opinion in the Spencer case, says that Bell "is admitted in this case to be *the original and first inventor of any* MODE *of transmitting speech*" *electrically.* That was admitted to Mr. Justice Lowell by the witnesses of the defendant in that case, and by Professor Morton, who testifies to it over again here. It has been admitted over and over again by the witnesses here. They have all sworn to it. The testimony is that Mr. Bell's "MODE OF TRANSMITTING SPEECH" is entirely new, and is not to be found in any publication whatever. It is also admitted here that Reis' apparatus cannot transmit speech by the "*mode*" HE pointed out—"circuit-breaking"—and that if it can be made to speak it is by subjecting it to the Bell "MODE." Professor Morton, who was the witness for the defendants in the Spencer case, and who is one of the chief witnesses of my brother Lowrey in this case, swore that not only did not the Reis publications disclose the "*mode*" invented by Mr. Bell, but that no man could learn from any of the publications how to practice that "*mode*"; because he swore that neither Reis nor his friends knew it themselves, and therefore, could afford no information to the world. That is exactly how the testimony stands. Therefore Judge Lowell said: "It is admitted here that Bell is the original and first inventor of any

MODE of transmitting speech."* Upon that my brother Lowrey, in a learned and extended brief, says: "From those decisions come all that *spurious brood of subsequent decisions, which trace their pedigree through an assumed decision to an assumed admission.*" (Page 88.) This book of decisions upon your Honors' table my brother Lowrey, with the forcible language which he is able to use, characterizes as a "*spurious brood*" of decisions.

GALILEO'S TELESCOPE AN ILLUSTRATION.

I now call your Honors' attention to an illustration

*Henry Morton thus testified:

"Cross-Q. 54. Now, in the course of your employment, during those years, by clients adverse to the Bell patent, have you yet discovered any publication or description before 1876 of a MODE OF OPERATION in which vocal or other sounds were to be transmitted telegraphically by causing undulations similar in form to the vibrations of the air accompanying said vocal or other sound to be transmitted over the wire. If so, point out to the Court what publication or description you have found which described that MODE of operation?

"A. I HAVE FOUND NONE."

Then on page 645 he testified:

"Cross-Q. 78. So far as you know from the publication, existing in 1876, was the *method of operation* involved in that Bell telephone (Fig. 7) recognized by the authors of the publications in regard to Reis or any other apparatus then known?

"A. It was not.

"Cross-Q. 79. When you were examined in chief as a witness in the case of the American Bell Telephone Company *against* Spencer, you swore as follows: 'Fully realizing all this, however, it seems to me in nowise to influence this conclusion to admit that the Reis telephone did embody the feature of a fluctuating or undulating current, corresponding to changes of pressure between the electrodes, produced by the air vibrations constituting the spoken words. For this feature, though it undoubtedly existed in the Reis instrument *when used to transmit articulate speech, was not recognized by the authors describing it, and would, therefore, have furnished no information which would have enabled the supposed manufacturer to have constructed an operative telephone under the conditions above stated.*' Do you wish to take back any part of that answer, if so, do it?

"A. I do not."

See Channing, *Molecular*, 572, also our Brief, p. 231, *et seq.*

Morton also swore that the Reis was a talking telephone in the hands of Reis; but he himself had a Reis telephone, and with all his admitted skill and willingness to be convinced, he never could hear a word through it, and so swore in this case, after years of experience (*Molecular*, 348).

He says: "WHEN CONNECTED WITH THE REIS RECEIVERS I HAVE NOT MYSELF BEEN ABLE TO SECURE DISTINCT TRANSMISSION OF WORDS OR SENTENCES. THE TONES OF THE VOICE CAN BE RECOGNIZED SO THAT ONE IS AWARE THAT WHAT HE LISTENS TO IS A HUMAN VOICE; BUT IN ALL THESE INSTRUMENTS WHICH I HAVE TRIED THE INTENSITY OF THE SOUND HAS NOT BEEN SUFFICIENT TO ENABLE ME TO RECOGNIZE WORDS AND SENTENCES."

which contains the whole argument of this case. It is said that Galileo invented the telescope, and I believe he did. It was done by combining two well-known forms of lenses with each other in a certain manner, which he discovered out of the arcana of nature, by which *the eye was enabled to see at unnatural distances, just as the ear is enabled to hear at unnatural distances by Bell's telephone.* His instrument consisted of a transmitter and a receiver; the objective lens, and the eye-piece. The discovery he made was that the vibrations of the luminiferous ether,—which is the hypothesis for light,—can be so controlled as that those which enter the large aperture of the objective lens can be concentrated in parallel lines upon the small aperture of the human eye, and so upon the retina. Upon that discovery Galileo made his telescope; which was, undoubtedly, the very worst telescope that was ever made. You can buy for twenty-five cents a very much better one of a street peddler. It consisted of a long pole with two pieces of glass tied, one at each end; *but tied there in such a position that, according to that law of God he discovered, they constituted a telescope.*

Well, sirs, he looked at Venus, and what did he see? He saw a gibbous moon. That glance annihilated the Ptolemian theory of cycle and epicycle that had enslaved the minds of men for two thousand years; and the name of Copernicus shone out in that pure lustre which will never fade. He looked at Saturn—my brother Lowrey has got it all in his brief—he looked at Saturn and he saw a sight—three balls, like a pawnbroker's sign, strung together. That miserable telescope of his gave him that appearance. But there was the disk, and the multiplicity of worlds at once became manifest.

Suppose he had taken out a patent for that telescope, which he might have done, giving a drawing of that pole and those two bits of glass, and stating the law under which they became a telescope, and making this claim:

"*What I claim is the method of and apparatus for seeing telescopically, by causing the undulations of light to be converged upon the retina, substantially as described.*"

That is a paraphrase of Mr. Bell's fifth claim. Would not that be a very good patent for the telescope?

At once ingenious men, some mechanics and some scientists—for it spread like light all over Europe—took up that instrument. Some added brass tubes; and one man in particular made himself famous by improving the transmitter end of the thing very much—an Englishman named Dolland—who cured the defect of chromatic and spherical aberration in the transmitter, by doubling the lens with glass of different densities; whereby the thing became capable of much greater magnifying power than it ever could have had with a single piece of glass such as Galileo used for an objective. That made, so far as it goes, the telescope of to-day, aside from mechanical execution.

Now go with me, if you please, to Mt. Hamilton in California. There we see the great Lick telescope. If the mechanical execution of that lens turns out to be as perfect as we have reason to believe it to be, it can never be exceeded in this world; never, unless the human eye gets to be developed upon some different principle. That is the end of telescopes. It has a thirty-six inch object glass, which is as large as it is possible for the human eye to avail itself of. Whether that is a perfect lens or not is a question of workmanship. Assume it to be so, then that telescope has reached the "*ultima Thule*" of telescopes. Well, sirs, we will take with us, if you please, on that excursion my brother Browne, my brother Lowrey, and my brother Hill, and have them tell us and the world what all that phenomenon means, in the language which they address to your Honors now in regard to the Bell patent.

Brother Browne, with that exquisite delicacy and tact that characterizes him, and, as I would say, "vith a vink of his vicked old eye"—after the manner of the late Mr. Pickwick—would say that "his client has discovered that Galileo's patent *discloses the only method possible for seeing telescopically;*" and that, contrary to the generally received opinion about Galileo, his method is in strict accordance with the law of God, which was created some years before Galileo appropriated it, and which Galileo did not himself create; and that therefore his client's delicate sense of "morality" is such that he thinks that patent ought to be void. Moreover, he says that that Lick telescope is not any infringement of our hypothetical Galileo patent,

because it has a double lens objective, which Galileo never made in his life, and never knew how to make. That is his presentation.

Well, then comes along my brother Lowrey. He does not permit his client to be quite as mean as Dolbear—that is almost too much for him; so he takes the personal responsibility of assuring the world that he is perfectly willing to admit that Galileo invented that long pole telescope with a transmitter and receiver on it, and that he and his associates may be relied upon at any time to make that admission in public, if it will do Galileo any good. Nay, he is willing to consent that Galileo may make other long pole telescopes like it, and may avail himself—I quote his language—of "*enough of what he discovered to enable him to work his invention, while not excluding other inventors*"—like Dolland, for instance, who perfected the transmitter—" from access to the universal storehouse." Brother Lowrey having thus vindicated his well known liberality and generosity retires.

