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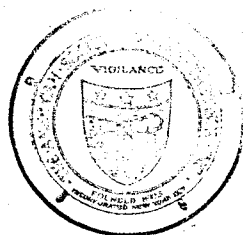
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AN INQUIRY
INTO THE ORIGIN OF
MODERN ANÆSTHESIA.

BY THE
HON. TRUMAN SMITH,

MEMBER OF THE U S HOUSE OF REPRESENTATIVES FOR THE 26TH, 27TH, 28TH
AND 30TH CONGRESSES, AND OF THE U. S. SENATE FOR
THE 31ST, 32D, AND 33D CONGRESSES.

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PREFACE.

THE papers constituting this examination were, with the exception of the last chapter, originally published as communications in "The Medical and Surgical Reporter," at Philadelphia, under the *nom de plume* of "A Lover of Truth and Justice," and are now re-published with a view to a more extended circulation. I deem it proper to avow their authorship, and to assume the responsibility of the statements made, and views presented therein. The circumstances under which I was induced to undertake their preparation are fully explained at the opening of the IX Chapter, to which reference may be had. It is proper to state here that the friend there alluded to, (at whose instance I undertook the investigation,) is S. W. Butler, M. D., the able editor of the Periodical above named, whose love of truth and hatred of imposture led him to take a deep interest in the subject discussed in these pages. I should be sorry should it appear that I have done injustice to any one, which has been far from my intention. That I have presented the essential elements of the case, in conformity with the fact, I verily believe. In treating of this subject, I have been constrained to come to conclusions directly the reverse of those adopted by many characters of the first respectability. I would not impeach the motives of any one, but I must believe that in most instances, the facts have been taken on trust, and that parties who have committed themselves to pretensions to which I stand opposed, have done so in many, and perhaps in most cases, with little or a very slight knowledge of the subject.

It is astonishing with what facility, particularly in our large cities, men lend their names to the advancement of all manner of claims, schemes, and projects, with no better guide than vague impressions as to the facts, and with no other motive than a desire to oblige, or perhaps, to get rid of troublesome importunity. Hence it is no matter of surprise that Wm. T. G. Morton should have been enabled to produce to Congress whole tomes of certificates in furtherance of his designs on the U. S. Treasury, particularly as the city of Boston, from which most of them have come, has long been laboring under a species of mania for certificating in his favor. But this is not the way to make a satisfactory disposition of a controverted question of discovery in science. It is indispensable that the subject should be considered on its merits. The facts on the one side and on the other should be carefully sought for; those facts should be thoroughly scrutinized, and accurately estimated or weighed, and an enlightened judgment, under the influence of the strictest impartiality, and the nicest sense of honor, should deduce from them the proper conclusions. A result thus obtained would be satisfactory to all just and reasonable men. It would, perhaps, be presumptuous in me to conclude that I am in a situation to exercise such judgment, though I am not conscious of being actuated by any other motive than a desire that the truth should prevail.

At any rate, I am safe in referring the whole matter to the judgment of an impartial public, where I most cheerfully leave it,—and here I close my labors for the right on a deeply interesting subject,—(labors for which I have had none the less zest because they have been gratuitous,) and bid adieu to the question of the origin of modern anæsthesia.

TRUMAN SMITH.

NEW YORK CITY, January 1st, 1867.

THE following remarks are from the pen of the editor of the "Medical and Surgical Reporter," No. 12, N. S., Oct. 29th, 1864:

THE SURGICAL USE OF ANÆSTHETICS.

We have brought to a close a discussion commenced some months ago in our pages, of the merits of the claim of W. T. G. Morton to the discovery of the application of anæsthetics to surgical uses. On this pretended claim, Morton has been urging upon Congress the appropriation of some two hundred thousand dollars as a remuneration for his sacrifices in prosecuting his discovery and as an acknowledgment of the benefits he conferred on the army and navy. On the same ground he also levied contributions to a heavy amount on the medical profession, and obtained many signatures to a written testimonial awarding to him in the opinion of the signers, the merit of the discovery.

Knowing that there was evidence to show that these pretensions were not well founded—that so far from being the discoverer of the application of anæsthetics to surgical uses, Morton had basely appropriated the discovery of another, and had imposed upon the medical profession and the public, and was engaged in a gigantic attempt to impose on the Government, we determined that the facts should be plainly set forth, and the scheme defeated. In this, as error must always shrink before truth, we have succeeded so well that we doubt whether he will ever dare to appear again before Congress with his claim, or attempt any longer to hang on the skirts of the medical profession, from whom he deserves nothing but contempt.

In a series of eight or ten powerfully written communications published in our pages, it has been shown beyond the possibility of cavil, that Morton *was not*, and that Horace Wells *was* the discoverer of the application of anæsthetics to surgical uses. These articles, remarkable for their scope, and the clearness of their argument and statement of facts, have been read by thousands of the medical profession with the greatest interest and attention, and have most effectually subverted the cause of truth and justice.

We are glad to know that the articles are to be revised and published in book form. During the late session of Congress, we, at our own expense, furnished copies of the *Reporter*, containing the communications as they appeared, to many of the members, and should the subject ever again be agitated before that body, it will not be a difficult thing to put a quietus upon it by placing these articles before the members. And Morton will find that he will have to meet the facts of the case face to face. Facts are stubborn things, and here is an effectual barrier any further imposition on his part on the medical profession, or on the people of the United States, or other nations either, for if he had succeeded in procur-

from our Government, we believe he would have made it the basis of levying contributions on the medical profession and the Governments of other countries.

This discussion has occupied a good deal of space in our columns, but the subject was one of great importance, because truth and justice were at stake ; many in our profession had been unwittingly placed in a false position, and a determined effort was being made to procure from our Government, at a time when it could ill afford it, a heavy amount of money, which, if appropriated at all, should, by all the principles of right and justice, take an entirely different direction. The object is attained. The game is blocked. Our profession is vindicated. Truth and right and justice are upheld. The treasury is not depleted by a malappropriation of a large amount of its funds. And lastly, our readers have had a decided treat in a series of well-written argumentative papers on a very interesting subject.

LIFE OF HORACE WELLS, M. D.

I HAVE been requested by the Hon. Truman Smith to write a biographical sketch of the late Horace Wells, M. D., of Hartford, Connecticut, whom I knew most intimately, and whose name and character I hold in very high esteem. I have consented to do so, not because I feel myself to be well fitted for the task, but because I consider it a duty to bear my testimony to the merits of the author of one of the greatest discoveries of modern times, and moreover I can not well refuse acceding to the wishes of one who has labored so long and so disinterestedly to repel imposture and to uphold the truth in this connection. Mr. S. has shown conclusively (as I am convinced) that the discovery of modern Anæsthesia was in fact made by Dr. Wells, the honor of which constitutes the only inheritance transmitted to his family, and this they deem of priceless value.

The subject of this memoir descended from a true New England stock, and himself possessed in a marked degree all those qualities which characterize a New Englander. His ancestors were among the earliest settlers of Windsor, Conn., under a name supposed to have been originally Wills, but in the progress of time changed to Wells. The grandparents of Horace were Capt. Hezekiah Wells and Sarah Trumbull. Capt. Wells served with honor in the war of the Revolution, and was a man of much influence. He died March 8th, 1817. The old homestead which he built in East Windsor, Conn., one hundred and thirty years ago, still remains in the family.

Horace Wells, father of Dr. Horace Wells, married Miss Betsy Heath, of Warehouse Point, Conn., and soon removed to Hartford, Windsor Co., Vermont, where the subject of this sketch was born, Jan. 21, 1815. This son was the oldest of three children, the others being Charles Wells, M. D., now

practicing in Manchester, N. H., and Mary, wife of Capt. John Cole, a retired sea captain, now residing in Medway, Mass. Mr. Wells, soon after the birth of his first child, purchased a large and valuable farm at Westminster, Vt., just below Bellows Falls. This farm is pleasantly situated on the Connecticut river, and here in a beautiful and romantic spot, and surrounded by every comfort his father could furnish, the childhood of Horace was passed. The parents of young Wells were intelligent, and for that region, wealthy; and having the opportunity, gladly gave their children every advantage for moral and mental culture, sending them to the best schools, and sparing no expense to make them useful members of society. When Dr. Wells had attained manhood he is said to have strongly resembled his father in general appearance, peculiarly active mind and generous disposition. The father died April 5, 1829. The mother of Dr. Wells afterwards remarried, and is now living in Westmoreland, N. H.

Young Horace was kept at a select school until he was thirteen years of age, and then went to Hopkinton, N. H., where he spent a year in a private school for boys, kept by an excellent teacher, Mr. Ballard, who entertained a very high opinion of the mental qualities of his scholar. Much of his education, before commencing business, was acquired at the academies in Amherst, Mass., and Walpole, N. H. During these latter years, he taught one district and many writing schools. While at the academy in Amherst he became hopefully converted, and uniting with the church, ever after adorned the doctrine of his Saviour by a strictly religious life; he even at one period thought seriously of fitting for the ministry.

Young Wells manifested at an early day the traits so characteristic of the New England boy. He had a mind of uncommon restlessness, activity, and intelligence. He early manifested great inventive genius and mechanical talent, and after reaching manhood was known in Hartford as quite an inventor. He constructed and patented several machines which would unquestionably have paid well if pushed upon

the market; but he considered *his* work done when the idea was embodied and in working order, his restless mind, regardless of pecuniary considerations, flew off to try its powers upon some other object of thought.

In the year 1834 he commenced the study of dentistry at Boston. The College of Dentistry was not then established, but Wells acquired the best professional education at that time possible, and after completing his studies opened an office in that city. The residence in Boston made him acquainted with medical men there, a fact which influenced him in seeking medical assistance at that place rather than in New York, at the time when he announced his great discovery, an occurrence he afterwards had deep reason to regret. Still he was not frustrated in his main design, viz., letting the world know how valuable his discovery was, for his visit to Boston and statement of his case did result as he hoped in its reception by the world, yet in a manner greatly trying to one so artless and truthful, and so far removed from every taint of selfishness and dishonor.

Wells' ingenuity led him to invent and construct most of his dental instruments, and the dexterity and judgment with which they were used soon made him popular, and he speedily took rank among the first in a city justly celebrated for its skillful dentistry. I am sure his professional brethren will admit his high standing in the department to which he had devoted himself.

He had several students, among them John M. Riggs, Esq., now an eminent dentist, and Wm. T. G. Morton, Esq., of Boston, the latter of whom afterwards was one of those who laid claim to the discovery of the principle of anæsthesia. I mention the former of these, because Mr. Riggs was very active in the development of the idea which will immortalize Wells, particularly at the period when a little discouragement would probably have retarded, if it had not completely prevented its development. Mr. Riggs was moreover honored by being the first individual who ever operated on a patient under the influence of an anæsthetic; he moreover did this on Wells himself, by extracting a tooth. Well it was, and

fitting, that the head which gave birth to so great a thought should itself furnish the first practical proof of its importance. Still, though very instrumental in aiding the great discovery, and most honorably connected therewith, Mr. Riggs has ever honestly given the credit to Wells, in whose brain the thought took its inception.

Dr. Wells continued in the regular exercise of his profession until the year 1844, making great improvements in his department, and inventions outside of it. He wrote and published in 1838 a treatise called "Essay on Teeth." He now built a beautiful cottage on Lord's Hill, in a spot at first supposed not particularly eligible; but his taste, cultivated by the romantic scenery of his younger days, soon developed the beauties of the situation, and a few years found the location and the region around selected for some of the most aristocratic houses in the city. About this period occurred an event which had a most important bearing on Wells' future career, and which is mentioned because showing the reason why and how Wells, Prof. Jackson, and Morton, (the three claimants) first came together.

Mr. Riggs had become possessed of a new and peculiar solder for plate work, a great desideratum in dentistry, whereby eighteen-carat solder could be made to flow on eighteen-carat gold. Wells proposed to set up an office in Boston, and by help of this, thought a great business could be done. The terms of partnership could not be agreed upon, nor would Riggs part with his secret. Wells then set to work, and speedily discovered a solder of equal quality except not quite as beautiful. With this, Wells and his former student, Morton, went to Boston, opened an office, called on the chemist, Prof. Jackson, (who for a round fee certified to the value and purity of the solder) and commenced business. This was what made Morton acquainted with Jackson, and why the aid of the latter was sought on a subsequent occasion. The partnership between Wells and Morton was brief, and the former returned to Hartford, leaving the latter in Boston.

In 1844 Horace Wells gave to the world his wonderful discovery that surgery could be divested of pain,—a discovery

pregnant with untold value to the world, but of almost unmingled woe and sorrow to himself and his afflicted family. Often have I heard his widow declare that this great boon to the world "had been to her and her family an unspeakable evil;" for it cost the life of her husband, and substituted the "*res angusti domi*" in place of a lucrative profession and a happy home. Knowing Wells intimately, living beneath the same roof at the time when he went to Boston to announce his discovery, and in almost daily communication with him during the whole period between the birth of his great thought and the hour when his dead body, a sacrifice to his zeal and love of truth, was borne from my own door to its last resting-place, I can, and do, bear witness before high heaven, that to Horace Wells only belongs the honor of giving to the world a discovery which has played a more important part, as respects surgery, than any other ever made, unless we except Harvey's of the circulation of the blood. The full value of this discovery is not yet known; after ages will make new applications and further improvements.

Wells knew nothing of Davy's suggestion, nor is it to be supposed reasoned out his discovery as one works out a problem; neither he nor any one else could do this, but his mind directed to the subject, was prepared to seize a fact and draw conclusions therefrom.

This fact has been noticed a thousand times by other and more learned men, but not so close observers or so rapid reasoners; it was at once grasped and appropriated by Wells, who saw at a glance the consequences which must flow from a trivial occurrence. We omit further discussion of this theme, leaving it to the masterly hand of the Hon. Truman Smith, whose legal skill has presented the voluminous testimony collected, in so convincing a light, that it would seem impossible to render anything more certain by human testimony than Wells' right to this discovery. Let the profession read and digest it; there can be but one conclusion.

Dr. Wells' health was much affected soon after this discovery, and for a period he was obliged to suspend his professional labors, leaving to Mr. Riggs and other dentists the

carrying out of his ideas. He paid a visit to Europe in 1847, partly to seek health, and also collaterally to interest Continental and English surgeons in his discovery. While in Paris he made the acquaintance of Mr. Brewster, an eminent American dentist settled in that city, and who was employed by the Royal family. Through his influence the subject was brought before the French Academy of Medicine, and he ever took a deep interest in the matter, and was a warm friend of Wells. The expenses of this trip to Europe were paid by the purchase of pictures which Wells imported and sold in the United States.

About this time, he amused himself by giving lectures on ornithology, a branch of natural history of which he was fond, and in which well posted.

Dr. Wells died in New York on the twenty-fourth of Jan., 1848, aged thirty-three years, at a period when his claims were being acknowledged by Europe and America, and just as he received the announcement that the French Academy had honored him with the honorary title of M. D. He went to New York a few weeks before his death, for the purpose of introducing anæsthetics in the hospitals and in dentistry. But the impression that chloroform was a better agent than nitrous oxide gas, or ether, led him, with his usual zeal, to experiment upon himself to a dangerous extent with this powerful and almost unknown agent. By this his mind is believed to have been injuriously affected, and this was soon conclusively indicated by acts wholly foreign to his nature. His unfortunate end, and the circumstances attending it, consummated the proof on this point—his reason had been upset, and there was nothing to stay the hand that cut the thread of life. The subject is too painful to render details expedient.

