tions, and those made not even on oath. I have already stated what I consider the proper limits of that kind of testimony, and on this, as well as on every other occasion which requires it, I shall feel myself bound by the same principles. This I think will be necessary as a guard against the great evil which would grow out of a departure from that most beneficial and fundamental rule which excludes a party from giving evidence in his own cause.

In conclusion, from what has been said I am of opinion, and do so decide, that the Commissioner erred in determining, on the issue of this case, that the said William S. Hicks was the prior inventor of the pen and pencil case, and that he was entitled to a patent therefor; on the contrary, I think, and do so decide, that the said John Richardson is the prior inventor of the pen and pencil case, as described in his specification, and that a patent issue to him accordingly.

C. H. Watson, for the appellant.

Examiner Peale, for the Commissioner.

WILLIAM BELL, APPELLANT,

vs.

JAMES SENECA HILL, APPELLEE. INTERFERENCE.

OPERATIVENESS OF MACHINE—TESTIMONY RELATING THERETO.—The testimony of witnesses respecting the operativeness of a machine which they have tested will be largely affected by the particularity with which they detail the circumstances connected with their experiments and the manner in which they were conducted.

SAME—MACHINE PRODUCED IN COURT.—When the machine itself is produced in court, and visibly operates in the manner described, that fact will outweigh the evidence of witnesses who testify, without specifying the circumstances, that they tested the machine and found that it would not work.

(Before MORSELL, J., District of Columbia, October, 1854.)

MORSELL, J.

On the 25th of May, 1853, William Bell filed his petition in the Patent Office for a patent for his invention for "an improvement in lamp caps."

The Commissioner being of opinion that the patent thus applied for would interfere with an application made by James Seneca Hill on the 27th of January, 1853, and afterwards amended, gave notice thereof to the parties, who were allowed to produce their testimony; and upon due hearing and trial of said issue before him on the 16th day of March, 1854, he decided that the said Hill was the original and first inventor of the said improvement, and refused letters-patent to the said Bell. From this decision Mr. Bell has appealed, and the question is now submitted to me upon written argument.

The Commissioner has furnished a certificate in writing of the reasons of his opinion and decision, and Mr. Bell hath filed his reasons of appeal. They are five in number, but it is thought the first two cover the whole ground of the controversy.

The first is, "that the Commissioner erred in deciding priority of invention in Hill, who could only at farthest prove his invention to some time in September, 1852, when Bell clearly proved the invention back to May, 1852, and actually had models showing the features in controversy in the Patent Office on the 9th of August, 1852." Second. Because the Commissioner alleges that Bell's invention was valueless, for the reason that no provision is made for the escape of the air from the chamber while it is being filled, when it can, and we are prepared to show that it can, be filled without the air chamber, notwithstanding the expert testimony adduced by Hill, which must yield to occular demonstration; and because one of Bell's models, received and acknowledged by the Patent Office on the 9th of August, 1852, shows that he had air-slots or holes in it, which were afterwards soldered up because they were too large.

The reasons for the Commissioner's opinion, as stated by himself, are that "the evidence shows that the safety-chamber, in one shape, was first invented by Bell. Had he claimed the form described by his witness, the priority would have been awarded to him; but that form seems valueless, for the reason that no provision is made for the escape of the air from the chamber while it

is being filled, and there is nothing to show that he ever conceived the idea of remedying this difficulty until long after Hill had made the discovery; that contrivance seems the most material portion of the invention.

It is true that Bell only claimed to be experimenting; and having been the first to communicate it, if he had without negligence or delay prosecuted those experiments till the discovery was consummated, he might have claimed priority, notwithstanding Hill, who commenced subsequently, might have completed his invention first. But such a position is untenable in the present instance, from the fact that the testimony shows pretty clearly that Bell borrowed the idea from Hill. He inquired of one of the witnesses the purpose of the small side-chamber which he now claims and which Hill had long before invented. He also stated at another time that the two inventions did not interfere. The Commissioner says in conclusion: "I am of opinion that on the interfering claims as they are now presented Hill was the first inventor."