Then we hear from Mr. Hill. He assures us that Galileo was a thief and a perjurer anyhow; and he proves it by saying that he was cast into prison for inventing, among other things, that very telescope; and he tells your Honors there is another fellow, named Bell, going around loose, who is playing just such another trick on the world as Galileo played; and to use his language, "It is time that this wrong should be summarily stopped, and that the penitentiary should open its doors to receive the perpetrators *of it.*"

That ends the discourse of these gentlemen, as far as I can see, upon the Lick telescope, now mounted in that superb structure upon the heights of Mt. Hamilton, where it will penetrate the infinite abyss, and reveal to us the utmost secrets of the great universe. Well, I think, may it please your Honors, if that were addressed to the world at large there would be a laugh.

I hope, however, that my brother Peckham, who is to follow me, will explain to your Honors wherein that case differs, even to the minutest detail, from the invention of the far-hearing instrument by Professor Bell; and wherein the principles which should be applied in law, in physics,

or in morals, can be discriminated between those two cases. That is all I have to say about the law of this case.

The Drawbaugh Frauds.

We come now to another interesting and charming feature of this case — the Drawbaugh matter. The principles of law which govern it are, that in any case where a patent is assailed, particularly by a stale claim made four years after the patent has been bruited all over the world, the assault must be maintained beyond any doubt; and that if there be any doubt created that doubt at once destroys the defense. Or, as the Courts put it, "To create a doubt is to resolve it in favor of the patent." Now I think, may it please your Honors, that no person within the sound of my voice will assume for one moment to say that it has been proved beyond any reasonable doubt that this Mr. Drawbaugh is what his counsel have assured your Honors he is, the American "Faraday"* and the inventor of the telephone. I do not think that is proved beyond any reasonable doubt; and to raise a doubt is to resolve it in favor of the patent.

But may it please your Honors, whatever doubts there may be in this confusion of testimony *we* are not to be called upon to clear up and resolve. *We* are not behind the scenes: Drawbaugh is. He can tell us wherein all this confusion arise: he knows. We cannot *know*. We can suggest; but whether our suggestion may be true or not, we

---

* In order to exhibit the American Faraday to the best advantage he was questioned by Mr. Hill as to his knowledge of acoustics, the science which underlies the invention of the telephone, and without a knowledge of which the invention is unthinkable; and he told all he knew (*Abstract*, 295; *Defts*, ii, 793).

"Q. 80. Do sounds of different pitch contain the same number of vibrations per second or not?

"Ans. No, sir; they do not; the higher the sound the more the number of vibrations.

"Q. 81. When did you learn this fact?

"Ans. It would be a little hard for me to say when exactly; it occurs to me it was a great while ago; I can't put a particular period; when I was a young man I used to attend singing school, and the *professor used to give the philosophy of sound in that way—high sounds increasing the number of vibrations to the second, and he mentioned too, I suppose, the number to the second, but my mind does not retain the number.*"

cannot tell—we can suggest some facts and reasons that explain the phenomena of this testimony; and they are quite frequent and abundant in the proof itself.

In the first place, Drawbaugh, the defendant——

Mr. Justice Miller: May I interrupt you to inquire whether you have some citations of authority in regard to your leading proposition that anticipation must be proved beyond a reasonable doubt?

Mr. Dickerson: They are in our brief. You will find all the authorities in our Drawbaugh brief, pp. 99 to 133. The particular case giving the very language is by Judges Strong and McKennan, p. 119.

If it were not so, no patent would be of any value. Doubtful defenses enough can be raised; but they cannot overcome the *prima facies* of the patent granted upon examination.

Mr. Justice Miller: The authorities are cited there?

Mr. Dickerson: Oh, yes, your Honor.

In the first place, Drawbaugh did all he said he did, and a good deal more that he does not tell us about. He did it all. He made all of those instruments that are before the Court. He made them more or less in the order in which he says he made them. Therefore the question is not as to whether any witness *saw* those things, but as to the *time when he saw them.* That is all there is of this question. We do not dispute the fact that at some time or other he made them. *Of course he made them at some time for here they are; he produced them in this case in* 1881. We have shown you that in respect to the *time* many of these witnesses are grossly mistaken. We cannot reach every witness. A man says he went to Drawbaugh's shop. He says he went there, say, in 1875. "How do you know?" "Why," he says, "I went there to sell a bushel of potatoes, and I know I sold a bushel of potatoes in 1875;" or "I went there to get my spectacles mended, and I know that must have been in 1874," or some other such trash as that. That is the way these honest people—and I do not doubt the honesty of many of them—come to be witnesses for the defendants in this case. That is the way that they swell the volume of witnesses up to whatever it may be—I don't know how many. I have not counted

them. It takes more arithmetic than I possess. Judge Wallace settled that matter, however, by saying that a million of them would not be of any use; so that I will not count the few that they have got. He made all those things. They were certainly all made between the summer of 1876 and 1881, as we show you in our oral arguments below, and in our brief, that they were. (See my oral argument, p. 127 *et seq.*)

You have but to look at this transaction through the true end of the opera glass, and the whole story is brought within those limits. You have but to invert the opera glass, and it is stretched out wherever you please to carry it. That is all there is of it. Whether the picture given by the witness is in long perspective, or is foreshortened, is all there is of the question.

I am not going to attack these witnesses generally; but there are several who where debauched by Drawbaugh in the most infamous way. Take for instance the Ditlow family, and the Kahney boys. Their story is all here. I shall not repeat it. They were debauched by Drawbaugh. They proved *that*, when they were upon the stand; they produced the evidence that they were, and Drawbaugh has never opened his mouth to explain it. For instance: Drawbaugh sent one of them out West to hunt up some man who should tell him, the witness, that the witness had told him the story at some anterior date to the date at which the witness himself had first sworn he saw the Drawbaugh telephone; and then upon the faith of that other man's telling him that, he was to come back, and he did in fact come back, and swear that his former testimony was entirely mistaken, and that he had come back better informed by the man he was sent out to find. Well, there was a slight difficulty about it, because that witness had written to my brother Storrow a letter—two of them in fact—and told him that Drawbaugh was going to put him back on the stand, and in substance asked: "What will you give me not to go?" All that comes out. I shall not spend any time over it. It is a horrible mess, perfectly filthy; but it is all in our argument, and I will not defile my mouth or take the time of the Court

by going over it now. It is in my oral argument below, pages 43 to 52, and Mr. Storrow's oral argument below, p. 224.

Many of these witnesses are honest people enough, who say that they heard all this in 1866 or 1870, or some other time—no matter how far back; and it is asked us with great emphasis and with great ability and ingenuity by my very learned brother Dickinson, and by my eminent friend Mr. Edmunds, "How do you get along with that? Here is a pistol exploded in a man's ear. He *may forget the date of the pistol explosion, and generally would;* but he could not forget the explosion." We agree the pistol was exploded in all their ears—if it was a pistol. To most of them it was not any pistol at all; because to a countryman the hearing of that thing talk was not at all a marvelous matter, if it did talk. To Sir William Thomson—to a man of science—it was a miracle; but to a common countryman it was not a very remarkable thing. He had been listening to string telephones. They were well known in that village according to the proof. It was not very remarkable to them—that talking machine. It was not like the explosion of a pistol. (*See brief*, p. 311, *Eppler.*)

But if it had been the biggest explosion in the world there is no reason why one should get a *true date* associated with it because it was a pistol. For instance, Donati's comet was the most superb phenomenon that has occurred in this century; we all saw it. It filled the heavens with glory from the zenith to the horizon. I will undertake to say that there is not a man within the sound of my voice can tell its year. I am somewhat interested in astronomy, and I cannot. I can go to a record and prove when it was precisely; but that is not the kind of testimony my learned adversaries think good. They think mere memory is the thing; and that as to records they are not to be relied on.

The transit of Venus is the most interesting astronomical phenomenon that has occurred, or can occur at any time in the history of the world; and the reason is that it gives us the size of the solar system if we observe it aright.

I observed that transit in my own observatory. I made careful preparations for doing it. I looked forward to it with great pleasure. I made the observation, and remember it with much satisfaction. But to-day, if I had to go out and be killed if I could not tell you the year, I could not. I could tell you the law under which it came about; but I could not tell you that year if I was to be hung for not knowing it. I can go to a record and find it out. I can go to such a thing as a business card, as in the Drawbaugh case for instance, or to the *Baltimore American*, or the newspapers, and all that. But I cannot go to my memory and tell you to-day what year that was. It was the loudest pistol I ever heard explode. As I watched that little spot touch the sun's disk and creep over it, I thought of the happy feelings of Jeremiah Horrocks, who was the first living man that ever saw that phenomenon, when he saw that little spot creep over the sheet of white paper in his room; and his name became famous by it. I thought of the great pleasure he must have enjoyed, for I shared a part of it when I saw that beautiful phenomenon. But I can't tell you to save my life what year it was. It was not more than six years ago, maybe, or seven—I am within two or three years of it.