Dr. Wells was of medium height, with a head of remarkable size, complexion light, compactly built, of pleasing countenance and address, and of fine personal appearance. He usually walked the streets with downcast eye and thoughtful expression, but in conversation he was animated and cheerful. With unusually refined and sensitive feelings and retiring

manners, he seldom sought general society. As a citizen, he was man of great purity of character, and of generous impulses, honoring religion by his walk and conversation; as a son he was kind and dutiful; and in his family relations an example of kindness and affection: in all these respects he was without spot. He was greatly respected in the community where he resided. Well does the writer remember the pall which overspread the community when the sad death of Dr. Wells was announced. He sleeps now in the North Cemetery in Hartford, where his grave will in years to come be visited and honored by those who revere the memories of the benefactors of mankind, among whom Wells certainly was not the least.

His widow and only son survive, who with little pecuniary ability or foreign aid, and relying only on the force of truth, have contended eighteen years against the power of wealth profusely lavished, and all the machinery usually brought to bear in such cases: nevertheless truth is slowly but surely winning its way, and a few years will, beyond doubt, suffice to establish the discovery as that of Wells, not only in the opinion of the medical and surgical profession, but in the judgment of the whole scientific world.

P. W. ELLSWORTH, M. D.

CHAPTER I.

ANÆSTHESIA—WHO FIRST DEMONSTRATED ITS PRACTICABILITY?

AND WHO WAS THE FIRST TO BRING IT INTO USE?

It is well known that Wm. T. G. Morton has been for several years harassing the two Houses of Congress with importunities for a national recognition and reward for having conferred on humanity by far the greatest boon which has originated with the present century. In short, he claims to be entitled to the sole credit of being the first to discover the practicability of rendering the human system insensible to pain under surgical operations, and the first to apply with success, adequate means to that end. The state or condition to which the system is reduced, is called anæsthesia, and the means used to produce that state, anæsthetic agents. Those most employed are, nitrous oxyd gas, sulphuric ether, chloroform, and chloric ether, and the process is inhalation.

It is difficult to overrate the value or importance of this discovery, and that our country is entitled to the honor of having made it, is admitted by the whole civilized world; but when we come to descend from a whole people to the individual author, the question arises whether such author is to be found in Wm. T. G. Morton. Is it to him that we are indebted for detecting and revealing this great secret of nature? If so, then no doubt he should be regarded as a public benefactor, and should be abundantly honored and rewarded as such. He should be taken from comparative obscurity and raised to a position not less exalted than that occupied by the immortal Jenner, and the national treasury should be open to his requisitions to such an extent as to place him far beyond want, if not in affluence. But did anæsthesia, in the modern sense of that word, originate with Wm. T. G. Morton? Was the great fact detected by his vigilance, or developed by his experimentation, or is he an imposter who has bedecked him-

self with the plumes of another, whose claims should be rejected with contempt, if not with indignation?

On the 10th day of December, 1844, there resided in the City of Hartford, Conn., a citizen named Horace Wells, a native of Vermont, though he had made Hartford his home for a considerable number of years, a surgeon-dentist by profession, who possessed a quick eye and an acute mind with a philosophic turn, who was ardent, enthusiastic, susceptible, genial, and in every respect trustworthy, and whose physical constitution was as delicate as his moral and intellectual nature was sensitive. No man ever enjoyed the confidence of a community more entirely than he did that of Hartford. Enmity did not know him, and friendship and esteem every where attended his footsteps.

On the evening of this same 10th of December, 1844, this worthy man with his lady, attended at Hartford, a chemical lecture by Mr. G. Q. Colton, during or after which he administered to Dr. Wells, Samuel A. Cooley, and several other persons the nitrous oxyd gas. Mr. Cooley on being brought under its influence, became unusually excited, and taking the floor performed sundry evolutions and gyrations thereon, during which he contused and abraded both of his shins pretty extensively by collisions with the benches, which fact was noticed by Dr. Wells. On recovering his self-possession the Doctor inquired of him whether he felt any pain from the injuries he had received. He replied he was not conscious of having sustained any injury, but on pulling up his pantaloons blood appeared in profusion. Wells immediately turned to a friend sitting by, and expressed a belief that a man could by inhaling the gas, render himself so insensible that he could have a tooth extracted without pain. While escorting his wife home he reiterated an expression of the same belief and again reiterated it to a brother dentist and a particular friend, on whom he called the same evening to canvass the subject. Having spent some time in considering the matter, Dr. Wells declared it to be his purpose to take the gas the next day and have a defective tooth (a large molar) extracted, and thus test the correctness of his theory. That is right! exclaimed

his friend, *it is but just that we should commence with experimenting on ourselves.* Accordingly the next morning Wells called on Mr. Colton, stated the facts which had arrested his attention, and his conclusions therefrom. He requested him to take a bag of the gas over to the office of the dentist already alluded to, which he did accordingly. On the parties there assembling Wells put himself in the operating chair. Colton administered the gas, and as soon as he was brought under its influence the dentist extracted the tooth, and Wells on recovering his consciousness, exclaimed, "*A new era in tooth-pulling! It did not hurt me more than the prick of a pin!*"

There are not a few persons of high intelligence who have given this subject a particular consideration, who hold that there was here not only a conception of the anæsthetic idea but an actual parturition of it. That this offspring of genius was then and there brought into the world perfect and complete in all its proportions and parts, and that the strenuous endeavors which have since been made elsewhere to foist on the public other heirs to this inheritance of fame, can but be regarded as a base attempt to substitute for the true and the legitimate, the spurious and the illegitimate. I, however, purposely withhold my opinions for the present.

On the 30th day of September, 1846, there resided and still resides in Boston, Mass., the same Wm. T. G. Morton already named, also a surgeon-dentist, whose characteristics I do not propose to describe here, as my readers will be much better qualified to appreciate the justness and propriety of my strictures after they shall have been put in possession of facts which will subsequently appear. "Toward evening of the day last named, a man residing in Boston, came in, (meaning into his (Morton's) office,) suffering great pain, and wishing to have a tooth extracted, and asked if he could be mesmerized." He (M.) told him that he "had something better," and saturating his handkerchief with sulphuric ether, he "gave it to him to inhale. He became unconscious almost immediately. It was dark and Dr. Hayden held the lamp while" he "extracted a firmly rooted bicuspid tooth. There was not much alteration in the pulse and no relaxation of the

muscles. He recovered in a minute, and knew nothing of what had been done to him. He remained for some time talking about the experiment." This he (M.) considered "to be the first demonstration of this new fact in science." Such was the language used by Morton, himself, in his memoir to the Academy of Arts and Sciences at Paris, describing his first anæsthetic experiment on a human being, (changing only the first person singular into the third,) and it is but candid to admit that I fully believe that the agent used was adequate and produced the effect desired, and that the man's tooth (whose name was Eben Frost) was extracted without pain, and therefore that he (M.) succeeded in performing on the occasion named, a genuine anæsthetic operation; but my readers need be in no haste to conclude with Morton that it was "*the first* demonstration of this new fact in science."

On the same 30th day of September, 1846, there resided and still resides in Boston another citizen named Charles T. Jackson, a distinguished physician and surgeon and a learned professor, whose name, position, and character for high ability and many accomplishments are familiar to the intelligent public in the United States, and not unknown to the savans of Europe. Like, however, many other men of mark, he is not without his idiosyncracies—his bump of self-esteem would seem to be pretty extensively developed, and, perhaps, my readers may, in view of facts hereafter to appear, be disposed to inquire whether a morbid love of fame has not betrayed him into a line of conduct not very creditable to his good sense to say nothing of his fairness, candor and rectitude. For myself I am free to admit that I am disposed to exercise in this case much of that charity which is said to "cover a multitude of sins."

In the winter of 1842, he had prepared, as he says, a large quantity of chlorine gas, and one of the jars containing it was overturned and broken. In trying to save the vessel he accidentally inhaled and filled his lungs with the gas which nearly suffocated him and endangered his life. His throat and lungs being greatly inflamed, he concluded the next morning to seek relief by inhaling the vapor of ether, and

this he accordingly did. He realized his object and the effect of the vapor was to throw him into a state of insensibility. "Reflecting on the phenomena the idea flashed on his mind (I am using the words of Dr. J.) that he had made the discovery which he had so long been in quest of, the means of rendering the nerves of sensation so insensible as to admit of the performance of a surgical operation without pain." The learned Doctor insists that there was on this occasion a distinct conception of the anæsthetic idea, but he admits that it lay inert in the womb of his mind, (if I may be allowed such an expression,) and that there was no travail throes for years. But at length Dr. Morton on this same 30th of September, called on him making inquiries touching the nitrous oxyd as an agent for producing insensibility when (as J. claims) he entered at once upon the subject of anæsthesia, told Morton to substitute the vapor of sulphuric ether for the nitrous oxyd, and then gave him full information as to its nature and effects, and precise instructions as to the method of using it. In short Dr. Jackson strenuously insists that in a scientific point of view, Morton in operating in the Frost case acted merely as his substitute or agent, and that the result should, in justice, be passed to his credit. He affirms that Morton was profoundly ignorant and utterly incapable of scientific investigation. But how he came to commit the development of an idea which according to his statements he had so long entertained, and which was of such vast consequence to humanity to such a character he has not as yet explained. If Dr. J. will now so far modify his pretensions as to say that Morton got whatever he knew of the practicability of anæsthesia from Wells, and that he (J.) on being informed by the former of the use which the latter was making of the nitrous oxyd, at once told him to substitute therefor the vapor of sulphuric ether, and gave him full information as to its nature and effect, and instructions as to the method of using it, I believe that he will place himself on ground both truthful and respectable, which he should have occupied from the beginning. I declare it to be my unqualified belief that Morton did nothing and was not capable of doing anything

in the Frost case except *that* and precisely *that* which Dr. Jackson told him to do. Whether such fact will authorize the latter to arrogate to himself the name and character of discoverer of anæsthesia and author of this great movement, will be considered hereafter.

I now come to a series of transactions of a most significant character which have not as yet been distinctly presented to the public, certainly not consecutively, nor has their bearing on the main question been shown.

As on one occasion "an idea flashed on the mind" of Dr. Jackson, so on a different occasion another idea flashed on the mind of the illustrious Morton. No sooner had the tooth of the happy Frost been extracted (we call him happy on account of the exquisite enjoyment which ever attends the anæsthetic state) than the aforesaid "flash" prompted Morton to the conclusion that his pretended discovery might avail "to put money in his purse." The very next day he, with that object in view, hied to the office of R. H. Eddy, Esq., a very respectable patent lawyer residing in Boston, to whom he stated his case and asked his professional aid in obtaining letters patent of the United States for his supposed discovery. Mr. Eddy proceeded to inquire minutely into the matter, and soon ascertained that Dr. Jackson was most intimately connected with the subject. The Doctor as he concluded had furnished mind, intelligence, and science, and Morton, sinews, muscles, and thews, and the result of these conjoined powers was the ejection of Frost's tooth without a particle of pain.

Can this be said, (meditated Eddy,) to have resulted from the part taken by either Jackson or Morton alone? If the latter were to take the patent out, would it not prove conclusively that he acted implicitly in conformity with the instructions of the former, and if, on the other hand, Jackson were to take it out, would it not be proved with equal clearness that Morton alone performed the experiment, and that Jackson was not even present. Mr. Eddy concluded to take time for consideration and did not act finally on the subject till near the close of the month. In the meanwhile he saw Dr. Jackson and had from him a full confirmation of what Mor-

ton had conceded, to wit: that he (J.) had participated in the affair in the manner stated, and was entitled to share in the honors and rewards of the discovery, if any discovery there was.

On the 27th of October the parties met at the office of Eddy, and he then announced to them a decided conviction that both must join in the application for the patent to make it valid. In the first instance Jackson objected, from an apprehension that he might thereby expose himself to the censure of the Massachusetts Medical Society, and in consequence might even be expelled, but Mr. Eddy succeeded at length in overcoming his scruples. The parties being at full accord, Mr. Eddy proceeded to draw up the papers, which were:— 1. An assignment by Jackson to Morton of all his “right, title, and interest” in what he designates as “a new and useful improvement in surgery;” and, 2. An application for a patent, with specifications thereto attached in the usual form, to be signed and sworn to by both.

The assignment commences with a preamble reciting as follows: “Whereas, I, Charles T. Jackson, of Boston, in the State of Massachusetts, chemist, have in conjunction with Wm. 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 on animals, such as are usually attended with more or less pain and suffering, without any or very little pain or muscular action to persons who undergo the same, and whereas, the said Morton is desirous of procuring a patent for the same, and whereas *I am desirous of benefiting him, and not to be interested in any patent*, I have, therefore, in consideration of one dollar,” etc. The instrument then proceeds in the usual form to “assign, set over, and convey” to Morton “all the right, title, and interest” of him (J.) “in the said invention, and discovery,” etc., declaring that he had that day signed and executed the specifications “*in conjunction with*” Morton, “for the purpose of enabling him to obtain a patent thereon,” and requesting the Commissioner to issue the same to Morton “*in his name, and as his (Jackson’s) assignee.*” This paper bears date October 27th, 1846.

The application for the patent was signed by both, and bears the same date. The specifications annexed were made in the names of both, and throughout the whole document they speak of the supposed improvement or discovery as the fruit of their united endeavors and joint efforts. It begins thus: "be it known that we Charles T. Jackson and Wm. T. G. Morton, of Boston," etc., "have invented or discovered a new and useful improvement in surgical operations, whereby *we* are enabled," etc. They speak of "*our* discovery"—"this is *our* discovery." "Constitutes *our* invention"—"from the experiments *we* have made, *we* are led to prefer," etc. Operating through the stomach, they add, "*we* consider in no respect to embody *our* invention, as *we* operate through the lungs and air passages," etc., and then they conclude as follows: "what *we* claim as *our* invention is the hereinbefore described means by which *we* are enabled to effect the highly important improvement in surgical operations, viz.: by combining therewith the application of ether or the vapor thereof substantially as above specified."

Mr. Eddy having drawn up the papers, Professor Jackson signed and delivered the assignment, and both Jackson and Morton signed the specification, and not only so, they both swore to it. The certificate of Mr. Eddy, who as a Justice of the Peace administered the oath, is as follows:

"STATE OF MASSACHUSETTS, }
COUNTY OF SUFFOLK. } ss.

"On this 27th day of October, A. D. 1846, personally appeared before me, Charles T. Jackson and Wm. T. G. Morton, and made oath that they do verily believe themselves to be the original and first inventors of the improvement hereinbefore discovered, that they do not know or believe the same to have ever before been known or used, and they are citizens of the United States of America.

R. H. EDDY,
Justice of the Peace."

Morton thereupon transmitted the assignment and application for a patent with the specifications thereto annexed, and the certificate thereon endorsed, to the Patent Office at Washington, and in due season letters patent were issued for a joint discovery and improvement, to him partly in his own

right, and partly as the assignee of Jackson. These letters bear date on the 12th day of November, 1846. I have obtained copies of the papers, duly authenticated, so that I know whereof I speak.