In his specification, Bell states: "I do not claim the use of wire-gauze or perforated tin for the purpose of preventing the explosion of spirit-lamps; but what I do claim as new, and desire to secure by letters-patent, is the perforation in the lamp-cap, in combination with the short chamber, of perforated tin, wire-gauze, or other analogous contrivance, by which means the lamp may be filled without removing the cap, and the spirit within the lamp may be protected from igniting when the lamp is filled without the use of the double cylinder of wire-gauze or perforated sheet-metal as heretofore employed. Second. I claim constructing the lamp-tubes with a band either above or below the lamp-cap in the manner and for the purpose substantially as set forth. Third. I claim the rings *C*, in combination with the stops *D*, for the purpose of securing the extinguishers *F* to the tubes without the necessity of employing chains for the purpose, of such a length as to become entangled with each, or to swing about when the lamp is in the hand."

Hill, in his specification, says: "I would remark that I herein lay no claim to the invention of the application to a lamp of a wire-gauze or perforated safety-chamber, such as will permit the

introduction of liquid through it and into a lamp, and prevent the passage of flame into such liquid, such chamber being made to extend into the lamp. Nor do I claim the arrangement of such chamber entirely aside and independent from, and not made to surround, the wick-tubes, as such arrangement appears in what is termed Bell's safety-lamp. Nor do I claim any arrangement of the safety-chamber and wick-tubes in which, in order to fill or supply the lamp with the combustible fluid, they must first be wholly or partially removed from it. But what I do claim as my invention is my improvement above specified, the same consisting in arranging the wick-tube or holder within the safety-chamber, and attaching or immovably fixing such wick-tube or holder directly to the sides of the safety-chamber, and attaching or immovably fixing such wick-tube or holder directly to the sides of the safety-chamber, by arms or other equivalent devices, in combination with making the screw-cover *g* of the safety-chamber independent of, and to freely rotate concentrically around, the said wick-tube or holder, whereby I am enabled to secure to the lamp important advantages as specified; that is to say, to render it capable of being filled through its safety-chamber without in any way disturbing or first removing the wick or any portion thereof, as described. And in combination with the wick-tube *f*, arranged and applied to the safety-chamber as above set forth, I claim the secondary tube *i* and two or more branch tubes *kk*, or their equivalents, extended from it, the same being to enable a person to make use of two or more wicks, as stated."

It appears to me from the aforegoing statement that so far as the decision of the controversy brought up by this appeal is concerned, the question may be narrowed down to a single point. Bell's invention, as alluded to by the Commissioner, when he says "the safety chamber in one shape was first invented by Bell," according to Bell's statement of it, is so constructed that the lamp may be filled without disturbing the wick. The question, then, is, whether this lamp can be filled through the safety-chamber without the air-tube or a provision being made for the escape of the air from the chamber while the lamp is so being filled. It is believed that if the Commissioner could have been satisfied from the evidence affirmatively, his decision would have been otherwise. On the part of the appellee, it is contended that it could

not, and hence his device for that purpose. The inference from his evidence, as stated by the Commissioner, is that Bell thought it necessary, and borrowed the idea from Hill; that he inquired of one of the witnesses the purpose of the small side-chamber which Bell now claims. This inference the appellant repels by showing that one of the models deposited by Bell in the Patent Office on the 9th of August, 1852, several weeks before the date of Hill's invention, shows that the air-vents were known to Bell, for that he had them on one of his lamp-caps, and afterwards soldered them up as being of no importance.

A witness on the part of the appellee says that without the cuts or slits in the sides of the tube at its top, to allow the escape of air from the lamp, the reservoir of the lamp could not be filled, or any considerable part of the reservoir be filled, while the wicks were in the wick-tubes. He says that he has tried the experiment, and finds the air chokes and causes the fluid to run over unless the air is allowed to escape through some holes.