Now, may it please your Honors, Dan had in that place of his the Wheatstone talking machine. I am going to bring it to your Honors' minds, for I think it altogether probable your Honors have seen it.

The Wheatstone talking machine—Sir Charles Wheatstone's. He had the Sir Charles Wheatstone talking machine. In our abstract of proofs, page 294, he tells us about it:—

"I have made experiments—applied light bars of wood from one door to another; I remember one in particular—*I passed through one room into the second room by a bar and I found there was sound produced or transmitted by the bar, not through the air but by the bar.*"

Then he tells how his daughter and he talked through it. This is a charming experiment. Your Honors are told in the testimony here, in the newspapers of the day, that nothing interested men of science that did not interest

Drawbaugh. Sir Charles Wheatstone published that thing. It is made much use of by jugglers and by spiritualists who cause guitars to be played in the room where you are by means of a stick of wood on which the guitar rests, the other end of which goes into the cellar where the music is produced; and the vibrations are transmitted through the stick and make the guitar play; or you talk to the other end of that stick and the sound comes out at the guitar, and mysterious voices are heard. It is a common trick of jugglers. Professor Henry had that apparatus at the Smithsonian Institution; and I have no doubt there are persons within the sound of my voice who heard it. He had one end of it in the cellar of the institution, and he had that stick come up into his parlor, and there he exhibited that thing to persons who were delighted by it. It is a delight to every intelligent person. Dan had that apparatus which he was talking with.

We have proved, also, that he had a string telephone there. That is denied; but I think we have proved there was a string telephone there (*brief*, 311, *et seq.*) No matter. He proves he had this stick telephone there. Of course the country folks who came in were naturally astonished at the thing. Somebody goes into the cellar, and talks to the end of the stick, and the voice comes up. That was very remarkable to a countryman, and very remarkable to an intelligent man who does not understand physics. That is what he did. Then when he got the real telephone,—when he got the Bell telephone,—and persons heard that talk, they naturally would associate it with what they had seen years before—if they did see those things. I am giving you this as an explanation. It may be utterly untrue. Maybe the whole story is a lie, for all I know; but if it is true at all, that is *one* explanation. He can tell us. We cannot. We were not there. Now, may it please your Honors, that is an explanation we are giving you as far as we may venture to give you any explanation of these phenomena connected with this testimony.

I now come to show you the utter dishonesty and villainy of this story. Judge Wallace who decided this case, has made these defendants very unhappy by deciding that this man Drawbaugh was an imposter and a charlatan,

and that his associates are no better. They say it is very hard on them; but that is the decision which your Honors have before you, and which you are called upon to reverse. I propose now to show you that that cannot be reversed; that this man was a charlatan and a dishonest impostor, and that he was surrounded by a gang who used him for the most dishonest purposes. I make that statement with all the solemnity and with all the seriousness which a man should feel who makes it to a court.

Let me give you the history. Drawbaugh, according to the present testimony, had among other things in his shop, which was forty feet long and about twenty-five feet wide—that is the exact measure of it—it could be put two or three times inside of this room—forty feet by twenty-five—and partitioned off into three as your Honors have seen:—he had there in 1876, before the Centennial, or before he went to the Centennial, the most perfect collection of telephones that has ever yet been produced in the world, excepting what has been done within the last two or three months or so—the most perfect. That is the story you are required to believe.

He had the Blake transmitter. He had the Edison carbon transmitter. Your Honors know those little instruments. He had the perfect Bell transmitter and receiver of the patent of 1877 *with all its minute details*—everything perfect in his shop, in the summer of 1876; and all in 1875, except the Blake transmitter. He had the Edison carbon instruments in 1875. He had the carbon microphone that has made Professor Hughes famous, and has made Mr. Edison somewhat famous, as having discovered it. He had all those in 1876.* That is his case. Having read

---

* Seeing that it would look reasonable, at any rate, to show some mental process by which the American "Faraday" arrived at the microphone, and the use of carbon in making it, inasmuch as its other inventors had shown their processes, Mr. Hill exhibited Drawbaugh as follows (*Brief*, 365; *Defts*, ii, 804):

"Q. 150. Do you remember how you first obtained knowledge of that fact, that low conductors when under pressure would conduct the current more freely than when not under pressure; that is to say, did you learn it by reasoning it out, and then testing it, or by accidental discovery, or reading it somewhere, or by hearing it from some one, or how?

"*A. I don't remember how I came to it; I had been experimenting in that direc-*

in the newspapers that Prof. Bell, or some gentleman of that name not then otherwise known than as Mr. Bell, had discovered that marvelous thing, the telephone, and had become famous for it, he went up to the Centennial and spent five days there, going among other things *particularly to see that telephone.* That is his story. He spent five days there. He went with Mr. Leonard, the richest man in his village, who owned two-thirds of the houses there—his next-door neighbor and old friend. He stood by and saw that Mr. Bell exalted to the heavens, when he had in his shop that which would have talked him down from his pedestal in one second, and put himself in his place; because Mr. Bell's thing made only the puling cry of an infant, hardly able to make its voice heard—the most miserable, the feeblest thing that ever was made as a telephone,—just like old Galileo's telescope,—utterly good for nothing; while Drawbaugh had at home Bell's improved instruments of 1876, patented January, 1877, and the Blake transmitter—*the perfect instrument of to-day*—and he never opened his mouth. He never said to Mr. Leonard, "Don't you know, sir, my neighbor, that I have had these things in our town right alongside of you for ten years?" Not a word. He went to the Centennial, and then came back to Milltown and laid a little plot to cheat Mr. Shapley, the clockmaker, out of a couple of thousand dollars, by selling to him, *as his own invention,* the right to patent the Bain electrical clock that he had

---

tion; I don't remember of getting at it by accident either; don't remember of reading it; I don't remember of any one telling me of it; I don't suppose any one told me."

And when he concluded to use ground-up carbon, which Edison had discovered and published June 1, 1877 (*Drawbaugh*, complts, iv, 433), he just went to the gas-house in Harrisburg, where he found it—"just lying in the yard—just picked it up" (*Brief*, after p. 514).

After these exhibitions Drawbaugh was not examined any further, on the theory that he had any antecedent train of reasoning which led him up to his wonderful discoveries.

Nor did they attempt to explain by him why he left out of the Blake transmitter the weight which should have been in the brass cup making the anvil, and which is necessary for a successful operative machine; nor why he screwed the diaphragm fast in that machine, and thereby necessarily sprung and warped it, when he had the flexible finger *afterwards* invented by Blake, for holding the diaphragm in place, for the very purpose of avoiding the injurious effects of screwing it in.

On these interesting questions his partner preferred to keep the American "Faraday" silent.

copied out of Tomlinson's Encyclopædia. For this see our Drawbaugh brief, pp. 202, 203.

Well, sirs, in 1878, he formed a partnership between himself and two other persons—one being a man named Chellis, who kept a ninety-nine cent store there. That variety of swindle has disappeared since; but at that time it was like an erysipelas all over the country, your Honors; everybody remembers the ninety-nine cent store, where you could buy anything that any human being wants from the cradle to the grave for that price.

The other partner was a crank of a fellow by the name of Moffitt, a dentist there, who used to disappear and turn up in Texas or somewhere, after his family had hunted him all over with detectives.

These two men had some money and they wanted to invest it. Drawbaugh had an enormous capacity for taking investments. He had obtained a great deal of his neighbors' money in that way—twenty or thirty thousand dollars; and he was just the man to give them a chance to invest it in him. He had two things. He had a plan for a molasses spigot, the right to which was in dispute with a Mr. Hauck. And he had, *according to their present theory,* all this enormous invention right there in the same room, where it had been *perfected as every one knew before* 1876.

But what was he about at that time? According to the publications inspired by him at that very date, 1878, he was "IMPROVING *the mother invention.*" That is what he was doing; and like an ignorant crank, as he is, he thought *he* could improve the "mother invention." He was experimenting to improve it. We have got a drawing of one of his notions, preserved on the back of a specification for a patent for clocks which he had Mr. Weaver make for his clock company. He talked to Weaver about it, and made that sketch on the clock specification. His idea was that he could multiply the amplitude of the vibrations of the diaphragm by a lever, so that when the diaphragm moved a thousandth of an inch, the end of the lever would move ten times as far; just like that long thing on the Reis-Legat instrument—that long wing—to beat the air better. That was his notion. That drawing is preserved

as his notion until this day. (See my *Oral Argument* below, p. 144.)