It should be stated here that in the report drawn up by the late Col. Bissell, Chairman of a Select Committee, House of Representatives, second session, 30th Congress, but not presented, though subsequently taken and printed by Morton, the above named assignment appears in a mutilated form. The whole preamble is left out, and nothing inserted but the granting or assigning part of the instrument. Who mutilated this document? It certainly could not have been Col. Bissell, as he was a gentleman of honor, and quite above such a trick. It is obvious that Morton was deeply interested in excluding from Congress all knowledge of the "conjunction" so explicitly avowed in the preamble. It is the last thing he would be willing to have disclosed at Washington when in pursuit of a great national reward. This affair would seem to have a very squally look. Possibly Dr. Morton, dentist, can make a satisfactory explanation, but I doubt it. (Vide the mutilated document as quoted in the report of the Hon. Mr. Wilson from the Senate Committee on Military Affairs, at the last session, p. 158.)

I further add that the patent expired on the 12th day of November, 1860. Morton applied for a renewal, Jackson refused to concur, and for this reason the Commissioner denied the application. Thus the "conjunction" of the two in making the discovery has at all times been recognized at the Patent Office.

Whether the supposed discovery or improvement was patentable, and whether Dr. Wells was not the first to detect the principle, and the first to bring an adequate process of development into use, are questions which I shall examine hereafter. If the first question be answered in the negative, and the last in the affirmative, then in either case the patent was utterly null and void.

But the above papers do not disclose all that we have of a union of the efforts of Jackson and Morton to produce the

result named. On the 28th day of November, 1846, Morton entered into copartnership with N. C. Keep to practice dentistry at Boston. On the next day they caused an advertisement to be drawn up which Morton, after a particular examination, approved. It was signed by both, and on the same day, (Nov. 29th) it was published in three of the evening papers, one of which was the *Evening Traveller*. The advertisement is as follows:

"The subscribers having associated themselves in the business of dental surgery, would respectfully invite their friends to call on them at their rooms, No. 19 Tremont Row. They confidently believe that the increased facilities which their united experience will afford them of performing operations with elegance and dispatch, and the additional advantage of having them performed without pain by the use of the *fluid recently invented by Doctors Jackson and Morton*, will not only meet the wishes of their former patients, but secure to them additional patronage."

Ah! Doctor Morton! more "conjunction!" but what of *that fluid* which you and Jackson invented? Did your united powers *invent* Sulphuric Ether? Recollect, that *false pretenses* in business transactions are *criminal!* in scientific, *detestable!* but here we have a "conjunction" of both!

According to the preamble of the assignment it would appear that Dr. Jackson was in this affair enacting a truly disinterested part—he was not willing "to be interested in any patent;" and not only so, but a highly beneficent part—he was "desirous of benefiting" Morton. But "all is not gold that glitters;" his disinterestedness and beneficence were nothing but outside show, for Jackson took from Morton at the same time, for his "conjunction" in making this discovery, and for the assignment, his bond, obligating him to pay over to Jackson ten per cent. of the proceeds of the patent for his interest in it, and subsequently by his counsel he demanded twenty-five per cent. of the profits, both at home and abroad, which Morton refused to concede.

I now come to a matter in the proceedings of Jackson which I regret my obligations to the cause of truth and justice should constrain me to open. A few days after the extraction of Mr. Frost's tooth, he (J.) drew up a formal paper,

setting forth the nature and particulars of this pretended discovery, and claiming it to have been exclusively his own, and this paper sealed up, he forthwith forwarded to a friend in Paris, and directed him to lodge it in the archives of the Academy of Arts and Sciences there, to remain unopened till he should give further direction on the subject. That paper was as follows :

Boston, November 13, 1846.

"I request permission to communicate through your medium to the Academy of Sciences a discovery which I have made, and which I believe important for the relief of suffering humanity, as well as of great value to the surgical profession. Five or six years ago I noticed the peculiar state of insensibility into which the nervous system is thrown by the inhalation of the vapor of pure Sulphuric Ether, which I respired abundantly, first by way of experiment, and afterwards when I had a severe catarrh, caused by the inhalation of chlorine gas. I have latterly made a useful application of this fact by persuading a dentist of this city to administer the vapor of Ether to his patients when about to undergo the operation of extraction of teeth. It was observed that persons suffered no pain in the operation, and that no inconvenience resulted from the administration of the vapor."

Subsequently the Doctor addressed to his friend another letter, directing his first communication to be opened, and its contents communicated to the Academy. The following is an extract from it :

"DECEMBER 1, 1846.

"The advantage of the application of the vapor of Ether has been completely established in this country, and the agent has been used with great success in the Massachusetts General Hospital."

Ah ! good Doctor ! what has become of your "conjunction" with Morton in making this discovery ? And how came it about after you had not only stated, stipulated, and even sworn that this great secret of nature was detected by the joint efforts of Morton and yourself, and after you had conceded to him much the greater part of the proceeds, and had taken his bond for the balance, that you were making secret communications to a scientific body in Europe, appropriating to yourself the whole credit of bringing this deeply interesting fact to light ?

It must be quite apparent that on the return news from Europe, as to the proceedings of Jackson at Paris, there could no longer be peace between "the high contracting powers." They immediately declared war against each other, and have prosecuted hostilities with intense bitterness from that day to this. If the result shall be (as in the case of the Kilkenny cats,) a complete annihilation of their respective claims, every lover of truth, honor, and rectitude must rejoice.

In conclusion, (for the present) I will only ask my readers to consider in view of the revelations of these pages, how much of brass must enter into the composition of Wm. T. G. Morton's face to enable him to appear before Congress and demand a great national reward, on the ground that *he* is the sole discoverer of practical Anæsthesia, and that to him, and to him only, is the world indebted for this priceless boon to humanity! "Conjunction!" "Conjunction!" should in conspicuous characters be burnt into his forehead, and impudence should in his case, if ever, be "chastised with scorpions!"

CHAPTER II.

MORTON'S PATENT AND ITS VALIDITY.

HAVING shown how irretrievably Morton and Jackson had committed themselves to the unity of their efforts in discovering anæsthesia, and making it (as they pretend) practical (which unity they not only recognized in one document, but actually swore to in another,) this would seem to be the proper place for inquiry into the legal validity of the letters patent which the former obtained on the joint application of both.

I have already adverted to the specifications annexed to such letters, and have given my readers some idea of their contents. It is believed that a little fuller exposé may be advantageous to an intelligent disposition of this question.

They commence with the allegation that they, (Morton and Jackson) "have invented or discovered a new and useful improvement in surgical operations on animals" (including of course man) "whereby" they "are enabled to accomplish in many if not in all cases operations" * * "without any or very little pain to or muscular action of persons undergoing the same." They next speak of the compositions of ethers, particularly of sulphuric ether, and that "it has been long known" that when "introduced into the lungs, it produced a peculiar effect on the nervous system analogous" to that resulting from "intoxication;" but they continue—"it has never (to their knowledge) been known until their discovery that the inhalation of such vapors (particularly that of sulphuric ether) would produce" such an insensibility as to render the action of the surgeon's knife or other instrument of operation painless. "This" they announce is their "discovery" and the application of it to surgery, so as to alleviate pain and prevent muscular action their "invention." The practical application of this agent (they say) the surgeon

will learn from experience ; “ various modes may be adopted for conveying etheric vapor into the lungs.” These or several of these they proceed to describe. They disclaim the introduction of narcotics into the stomach as being any part of their invention, and tell us that they “ operate through the lungs and air passages ” and then they conclude with what is technically called “ THE CLAIM ” of the specifications—the gist of the whole matter—on which the legal sufficiency of every patent must turn. I quoted “ the claim ” in this case in my first chapter, and I reproduce it here, to the end that my readers may have it distinctly before them.

“ What we claim as our invention, is the hereinbefore described means by which we are enabled to effect the above highly important improvement in surgical operations, viz : by combining them with the application of ether, or the vapor thereof, as above specified.”

I am of the opinion that this patent is on its face null and void for the following reasons :

1. According to the Act of Congress, letters patent can only be granted to one who has “ discovered or invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement in the one or the other.” The law contemplates either the invention of something new, or an improvement of something old, and in either case the subject must be some “ art, machine, manufacture, or composition of matter.” The party applying must distinctly claim the one or the other, and can not at one and the same time claim both. In these specifications there seems to be a complete jumble of ideas. The applicants in the preliminary part of the specifications sometimes characterize the result of their labors as being their “ discovery,” and sometimes as their “ improvement,” and the same confusion of ideas is even carried into “ the claim ” so-called which should ever be characterized by the greatest precision and accuracy. They first say “ what we claim as our invention, is the hereinbefore described means.” What means? The vapor of sulphuric ether? Or certain appliances by the use of which the vapor can be readily inhaled? If the former, it is clearly

not patentable. If the latter, why do they not specify precisely what? Then their invention degenerates into an "improvement," that is to say, of something already known. Of what? Surgical operations! "by combining therewith the application of ether or the vapor thereof!" which they do not in the claim part of the document tell us!

2. There is no pretence for saying that Jackson and Morton "discovered or invented any new and useful art, machine, or manufacture, or any new and useful improvement" in any known art, machine or manufacture, but did they discover or invent any new and useful composition of matter, or any improvement in such composition? According to "the claim" they had made an "invention," and that consisted in effecting a "highly important improvement in surgical operations, viz: by combining therewith the application of ether or the vapor thereof." Such combination can hardly constitute "a composition of matter" though both "new and useful." "We combine," they say, either "ether or the vapor thereof" with surgical operations. But ether is a liquid and can only be imbibed through the stomach, and operating through that organ, they disclaim. The vapor of ether can be used by inhalation, as a useful preliminary to a surgical operation, but how can it be said to be combined with it? What does the science of surgery imply? A thorough knowledge of the whole physical system of that being who is said by an authority which we should all reverence, to be "fearfully and wonderfully made;" a knowledge of the location, magnitude, and functions of all his vital parts; of his bones, arteries, veins, muscles, nerves, ect., and how to apply and direct the knife so as to make the operation successful. It is requisite that the professor of the art should have a quick eye, a steady hand and an unfaltering purpose. In short, he should be completely master of a subject more recondite, complicated and difficult than almost any other, and have united with this knowledge a tact and skill such as long and close observation and much experience can alone confer. With an ideal that is almost sublime, Messrs. Jackson and Morton propose to combine something material, viz: the vapor of sulphuric ether

and therefrom to extract "a composition of matter" so as to bring their case within the purview of the patent laws. But that will hardly do.

3. A party may by combining an old element with a new one, or even two old elements, in either case producing a new and useful result or "composition" entitle himself to a patent; but when he merely makes a new use of an old element, it clearly is not a case of invention, but merely of discovery, and is not patentable.

4. Jackson and Morton did not invent sulphuric ether,—they did not make any improvement in the same; they did not render it volatilizable; they did not ascertain even that it could be inhaled, nor that being so it produced excitement and some degree of insensibility, but only discovered (if they did anything) that if inhalation be pushed far enough the effect is to paralyze the nerves of sensation so that teeth can be extracted or a surgical operation performed without pain.

5. They had only used an old article in a common way, and produced a well known effect, but had discovered that such effect can be so far intensified as to invest the surgeon with almost miraculous power. In short, they had detected one of the great secrets of nature, and to call such a discovery "an art, machine, manufacture, or composition of matter," or "an improvement in either," is an obvious absurdity. If Jackson and Morton had discovered that quinine or opium would cure the hydrophobia, the case would be precisely analogous to the present. It is certain that a patent cannot be sustained on any such ground. Surgeons and physicians are incessantly making new uses of old remedial agents, and if patents were allowed therefor they would become innumerable.

These are the reasons of the conclusion to which I long since arrived, that the patent accorded to Morton for the supposed discovery of himself and Jackson, was and is an entire nullity, and I rejoice in the ability which I now have to confirm this conclusion, by the opinion and judgment of a highly competent court.

Sometime since Morton, after taking up subscriptions in Boston, New York, Philadelphia, and perhaps some other cities, to a large amount, as a recognition of and a reward for his services in making this discovery, coolly turned round and instituted a suit against a public charity—the New York Eye Infirmary—for having made some use in their operations of the vapor of sulphuric ether, and thus violated his humbug patent. The case was brought to trial some time since before the Hon. Judge Shipman holding the Circuit Court of the United States for the Southern District of New York, and after spending two days in taking evidence to prove the use of ether by the defendants and the great value of the discovery (which nobody doubts or denies) the learned Judge deemed it to be his duty to stop the inquiry, which he did, and directed the counsel to argue the question of the validity of the patent, and this was done accordingly. The Judge had no difficulty in coming to a result adverse to the patent; he pronounced the discovery not within the scope of our patent laws, and the letters issued to Morton null and void. He therefore dismissed the case, but accorded the plaintiff's counsel the privilege of making a motion for a new trial, that the question might be re-examined before a full bench. This re-examination subsequently took place before Judge Nelson, of the Supreme Court, and Shipman, District Judge, and after an elaborate argument the decision of the Court below was affirmed. Judge Shipman drew up the opinion which is characterized by acute perception, a philosophical turn of thought, and a just appreciation of the subject in all its bearings. He places the question on grounds far above the regions of doubt or controversy. In conclusion, he says that our patent laws are "inadequate to the protection of every discovery, by securing its exclusive control to the explorer to whose eye it may be first disclosed."

"A discovery may be brilliant and useful and not patentable. No matter through what long solitary vigils, or by what importunate efforts, the secret may have been wrung from the bosom of nature, or to what useful purpose it may be applied, something more is necessary. The new force or principle

brought to light, must be embodied and set to work, and can be patented only in connection or combination with the means by which, or medium through which it operates. Neither the natural functions of an animal upon which or through which it may be designed to operate, nor any of the useful purposes to which it may be applied, can form any essential parts of the combination, however they may illustrate and establish its usefulness." In this opinion the Hon. Judge Nelson fully concurred. If any of my readers wish to enjoy as I have, the emanations of the calm, enlightened, judicial mind, I refer them to a report of this case with Judge Shipman's opinion at length in "The American Law Register," September, 1863, pp. 672 to 682.

It is hoped that my readers will be prepared to admit that I am making some progress with this subject. I have reduced the competing claims to the honor of this great discovery from three to two—the Jackson-Morton claim on the one hand, and the Wells claim on the other, and I have thrown off the rubbish of Morton's patent, and this lets me into a consideration of the subject on its real merits. Who was the benefactor of mankind in this connection? Was it Horace Wells alike estimable and unfortunate? Are Jackson or Morton or both entitled to any credit, and if so, what? I doubt not I shall be able to give hereafter such response to these inquiries as that nothing but the audacity and recklessness of Morton and the conceit and self-delusion of Jackson will be likely to gain-say.

CHAPTER III.

PRIORITY OF CONCEPTION AND EXPERIMENTATION. IS HORACE WELLS ENTITLED TO THE CREDIT OF BOTH? DID HE VERIFY HIS DISCOVERY, AND MAKE IT PRACTICAL? DID HE EVER ABANDON IT? WAS HE INTERCEPTED? AND IF SO, BY WHOM, AND UNDER WHAT CIRCUMSTANCES? WAS SUCH INTERCEPTION FAIR, AND THE MEANS USED HONORABLE AND JUST? SHALL TRICKERY AND FRAUD PREVENT THE TRANSMISSION OF HIS NAME TO POSTERITY WITH ALL THE ECLAT WHICH SUCH A VASTLY IMPORTANT DISCOVERY IS ADAPTED TO CONFER.

