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# HISTORY OF THE DISCOVERY

OF THE APPLICATION OF

# NITROUS OXIDE GAS,

ETHER, AND OTHER VAPORS,

TO

SURGICAL OPERATIONS

BY HORACE WELLS.

HARTFORD:  
J. GAYLORD WELLS,  
CORNER MAIN AND ASYLUM STS.  
1847.

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## PREFACE.

IN answer to a request, made by several scientific and medical societies of Europe, who have desired me to furnish them with the evidence of my priority of discovery of the application of gas, or vapor, for the performance of surgical operations, I have obtained testimonials and affidavits sufficiently numerous and satisfactory, as I believe, to establish the fact beyond a doubt.

I have forwarded the original papers to Dr. C. S. Brewster, of Paris, (No. 11 Rue de la Paix,) who will have charge of them until this question is settled.

The following pages contain a correct copy of those papers, which prove, conclusively, that I made known this discovery in November, 1844, which date is nearly two years prior to that given by Drs. Jackson and Morton.

HORACE WELLS.

*Hartford, March 30, 1847.*

# HISTORY, &c.

TO THE EUROPEAN AND AMERICAN PUBLIC:

I propose, in the briefest manner possible, to give, in the following pages, a true and faithful history of the discovery which is at present causing an unparalleled excitement throughout the whole medical world. I refer to the administering of exhilarating gas, or vapor, to prevent pain in surgical operations. It is very unfortunate that there should be more than one claimant for the honor of the discovery; but so it is: and the only alternative now is, for the man who considers himself entitled to this honor to present his proofs, that a discriminating and impartial public may "give credit to whom credit is due."

Reasoning from analogy, I was led to believe that surgical operations might be performed without pain, by the fact, that an individual, when much excited from ordinary causes, may receive severe wounds without manifesting the least pain; as, for instance, the man who is engaged in combat may have a limb severed from his body, after which he testifies, that it was attended with no pain at the time: and so the man who is intoxicated with spirituous liquor may be severely beaten without his manifesting pain, and his frame, in this state, seems to be more tenacious of life than under ordinary circumstances. By these facts I was led to enquire if the same result would not

follow by the inhalation of exhilarating gas, the effects of which would pass off immediately, leaving the system none the worse for its use. I accordingly procured some nitrous oxide gas, resolving to make the first experiment on myself, by having a tooth extracted, which was done without any painful sensations. I then performed the same operation for twelve or fifteen others, with the like results.

This was in the fall of 1844. Being a resident of Hartford, Connecticut, I proceeded to Boston, in December of the same year, in order, to present my discovery to the medical faculty; first making it known to Drs. Warren, Hayward, Jackson, and Morton: the last two of whom expressed themselves in the disbelief that surgical operations could be performed without pain,—both admitting that this *modus operandi* was entirely new to them; and these are the individuals who now claim to be the discoverers!

By invitation of Dr. Warren, I addressed his medical class upon the subject. I embraced the opportunity, and endeavored to establish the principle that the system, when wrought up to a certain degree of nervous excitement, by any means whatever, would thus be rendered insensible to pain, and would admit of surgical operations being performed without any disagreeable sensations. In proof of this theory, I related my experience in extracting teeth under the influence of nitrous oxide gas, stating that, with one or two exceptions, all on whom I had operated (numbering twelve or fifteen) assured me that they experienced no pain whatever; and, in further proof of the truth of this principle, I cited analogous cases, as, the man

who is excited by passion, or he who is much intoxicated by liquor; stating, that individuals under these circumstances uniformly testify, when wounded, that such injuries were inflicted without pain. I stated, also, that I was making use of nitrous oxide gas simply because I considered it more harmless than any thing else which could be used for this purpose; assuring them that the same result would follow, let the nervous system be excited sufficiently in any manner whatever. I remained several days in Boston in order to have an opportunity of administering the gas to a man who was expecting to have a limb amputated, but the operation was postponed. I was then invited to extract a tooth for a patient in presence of the medical class, which operation was performed, but not with entire success, as the gas-bag was removed too soon; and as the man said he experienced some pain, the whole was denounced as an imposition, and no one was inclined to assist me in further experiments.

The excitement of this adventure immediately brought on an illness, from which I did not recover for many months; being thus obliged to relinquish, entirely, my professional business. I will now, in a few words, state how the names of Jackson and Morton came into notice, as being connected, with this discovery.