Another one of his ideas was to put *two* carbon points on the Blake transmitter, and thus double the sound. He had all those notions. So he said to these people, "Now, come in with me and put your money into my improvements on telephones." Well, sirs, they looked at it, and they said to him, "We had rather take the molasses spigot. It looks better to us than that." Why? Because, as they said to him, "Dan, you can't anticipate Bell. What is the good of your spending your time on this kind of stuff?" They knew something about it. Let me read that to your Honors, because that wipes the floor, to use a slang expression, with this whole case. Here is Mr. Chellis, the ninety-cent gentleman, whose testimony is in our abstract of proofs, page 161.

Says Mr. Chellis, in answer to a question by Mr. Hill:

"Q. During your early connection with the faucet business did or did not *Mr. Drawbaugh urge you to go in with him in the telephone invention?*

"A. Yes, sir; repeatedly."

Now I go to the bottom of the page.

"Why did you not?" (says Mr. Hill.)

"A. Because I was interested in the faucet and motor business and wished to push them, and I did not think we could do much with the telephone, AS BELL HAD A PATENT, AND I DID NOT KNOW THAT HE COULD ANTEDATE THEM."

The Chief Justice: Does he give the date?

Mr. Dickerson: Yes, sir; their first connection began in 1878. December, 1878, or soon after, to be accurate.

"Q. During any of your early conversations with Mr. Drawbaugh on the subject, did you say anything to him about Bell's patent and claim of priority over all others?

"A. Yes, sir; and I advised him to drop it—the telephone —AS HE COULD NOT ANTEDATE BELL. HE SAID HE DID NOT KNOW ABOUT THAT; THAT HE HAD BEEN WORKING ON IT A GOOD WHILE; THAT WAS HIS WAY OF EXPRESSING HIMSELF, WHEN I WOULD SAY YOU CAN'T ANTEDATE BELL, HE WOULD SAY"——

Now they quote the language:

"'I DON'T KNOW ABOUT THAT; I HAVE BEEN WORKING AT IT A GOOD WHILE.'"

That is what he said to his partners in December, 1878, or early in 1879, when he was asking them to come and help him push his *improvements.* HE "did not know" about it in 1878. *But in* 1882 *he and everybody knows all about it!* Well, sirs, one of these partners was a man named Moffitt. Moffitt afterwards came and swore that in 1874, I think it was, he heard that round transmitter (A) your Honors have seen—that round instrument of Drawbaugh's which we proved was made in 1877 or so—he heard that talk so loud when Drawbaugh was in the cellar that he thought Drawbaugh was at his shoulder, and he turned around to see if he was there. Now, sirs, that was said by Dan himself to Moffitt and to Chellis in 1878: "*I don't know about that; I have been working at it a good while.*" Yet he knew that Bell was first heard of in 1876, *with a very feeble instrument;* and he now tells you he was eight or ten years ahead of that, with good talking telephones. And there was another man who knew, and that was his very partner Moffitt, if he is to be now believed. Thereupon they said: "No, Dan; I don't think it is worth while for us to do that. Molasses is our little game;" and they went on with the molasses. That was in the last of 1878 and early in 1879. For all this matter see our Drawbaugh brief, p. 228 *et seq.*

Well, they got into an expensive Patent Office interference with this Mr. Hauck over this worthless molasses spigot. They tell you that Hauck is a perjurer and a thief; in short he is but little better than Professor Bell—hardly any; and they got into an interference with him over that molasses spigot. You have heard about that interference. *Mr. Hill was the counsel in it,* and they beat Hauck; and then they went into the business of making these molasses spigots; when there were in that room all these magnificent inventions beginning twelve years before, and known to all the country side; *but not known to Dan, or to his partners, or their counsel then;* not even known *then* to his partner and old friend Moffitt, who *now* testifies all about it.

Now let me show you where this business originated. I will follow that same matter on page 161 of our *Abstract.* This is Chellis replying to Hill:

"Q. What did you ascertain about the employment of his time and energies as you began to get into the faucet business?

"A. I found out that *while I was working with him*, making patterns for the faucet, that he worked very well. I would come home in the afternoon and leave work for him to finish and have ready for the next day, and I generally found it on my return just about as I had left it."

That is, Dan was not doing well the molasses things that they hired him to do.

"Q. Did you discover that something besides faucets was engaging his mind and attention; if so, what and how soon did you discover it?"

This was in 1879, after they had got through the interference. I read from the bottom of page 161 and the top of page 162 of the *Abstract*.

"A. I was talking to his wife in regard to it, that is, how slow we were getting along. She says, 'Mr. Chellis, *Dan works at the telephone as soon as you go away, and most every night he does not get home until twelve or one o'clock;*' and she said that she had been talking to him about it and wanted him to lay the telephone aside and work on the patterns, and give the telephone up, and he said that he would go to the poorhouse before he would give up working on it."*

THAT WAS IN 1879, AFTER HE HAD FOR THREE YEARS THIS WHOLE THING PERFECTED, AND BEYOND WHICH HE NEVER DID ANYTHING BUT MAKE TWO INSTRUMENTS, *which were mere modifications of the Blake transmitter.*

Now, sirs, here is a beautiful picture. Here is where the modern Faraday shines out illustrious:

"What plan did you adopt, if any, at that time, to get him to work more steadily on the patterns?

---

* Deposition of Henry F. Drawbaugh, *defts*, i, 419, lets in a flood of light on the question of dates:

"Q. 46. Did you ever hear your brother Daniel's wife talk about his spending his time experimenting; if so, how often *and during what years?*

"*Ans.* I have heard her make mention of it very often DURING THE YEAR '76, AND FROM THAT TIME UP, NOT FROM THAT BACK; she said she wanted him to stop fooling and go off; he had had good offers to superintend for other firms, and then they would try and live better, they had been living so poor for many years on account of his experimenting."

"*Ans.* I told him"—

says the Ninety-nine cent gentleman,—

—"we were in the shop—'Dan, we will hurry up and get through with these patterns and we will look into this telephone, and I will go in with you.' This seemed to please him, and he talked telephone all the balance of the day, but did not do much, if any, work."

Says Mr. Hill:

"Q. *Did you mean what you said, or was it only a little strategem to get him to finish the patterns?*

"A. I WAS JUST USING THAT SO AS TO GET HIM TO FINISH THE PATTERNS, AND DID NOT REALLY HAVE MUCH PURPOSE OF GOING IN WITH HIM."

Talking to him like a spoiled child: "Now, Dan, my boy, just do our work, and to-morrow we will give you some taffy." That is the way the modern Faraday was dealt with by this ninety-nine cent sharp; and that is his story of it.

Well, sir, what happened then? He went on with the molasses spigot, says Mr. Chellis, so poorly that Chellis got discouraged; but he could not find out from Dan that he had ever done anything before Bell. Dan said, "I don't know." Chellis had talked with Dan's wife, but did not get from her any idea that Drawbaugh could antedate Bell. Presently Chellis says, "I will find out from somebody else;" and there was a person named Shank, a kind of Dogberry whom he met in Dan's shop; and Chellis says to Shank, "Shank, if I could only find when Dan began this business I would know when I could stop him." Says Shank, "He began in 1870." "Oho!" says the ninety-nine cent man, "Here is something. What a find!" And thereupon they sent to Washington post-haste for Mr. Hill, who had been their counsel in the interference business; who had been Dan's counsel right through in 1879, and never had heard that he was the first inventor of the telephone. They sent for Mr. Hill to come up there; and they said, "Aha! Now, we have got a man that can anticipate Bell; what a find!" That is where this thing began; and the next year Shank was their first witness. They then put Shank on the stand and he swore it clean

back; and he went around and got his neighbors and friends to help him. That is where it began.

Now, what happened when they sent for Mr. Hill in the summer of 1879, and had a solemn conference between him, Mr. Chellis, Mr. Drawbaugh, and Dr. Moffitt about "what are they going to do about it?" Why Mr. Hill said to them, "Gentlemen, now don't spend your money on this business." It would cost them $15. Yes, it would cost them $30; because they would have to make two applications; one for the telephone *per se*, and one for the superb discovery of the microphone. It would cost them $30 to apply—$15 each; so Mr. Hill says, "Don't spend your money on it, gentlemen. No good. Don't do it. You will only get into a mess, and you will have to fight somebody with it, and it will cost you a hundred thousand dollars. You better leave it alone." And he went back to Washington (that is their own testimony) and they did nothing. (*Abstract*, p. 162.)