WRITING as a lover of truth and justice, I am constrained to treat of these topics, and fortunately the facts can be so clearly ascertained and substantiated by such an abundance of unquestionable proof, that no candid, upright man can hesitate for a moment as to the conclusions to which he should come.

Here I would observe that Wm. T. G. Morton has caused the priority of conception and experimentation to be adjudicated by a competent tribunal, in favor of Horace Wells. At the first session of the thirty-second Congress (which convened at Washington on the first Monday of December, 1851,) Morton proffered a memorial to the House of Representatives, asserting his claims, and praying for what he had so long prayed in vain. This memorial was referred to a select committee at the head of which was placed the gallant and accomplished Col. Wm. H. Bissell, afterward Governor of Illinois, but since deceased. Before this committee, Morton and Jackson appeared with their counsel, and with their exhibits and proofs, but, alas! Horace Wells had been some years in his grave, and he had left his wife and a son of tender years penniless, and they could neither employ counsel nor collect or bring forward the necessary proofs. Wells himself had, in his lifetime written and published a small pamphlet in

vindication of his claims, which is now before me. It is distinguished by all the fairness, candor, evident truthfulness, and good sense which ever characterized his life and conversation. To this is annexed a considerable amount of proof, and is dated at Hartford, March 30th, 1847. It is well adapted to arrest attention, and to make impressions quite favorable to his pretensions, but does not do full justice to the subject. How was this to be expected from Wells, who had neither the education nor the practice indispensable to successful authorship? I infer from Col. Bissell's report that he had this pamphlet before him, probably transmitted by some friend of the family. This, however, was not sufficient to prevent his investigations having an *ex parte* character, so far as the Wells claim was concerned. This was not the fault of Col. Bissell, though it may have been a serious misfortune to the family of Wells, and to the cause of rectitude and truth.

Hence the worthy Colonel had little to consider but the conflicting pretensions of Morton and Jackson, and "the conjunction" of their labors and efforts had been carefully concealed from him by mutilating an important document. Had he known this fact, would he have toiled through many pages of argumentation to show how the balance between them stood? Would he not have exclaimed, No! no! gentlemen! You have *sworn* yourselves into the same side of the scales! There is no question of preponderance the one way or the other between you. Either from you conjointly, or from Wells, Anæsthesia must have emanated. Cease, therefore, your bickerings, and consider how the pretensions of your copartnership stand as against the claims of Wells. This would have brought those claims to the particular notice of the honorable member, and perhaps he might have given them a favorable consideration, or perhaps he might have awarded to the *twin* investigators of Anæsthesia this great inheritance of fame, and concluded that "beautiful in their lives, in their deaths they should not be divided." This certainly would have been sublime, though it is said that here is only one step from the sublime to the ridiculous."

Poor Wells and all his labors might, in such case, have passed off into nonentity. But Col. Bissell was not prepared to admit the justice or propriety of consigning him to such a fate. It is obvious that he thought the pretensions advanced in his favor were far from being frivolous. This will appear from the following extract from his report :

“The evidence presented with Dr. Wells’ claim, shows that *dental operations were in several instances performed without pain*, by Dr. Wells, under the influence of the nitrous oxyd, which had before been known in some cases to produce a total or partial asphyxia. It appears, also, that the vapor of sulphurous ether was thought of, discussed, and finally rejected by him, while the total abandonment of the use of the nitrous oxyd, and indeed of every other agent, shows that Wells’ experiments were, on the whole, unsuccessful. He engaged in the search, but failed to find the object of his pursuit. He attempted and endeavored *assiduously* to carry out the idea to practical results, but was not successful.” * * * *

“He had the great idea of producing insensibility to pain, but he did not verify it by successful experiments.” * *

* * “*But he had the signal merit of reviving the investigation, and probably of hastening the discovery.*”

This would seem to settle some points conclusively in favor of the Wells claim. Col. Bissell accords to him the credit of 1. Priority of conception. 2. Priority of experimentation. 3. Priority of verification. “*Dental operations*,” he says, “*were in several instances performed without pain*, by Dr. Wells, under the influence of the nitrous oxyd.” 4. “He had the great idea of producing insensibility to pain.” 5. “He endeavored *assiduously* to carry out the idea.” 6. “He had the signal merit of reviving the investigation,” (referring, I suppose, to some experiments tried by Sir Humphrey Davy toward the close of the last century,) and, 7. “Perhaps of hastening the discovery.” Ah! “*Signal merit* (perhaps) *of hastening the discovery!*” Here would seem to be a little significant squinting at the source of the information on which Jackson and Morton acted in causing Frost’s tooth to take a painless leap out of his jaw. Recollect, “*murder will out*,” though often detected by very slight circumstances.

But Col. Bissell felt constrained after all to reject and set aside the Wells claim, for he says, 1. "The vapor of sulphuric ether was thought of, discussed, and finally rejected." 2. "He abandoned the use of nitrous oxyd," and, 3. "Of every other agent," and, 4. "His experiments on the whole were unsuccessful." But it is certain that he was not wholly unsuccessful, for Col. Bissell admits that he realized his object "in several instances" of dental operation, and that he could not have abandoned the subject early is certain, for the Col. also adds that "he *assiduously* endeavored to carry out the idea," and that he abandoned it at all, or ever thought of doing so, will be news at Hartford, Conn., and news, too, of a very apocryphal character. I do not know of any more striking illustration than is to be found in this extract of the misconceptions which may be exhibited by a truly just man, in writing *currente calamo* on a subject which he has not fully before him, and which he does not perfectly understand.

I do not hesitate to declare a confident belief that a proper presentation of the subject will bring every upright mind to conclusions directly the reverse of those written down by Col. Bissell, so far as they are adverse to the Wells claim. I affirm that he never did abandon the nitrous oxyd while living;—that it never did, in his hands, produce asphyxia, or anything approaching to it; that he prosecuted practical anæsthesia "*assiduously*," (to use Col. Bissell's appropriate word,) and made all the progress toward a general introduction of the new practice which the astonishing and almost miraculous character of his developments would permit, and furthermore that his name would long since have been blazoned to the world as the true author of anæsthesia and a benefactor of his race, had he not been intercepted by arts and practices alike insidious and detestable.

My proofs are full, unexceptionable, and conclusive, so that all must believe except such as "would not be persuaded though one rose from the dead." It is in my power to produce nearly a whole city under oath, and to bring forward the testimony of a Rt. Rev. Bishop of the Episcopal Church; several doctors of divinity, and other members of the clerical

profession ; most of the physicians and surgeons, and all or nearly all of the practitioners of the dental art ; one or more of the learned professors of Washington College ; Members of the United States Senate and House of Representatives ; counsellors at law, merchants, manufacturers, mechanics, artizans, and many of the fairer part of God's creation—ladies of refinement and of the first respectability—in short, a whole cloud of witnesses, most of whom will speak of their own experience, and the residue of facts which fell under their personal observation.

But as I have not the slightest interest in this matter, and only desire to uphold the right, and take a deep interest in the welfare of a poor, defenceless, and much injured family, it is hardly to be expected that I should incur all the labor and expense of examining witnesses who have already spoken to the facts, and of taking testimony which is now before the public. No doubt I might procure much cumulative evidence, but as we have an abundance now on hand, that would be a work of supererogation.

I shall therefore content myself with bringing to the notice of your readers a thin volume or (if you please) a pamphlet, named "ANÆSTHESIA," published in 1858, by Mr. Truman Smith, late a member of the United States Senate, which contains proofs collected by him in the fall of 1852, with a view to lay the same before that body, if needful. It turned out, however, otherwise, for reasons not necessary to be here explained, and the proofs in manuscript remained in the hands of Mr. Smith till 1858, when he gave them, in the form already indicated, to the public. In this publication Mr. Smith has digested and arranged the evidence under appropriate heads, so as to exhibit separately and distinctly all the essential elements of the Wells case, and has accompanied the same with remarks and suggestions such as he deemed appropriate and just. I shall not be so absurd as to republish this vast mass of testimony, or any considerable portion of it, but I presume my readers will indulge me in presenting a synopsis of the contents, with extracts from the testimony, so far as may be necessary to show how conclusively the Wells case is made out.

1. Mr. Smith opens the subject with considering "what constitutes a discovery in respect to this and other analogous subjects." "It is believed," (he says,) "to lay the foundation for just pretensions, it is indispensable that the party, should have formed a distinct conception of anæsthesia, and should have at least substantially attained that end by good and satisfactory means. If to both of these elements he can add also that of priority, he must be regarded as the true discoverer, and his position as such will appear the stronger if he has given early and full publicity to his experiments." Mr. Smith then adds that "it is not necessary to constitute a true discoverer in respect to any matter of nature or art that he should have resorted in the first instance to the best means of development." And he insists that all that is required is that "the agency should be competent to demonstrate the value and importance of the new idea," and this being done, it is to be expected (as he remarks justly) "that many other minds, active, ingenious, and inventive, will be directed into the same channel of inquiry, pursuing the object proposed by the original discoverer or inventor, with vigor and success, suggesting improvements, contriving substitutes, and introducing new agents which carry the discovery, invention, or art far beyond the point at which it was left by the real author of the movement." I do not doubt the reader will accept these views as sound, and they should be borne incessantly in mind by all who desire to arrive at a proper result on this entire subject.

2. Mr. Smith next takes the ground that the nitrous oxyd and the vapor of sulphuric ether had long been known to produce when inhaled, similar effects, to occasion excitement, a species of intoxication, and some degree of insensibility, and it being ascertained that the nerves of sensation could by the inhalation of the former, be so completely paralyzed that dental and surgical operations could be performed without pain, there would be no merit whatever in substituting the vapor of ether for the nitrous oxyd, and that it would be a perversion of terms to call the author of such substitution (which any tyro of chemistry might suggest) a discoverer, and the

rankest injustice to allow him to usurp the place of and reap all the rewards and honors which should be accorded to the party who originated the system. Mr. Smith produces a letter from the learned professor Thomas D. Mutter, of the city of Philadelphia, from which I make the following extract:

"Now if it can be shown that Mr. Wells (I do not say that he did, as this is a question of which I know nothing positively) first demonstrated usefully and practically the fact that operations can be performed without pain in consequence of the inhalation by the individual of some gaseous substance like nitrous oxyd gas or the vapor of ether, *then beyond all question* is he entitled to the honor and reward of having established one of the most valuable facts in the science of surgery." * * * * *

"The subsequent introduction by others of agents of a similar character, even although more efficient than those first employed, does not at all diminish his claims to having established the great fact."

Professor Abner Jackson of Trinity College, Hartford, Conn., says: "The person who first applied either nitrous oxyd gas, sulphuric ether, or chloroform, should, in my opinion, be regarded as the true discoverer, inasmuch as the use of the others would be a natural sequence."

Professor Willard Parker, of the city of New York: "I further say, it being known that nitrous oxyd would produce anæsthesia in surgical operations, it would suggest to any one having any knowledge of the two substances that sulphuric ether would produce the same effect, and the substitution of the ether for the gas, does not in my opinion merit the name of discovery."

Professor John W. Francis: "The well known sedative effects of sulphuric and other ethers might readily suggest to the scientific mind their substitution for the nitrous oxyd gas, and the application of any one of these agents may be fairly recognized as the primary discovery."

Mr. Smith produces several other depositions to the same effect, but it is unnecessary to make further quotations. Let this feature of the case be borne distinctly in mind as it must

in connection with facts hereafter to appear, prove fatal to the pretensions of Jackson and Morton whether taken jointly or separately.

3. Mr. Smith then arrives at an era of vast interest to humanity, when the anæsthetic idea was not only conceived and announced by its author, but was developed and brought out by experimentation plain, unequivocal, and complete. I have already given a rapid sketch of what occurred at Professor Colton's lecture on the evening of the 10th of December, 1844, and what at a brother dentist's office the next day. That dentist was Mr. John M. Riggs, of Hartford, and known to me to be a gentleman of respectability. Mr. Smith exhibits vividly the whole of the remarkable transaction which commenced on the evening of the 10th and which was consummated on the 11th, by producing the testimony of Mr. G. Q. Colton, Mr. John M. Riggs, Mrs. Elizabeth Wells, Mr. Samuel A. Cooley, and Mr. David Clarke, and shows that if these witnesses are to be believed under oath, that there was not only a conception by Wells of the true anæsthetic idea, but a verification of it by an unequivocal experiment on himself—that he then and there caused, after inhaling the nitrous oxyd, one of his large molar teeth to be extracted without the slightest pain, and thus detected and brought to light one of the most wonderful secrets of nature—the first to conceive, the first to experiment, and the first to verify beyond question or doubt!—these, these, are the facts! established by so many witnesses! It is useless to produce their depositions or to make extracts. Let those who wish to look more closely into this matter, recur to Mr. Smith's Anæsthesia from p. 18 to p. 25.

But what a wonderful contrast is there between the Wells case and the Morton case as to the extent of the proofs adduced to show their character. In the latter only one witness so far as I know has ever been examined (Dr. Hayden) who held the lamp while Morton extracted Frost's tooth after he had inhaled and been brought under the influence of the vapor of sulphuric ether, and yet no one pretends to doubt or dispute the fact. How audacious then is it for any man to

attempt to controvert the success or the Wells experiment, proved and established as it is by so many witnesses, not one of whom has the slightest interest in the subject, if Mrs. Wells be excepted.

I will here remark that Mr. G. Q. Colton having had the good fortune to assist at the first genuine anæsthetic operation ever performed on earth, immediately resumed his lectures, and continued the same until within a recent period, all the while exhibiting the nitrous oxyd to illustrate chemical principles, and having nothing to do with anæsthesia as such. Whether facts have not been recently developed by his agency, most material to be considered in this connection, will be a subject of inquiry hereafter.

4. The great discovery having been made, Dr. Wells and his brother dentists immediately introduced into their practice, at Hartford, the nitrous oxyd as an anæsthetic agent, and continued such use during the interval between December 11th, 1844, and September 30th, 1846, and long after. Mr. Smith brings forward many depositions on this point, but extracts from a few must suffice.

Dr. John M. Riggs: "We were so elated by the success of this experiment" (that is to say the operation on Dr. Wells of December 11th) "that we immediately turned our attention to the extraction of teeth by means of this agent, and continued to devote ourselves to this subject for several weeks almost exclusively." * * * * * "Dr. Wells continued to use the gas freely in the practice of dentistry during the remainder of that year and the year following, and at all times when he was in the practice of his profession. I, myself, also used it as people demanded it, which they ordinarily did." * * * * * "I find on reference to my books, that this agent was used by me in extracting teeth up to November 2d, 1846, which is my last charge. Since that time I have used chloroform generally, when my patients requested anything." * * * * * "I was in the habit, for greater ease in furnishing gas, to appoint some afternoon in the week and then take out teeth for as many as had made appointments. I find from minutes, that on July 26th, 1845, seven were extracted,

while the name of only two of the individuals were recorded."