Dr. Morton, who is a dentist in Boston, was instructed in his profession by myself, about five years since, and I subsequently assisted in establishing him in the city of Boston, and after I had made the above discovery, I had frequent interviews with him; and he, being aware that I had relinquished my professional business in consequence of a protracted indisposition, requested me to instruct him

how to prepare the gas which I had been giving so successfully in Hartford, stating that he wished to make a trial of it in Boston. As this interview was in Hartford, I told him to request Dr. Charles T. Jackson (with whom we were both acquainted) to prepare him some of it, as he was a chemist. Accordingly, Dr. Morton went to Dr. Jackson for the gas, who gave him the ether, as being attended with the least trouble. After one or two teeth were extracted, it was then introduced into the Massachusetts General Hospital, where a capital operation was performed under its influence with perfect success; which fact was immediately published in the principal newspapers of the day, with the names of Jackson and Morton (who had, by a written contract, entered into a sort of co-partnership business in this matter) as the discoverers; and Dr. Jackson, as I have since been informed, immediately sent letters to London and Paris, to be read to the several Academies, where he takes all the credit to himself, not even mentioning the name of Morton, his partner by written contract, which contract was signed and executed on the 27th of October, 1846. In this agreement, Dr. Jackson acknowledges that Dr. Morton made the discovery "*in conjunction*" with himself, as the following extract from the paper signed by Jackson fully proves :

"To all persons to whom these presents shall come: Whereas, I, Charles T. Jackson, of Boston, in the State of Massachusetts, chemist, have, *in conjunction* with William T. G. Morton, of said city, dentist, invented, or discovered, a new and useful improvement in surgical operations on animals, whereby we are enabled to accomplish many, if not all operations, such as are usually attended with more or less pain and suffering, without any, or with very little, pain or muscular action, to persons who undergo the same," &c., &c.



After the fact came to the knowledge of Morton that Jackson had sent privately to Paris, he, as a natural consequence, became very indignant; and each of these individuals now deny that the other has had anything to do with the discovery which was at first claimed by both, "acting in conjunction." I will here make a quotation from the Boston Advertiser, of March 6th, 1847, which contains Dr. Morton's reply to Dr. Jackson. Dr. Morton proceeds as follows:

"In the letter to M. Beaumont, of Paris, from which I have already made extracts, Dr. Jackson says:

" 'Five or six years ago, I remarked the peculiar state of insensibility into which the nervous system was plunged by the inhalation of the vapor of pure sulphuric ether,' &c.

" Previously to this, he had already stated, under oath, in the preamble to the specifications, which bear date the 27th of October, 1846, that the same hath not, to the best of his knowledge and belief, *been previously known*. Now, Dr. Jackson either did know, previous to this time, that sulphuric ether would produce insensibility to pain; or he did not. If he did, as stated in his letter to M. Beaumont, then I have to remind him of his oath, under the solemnity of which he states that, according to the best of his knowledge and belief, *'the fact had not been before known.'* But if he did not, then I remind him of his statement to M. Beaumont, in which he says that he *had known it for 'five or six years.'* And the learned Doctor may take either horn of the dilemma he may prefer.

" It is not known that Dr. Jackson ever made more than one experiment in inhaling ether; and then he used it as an antidote to the vapor of chlorine, which he had accidentally breathed, but from his own statement, in the Advertiser, it did not answer the purpose—the deleterious effects returning with the return of consciousness. But, supposing he had known of it six years or six months before Dr. Morton applied it in practice, is it not inexcusable in him to

have withheld from suffering humanity this inestimable boon so long—a boon by the gift of which such an incalculable amount of misery might have been saved? Or is it within the limits of probability, that if he had been so long in possession of a discovery which, if made known, would in four months call down blessings on his head from ten thousand hearts, and from all civilized lands, and which, from present prospects, would make him to be remembered and cherished by the side of Jenner by all coming generations, and to all coming time—I say, is it probable, had he known of this noble gift, that he would not have been more zealous in publishing it to the world? If he did make this discovery, is it not a remarkable coincidence that Dr. Morton should have made it at the same time, and still more remarkable, that Dr. J. should leave to another the honor to make his discovery known? But to settle this whole matter, and it might have been done in the outset, to the satisfaction of any candid mind:—After Dr. Morton began to use the ether in his practice, and for some weeks, it is well known to a large number of our most respectable citizens, that Dr. Jackson clearly and distinctly repudiated and washed his hands of the whole thing. He, on many occasions, as it is well known to his friends, disclaimed all connection with the discovery or use of ether in surgery. A gentleman of high standing, asked Dr. J., in presence of several others, if he ‘knew that, by the inhalation of ether, such a state of insensibility could be produced as that the knife could be applied, and the patient feel no pain?’ Dr. J. replied:

“‘No; nor Morton either, nor any one else. *It is a humbug*, and it is reckless in Morton to use it as he does.’

“In speaking to two other persons, at different times, on this subject, he said:

“‘I don’t care what he [Morton] does with it, [the discovery,] if he does not drag my name in with it.’

“At another time, he said, he ‘did not know how it would work in pulling teeth, but he knew its effects at college upon the students, when the faculty had to get a certificate from a physician that it was injurious, to prevent them

from using it.' Many other statements, on this point, can be given, but it is deemed wholly unnecessary. The above, and other statements even stronger, can be verified by affidavits."