Meanwhile, if your Honors please, the Statute of Limitations was running. Although the Statute of Limitations had barred out *the telephone* as the subject of a broad patent in 1879—for that had been then in use more than two years—it had not barred out the *microphone*, for that was just coming into use—had been in use about a year. It was the grand prize, worth more than a million dollars cash, as soon as a check could have been drawn for it, if their story is true, and if they had taken it either to the Western Union Company or to the Bell Company, who were then at swords' points fighting this fight to desperation. Mr. Hill knew this as well as anybody else. He was a patent agent, right out of the Patent Office, here in Washington; and that fight was raging all over the country. The Western Union Company had been buying prior inventors; but they had bought one pig in a poke, (Dolbear), and they didn't want any more of that kind; and Mr. Hill says to the partners in substance, "Don't go to the Bell Company and show it to them, because if you do, they will have that sharp Storrow up here; and don't go to the Western Union, because they will have that sharp Browne up here; and they will burst our balloon quick. Don't go to either of them. Don't say a word.

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

Don't open your mouths. Sit down and wait." That is what he said. That is the effect of the testimony. *Then*, sirs, they waited, *and did not even apply for a patent; although, according to the story, they all believed Drawbaugh to be the first inventor of the microphone and telephone ever since* 1868.

Then, in the spring of 1880 a partnership was formed between Drawbaugh, Hill, Jacobs, and the Ninety-nine cent man; and that partnership was to own Drawbaugh's story, and sell it for what they could get. That was the partnership. The *story* was all in Drawbaugh's head; because there is no living man who could tell the story; and there is not a man in all that testimony who could have brushed the down off of the wing of a butterfly by his testimony but for Drawbaugh — *not one.* No one of them knows what the thing was at all. No one of them describes it, or could have touched the patent at all. It was safe property, all in Drawbaugh's head; and they made a partnership to sell that out.

At that time there was a great demand—there was a rising demand—for prior inventors, because all infringers keep prior inventors; they have them in stock, and there was a demand for them. They made that partnership in 1880, and then they hunted for a customer; and they found a customer—these gentlemen of the Israelite persuasion—who *at first* wanted to infringe; and one of them was sent up to Harrisburg to buy this prior inventor's story; and what do you think he did? He spent only a few hours up there with Drawbaugh, Chellis, and Jacobs. They had no opinion of counsel to show him; they had no warrantee of title to offer. The owners of the lie had not even applied for patents for these splendid inventions, although $30 would have done it—Hill being himself a patent agent—and the Statute of Limitations was running against the microphones. They simply offered stolen goods, with all the marks on them then and there; and the customers paid $20,000 cash for the lie, *and it was a first-rate investment for them.* That $20,000 cash was divided into four equal parts; Dan Drawbaugh got five thousand for the lie; and Hill, and

Jacobs, and the Ninety-nine cent man got five each for helping him sell it. (*Abstract*, p. 164, *et seq.*)

That was the business, and that is the way it started. The purchasers at once formed a five-million dollar stock company, and gave a big share of the stock to the partners, in addition to the $20,000; *and then for the first time, out of the company money, patents were applied for;* and the act of Congress for the relief of Drawbaugh was proposed, to give stock customers a chance for their money.

What did they next do? Why, sirs, they came down to New York and published their programme; and we moved for an injunction before his Honor Judge Blatchford, because they threatened to infringe. They had all this testimony in a bag in affidavits, including Drawbaugh's, and we challenged them to produce it. We said, "Come up with your defense, and show that you have a defense. You have paid $20,000 for it; show it." And they refused to show it. They said, "We will submit to an injunction rather than show it."

What was the reason of that? Because they were going to retail that $5,000,000 lie out at so much a share—the stockbrokers call this kind of stock certificates "*chromos*" —at so much a chromo, by retail; and they had five million dollars worth divided between them. These same four gentlemen had their share of this stock of chromos, that they were going to sell at retail, and they didn't want Judge Blatchford to put his foot on Dan's story, because it would spoil the chromo business; therefore they didn't open their mouths to him, but said, "We have got no defense to exhibit so far as Dan Drawbaugh is concerned. We simply don't mean to infringe."

Their business then was not infringing, or setting up telephone exchanges that cost money—it was selling chromos; and that has been continued from that day to this; and that is why this appeal is here, to keep the stock business alive. This great lawsuit has been paid for, costing hundreds of thousands of dollars, out of the sale of chromos, with a profit to the promoters; for this lawsuit is their capital stock. They could not sell their chromos

at all if their defense had been smashed in the beginning; and to carry on this lawsuit is to furnish the capital stock for their chromo mill; and that has been carried on in magnificent style at No. 2 Wall street, New York, with a suite of costly rooms as big as across this court room; with brass, and glass, and mahogany; and with the names of eminent counsel on the door:—all in the same building where a great historic man was being done to a remorseful death by another set of villains on the floor below; and a great historic name was being smirched that they might swindle the gulls out of their dirty dollars. The two cases are exactly parallel. Your Honors will find all this worked out in our Drawbaugh brief, p. 234, and in my argument in the Circuit Court (pp. 5 to 23).

THE WATER RAM FRAUD.

But when we got into a controversy with them they committed some of the most atrocious frauds. I will tell you one, in skeleton. It became necessary for them to prove, or they thought it did, that a certain "*water ram*" was set up on a farm in 1875 or 1876. The whole story of the date of Dan's telephone, so far as proved by a very important witness, hung on it. *In point of fact, the ram was put in in* 1878. An honest enough man, Mr. Draper, who bought the ram from Drawbaugh, being misled as to the date, by a false association with a lease in 1874,—not thinking of another lease to the same party in 1877,—came and swore it was put up in 1875; and he thought it was. He afterwards came back and admitted his mistake, and said it was 1878. There is no doubt about the date now whatever.

BUT DAN HIMSELF MADE THAT WATER RAM, SET IT UP HIMSELF, AND HAD THE BILLS FOR THE MATERIALS IN HIS POCKET WHICH WE GOT OUT OF HIS POCKET. HE KNEW IT WAS 1878; AND HE TOOK CARE NOT TO SWEAR TO IT HIMSELF, ALTHOUGH HE WAS ON THE STAND AFTER THIS ISSUE WAS KNOWN BY HIM. His partner, Hill, knew it was 1878; because there were documents in his hands that proved it was 1878; and, sirs, they put more than thirty witnesses on the stand

who swore it was put there in 1875 or 1876,—honest men, most of them perfectly honest; and a dozen of them came back when they found they were mistaken and took it all back. They got more than thirty witnesses; and this partnership—this Arachne of Arachnes—crouching in the center of that web,—spinning this net over the consciences of men,—got thirty people to swear to what they knew was a lie; *and at last, it had to be be abandoned, and it stands abandoned.* That is the story. It is all on this record, and told in detail on pages 69 to 86 of my argument in the Court below; *brief*, pp. 525–531; also *abstract*, p. 781, *et seq.*

The Hunnings Transmitter Fraud.

Another thing they did, and it was a most interesting story. When Dan undertook to prove that his witnesses told the truth by proving that his *B* and *F* could talk, he was cross-examined. Those were, may it please your Honors, very anxious days for us—very anxious; for at that time we owned the Hunnings transmitter patent. We knew that they could put it into a tumbler; we knew they would do it in a minute if they only knew it; and we stood by with bated breath when that examination of Dan was made, in which he swore finally that his tumbler *F* had to be held horizontal, and that he used pulverulent material—generally plumbago—for the best results. He swore to that and we breathed freer; but you may imagine, may it please your Honors, how my brother Storrow and I trembled as we stood along that brink, with all this great property there dependent upon what they might find out about that Hunnings patent. Then they came to New York, on our call, unexpected by them, to repeat the trial of their "*reproduced*" *B* and *F*, in a place selected by them; and they tried it by their expert, and by Dan himself, whose machine it was, and who had sworn, and had others swear, that it was a perfect talking telephone, and had been so for many years in its original shape, of which this so-called "reproduction" *was said to be a copy;* and what did they do? They

got a big stone, weighing a hundred pounds, and put it on a big table, and set that tumbler *F* on that stone so that it could not be shaken or moved, spoke gently to it, with its mate *B* in a silent closet, *and it could not talk.* That destroyed the story, and destroyed the witnesses who had sworn that *B* and *F* were a good telephone for years past. When we stood there and saw that, we had alongside of us a man named Frank Smith, who had in our employment been developing this Hunnings transmitter, and who might open his mouth in a minute and enlighten them.