Dr. John B. Terry, dentist, of Hartford, Conn.: "I had an office adjoining the one usually occupied by the late Dr. Wells; and we were associated together on the 19th of December, 1846, in the practice of dentistry. For nearly a year before this we were associated without terms of partnership, and while he was absent I attended to his business in part, and made him an allowance. My impression is that Dr. Wells used the gas while attending to business, and when he was absent I administered the gas for him. I am certain that prior to October, 1846, I was in the frequent habit of administering the gas, and considered it then, as I do now, as more useful than any anæsthetic agent for the purposes of dentistry. * * * * I think I have administered more of this gas for dental purposes, than any other person, and I am well acquainted with all its effects."

John Braddock, of Hartford, dentist: "In the spring of 1845, I saw several teeth extracted for different persons under the influence of this agent (meaning the nitrous oxyd) by Dr. John M. Riggs, with the most satisfactory results. The patients seemed to experience no pain whatever, and after the operations were performed and the effects of the gas had passed away, they so expressed themselves."

Dr. E. E. Crowfoot, of Hartford, dentist: "I have had some personal experience in the use of anæsthetic agents, having extracted two teeth for Miss Angelina Griswold, of West Hartford, while under the influence of nitrous oxyd gas. Both teeth were removed at one sitting and in a satisfactory manner."

This, the witness says, was previous to a severe sickness which he had, commencing in September, 1846.

P. W. Ellsworth, M. D., son of Ex-Governor Ellsworth, and grandson of the distinguished Oliver Ellsworth: "Very shortly before or after the visit of Dr. Wells to Boston, with a view to bring out his discovery, (to wit: in January, 1845,) I witnessed a successful dental operation, being the extrac-

tion of a tooth without pain, by administering nitrous oxyd gas."

The witness adds, that he thinks that both Dr. Wells and Dr. Riggs were present, but that he can not tell which performed the operation.

"Some time in the year 1845 or 1846, according to my best recollection, and before Dr. Morton's pretensions to this discovery were advanced, though I will not be positive, as I may be mistaken, I extracted a tooth for Mrs. Webb, then of Middletown, in this State, but now the wife of Professor Benjamin Silliman, of New Haven, administering the nitrous oxyd gas. The operation was unattended with pain and was entirely successful."

E. E. Marcy, M. D., of the city of New York: This witness after stating in substance a conversation between Dr. Wells and himself, during which he (Dr. W.) spoke of the availability of the nitrous oxyd as an anæsthetic agent, proceeds as follows: "I therefore expressed some doubt to Dr. Wells when he announced the above fact. In reply, he said, 'I am about to extract a tooth under its influence, and if you will go to my office, I will demonstrate to you the truth of my statement.' Accordingly, on the same day I went to his office and witnessed the extraction of a tooth from F. C. Goodrich, Esq., of said Hartford, by Dr. Wells, after nitrous oxyd gas has been inhaled, and without the slightest consciousness of pain on the part of the gentleman operated on. Not only was the extraction accomplished without pain, but the inhalation of the gas was effected without any of those indications of excitement or attempts at muscular exertion, which is so commonly obtained when the gas is administered without a definite object or previous mental preparation. * * * *
* It was in the fall of 1844, I am positive, and within two or three days after I had understood Dr. Wells had made the discovery."

5. These witnesses were not any of them the subjects of the anæsthetic operation, but either operated themselves or were present at and speak of the operations of others, but it

is quite time to call up the parties themselves, who were brought under the influence of nitrous oxyd.

Francis C. Goodrich, of Hartford: "I submitted to the operation of having a tooth extracted by Dr. Wells, while under the influence of nitrous oxyd gas, which was performed in the presence of Drs. Marcy, Kitteridge, and Riggs, and was unattended with even the slightest sensation of pain." This he says was in the latter part of the year 1844.

John Gaylord Wells, of Hartford: "Dr. Wells extracted a tooth for me immediately after the extraction of his own. It was certainly in the month of December, 1844. The gas was given from a large bag. On this occasion I had one tooth removed, and afterward a number at different times, and all without pain."

William H. Burleigh, of Hartford, says, that witnessing these operations, "I was so delighted and surprised with its manifest success, that I desired a trial of it upon myself. The gas was accordingly administered, and two carious teeth were extracted from my lower jaw without the least suffering on my part, though ordinarily owing to the firmness with which my teeth are fixed in my jaw, I suffer extreme pain from their extraction."

But "by the mouth of two or three witnesses, every word shall be established." Why then make any further extracts from numerous other depositions brought forward by Mr. Smith in this connection? If these are not adequate to overcome incredulity, it will be useless to quote more.

6. But I shall not do justice to the claims of Dr. Wells without laying before my readers proofs of his efforts to make anæsthesia practical in dentistry other than those already described. I have thus far spoken of actual operations, but Dr. Wells in the meantime, was doing much more,—he was incessantly exerting himself to improve the agent and the instruments or means to be used in exhibiting it to his patients.

P. W. Ellsworth, M. D.: "I know that Dr. Wells from the time of his discovery up to the time of his death, was making improvements both in the preparation and mode of adminis-

tering the gas, and ultimately it became in his hands more efficient than it was in the first instance. The gas was much more pure, and the instruments were better."

John B. Terry, dentist: "During the time he was engaged in his profession, he continued to make improvements in the construction of his inhaling apparatus, in the nitrate of ammonia, by which the gas was made, in the gas itself, and its mode of preparation from the time of his discovery to his death."

Ah! what of that abandonment of not only the nitrous oxyd, but of anæsthesia in toto! of which Col. Bissell speaks in his report?

7. But I wish to bring to the notice of my readers proofs touching some of the characteristics of this remarkable man.

John M. Riggs, dentist: "Dr. Wells was enthusiastic and sanguine in the pursuit of objects toward which he turned his attention."

E. E. Marcy, M. D.: "Dr. Wells was exceedingly enthusiastic upon the subject—was incessantly conversing about it, and prosecuting his experiments. * * * * * He was a man of strict rectitude, and in every way worthy of entire confidence. He possessed a peculiarly active, investigating and philosophical mind, and was therefore almost constantly engaged in researches and inquiries such as would naturally attract the attention of a man of his taste."

P. W. Ellsworth, M. D.: "I further say that I had many conversations with Dr. Wells, on the subject of his discovery in 1845 and 1846, and indeed up to the time of his death, and he was at all times enthusiastic in regard to it, and I did not know or suspect that any one controverted the right of Dr. Wells until Dr. Morton advanced his claim in 1846."

John B. Terry, dentist: "Dr. Wells' confidence in the gas was constantly increasing from the first; no one to my knowledge, doubted that Wells was the discoverer of the anæsthetic properties of the gas, nor did I hear at that time, that any one claimed to be the discoverer but him."

8. It must be obvious that such a discovery could not have been made, and carried into practice so extensively without the facts having become perfectly notorious at Hartford.

John M. Riggs, dentist: "It was a subject of profound interest in Hartford, and attracted universal attention through the years of 1845 and 1846."

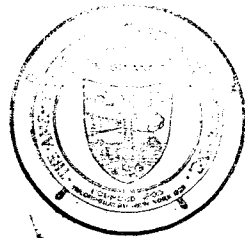
E. E. Marcy, M. D.: "Immediately after the discovery, the facts became generally known in Hartford, and was the subject of much conversation."

P. W. Ellsworth, M. D.: "Very soon after Dr. Wells made the above discovery, the fact became generally known in this community and was the subject of much conversation, and Dr. Wells was universally reported to be its originator or author, and has ever since been and is now believed here to be entitled to the credit thereof."

John Braddock, of Hartford: "The discovery of Dr. Wells was notorious in Hartford at that time," (1845,) "it was a common topic of conversation, and I have no hesitation in saying, that in my opinion, Dr. Wells was the first to discover and use an agent by means of which dental and surgical operations could be performed without pain."

Hon. James Dixon, United States Senator from Connecticut: "I would add, that the discovery of Dr. Wells was notorious in Hartford, in the spring of 1845, and was then and for some time had been and continued to be a frequent topic of conversation. It excited great attention, and was deemed of much importance."

I trust that my readers will be prepared to admit that not a little has been accomplished toward a realization of my promise to show conclusively where we are to look for the true author of modern anæsthesia. But I should do injustice to the cause I uphold were I to ask them to render a verdict and enter up judgment here, for I have several other most interesting chapters to open, the contents of which are not less significant than those already presented.



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CHAPTER IV.

ANÆSTHESIA IS CARRIED BY WELLS INTO GENERAL SURGERY, AND HE RECOGNIZES THE ANÆSTHETIC PROPERTIES OF THE VAPOR OF SULPHURIC ETHER LONG IN ADVANCE OF THE BOSTON EXPERIMENT.

HAVING, in my last chapter, taken up the claims of Horace Wells as the originator of modern anæsthesia, and considered whether he was the first to conceive the idea, and the first to make it practical, and having analyzed the case, and presented several of its most important elements, under separate heads, with proofs such as is believed must be satisfactory to every impartial mind, I now resume the same subject to present additional considerations.

1. Wells was not content to demonstrate the availability of the nitrous oxyd as an anæsthetic agent in dentistry only; he also took part in carrying it into general surgery, and proved that it could be used effectually for every purpose to which any other anæsthetic agent can be applied.

The first case to which I shall advert, occurred on the 17th day of August, 1847, and consisted in the extirpation of a large scirrhus testicle, by E. E. Marcy, M. D., then of Hartford, but at present of the city of New York. The case is reported at length in the *Boston Medical and Surgical Journal*, Sept. 1st, 1847, and the article is from the pen of Dr. Marcy. The evidence on this subject may be found in Smith's *Anæsthesia*, pp. 68 to 71.

Dr. Marcy swears that Dr. Wells "administered the gas."

* * * * "The complete success of the nitrous oxyd in this operation, producing as it did, entire insensibility to pain without at the same time affecting mental consciousness, together with the absence of any bad result from its use, occasioned me to place a high value upon this agent for all purposes of anæsthesia."

In the article published in the *Boston Medical and Surgical Journal*, he says: "At the first incision, there was a slight manifestation of pain, (the full effect of the gas not having been received) but from this instant until the diseased mass was removed, and all the blood-vessels secured (there being quite a number that required ligature) there was not the slightest consciousness of pain on the part of the patient."

* * * "The operation was necessarily tedious and protracted, on account of the great size of the gland, the extensive and firm adhesion of the integuments to the diseased structure, and the unnatural enlargement of several arteries which required ligature. The whole period consumed from the commencement of the operation until the vessels were secured, was not far from fifteen minutes. On questioning the patient afterward, he asserted that he experienced a *slightly* painful sensation at the commencement of the first incision, but from that time until the dressings were applied, he was entirely unconscious of pain." Dr. Marcy adds that after the operation the patient experienced "no pain or other unpleasant feeling in the head," and that his "pulse was regular and natural."

Dr. Cincinnatus A. Taft was present, and supports fully the statements of Dr. Marcy.

The next case which I will mention is that of Henry A. Goodale, of East Hartford, Conn., whose thigh was amputated by Dr. P. W. Ellsworth, on the 1st day of January, A. D. 1848, while he (Goodale) was under the influence of the nitrous oxyd. A report of the case by Dr. Ellsworth may also be found in the *Boston Medical and Surgical Journal*, Vol. 27, p. 498, from which I make the following extract:

"The nitrous oxyd gas was given as recommended by Mr. Wells, having been previously thoroughly washed, which greatly increases the power of the agent, and the rapidity of its effects." * * * "The limb was now elevated without any appearance of consciousness, and removed by the double flap incision about three inches above the knee. Upon the lad's arousing himself from the state of insensibility he inquired whether the leg was off. He said he did not know

when the incision was made," etc. Other details are given, not material to be stated. Dr. Ellsworth adds, "not the slightest bad symptom has followed as the effect of the gas, and every anticipation is cherished of a speedy recovery under the care of his able physician, Dr. Hall."

In this paper Dr. Ellsworth does not say in express terms that Wells was present and took part in the operation, but Dr. Hall supplies this omission, and testifies as follows: "Dr. Wells administered the gas himself. The boy, during the operation was entirely quiet. I held the limb, and he made no motions. He said he felt no pain during the cutting, but said that he knew when the bone was sawed. Dr. Wells gave him the gas a second time, in order to allow a large nerve to be divided. I think this operation was very successful, and proved that the nitrous oxyd is fully equal to any agent for the annihilation of pain in dental and surgical operations." Smith's *Anæsthesia*, pp. 52 to 64.

The last case which I shall adduce is that of Mrs. Mary Gabriel, of Bristol, Conn., who had a tumor removed from near her shoulders, at Hartford, on the 4th day of January, A. D. 1848, by S. B. Beresford, M. D., she being under the influence of the nitrous oxyd administered by Dr. Wells.

She testifies as follows: "On the 4th of January, 1848, he (Dr. Wells) was present and administered the nitrous oxyd gas during a surgical operation" * * * * "which consisted in the removal of a fatty tumor from my right shoulder weighing six and a half ounces." * * * * "I did not feel any pain at all during the operation, which lasted five minutes. At first I could hear a few sentences spoken by Dr. Beresford, but quickly all consciousness was gone, and I remained unconscious until the tumor was removed."

Dr. S. B. Beresford:

"Ques. Have you ever made use of the nitrous oxyd gas as an anæsthetic, and if you have, where first, and who was the patient operated on?"

"Ans. Yes; I operated in this city January 4th, 1848, on Mrs. Charles Gabriel, removing from the neighborhood of her shoulders a tumor while under its influence." * * *

"Ques. How long was the patient under the influence of the nitrous oxyd gas?"

"Ans. I should think six or seven minutes under its complete influence. I speak from recollection. The mass was removed in four or six minutes, and she very soon recovered her perception after it was taken out."

"Ques. Was the operation successful and satisfactory?"

"Ans. It was; the patient felt no pain during the removal of the tumor."

"Ques. Did Dr. Wells administer the gas?"

"Ans. Yes."

David Crary, M. D., of Hartford.

"The nitrous oxyd gas was given to Mrs. Gabriel at this operation by Dr. Wells himself." * * * * "Mrs. G. was perfectly quiet, appeared to suffer no pain from the operation, and so stated on her return to consciousness. I was greatly pleased with the effect of the gas. I have often seen chloroform given, and have used it myself, and in one instance I attempted to use sulphuric ether. I think the nitrous oxyd gas quite equal to chloroform, and greatly superior to ether in its effects."

Dr. Wells died in New York January 24th, 1848, and my readers will note that only twenty-four days before that deplorable event we find him at East Hartford administering the nitrous oxyd in the Goodale case, and four days later at Hartford, doing the same thing in the Gabriel case, and in both instances with marked success; and yet Col. Bissell (no doubt in the simplicity of his heart) writes down in his report (heretofore quoted in part) as follows: "*The total abandonment* of the use of the nitrous oxyd, and indeed of every other agent, shows that Dr. Wells' experiments were on the whole unsuccessful. He engaged in the search, but failed to find the object of his pursuit. He attempted and endeavored assiduously to carry out the idea to practical results, but was not successful. There was great merit in the effort, but it proved a failure." * * * "He stopped half way in the pursuit. He had the great idea of producing insensibility to pain. but did not verify it by successful experiments. He

mistook the means, and he unfortunately rejected the true anæsthetic agent as dangerous to life, and therefore did not make the discovery, and give it to mankind." * * * *

"But he had the signal merit of reviving the investigation, and probably of hastening the discovery."