Mr. Skinner, a witness on the part of the appellant, says he saw a lamp-top, of which Bell claimed to be the inventor, in the month of May, 1852. He describes the lamp, and identifies the one shown him on this examination to be the one. He says he sees two points of difference in the lamp-top—one is the absence of the two tubes through which the wick goes, and the other is that the wire-gauze has been removed from the tube through which the lamp is filled. He cannot say as to the perforation in the stopper. To the second cross-interrogatory, he answers that he did not see the lamp filled through the tube having a gauze soldered to its bottom, the tubes at the same time being supplied with wicks. He is asked by the same party whether he supposes a lamp thus constructed as described would be capable of being supplied with fluid. He answers: "Yes, I know it could be." In answer to the next cross-interrogatory, "How could the air within the reservoir of the lamp escape when the gauze bottom of the tube was covered with the fluid, in the act of attempting to fill such reservoir," he answers, "I do not know anything about it; I simply know that the lamp I have, which is constructed essentially on the same principles, fills that way." There was no slit near the top of the tube, to his knowledge.

Another witness, William G. Cambridge, says he saw the lamp-

top of which Bell claimed to be the inventor in the spring of 1852, and gives a description; that he filled through the top by means of a tube which extended about three-quarters of an inch or an inch into the lamp. The bottom of the tube was covered with gauze-wire. The stopper or cap of the tube went on with a screw. He identifies the cap as the one exhibited in 1852. He also answers to a cross-interrogatory that he did not see that lamp filled, but that he does not doubt that it could be so filled.

He is asked, under such circumstances how could the air escape; and answers, that he does not understand the philosophy of the thing, but is satisfied that if the nozzle of the lamp-filler did not entirely fill the tube, that the air would pass out. He is further asked, though the nozzle did not do so, whether the fluid filling it would not have the same effect. Answer: "From experiments which I have made in filling the shot-lamp, I should think not, if the fluid were turned in slowly to commence with." He is further asked if it would be possible to fill a lamp through such a tube without a slit or some other passage of air from the lamp. He answers: "As the nozzle frequently extends below the slit while filling, I should think it might."

As the decision of this issue depends so much upon the testimony, I have stated it more at large than I otherwise should have done.

That there is a conflict between that which is stated by one of the witnesses on the part of the apppellee and those on the part of the appellant is certain; and it becomes proper, therefore, to weigh and see to which side the preponderancy should be given. As to character, the witnesses are respectable and, I believe, intelligent; nor do I see anything to cause me to doubt as to their fairness; the two witnesses especially on the part of the appellant, being clergymen, should claim confidence.

The witness on the part of Hill gives his opinion that the tube or vent for the escape of the air was essentially necessary—such as that in the invention of Hill, I presume he means—and that the lamp with the wicks could not be filled without. The reasons he gives for his opinion were that he had tried the experiment, and found the air to choke up and cause the fluid to run over, unless the air was allowed to escape through some holes. More weight would have been due to this testimony if the witness had

been more particular in describing the special circumstances relating to the experiment as to the particular cause of the obstruction, whether the failure was for the want of an air-tube. The same with respect to the "running over" and to the mode in which he attempted to pour the liquid in, especially as to the manner in which the nozzle of the can was held in its application to the mouth of the tube. It might then have been seen whether the experiment could be any test as applied to the lamp in this case.

On the part of the appellant, the witnesses satisfactorily identify the improved lamp claimed as invented by Bell in May, 1852; and they state that without the particular provision alluded to for the escape of the air, they had no doubt it could be filled. And the appellee, by his own cross-examination, brings out from them the evidence of their opportunities of knowing the fact that they had used similarly-constructed lamps, which in constant use they never had any difficulty in filling, and that they had no doubt, though they had never filled it or seen it filled, that the specimen lamp shown them could be so filled. Here, then, are two respectable witnesses, who had ample means of knowing from experience in the often-repeated use of the same kind of lamp as respects this point, declaring that the thing was practicable and could be done. In addition to which the examiner, in the explanations which he gave before me on the occasion of this trial, says (the models being first identified, and the same having been sent up from the Office with the original papers and evidence in this cause) that the specimen lamp shown to him was a proper exhibit of the principle, and that it could be filled without any air-vent other than the wire-gauze over the bottom of the tube.

I must state, also, that for my fuller satisfaction I had the experiment made on the occasion alluded to, and saw the said lamp actually filled, and of course am convinced that it could be done as contended for by the appellant; and so believing, I am of opinion, and do decide, that priority of invention ought to be awarded to the said appellant, and that letters-patent ought to issue to him therefor as prayed.

A. B. Stoughton, for the appellant.

R. H. Eddy, for the appellee.