When that trial was over, *without a word of complaint on their part*, we felt better. That case was settled. Then Smith turned up in their employment. He left us; it was a great temptation to him, and he left us and went over to them and told them how. Then they came into Court in New York, when the argument was half over, and offered to show Judge Wallace that *B* and *F* would talk so loud that they could be heard all around the room; which of course they could if they used the Hunnings transmitter. We were in a very disagreeable situation. If we had said, "Do it," we should have had to stop the argument and put in the proofs, thus losing the term, and going over for months. If we said, "You shall not," we were subjected to the imputation of not being willing to allow a fair and honest trial to be made. That lesson, which his Honor Judge Wallace learned from them that day, has taught him never to see any experiment tried in his Court, that is going to settle a disputed question of fact, without examination and cross-examination of witnesses. Well, sirs, we declined, and we got through safely; because his Honor decided the question by the proofs, not by this offer.

Then they went to Philadelphia, and took the Hunnings transmitter there, and employed my friend Mr. George Barker, for the sake of his character, to stand up as a screen between them and us, while they did the fraud. He was perfectly innocent. He did not know what the matter was; and they paid him the price of a professional expert to do what? Why simply to testify to what an office boy could testify; a thing which needed no proof

but to exhibit the apparatus; and that was that the Hunnings transmitter telephone could talk. Anybody could prove it as well as he. Of course it would talk. And there we sat, brother Storrow and I, and saw that show go on. Well, I have not got the most absolute control over my risible faculties, and brother Storrow, figuratively speaking, was putting a plaster over my mouth all the time to keep me still, because we had to look very solemn while that was going on; and they went on and did the show in our presence, with the character of Professor Baker before them, who stood there, an innocent man, not knowing what was being done with him.

Then we proved that Smith was their man. I asked Mr. Barker on the stand, "Do you know Mr. F. Smith?" "Yes, sir; I do." "How do you know him?" "He came here with these things." Of course he did, and he told how to use them; *but he disappeared at the trial when we were present.* We then called witnesses and proved who Smith was; we put in the Hunnings patent; and we proved that their transmitter which they used at Philadelphia would not practically talk if it was set down horizontally; and it will not, although it is better than Dan's; because it has granular powder, which has some little elasticity in it, whereas a heap of fine flour, the moment it is packed down, never comes back. The first loud stroke of the air packs it out of reach of the upper plate, because an almost infinitesimal distance is enough to break the current. The first loud vibration packs it out of reach, and breaks the current. We proved that it could not be done; and there they stood by, and heard that testimony when it was so proved, and they never contradicted it; they never produced any one to say that with the Hunnings he could talk with the plate horizontal, and with fine flour; they never offered to come back and prove that they could do it. They laid right down before that proof and never stirred. That is all in this record.

You can imagine that we were not objecting when they were doing that trick in Philadelphia. Brother Storrow and I submitted with the amiability which belongs to the true Christian while they were doing it. By that perform-

ance they have blackened this case—if one can blacken charcoal, or paint a lily white—they have blackened this case so black that the resurrection day can never raise it. Now, those are two samples.

Mr. Justice Field: Was Smith subsequently examined?

Mr. Dickerson: Oh, no, sir. They never called him as a witness.

Mr. Justice Field: Did you?

Mr. Dickerson: We proved who Smith was.

Mr. Justice Field: Was he examined?

Mr. Dickerson: No, sir; *he was in their employment,* so of course we did not call him. We merely proved that he had been in our service; that he had learned this trick of the Hunnings transmitter in our employment and how to do it; and we then put the patent in evidence, and proved the reason why that thing would talk.*

Mr. Justice Harlan: Will you state again the difference between the instrument used at the New York experiment and the Philadelphia instrument?

Mr. Dickerson: Yes, sir; the difference is two-fold. *First,* the material is better—the powder in the New York case was pulverulent and largely plumbago. The moment the upper plate beats down on that flour and comes away again from it, it does not follow; and contact must be maintained in order to talk.

Mr. Justice Harlan: The powder in Philadelphia was coarser?

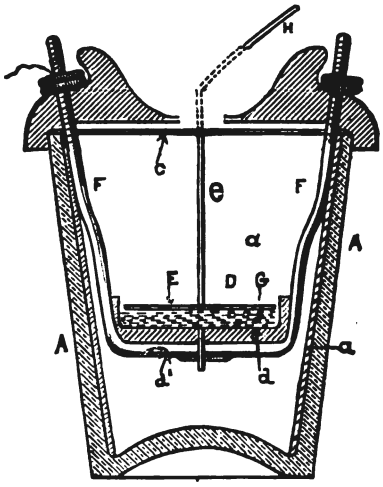
Mr. Dickerson: Yes, sir; coarser, granular, and no plumbago. *Second,* and what is still more important—in the Hunnings case *it was turned up on edge, in place of being* horizontal; and being sandy and loose, when it was driven back by the platen—as the platen receded the sand fell in behind it, and so kept contact. It is like digging sand, which keeps falling down against the spade; and therefore, it will keep up this contact, whereas, being horizon-

* See our additional brief, pp. 10 to 15, at end of general brief.

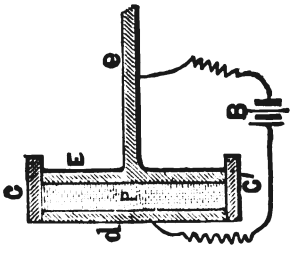
tal, it will not. Those are the two differences. The granular character of the powder is one important matter.*

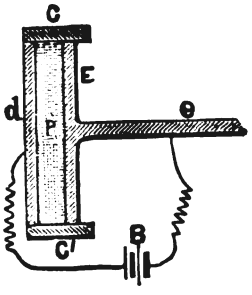
The Chief Justice: If I recollect right, it was said by

* Here is the "REPRODUCED" *F* tried in New York.



Mr. Storrow explained the precise operation of the working parts of this in his argument with this glass model. When this thing is horizontal, as used by Drawbaugh, the vibrating upper plate *E* packs the powder *P*, and when it vibrates up again, it parts contact from the powder. But when the thing is tipped up, as in Hunnings plan, the powder, if dry and hard, keeps in contact with both plates *D* and *E* by its own weight.





The Hunnings patent thus describes the powder:

"Carbon, and particularly of oven-made engine coke, crushed very finely, *not ground so as to pulverize* (not shear or tear) the particles."

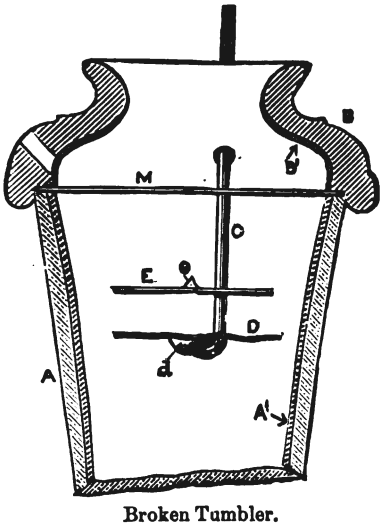
It also describes the method of using the instrument:

"When the instrument is held in the hand at a convenient angle for speaking into it, *say inclined from the vertical about twenty-five degrees*, the weight of the particles generally packs them sufficiently, even if the chamber be not absolutely full, but has a pinch of the material taken out after filling. The handling to which the instrument will be subjected, if used as a hand instrument, will ordinarily keep the filling in good condition; or, if by accident it becomes too tightly wedged, *turning it upside down, or striking it with the palm of the hand, will generally restore it to the proper state.*"

See our Syracuse brief, p. 10, at end of our Drawbaugh brief.

Mr. Storrow that in the old machine the two pieces of iron were loose.

Mr. Dickerson: Entirely. *The plate in Dan's real tumbler F is cut out by shears.* In place of being a circle, fitting a cup, it is cut by shears into a polygon, with a big open gash in it besides, entirely incapable of covering up a cup, if any were ever used; and there is no evidence that one was ever there, or that it could have been used with these plates. The stem *C* would exclude one entirely unless outside of it, and then the cover would not come near it. Here it is, and a picture of it is on the chart VII. of the Drawbaugh instruments.



Broken Tumbler.