Aha! "total abandonment!" "Failed to find the object!" "Great merit, but failure!" "Stopped half way!" "Great idea," "but did not verify it!" "Rejected the true anæsthetic agent!" "Did not make the discovery, and give it to mankind!" No! no! When his own molar was jerked out and the leg of Goodale was lopped off, both without the slightest pain, (to say nothing of a multitude of intermediate operations) poor Wells discovered nothing! No effective agent! No anæsthesia! As for his not giving any discovery to mankind, that is a matter which I shall attend to by-and-by. In the meantime I will leave my readers to consider what the history of anæsthesia would be were its materials to be collected from Col. Bissell's report, if I may call a paper such, which was never in fact presented to the House.

2. But Col. Bissell says: "He (Wells) unfortunately rejected the true anæsthetic agent as dangerous to life." This would seem to involve, 1. That the nitrous oxyd is not a true anæsthetic agent. 2. That the vapor of sulphuric ether is so, and, 3. That Dr. Wells wholly rejected the latter as dangerous to life. I admit the availability of the vapor as an anæsthetic, but I do not admit its eligibility as compared with the nitrous oxyd for many, and perhaps most purposes. I affirm that Dr. Wells was distinctly apprised of the power of ether in this respect, long before the pretended discovery at Boston. That it was with him the subject of careful and even anxious inquiry, and finally that he made an election between the two according to his best judgment—he thought it safer to adhere to the nitrous oxyd, and acted accordingly. He, however, ascertained the anæsthetic properties of the vapor by experiment, as will appear hereafter. To show that he carefully inquired into the matter, I adduce the following proofs:

P. W. Ellsworth, M. D.

“Very early after the discovery of Dr. Wells, and before I heard anything of the pretensions of Dr. Morton, to wit: some time in the year 1845, Dr. Wells spoke to me concerning the comparative safety of nitrous oxyd gas and sulphuric ether, and I gave him my opinion in favor of the nitrous oxyd gas, and advised him to confine himself to the use of that agent.”

F. C. Goodrich.

“Immediately after this operation,” (referring to the extraction of one of his teeth,) a conversation ensued between Drs. Marcy and Wells in regard to the use of ether as a substitute for nitrous oxyd gas, in favor of its use, as being more easily prepared, though not so safe to use, and nearly if not positively identical in its effect upon the nervous system. Dr. Marcy expressed himself as perfectly familiar with the effects of ether on the system, and decided to use it in a surgical operation which he was shortly after to perform.” From another part of the deposition of Mr. Goodrich, it appears that the tooth referred to was extracted, and consequently the conversation reported by him must have been had, the latter part of December, 1844. It thus appears that Wells and Marcy were occupying themselves with this subject very soon after the great discovery was made.

Dr. John M. Riggs.

“I had been taught,” (meaning by Professor Rogers, at Trinity College,) “that sulphuric ether produced effects similar to nitrous oxyd gas upon the human system, but was cautioned by the Professor not to use it, as it was dangerous to life. I communicated to Dr. Wells the views of Professor Rogers, and the propriety of using sulphuric ether in dental operations was the subject of conversation between Dr. Wells and me, but we were deterred from experimenting with it by the warning of Professor Rogers. This conversation followed immediately after the discovery of the effects of nitrous oxyd gas, and the reason why we spoke of a substitute was the labor of preparing this gas, and its bulk.”

Professor Valentine Mott, of the city of New York.

"The first intimation I ever had of the probable application of the influence of nitrous oxyd gas or sulphuric ether to obliterate all consciousness of pain in surgical operations, was derived from the late Dr. Wells, of Hartford. When on a visit to New York, he called upon me and made the facts known. He stated that he had used ether for the extraction of teeth, and he believed that it might be employed for the same purpose in great surgical operations. As he first applied the ether for the purpose of producing anæsthesia, he is fully entitled to the credit and honor of the discovery. This interview was some time before any publication was made anywhere on the subject."

But Dr. Wells did not rest contented with merely inquiring into the subject, he brought the availability of the vapor as an anæsthetic to the test of an experiment, and that, too, long before the ejection of Frost's tooth at Boston. Here is the case :

John Gaylord Wells.

"On one occasion," (referring to a dental operation on himself,) "sulphuric ether was administered by Dr. Wells. I am quite sure it was early in 1845, a long time anterior to the period when Dr. Morton, of Boston, first announced his discovery. The ether was unpleasant in its effects though the tooth was extracted without pain. I therefore advised my friends not to use it, but rather the exhilarating gas."

* * * * "The ether was not given from a bag, but from some different apparatus."

E. E. Marcy, M. D.

"Knowing that the inhalation of sulphuric ether vapor produced similar effects to those of the gas," * * * "I suggested to Dr. Wells the employment of the vapor of rectified sulphuric ether, at the same time detailing to him its ordinary effects upon the economy, and the method of preparing the article for use. Our first impression was, that it possessed all the anæsthetic properties of the nitrous oxyd gas, was equally safe, and could be prepared with less trouble,

thus affording an article which was not expensive, and which could be always kept on hand. At the same time I told Dr. Wells that I would prepare some ether and furnish him with some of it to administer, and also make a trial of it myself, in a surgical case which I expected to have in a few days. This conversation took place in Dr. Wells' office at the time the tooth was extracted from Mr. Goodrich. Accordingly within two or three days after that event I administered the vapor of rectified sulphuric ether in my office, to the person alluded to in my conversation with Dr. Wells, and after he had been rendered insensible to pain, I cut from his head an encysted tumor of about the size of an English walnut. Dr. Wells came in during the operation, and sufficiently early to form an opinion upon the subject. It was entirely successful, and conclusively proved to Dr. Wells and myself the anæsthetic properties of ether vapor." The witness then adds that Dr. Wells requested him to investigate the subject carefully, which he accordingly did, and subsequently reported to him an opinion in favor of the nitrous oxyd, as being safe and more efficacious."

In view of the facts here presented, I trust my readers will feel that I am abundantly justified in asserting, as I do broadly, that the availability of the vapor of sulphuric ether for anæsthetic purposes, was fully recognized at Hartford, and was even used (though to a limited extent), at a date much earlier than the 30th of September, A. D. 1846. Indeed, those who were there so deeply interested in this subject were by far too intelligent and well-informed not to have their attention turned to sulphuric ether as quite likely to produce the same effects as the nitrous oxyd. Facts familiarly known in every chemical laboratory would be almost certain to suggest the substitution of the former for the latter, as being more inexpensive, more readily obtained, and more easily applied. If the witnesses adduced in this connection, are to be believed, this in fact took place at an early day after the great discovery of Wells was made. Not only was a dental operation performed on a patient under the influence of the vapor, but Dr. Wells even went to the city of New York, and

made the fact known to Dr. Valentine Mott, to whom he expressed a *belief that it could be used with success in great surgical operations*. "This interview," says Dr. Mott, "was some time before any publication was made anywhere upon the subject." Now the first annunciation of the practicability of so far paralyzing the nerves of sensation that dental and surgical operations could be performed without pain, may be found in an article from the pen of Dr. Ellsworth, in the *Boston Medical and Surgical Journal* of June 15th, 1845, (which I shall hereafter quote for another purpose.) It is possible that the communication of Dr. Ellsworth may have escaped the notice of Dr. Mott, but it is highly probable that the interview of which the latter speaks took place early in 1845, and morally certain more than one year before Morton (according to his own account of the matter), hatched out the same idea at Boston! Possibly my readers may think, by the time I get through with the subject, that *the ovum from which the fledgling sprang* was furtively obtained from Hartford, Connecticut. I shall attend to that matter in my next chapter.

CHAPTER V.

WM. T. G. MORTON, AND HIS KNOWLEDGE OF THE DISCOVERY OF WELLS; OF ITS VERIFICATION BY EXPERIMENT, AND OF ITS INTRODUCTION INTO DENTAL AND SURGICAL PRACTICE AT HARTFORD.

WHILE the deeply interesting events which I have depicted were transpiring in Hartford, while one of the most astonishing secrets of nature was being detected and brought to light, and while dentists and surgeons were performing with means alike effective and harmless, feats almost miraculous, and the fact was being blazoned forth and made as notorious as that the State House stood on the public square, or that the celebrated Charter Oak was in its vicinage, how was the distinguished Wm. T. G. Morton occupied? Had he no knowledge of such wonderful developments? no suspicion of their occurrence? Had some anæsthetic been applied to paralyze all his powers, physical and mental? Or was he wide awake, flying about (as he now pretends) after the very thing which Wells had already brought out at Hartford? I am strongly inclined to think that some bird came flying along, and whispered into the Doctor's ear a slight intimation as to the purport and effect of the Wells discovery, or possibly the idea was insinuated while he was in a mesmeric state into his mind, by some mysterious agency! At any rate he had it, and the question is where it came from? I think I can satisfy every candid reader on this point.

1. In 1841 or 1842, Morton came from the West and settled at Farmington (only nine miles west of Hartford) as a dentist. He became a pupil of Dr. Wells and was accustomed to come into Hartford for instruction, and also to obtain the assistance of Dr. Wells in getting up work. He married his wife at Farmington. Subsequently, as I believe in 1843, he removed to Boston, and Wells formed a co-partnership with

him to practice dentistry in that city, which he not long after dissolved for reasons no doubt quite satisfactory to himself. Morton therefore was intimately acquainted with Wells, and it is not at all probable that he would be either inattentive or indifferent to events occurring at Hartford, particularly when connected with his own profession.

2. It is admitted on all hands that Wells, toward the close of December, 1844, that is to say, in less than twenty days after he made his great discovery, went to Boston for the purpose of making the fact known to the medical and surgical faculty there. Who would he be more likely to call on than his former pupil and late partner, Morton? In the pamphlet published by Dr. Wells in 1847, he makes the following statement: "Being a resident of Hartford, Conn., I proceeded to Boston in December of the same year," meaning December, 1844,) "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 the *modus operandi* was entirely new to them." Dr. Morton, in his memoir to the French Academy of Arts and Sciences, states that Dr. Wells did make the visit to Boston at the date and for the purpose alleged by him, that he assisted him in securing an opportunity to test the correctness of his theory and the validity of his discovery, that Wells extracted for some person a tooth while under the influence of the nitrous oxyd, but "the patient screamed from pain, and the spectators laughed and hissed." But Dr. C. A. Taft, then a medical student and present, swears that "the patient halloed some during the operation, but on his return to consciousness said he felt no pain whatever." * . * . Dr. Taft adds, "I regarded the operation at Boston, above described, as successful, and as proving the truth of Dr. Wells' theory." In his pamphlet Dr. Wells states, "I was then invited to extract a tooth for a patient in the presence of the medical class, which operation was performed, *but not with entire success*, as the gas bag was removed too soon."

My readers can hardly fail to notice the scrupulous exactitude of Dr. Wells in stating facts, and here I cannot deny myself the satisfaction of presenting another testimonial as to his character in this and other respects. Dr. Abel Ball, dentist, of Boston, swears: "I always regarded Dr. Wells as a man of uncommon talents. He was very enthusiastic, possessed a philosophic and inventive mind, *was very conscientious* and his character was without a blemish, as far as I know."

I will only add further in this connection, that the partial failure of Dr. Wells on the occasion referred to, constitutes the only foundation on which the persistent claims of both Jackson and Morton rest, that the anæsthetic experiments of Wells were a failure, and that he accomplished nothing. It would be extraordinary indeed, if in the vast multitude of cases in which the nitrous oxyd has been used, there was not some of an equivocal character, and even some in which it did not take effect at all. I believe, however, that the number both of the one and the other have been much less than have occurred in the use of any other anæsthetic agent. But a truce to these collateral matters, as my object now is to show by direct and circumstantial evidence, that Morton was at an early date thoroughly informed on the subject of the Wells discovery, and ultimately became convinced of its validity. It is true, he in the first instance, did not believe in it, and in candor I must admit that his incredulity (considering the novelty of the idea, and the remarkable character of the result,) is not a matter of surprise, much less of reproach. But he knew that Wells was not a visionary theorist, and that he could rely implicitly on his word; hence, having had his attention directed to and fixed on the subject, it is not at all probable that he would lose sight of it; nor did he, as will appear by evidence to be now presented.

3. In the subsequent part of the same pamphlet, Dr. Wells says: "After I had made the discovery, I had frequent interviews with him," (meaning Morton,) 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 success-

fully 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 ether, as being attended with less trouble."

Can there be a particle of doubt as to the truth of this statement? Of course Dr. Wells would hardly be disposed to prepare the gas (a bulky article) at Hartford to be used in Boston. He made a reply alike appropriate and sensible,—“Go at once to Dr. Charles T. Jackson, he is a chemist, he will prepare the article for you.” And Morton went accordingly. Jackson, knowing that the nitrous oxyd and the vapor of sulphuric ether produced analogous effects on the human system, “gave him the ether as being attended with less trouble.” I suppose Dr. Wells made the last statement on information and belief, but all the other facts were within his own personal knowledge. Did Dr. Morton have frequent interviews with Dr. Wells on this subject? Did the former request the latter to prepare for him some of the nitrous oxyd for the purpose stated? Did Wells send Morton to Jackson to prepare it for him? I am not aware that he has ever denied or controverted these statements, and were he to do so I should believe them none the less. It is admitted that Morton did go to Jackson, but they do not agree as to what transpired, the former claiming that his only object was to pick up a little information, and the latter, that he put him in possession of all the knowledge he ever had on the subject. But they soon burst upon the world as the joint authors of anæsthesia. No wonder that poor Wells, after narrating the above facts, should exclaim (as he does) with some bitterness, “*these are the individuals who now claim to be the discoverers!*”

4. In the deposition of G. Q. Colton (from which I have already made an extract) he says further: “I soon after left Hartford,” (meaning soon after he administered the gas to Dr. Wells, December 11, 1844,) “and did not hear anything more on the subject till I saw a few weeks subsequent a paragraph going the rounds of the papers, announcing that Dr.

Wells was extracting teeth without pain, and I stated on several occasions, in connection with that paragraph, how and when the discovery originated." It seems, then, that Dr. Wells' discovery got into the newspapers, and went "the rounds," or in other words, obtained universal publicity. If we assume that Dr. Wells partially failed in Boston, here is an annunciation of complete success at Hartford. Would the fact be likely to escape the notice of Wm. T. G. Morton?

5. In the *Boston Medical and Surgical Journal* of June 18th, 1845, may be found a communication from Dr. P. W. Ellsworth, "on the modus operandi of medicine," from which I take the following extract: "The nitrous oxyd gas has been used in quite a number of cases by our dentists during the extraction of teeth, and has been found by its excitement perfectly to destroy pain. The patients appear very merry during the operation, and no unpleasant effects follow." More publicity! and that, too, in Boston! and no less than fifteen months before the extraction of Frost's tooth. I strongly suspect that some just ideas touching the reality of the Wells discovery commenced about those days to percolate through his cranium, and ere long reached his brain, and became so fixed as to give shape and direction to his future course, whether to his credit or discredit, need not be considered here.