When it was announced in the Boston papers that Drs. Jackson and Morton claimed this discovery, the citizens of Hartford were taken by surprise, for it was well known here that I had put in practice the same more than two years before, and not only this, but it was generally known that I had long since made a journey to Boston exclusively on this business, in order to present it to the medical faculty. Dr. P. W. Ellsworth, a son of the Hon. W. W. Ellsworth, Ex-Governor of Connecticut, who was acquainted with the circumstances above mentioned, immediately published an article in the Boston Medical and Surgical Journal, stating those facts that came under his personal observation—which accord perfectly with what I have already stated. Dr. E. E. Marcy, of this city, also published an article in the Journal of Commerce about the same time, stating that he was knowing to my making the discovery, and going to Boston in 1844, when I had an interview with Dr. Jackson, who said that he did not believe that surgical operations could be performed without pain, when I informed him of the discovery I had made. Dr. Marcy quoted Dr. Jackson's language to me, and in his (Jackson's) reply, he does not deny that I had this interview with him, but simply says that he did not use the words which are credited to him in the quotation marks. He does not deny but that the substance of those words were said by him; and, furthermore, he cannot deny this.

This letter of Dr. Jackson, in reply to Dr. Marcy, requires still further notice. He says that he had merely

heard that I had tried some experiments with nitrous oxide gas, but had never heard that they were successful.' Now I am fully persuaded that Dr. Jackson does not remember the circumstance of his being informed and assured in November, 1844, that my operations were uniformly successful, with but one or two exceptions; but such was the case, and the individual who informed him of this fact will make the statement under oath, if necessary. Dr. Jackson was then informed that I had operated on twelve or fifteen patients by the use of nitrous oxide gas, without causing the least pain, in but two instances.

Dr. Jackson claims that the nitrous oxide gas and the vapor of ether are essentially different in their effects when inhaled. He asserts, in this letter, that sulphuric ether, as it is used in Boston, does not act as a stimulant, but has the reverse effect. In reply to this statement, Dr. Marcy quotes an article from the Boston Medical and Surgical Journal, where Dr. J. C. Warren, of the Hospital, in his report, proves that ether, as given in Boston, acts as a stimulant; but in order to prove, even to the satisfaction of Dr. Jackson himself, that he was mistaken, I will quote his own language, from an article published in the Boston Advertiser, of March 3, 1847. He says:

"We are aware that ether ranks in the pharmaceutic books and dispensatories, as a diffusible stimulant, and that its fumes or vapor produce intoxication of short duration."

The fact is, that nitrous oxide gas and the vapor of ether, are identical in their effects; first exhilarating, then, when continued to excess, the reverse effect follows, acting as a sedative, throwing the person into a deep sleep or stupor.

This discovery does not consist in the use of any one specific gas or vapor, for anything which will cause a certain degree of nervous excitement, is all that is required to render the system insensible to pain; consequently, the only question to be settled is, which exhilarating agent is least likely to do harm? I have confined myself to the use of nitrous oxide gas, because I became fully satisfied, from the first, that it is less injurious to the system than ether. In the fall of 1844, after I had tried several experiments with nitrous oxide gas with perfect success,—then wishing to use a substitute which would be attended with less trouble in its preparation,—I advised with Dr. E. E. Marcy, of this city, at which time we discussed the comparative merits of nitrous oxide gas and rectified sulphuric ether. Knowing that both had the same effects upon the system, so far as causing insensibility to pain was concerned, the object of the discussion was to ascertain which would do least harm. I had, previous to this, inhaled ether, as well as nitrous oxide gas, and found their effects upon the nervous system to be precisely the same; but I found it very difficult to inhale the vapor of ether in consequence of the choking sensation. For this reason, and for the reason that Dr. Marcy and myself came to the conclusion that nitrous oxide gas was not so liable to do injury, I resolved to adhere to this alone. Let it be observed, however, that at this time, (November, 1844,) while we had the subject under consideration, a surgical operation was performed at Dr. Marcy's office, under the influence of sulphuric ether, as is proved by affidavit. The Doctor then advised me, by all means, to continue the use of nitrous oxide gas.

If the question is asked, why so much time has elapsed since its first discovery, without its coming into more

general use, I can only say, that I have used my utmost endeavors, from the first, to influence physicians and surgeons to make a trial of it, assuring them that my operations were numerous, and perfectly successful. But all were fearful of doing some serious injury with it; and not wishing to incur the responsibility of administering this powerful agent without the co-operation of the medical faculty, and also for the reason that I was obliged to relinquish my professional business in consequence of ill health, my operations have been somewhat limited.

On making the discovery, I was so much elated respecting it, that I expended my money freely, and devoted my whole time for several weeks, in order to present it to those who were best qualified to investigate and decide upon its merits, not asking or expecting any thing for my services, well assured that it was a valuable discovery. I was desirous that it should be as free as the air we breathe; but judge of my surpriso, after the lapse of many months, when I was informed that two individuals (Drs. Jackson and Morton) had claimed the discovery, and had made application for a patent in their own names.

After making the above statement, and submitting the following testimonials and affidavits, I leave it for the public to decide to whom belongs the credit of this discovery.

Respectfully,

HORACE WELLS.