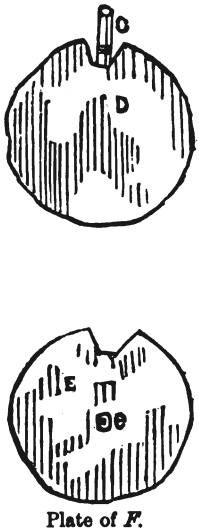


Plate of *F*.

The Chief Justice: In the Philadelphia machine it was made tight.

Mr. Dickerson: Yes, sir; a good fit. You could turn it up and not spill out the powder.

The Chief Justice: It would not stop the vibration, but would prevent the powder coming out?

Mr. Dickerson: That is it. That is the way it is. It is all in the Hunnings patent.* And by the way they are

* The New York test was to verify or destroy the testimony of the great number of witnesses who swore that *B* and *F*—the tin can and tumbler—had *been for years a good talking telephone.* The question was not whether with *F*, in combination with a perfect modern Bell (or Tisdel) receiver, any words could be

now talking from New York to Philadelphia—talking so loud you can hear much better than you can from down town with the Blake—with the Hunnings instrument as developed and improved; and the Bell Company has spent a large sum of money, and three years of time in improving that Hunnings transmitter to get it where it is now; because even that is not a good thing, excepting for a little while. It packs, and you have got to stir it, and make a row with it, and therefore it is not fit to put into the hands of the general public. The problem is to make something that cannot possibly pack. The Bell company has succeeded in doing it. They have got a line between New York and Philadelphia, and that works with the Hunnings instrument, with the improvements which have been made by them at great expense during two or three years. They have had half a dozen people experimenting with it, and have got it now to that perfection that it talks loud. The difficulty is this: If contact is broken it will not talk; and the trouble is to get a thing that will not break contact however loud you talk to it. The Blake transmitter will break the contact if you talk too loud to it. The thing is to get something that cannot break the contact; and then you can talk loud and use a heavy battery, and thus realize what

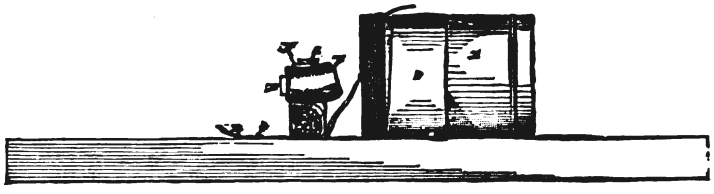
---

got through, for Dan didn't have the Bell receiver till *D* and *E* were made, which according to the earliest witness was not till 1875, and according to Dan—well, he doesn't know when. And, moreover, *B* and *F* themselves were not tried, but what Dan said—no one else saying it—were reproductions of *B* and *F*, and vastly superior instruments to them. These were made by Dan to be tried (see our Drawbaugh brief, p. 164 A), and were tried at Eberly's Mills before they were brought to New York, which was very soon after; and then the expert found out that they wouldn't talk, because, he said, in New York, *before the trial began*, but after Dan and he had been working at them for two days or more, that "all he expected to get *was a sound, and now and then a word*" (*Complts*, ii, 1323). On that New York trial they began with the transmitter on a heavy table, but that being not still enough they got a huge block of stone, and forbade any one to walk on the floor, so anxious were they to keep the tumbler perfectly still while speaking to it. From time to time they stirred up the powder which had got packed and tried it again, but always on the stone, horizontal and still. Of course, this was the highest possible evidence of Dan's knowledge on the subject, and of that of his expert. At Philadelphia that expert did not appear, and Dr. Barker, who knew nothing of the former experiments, as he said, nor of the issue in the case, was selected on account of that fact to be a cover for the fraud. Of course he could not have been used if he had known it; and it seems that Mr. Benjamin was not willing to be used, who did know of the New York trial, for he assisted at it.

Mr. Bell wrote in his letter of May 4, 1875, when he saw it all as plainly as we see it now.

DEFENDANTS' WITNESS, CAPTAIN MOORE.

Now, may it please your Honors, there is another thing —Captain Moore's case ; I shall not spend any time on it; I ask you to read it; it is all in my oral argument. Captain Moore is an intelligent gentleman—an honest man—the most important man of any of the defendants' witnesses. He was the head of the Axle Company in 1875, that employed Dan Drawbaugh as their machinist; and Dan Drawbaugh applied to him to help him with *something*. What he was talking about was that old electric key of his which occupies so much space on his advertising card ; and he wanted to get it introduced into the fire alarm system of Harrisburg. That is what he applied for; and in the summer of 1876, or some time along there—for Captain Moore was there from May, 1875, until November, 1876—some time then, Dan Drawbaugh showed him that tin can as the best thing he had. He did not talk with it, *but he told Captain Moore it was to be used for a fire alarm,* as Captain Moore thinks. They put Captain Moore on the stand to prove that. Captain Moore kills their case as dead as if it never lived; because when Dan showed *that tin can, in working order with the bladder on, and nothing else,* to Captain Moore, he had, according to their



Drawbaugh's Tin Can B.

present theory, all these great inventions developed to their present point of perfection in the shop, where Captain Moore was master, and Dan his employee ; and when Dan asked the Captain to lend him some money, and Captain Moore asked him what he wanted it for, Dan said it was

for the purpose of *fire alarms*, and, as the Captain thinks, Dan showed him the *tin can B* FOR A FIRE ALARM, *and that was all.** At page 115 of my argument it is all told in detail.

Now, may it please your Honors, I have given you these samples. I have picked up a fragment here and there. The learned counsel and partner of Dan, on the other side, knows it all. It is all in our brief submitted to you, and he has heard the argument before. He knows it by heart. If he can answer any of these things out of the proofs he will answer them. It is for you to decide what will come of them.

TREATMENT OF MR. BELL.

May it please your Honors, this story that is brought before you now is the old story; the world knows it by heart. It is written in the blood of the martyrs shed in this holy cause in every age since the eternal conflict between truth and a lie began. It is inscribed on the marble monuments erected by succeeding generations, in hollow mockery of the embittered lives and melancholy deaths of the world's benefactors of the past. James Watt, of whom Lord Brougham said that he, not Wellington, conquered Napoleon, traveled through this very vale of humiliation and the shadow of death; and in the bitterness of his heart cried out: "They assail my honor that they may rob me of my profits." But where are *they* now?

He sleeps in that magnificent mausoleum where England gathers her illustrious dead, embalmed in public veneration, and secure of imperishable fame; while long years ago the waters of oblivion had overwhelmed the very names of his traducers with public contempt and imperishable infamy.

But in all the records of the past there is none that approaches Bell's—either in glory or in shame—since Alexander conquered the world at the age of thirty years, and was assassinated out of envy and jealousy that he had done so much.

---

* All the questions were leading ones, proposed in Dan's presence by Capt. Moore, *and are therefore Dan's own statements.*

Before Professor Bell was thirty years old he had conquered in the world of science, where no dying groans or widow's tears embitter the victory, but where victor and vanquished alike enjoy its fruits.

At the Centennial the adulation from the assembled scientists of the world wafted to his senses the foretaste of enduring fame.

At the British Association in England he was the admired of all admirers.

At home the learned and the great of each city vied with the others to do him honor.

The great Napoleon had founded the Volta prize, to be given by the French government upon the recommendation of the Academy of Sciences to those who should make inventions of "transcendent interest in electricity,"—it was 50,000 francs and the Grand Cross. The Academy, for the first time it had acted in thirty years, recommended Professor Bell; and when he went to Paris to receive it, he laid upon their table his photophone, by which he talks through a ray of sunlight as far as it can be preserved by lenses.

The Heidelberg University last year, at its five hundredth anniversary, within ten miles of Reis' home, gave its diploma to "that distinguished man, Alexander Gr. Bell, who has conferred upon mankind the great and constantly increasing benefits of labor saved, by his ingenious discovery of the telephone;" while at that very hour the United States government had a special agent there begging the Germans in vain to take the honor for Reis, their own countryman, and to filch it from America.

But he had done too much for the world; and as Judge Grier eloquently remarked in Goodyear's case, "envy would rob him of the honor and pirates would rob him of the profits of his invention." And while the courts of Great Britain were with "judicial anxiety" striving to save something for the owners of his patent there, because it was a fragment of a "great invention" unfortunately lost to its inventor by a careless publication in England, a conspiracy was hatching at home to rob him of all.

The appellants have flourished in their briefs what they call the "Executive Department's" effort against us. The infringers pleaded that so-called Government suit in New

Orleans as a bar to our action, but the judges made short work of it, saying: "The filing of an information cannot raise a presumption of guilt. No more can the institution of a suit to annul create a presumption of nullity."