6. Mrs. Esther W. Walton, of Sherbrooke, Canada East, swears, (after speaking of a dental operation which she had performed at the office of Dr. Morton, in January, 1845,)—"I was within hearing of a conversation between Dr. Wells and Dr. Morton relative to the discovery of an agent by Dr. Wells, whereby he had been and was enabled to extract teeth without occasioning pain. This discovery Dr. Wells communicated to Dr. Morton at this interview," (meaning that he then made known to him, in substance at least, what it was). "In the early part of the conversation, the precise words of which I cannot recall, Dr. Morton made light of it, treating the subject as chimerical. This incredulity on the part of Dr. Morton seemed to touch the feelings of Dr. Wells, and induced him to remark, '*I have done it and can do it again.*'"

7. Oswin R. Roberts, of Hartford, Conn. :

"Dr. Wm. T. G. Morton called at our office this winter, prior to January 1st, 1853, and had a long conversation with us respecting the discovery of anæsthetic agents. * * * Dr. Morton stated he took his idea from Wells' use of the nitrous oxyd gas, but that the gas failed, and he went on perfecting the discovery, until it resulted in the use of sulphuric ether!"

"Took the idea from Wells," good, so far! but nitrous oxyd failed! Fortunately the ipse dixit of Wm. T. G. Morton cannot settle that question! "Went on perfecting the discovery! which was no discovery after all, as it failed! Until he run the whole affair into the inhalation of the vapor of ether! the two substances being in their effects well known equivalents for each other! Verily, Morton must hereafter be recognized as the Columbus of the scientific world!!

8. In conclusion, I will present extracts from two depositions, the first from the deposition of Dr. Granville G. Hayden, taken and improved by Dr. Morton before the select committee of which Col. Bissell was chairman, (first session, thirty-second Congress,) and the second from the deposition of Dr. James McIntyre, taken and offered by Dr. Jackson before the select committee of which the Hon. Mr. Edwards was chairman. (Second session, thirtieth Congress).

In the first deposition, Dr. Hayden, among other things, testified as follows:

"That about the last of June, 1846, Dr. Wm. T. G. Morton called upon me at my office, No. 23 Tremont Row, and stated to me that he wished to make some arrangements with me that would relieve him from all care as to the superintendence of those employed by him in making teeth, and all other matters in his office. He stated as a reason for urging me to superintend his affairs in his office, that *he had an idea in his head* connected with dentistry, which he thought would be one of the greatest things ever known, and that he wished to perfect it, and give his whole time and attention to its development. Being extremely urgent in this matter, I made an engagement with him the same day, according to his

request. I then asked him what his secret was. "Oh," said he, "you will know in a short time." I still insisted on knowing it, and he finally told me the same night, to wit, the night of the last day of June, 1846, aforesaid, that it was something he had discovered which would enable him to extract teeth without pain. I then asked him if '*it was not what Dr. Wells, his former partner, had used,*' and he replied '*nothing like it,*' and furthermore that '*it was something that neither he nor any one else had ever used.*'"

Here is, in substance, an explicit acknowledgment by Dr. Morton that he at the date named was not only well informed as to what anæsthetic agent Wells had been and was using, but also as to its nature and properties, for otherwise how could he declare (as he did peremptorily), that he contemplated introducing another agent *entirely unlike it?*'

In the second deposition, Dr. McIntyre testifies as follows:

"In the month of September, 1846, I was a student in chemistry with Dr. Charles T. Jackson, of Boston. In the latter part of September I was sitting in the front room or office of Dr. Jackson's laboratory, when Mr. Wm. T. G. Morton came in and asked for Dr. Jackson, and passed through the office into the house adjoining the laboratory. In a short time Morton came into the back room with an India rubber bag in his hands. Dr. Jackson came in with him, or shortly afterwards. Dr. Jackson asked Morton what he wanted with the bag. He said he wanted to blow up the bag, and act upon a patient's imagination, by making her breathe from the bag. The precise words of Morton's answer I do not remember, but the purport of it was, that he wanted to extract some teeth from a lady who objected on account of the pain, and that he expected, by making her breathe from the bag, to believe that she would suffer no pain from the extraction of her teeth." * * * "*There was then some conversation about the use of exhilarating gas; whether it was first mentioned by Dr. Jackson or Morton I do not remember. Morton asked him if he (M.) could not make it. Dr. Jackson told him that he could not succeed without apparatus, and the assistance of some one who had some chemical knowledge, and*

that if he undertook to make it, he would get nitric oxyd, instead of nitrous oxyd. He asked Dr. Jackson if he would not prepare some for him. This Dr. Jackson declined on account of his business." * * * "As he was going, Dr. Jackson told him that he could tell him something that would make his patients insensible, and then he could do what he had a mind to with them. Morton asked him what it was. Dr. Jackson then told him to go to Burnett's and get some pure sulphuric ether, and pour it on a handkerchief, and put it to the patient's mouth, and let her inhale it. Morton asked what sulphuric ether was—what sort of looking stuff it was. I staid in the front room while Morton and Jackson went to look at the ether. From Morton's questions about the ether, I am satisfied he knew nothing about its properties or nature. I heard Morton ask Jackson very particularly whether it would be safe to use. Dr. Jackson assured him that it was perfectly safe, and alluded to the students at Cambridge having used it. Morton appeared to be afraid to use the ether, and asked him several times if it was safe. Dr. Jackson advised Morton to try it on himself. Morton asked me if I would be willing to try it. I told him I would." * * * "The next day after the above conversation, Morton came into the office and told Dr. Jackson that the ether had worked nicely—that the patient suffered no pain." In these statements the witness is fully sustained by the testimony of Dr. Geo. O. Barnes, also adduced by Dr. Jackson on the same occasion, and on the facts thus disclosed I submit the following remarks:

1. Morton went to Jackson to obtain the very instrument which Wells had been using for near two years at Hartford, in administering the nitrous oxyd, to wit: an India rubber bag.

2. He carried with him the idea of inhalation, and adverted to it early in the interview. No doubt he looked very grave when he told Dr. Jackson that he was about to inflate the bag with common air to operate on the imagination of a reluctant patient, and not on her nerves of sensation; and no doubt he was as frank, sincere, truthful, and honest in

making this statement as he usually has been when speaking of anæsthesia, or any subject connected with it.

3. Although common air was on his lips, yet it is quite obvious that the nitrous oxyd, and the wonderful success which had attended it was on his mind. He therefore commenced talking about it. I say "*he commenced*," notwithstanding Dr. McIntyre says he does not recollect who introduced the subject. Obviously Dr. Jackson had no occasion to advert to it.

4. It is morally certain that Morton called on Jackson on the occasion named, in conformity with the recommendation of Wells, and for the purpose contemplated by them both at Hartford. Why so much disingenuousness? Had he then conceived the idea of appropriating the Wells discovery to his own use?

5. Dr. Jackson seems to have interrogated him very closely as to the use which he proposed to make of the India rubber bag, and was not quite prepared to swallow his "common air" humbug, and this led to a little cross interrogation by Morton. He wanted to know whether he (Morton) could not prepare the nitrous oxyd, to which Dr. Jackson properly replied in the negative, as he knew nothing about chemistry, and would be in danger of producing the nitric oxyd (a rank poison) in place of the nitrous oxyd. He then requested Dr. Jackson to prepare some for him, which that gentleman was obliged to decline by reason of other engagements.

6. It is quite apparent that Dr. Morton went to Dr. Jackson's office under an idea that if he could get an India rubber bag, he could contrive in some way to fill it with the nitrous oxyd, and if he could have done so surreptitiously so much the better for his purpose. But finding this impracticable, he spoke out as to the fact—he wanted to use the nitrous oxyd to obviate the pain (often exquisite) resulting from the extraction of teeth. At this juncture, Dr. Jackson suggested the substitution of the vapor of sulphuric ether as being likely to produce the same effect. This was no discovery on the part of Jackson. Any tyro of chemistry, under the same circumstances, would have done the same thing

7. It is certain that this interview between Morton and Jackson must have taken place either on the 29th or on the 30th of September, 1846, for Dr. McIntyre says that "the next day after the conversation, Morton came into the office and told Dr. Jackson the ether worked nicely—that the patient suffered no pain." Now Frost's tooth was extracted on the 30th, just at dark, and it is not probable that Morton reported the result to Jackson the same evening. If we assume that the report was made on the succeeding day, that is to say, October 1st, then the interview with Jackson must have been on the 30th, so that Morton obtained the information from Jackson (as to the substitution of the vapor of ether for the nitrous oxyd), and the ether itself from Burnett's, and extracted Frost's tooth, all on one and the same day, and this, I am satisfied, was the fact.

8. Whether Morton had any real knowledge at the date specified, of those intoxicating or exhilarating substances, the nitrous oxyd and sulphuric ether, it will not be difficult to infer from the statements of Dr. McIntyre. He seems to have been a complete ignoramus as to both.

In conclusion, I will only say that the many considerations which I have adduced under this head of inquiry, must, as I conceive, be abundantly adequate to bring every upright, intelligent mind to the conclusion that Morton must at all times, and particularly in the summer and fall of 1846, have been well informed touching the inception of anæsthesia at Hartford, and its full development there. *He knew that anæsthesia had been brought out! had been made practical! and that the conception of Wells in all its deeply interesting proportions, had been revealed to the community in which he resided; and must soon be revealed to the world—a magnificent reality.*

CHAPTER VI.

DR. CHARLES T. JACKSON AND HIS ASSERTION THAT THE PROTOXIDE OF NITROGEN OR NITROUS OXYD GAS HAS NO ANÆSTHETIC PROPERTIES WHATEVER.

"OH! that mine adversary had written a book," was the exclamation of a venerated patriarch, and why? Because he felt assured that if the advocate of false doctrine had undertaken its vindication in writing, he would have compromised himself irretrievably. Now this is precisely what the learned Dr. Charles T. Jackson has done—he has written his book, and how he stands affected thereby my readers will judge from the following extract:

"By oft repeated experiments inhaling protoxide of nitrogen myself, and by administering it to others in every possible way by large and small orifices, I soon became fully satisfied that *it possessed no anæsthetic properties*. Horace Wells, a dentist of Hartford, Connecticut, repeated Davy's experiments in Boston, in 1844, extracting teeth from persons to whom he administered the protoxide of nitrogen. I did not witness his experiments but understood from others that he failed to render his subjects insensible to pain. In 1847, he met with a similar failure in the hospitals of New York, thus fully sustaining the conclusions of Davy that this gas will not prevent the sensation of pain."

"In the experiment with protoxide of nitrogen made under the direction of the Hon. Truman Smith, at Washington, the subject was rendered unconscious by asphyxia, the opening through the stop-cock of the gas-bag being only of the size of a knitting-needle."*

If these representations in their general aspect and bearing are true, then it would seem that a certain Rt. Rev. Bishop

* Jackson's Manual of Etherization, p. 13.

of the Protestant Episcopal Church, had not all that reverence for the sacred injunction against bearing "false witness" which he should have had, as some years ago he made and swore to the following deposition :

"I, Thomas C. Brownell, of the city and county of Hartford, depose and say that on or before the first of January, 1848, my daughter, Frances C. Brownell, had five teeth extracted by Dr. Riggs, a dentist of this city, she being at the time under the influence of the nitrous oxyd gas, administered to her by the late Dr. Wells. I was present at the operation and saw no evidence that my daughter was conscious of suffering, and she told me afterward that she felt no pain during the operation. A few weeks afterward she had three more teeth extracted while under the influence of ether, and with little appearance of suffering, though she thought it less genial in its effects than the nitrous oxyd gas, and such was my own judgment of its operation.

T. C. BROWNELL.

Sworn before,

HENRY L. RIDER, N. P."

Also a highly respectable lay member of the church, Mr. Francis C. Goodrich, would seem to be in the same unhappy category with the Rt. Rev. Bishop, for after swearing that in the latter part of December, 1844, he had a tooth extracted by Dr. Wells while under the influence of the nitrous oxyd gas, he proceeds as follows : "The operation was performed in the presence of Drs. Marcy, Kitteridge, and Riggs, and was unattended with even the slightest sensation of pain. The gas was administered by Dr. Wells, who was assisted by Dr. Riggs, and in a few seconds after I commenced inhaling it I fell into a stupor and partially unconscious state, experiencing at first a sense of numbness in my limbs, followed by an indescribably rapturous or pleasurable sensation of the brain and increasing in intensity until I seemed, as it were, a mere spark or atom of matter floating away in the region of space. I was not, however, wholly unconscious during the entire

operation; I knew when the instrument was applied to the tooth, and heard remarks by those present, but neither felt nor feared pain, nor do I believe it possible to have inflicted pain upon me in any manner during the time my nervous system remained entirely under the influence of the exhilarating gas."

But the statement of Dr. Jackson must be examined in some detail, and, therefore, I have to remark:

1. Mr. Truman Smith says that there is not any foundation for so much of the allegations of Dr. Jackson as appertains to himself; that he witnessed, while in Washington, the administration of the nitrous oxyd only in a single instance, the subject being a particular friend now occupying a high position in the United States Volunteer Army, employed in Texas. He had one of his teeth extracted while under the influence of the gas, and on that occasion Mr. S. is quite sure that if a stop-cock with an orifice no larger than a knitting-needle had been employed, such an extraordinary fact could not have escaped either his notice or his recollection. He is unwilling to believe that Dr. Jackson would make such a statement, knowing it to be false, and therefore, he concludes that he (Dr. J.) has lent a credulous ear to the misrepresentations of others.

2. It will be observed with respect to the supposed experiments and failure of Dr. Wells in the hospitals of New York, in 1847, that Dr. Jackson enters into no details whatever. He does not name the hospitals, specify the operations, nor tell us who the subjects were, who the operating surgeons, who present, what the effect of the gas was in each case, nor any other of the many particulars necessary to authenticity and verisimilitude. He uses language implying that there were a succession of trials by Wells and a succession of failures, all in 1847. Is there any probability in such a story? Having tried and failed once, would a man so diffident, modest and sensitive, as Wells is known to have been, be likely to try over and over again? Would the enlightened surgeons of New York tolerate such charlatanry for a moment! Dr. J. also uses language implying personal knowledge, and yet he

does not say he was present, and it is quite certain he was not. I therefore have no hesitation in concluding that this last allegation is just as apocryphal as the first, and is much too slatternly and loose to be worthy of serious notice.

3. With respect to the suggestion that Sir Humphrey Davy came to the conclusion "that this gas will not prevent the sensation of pain," or in other words, has no anæsthetic property, it is refuted by quotations which Dr. Jackson, himself, makes from the works of that distinguished savan. It seems that Sir Humphrey on a certain occasion suffered much pain attendant on cutting a wisdom tooth, and Jackson quotes him as follows: "On the day when the inflammation was most troublesome, I breathed three large doses of nitrous oxyd. The pain always diminished after the first four or five inspirations, the thrilling came on as usual, and uneasiness was for a few moments swallowed up in pleasure. As the former state of mind returned the state of the organ returned with it; and I once imagined that the pain was more severe after the experiment than before;" or in other words, the nitrous oxyd will not permanently cure inflammation occasioned by the cutting of a tooth, or by a defective tooth, although it will for the time being annihilate the pain thereby occasioned, and from such premises, Dr. Jackson, with one of those strides which characterizes all he has to say on this subject, reaches the conclusion that Sir Humphrey is an authority for saying "that this gas will not prevent the sensation of pain," and that too in face of the fact (also quoted by him) that Sir H. suggested that "slight surgical operations in which there is no great effusion of blood" might be rendered painless through the effect of the gas.