Prof. Bell has had to meet so formidable an adversary as the Department of Justice, in addition to the vast army of infringers who have attacked him on every side. Calumny has been invoked with its poisoned arrows as the chief weapon of warfare, and the air has been thick with the grossest vituperation for years. The monster Pan, descending from the Arcadian hills with his horrid roar, has joined in the hunt, and drawn after him the inconstant multitude.

Amid this infernal din we have toiled on, not daring to look behind us for fear we should lose our way, until at last we have rolled this huge stone to the top of the hill, where we await your judgment on our labors.

But, alas! that judgment, if it pronounce Prof. Bell to be as white as snow, as did the New Orleans judgment, is only the beginning, and our labor will be that of Sysiphus. The roaring demon has succeeded in establishing as a permanency what is now known as the "Bell Telephone Annex" to the Department of Justice, with a chief salaried by the year, and a host of lieutenants, all sworn in as assistant attorneys-general, paid by the day, or by the job, to hunt down this innocent man to death or destruction, if the resources of the treasury of the United States, and the ingenuity of unlimited able counsel can accomplish it.*

---

* This suit of the Solicitor-General against the Bell Telephone Company and Professor Bell originated in an agreement made on the fourth of August, 1875, between the Pan Electric Telephone Company, and the National Improved Telephone Company of Louisiana, a copy of which is as follows (*see Congressional Investigating Committee, p.* 574.):

"THIS AGREEMENT, made and entered into this day, at the City of "Washington, in the District of Columbia, by and between the National "Improved Telephone Company, a body corporate, incorporated under "the laws of the State of Louisiana, party of the first part, and the Pan "Electric Telephone Company, a body corporate, incorporated under "the laws of the State of Tennessee, party of the second part, WIT-"NESSETH:

Every defense in these cases is set up to be tried over again in that, with one addition—*the House patent* referred to in brother Lowrey's brief; because the "Annex," under the circumstances, is not satisfied with the decisions so far rendered, which brother Lowrey, the second officer of the annex, characterizes as "a spurious brood." Four weary years were spent in the Drawbaugh case alone, and all must be done again—this time with the treasury of the United States to pay for the witnesses and reward the efforts of counsel. Gray's miserable fraud must again be pressed against us with numbers of fresh witnesses.

Calumnies which have been hissed out in this presence against Prof. Bell, sparing not even his venerable parents, are multiplied tenfold in a venal press, and the prospect is dreary. Neither brother Storrow nor I have life enough or strength enough to go over all this dreadful work again.

Before we submit to that, however, we propose to try the question of jurisdiction to the bitter end; and we don't believe we shall have to repeat all this litigation—let Pan roar never so loud. But if we must, then younger and stronger, and we may hope wiser and abler men, must take our places, and, guided by our experience, and avoiding our errors, defend our clients as well as they can from these fierce assaults.

Meanwhile, Prof. Bell contemplates it all in profound astonishment and horror. Day by day, in the public press, and in the official action, he is charged with the most infamous crimes. Writhing in agony he comes to his counsel for protection. We are compelled to tell him that in

---

"THAT WHEREAS, Each of said parties is the owner, respectively, of "certain valuable telephone inventions and improvements, in respect to "which there are now pending certain suits between the said parties "and the American Bell Telephone Company in the United States "Court at New Orleans, in the State of Louisiana, and at Memphis, in "the State of Tennessee:

"AND WHEREAS, The parties hereto, the said National Improved "Telephone Company, propose to commence proceedings in the name "of the United States against the American Bell Telephone Company, "provided they can obtain the assent of the Attorney-General of the "United States to do so:

"Now, therefore, it is hereby stipulated and agreed by and between "the parties hereto, that in the further conduct of the suits, now pend-

this free and happy country he can have no protection—that he may be denounced, as he has been in public newspapers of the highest influence and greatest circulation, as a forger and perjurer, and there is no redress which is not worse than to submit. Mangled and bleeding from some of these fearful accusations, which grow blacker day by day, he has begged us to show him some way in which he can vindicate himself in the eyes of the world, which has honored him so much. I have said to him, "Wait—take courage, my friend, and live through it till we can reach the Supreme Court, and then you will be vindicated." But he asks, "How can I live so long and keep silent?" I could only point him to our great example, who in His hour of agony was dumb before His accusers, and opened not His mouth, for His hour had not come.

And now I say to the "Annex," that when this dreadful

"ing as aforesaid, they will render such mutual aid and assistance as "may be convenient and necessary to protect and secure their common "interests;

"And it is further stipulated and agreed, that, should they succeed "in having a suit brought by or in the name of the Government, the "lawyers of each party shall be entered as counsel of record in said "suit, and every possible assistance shall be given by the contracting "parties to carry it to a successful conclusion;

"With this further express agreement and understanding, THAT "THERE SHALL BE NO SETTLEMENT OR COMPROMISE OF THE SAME BY EITHER "PARTY IN INTEREST WITHOUT A FULL DISCUSSION THEREOF BY THE MEM-"BERS OF BOTH COMPANIES, AND AN AGREEMENT UPON SUCH TERMS OF SET-"TLEMENT OR COMPROMISE AS MAY SEEM JUST AND FAIR TO BOTH.

"IN WITNESS WHEREOF, the proper officers of said company hereto "attach their hands and seals this fourth day of August, A. D. 1885.

"ISHAM G. HARRIS,
"Vice-President Pan E. T. Co., the President being absent.

"THE NATIONAL IMPROVED TELEPHONE COMPANY OF LA.,
"By W. VAN BENTHUYSEN, President."

When that contract was made both of those companies were already under injunctions by the Circuit Court of the United States in Pennsylvania:—The Louisiana Company, by its representative the Pittsburgh Company, which it defended; and the Pan Company by its representative the Rogers Telephone Company, which it had agreed to defend but abandoned. A motion for injunction was, however, pending against the Baltimore licensees of the Pan Electric Company, and was to come up in September, so that there was an urgent necessity to procure the assist-

conflict is over; when the whirlwind of time shall have swept away the clouds and the filth with which we are now surrounded; and when the roaring of the beast shall be heard no more; the name of Alexander Graham Bell will again shine forth, written, as it now is, on the roll of immortals, where but few appear through the ages, and where we read such names as Pythagoras, Euclid, Archimedes, Copernicus, Galileo, Volta, Oersted, Arago, Ampere, Newton, Watt, Faraday, and Henry—men who have added new and important truths to the world's knowledge.

In future years, when the telephone shall be in every house, as necessary to life as the clothes we wear, and when the name of Bell shall be as "familiar in their mouths as household words," it will be wondered at that he was treated so by this "Annex," which has temporarily the power to use the name and the treasury of this great and

---

ance of the United States for the protection of these two sets of infringers.

The Solicitor-General ordered the suit in accordance with the above agreement September 3, 1885, and the bill was filed in Tennessee September 9, 1885. It was produced in Baltimore on the 15th of September, for the purpose of defeating the injunction motion there pending, but without avail. Afterwards this Tennessee suit was discontinued because the Solicitor-General had not complied with any of the precedents in such cases, but had ordered the suit over night; and a new one was commenced in Ohio upon the same bill after a reference had been taken to the Secretary of the Interior, and a hearing had before him on the question; but as there was no jurisdiction in Ohio over Professor Bell or the Bell Company that suit was dismissed by the Circuit Court, November 11, 1886.

A new suit has now been begun in Massachusetts. It contains nothing but the defenses set up in the cases in the Supreme Court, except one patent, the House patent, which Mr. Lowrey, the leading counsel in that case, ridiculed as a defense, in his brief, before the Supreme Court, in this case (*see p.* 112, *ante*).

As neither Professor Bell, nor the Bell Company, proposed to pay either of those contracting parties "to settle or compromise" the Government suit, the wise provision in the contract by which each party protected itself from the other in the division of the expected plunder, was quite superfluous.

generous people to persecute him; just as we now wonder when we contemplate that most pathetic picture in history, in which the banished Caius Marius, the savior of Rome, stands on the Carthagenian shore, gazing intently over the blue waters of the Mediterranean towards that distant land, where his *lares* and *penates* are desolate, and crying out in his agony, "O, Rome, what crime have I committed?"

Ah, sirs, the crime he committed is the crime which the benefactors of their race in all ages commit—the crime of having deserved so much, that the baser sort at last hate to see them, and to hear them called, "O, agathos"—the just.