Sir H. is well known to have been the discoverer of the nitrous oxyd, and the truth is, he came within a hair's breadth of discovering also, anæsthesia itself, in its modern form. He had the great fact directly before him. He got a glimpse of it, but to say that he formed a distinct conception of so paralyzing the nerves of sensation that the surgeon's knife could be applied to any part of the system and not create the slightest pain, and that he entered on a course of experiment-

ation with a view to ascertain whether the nitrous oxyd is adequate to that result, would be to state what is false. He had the high merit of discovering the nitrous oxyd, of having used it to mitigate or rather to suspend pain, and of having suggested the possibility of employing it in trivial surgical operations. Did he ever carry it into any hospital, or cause any surgeon to try its efficacy? Not at all! but he left the great fact just beneath the pathway of science, or (if you please) slightly protruding above its surface, and there it remained for near half a century, every day run over or trod on by learned professors, and zealous experimenters, until Horace Wells, with his keen eye, detected it on the evening of the 10th of December, 1844, and dragged it out on the succeeding day, where it stands a most prominent object, occupying the gaze of the world, and where it should stand to the end of time as a fitting memorial of his sagacity, courage, humanity, and generous nature.

4. Dr. Jackson, in speaking of the trials of the nitrous oxyd by Dr. Wells, in Boston, in 1844, uses the plural number, implying that there were a considerable number of experiments, whereas there was only one—a single tooth extracted, and thus he illustrates again his latitudinous method of dealing with facts. I certainly should feel no disposition to complain of Dr. J. for treating this Boston experiment as a failure were it not for the disingenuousness of selecting a single adverse case for comment out of a vast multitude of a directly opposite character. He can ignore them if such is his pleasure, but he may rest assured an impartial public will not.

5. But by far the most extraordinary part of the statements of Dr. Jackson may be found in the first sentence of the above extract, wherein he in substance alleges: 1. That he made "oft repeated experiments" with the nitrous oxyd. 2. That in so doing he inhaled it himself and caused it to be inhaled by others. 3. That he did this "in every possible way," or (as he expresses it on a subsequent page) "in every conceivable manner." 4. "By large and small orifices." 5. That he "soon," that is to say, early in the investigation,

"became fully satisfied that this gas has no anæsthetic properties" whatever. 6. Then, of course, all that followed were experiments of verification merely; and 7. These established indisputably what he discovered early. All this is either plainly said or obviously implied in the language of Dr. Jackson.

On the case thus presented I deem it proper to submit the following remarks:

1. What are we to think of any man's sense of delicacy who should undertake to settle a scientific question in which he has (in point of feeling) the deepest possible interest, adversely to the claims of others, by secret experimentation in his own private laboratory.

2. Were there not hundreds of scientific characters in the country entirely competent to the task—learned professors, adepts in the preparation and use of the nitrous oxyd, who occupy a position of strict impartiality and disinterestedness, and whose judgment would be high authority, if not conclusive, with the public? If you, Dr. J., desired a fair investigation, and a result in conformity with justice and truth, why did you not make such a reference?

3. In the chapter from which the above extract is taken, Dr. J. pretends to give a history of anæsthesia prior to and concomitant with his own so-called discovery, and all he has to say of Wells and his experiments is to be found in the concise reference to what he did in Boston in 1844, and what he did in New York in 1847, or rather what he failed to do at both, and yet he (Dr. J.) had before him the most full and conclusive proof that he (W.) had succeeded with the nitrous oxyd in dentistry and in general surgery; and even in two capital cases falling under the latter category. Not a word about the extirpation of that scirrhus testicle! Nor about the amputation of Henry A. Goodale's leg! Nor about the multitude of teeth which took painless leaps out of more jaws than were stricken down and smashed by the strong man on a certain occasion with the jaw-bone of an ass! Not a word about any of these cases! Was the Rt. Rev. Bishop Brownell laboring under some strange hallucination? Was his esti-

mable daughter, Miss Frances, romancing, or have a multitude of the good people of Hartford been telling lies? What are we to think of the fairness, candor, and rectitude of such a historian of anæsthesia!

4. But the Doctor tells us in effect, he tried numerous experiments with this substance! How many? when? where? He says he tried them on himself and on others. Who, good Doctor, was present when you experimented on yourself, and who, when on others? Let us know who those third persons were, and let them speak out, for a little bolstering up of your allegations may not be without its use.

5. But he tried the nitrous oxyd "in every possible way," of course there were many! Why not give us a census of them? We all know that we are dealing with a character of vast learning and inexhaustible ingenuity in contriving how to do it, and *how not to do it!* Possibly the last idea, respected Sir, unconsciously predominated in your mind and gave a direction to your course.

6. But he tried the nitrous oxyd with large orifices and with small. As to what diameter the former had we are left in the dark, but as to the latter, we have a clew *in that knitting-needle affair*, which, according to the Doctor, transpired at Washington some years ago. Sublime spectacle! The learned Doctor seated in his professorial chair with India rubber bag in hand charged with nitrous oxyd; head back, and exerting his utmost power to transfer from the interior of the aforesaid bag into the interior of his lungs the aforesaid gas (all common air excluded) *through an orifice no larger than a knitting-needle!* Countenance livid; danger of asphyxia imminent! Stop! stop! Doctor! *quantum sufficit!* The Wells pretensions are annihilated forever!

7. After such a performance this remarkable demonstrator of anæsthesia is of course prepared to issue his ukase, which he does as follows: "I became fully satisfied that it" (the nitrous oxyd) "possessed no anæsthetic properties!" No! none whatever!

Stand aside, audacious Sir, and behold with what facility I can crush out your statements and conclusions by a brief narrative of facts.

I have already stated "Mr. G. Q. Colton, having had the good fortune to assist at the first genuine anæsthetic operation ever performed on earth," (referring to the extraction of the tooth of Dr. Wells while under the influence of the nitrous oxyd, December 11th, 1844,) "immediately resumed his lectures and continued the same until within a recent period." Being neither a dentist nor a surgeon, he had no occasion to practice anæsthesia as such, but often exhibited the nitrous oxyd to illustrate chemical principles. I am satisfied that no man either on the Eastern or Western Continent can compare with Mr. C. in the extent to which he has used this element, and that too with uniform impunity. In no case has the slightest inconvenience or evil resulted from his practice—a fact which I am disposed to note here with some emphasis, as certain interested parties are at this time seeking to create the impression that it is unsafe. Mr. C. has generally administered it before public assemblies, and had any accident occurred, it would have been blazoned to the public through the newspaper press. Not a word can be found anywhere to justify any such suggestion.

About the 1st of June, 1863, Mr. Colton was in the city of New Haven, Connecticut, lecturing and exhibiting the nitrous oxyd as usual. Dr. Joseph H. Smith, a highly respectable dentist of that city, happened to have a lady patient in a very delicate state of health to whom he was unwilling to administer the vapor of ether. He applied to Mr. Colton for information in respect to the availability of the nitrous oxyd, and his response being favorable, he engaged him to bring the article to his office, which he did accordingly, and administered the same to her, and Dr. S. extracted seven teeth while she was under its influence and apparently insensible to pain. In a deposition I now have before me, Dr. S. swears, that on recovering her consciousness, she declared she experienced no pain whatever, and that he was and is satisfied that such was the fact. As to what followed, let an extract from the same deposition, speak :

"I then commenced the use of the nitrous oxyd as an anæsthetic agent, and have continued to use it to the present

time." (Deposition taken March 12th, 1864.) "I had, in the first instance, the assistance and co-operation of said Colton. He prepared and administered the gas, and I extracted the teeth, but I have since prepared and administered it myself. I have kept an accurate account of these operations, with names of parties, dates, and number of teeth extracted, an abstract of which is contained in the schedule hereunto annexed. And I depose and say that the same is true, and the deponent further says that in no single instance has the administration of the gas been attended with any ill effects. That in most of the cases no pain whatever was experienced, and in the residue it was too inconsiderable to be noticed. My patients uniformly express much satisfaction with its effect, and I am convinced, that properly made and administered, it is a perfectly safe agent, and I greatly prefer it to the vapor of ether. Indeed, with my present experience, I would not use ether so long as I can obtain the gas."

The schedule of which Dr. Smith speaks, is quite too long to be inserted here. It is sufficient to say that it contains a daily record of the number of teeth extracted from the first of June to the close of February, being the period of nine months. The aggregate is no less than three thousand, nine hundred and twenty-nine teeth extracted under the influence of the nitrous oxyd, during the period named by one dentist in the city of New Haven, Connecticut!!! The introduction of the use of the nitrous oxyd in New Haven seems to have set the whole city on fire. The people rushed in great numbers to the office of Dr. S. and had their teeth extracted, not only without pain, but in a state of exhilaration and enjoyment, for which I can find no language more appropriate than that already quoted from the deposition of Mr. Francis C. Goodrich. The extent of these operations and the magnitude of the excitement will appear by producing, (as I now do,) so much of the above schedule as relates to the month of June.

Number of teeth extracted by Dr. J. H. Smith, dentist, at New Haven, Connecticut, for subjects under the influence of

the nitrous oxyd gas administered by Mr. G. Q. Colton, during the month of June, 1863 :

Date.	No. of Teeth.	Date.	No. of Teeth.
Amount brought up, 898			
June 1 - - -	20	June 15 - - -	77
" 2 - - -	50	" 16 - - -	85
" 3 - - -	17	" 17 - - -	40
" 4 - - -	34	" 18 - - -	87
" 5 - - -	87	" 19 - - -	14
" 6 - - -	34	" 22 - - -	38
" 8 - - -	145!!	" 23 - - -	86
" 9 - - -	127!	" 24 - - -	91
" 10 - - -	57	" 25 - - -	104!
" 11 - - -	134!	" 26 - - -	107!
" 12 - - -	99	" 29 - - -	62
" 13 - - -	98	" 30 - - -	92
Carried forward, 898		1785!!	

No less than seventeen hundred and eighty-five teeth extracted in New Haven in one short month, by a single dentist, with a successful use of the nitrous oxyd as an anæsthetic! Such a magnificent result could not fail to produce a corresponding effect elsewhere. Accordingly Mr. G. Q. Colton removed to New York early in July, 1863, and there established an anæsthetic institution, (called the COLTON DENTAL ASSOCIATION,) for the extraction of teeth by the use of the nitrous oxyd, at No. 22 Bond street. His principal associate is Dr. John Allen, one of the leading dentists of the city, and there they have pursued the business to this day, with success. Many of the other dentists send their patients to the Association for extraction merely, and many prepare and use the gas themselves. From New York the practice has extended into the other large cities, Boston, Philadelphia, and Baltimore, and is now rapidly spreading all over the country. Dentists using the nitrous oxyd, can at present be counted by hundreds, and in a few months their "name will be legion." I predict it will, ere long, be carried into general

surgery. I am convinced it can be used with facility in hospitals and in private practice, though on account of its bulk, it can not be carried on the field of battle. It may be, to some extent, available as a remedial agent, particularly in cases of reduced vitality. Not an accident has occurred. The agent has proved in all cases as safe as it was effective. In support of these views, I produce here an extract from an opinion recently given by Dr. P. H. Vanderweyde, Professor of Chemistry, New York Medical College and at the Cooper Institute, as follows:

"I am satisfied that nitrous oxyd can be used in all cases where ether and chloroform cannot be safely administered; in many cases the use of the two last-named anæsthetics, is by judicious physicians considered unsafe; notwithstanding this, there are too many cases on record where the counter-indications were overlooked, and fatal results have followed the use of ether and chloroform. I know of no case in which I would consider nitrous oxyd gas unadvisable, except in a stage of consumption so far gone, that the life of the patient may be considered as to have nearly run out, which may easily be discovered by auscultation, percussion, state of the pulse, etc.,—a state in which the little excitement attending the extraction of a tooth would be unsafe *without any anæsthetic.*"

* * * * *

"When, now, we look at the hundreds of cases directly killed by ether or chloroform, on the operating chair or table, the comparative value of nitrous oxyd must be apparent."

"It is a singular fact that among the three anæsthetics now in use—ether, chloroform, and nitrous oxyd,—the first is combustible in itself, though the very *opposite* of a supporter of combustion and life; the second, chloroform, is neither combustible nor a supporter of combustion while the last, nitrous oxyd, *is a powerful supporter of combustion and of life!*"

"The difference between the nitrous oxyd, and ether, and chloroform, is, that the first, being a supporter of combustion and respiration, stimulates the nervous system and produces an increase of vitality, while the two others, ether and chloroform, being non-supporters of combustion and respiration, depresses the nervous system, and brings vitality below the standard, though with the same final result, *perfect unconsciousness*; the difference only is that the unconsciousness produced by the increase of vital action is harmless, and the same result produced by the depression of vital action is injurious, and may prove fatal; in other words, the excitement or unconsciousness following the use of nitrous oxyd is harm-

less in its results, while the depression or unconsciousness following the use of ether and chloroform is connected with danger."

"The nitrous oxyd is absorbed in the lungs as a compound, the nitrogen as well as oxygen; the oxygen is partially given back in expired carbonic acid, but the nitrogen is retained. As it is known that the lungs are unable to appropriate the free nitrogen from the atmosphere, and also that the most nutritious substances contain nitrogen in combination, which is appropriated by the system as food, (the so-called nitrogenized compounds,) does this not seem to indicate that *nitrous oxyd gas is, in a certain sense, nutritious?* as it introduces nitrogen in such a form and combination that it can be absorbed, retained, and appropriated by the system. Does not this explain the strengthening effects of the gas to weak persons whose nutrition is deficient, and its exhilarating, pleasant effects on almost every one? Surely we can not account for this by the greater amount of oxygen; if this were the case, pure oxygen would be better still, but, on the contrary, it has no such effect whatever."

Petmit me to add here that I am no more convinced now of the availability of the nitrous oxyd for anæsthetic purposes, than I have been for years past. Having paid particular attention to the origin of modern anæsthesia, and being personally acquainted with many, if not most, of the citizens of Hartford who have deposed to their knowledge of the facts, and having the utmost confidence in their rectitude, how could I doubt on the subject? But nevertheless, as a Lover of Truth and Justice, I feel myself under infinite obligations to Dr. Joseph H. Smith and Mr. G. Q. Colton for having revived the use of this beneficent element in connection with dentistry. The results which have followed are well adapted to bring out prominently the great truth that there is a just God presiding over the destinies of men, and that in the dispensations of his Providence, fraud, chicanery, and imposture, cannot always prevail. To the illustrious Sir Humphrey Davy, (as I have already remarked,) the world is indebted for the discovery of by far the most effective agent for the prevention of human suffering now known; and to modest, humble, unpretending, and estimable Horace Wells for ascertaining its full scope and efficacy, and for having applied it with success to that important end. The ashes of the latter rest in an obscure grave, his widow and only child are in

poverty, and it can not be possible that an impartial public will deny to them the consolation which would result from a recognition of one, to whose memory they cling with tender affection, as *a true benefactor of mankind*. I regret to be obliged to add that there is another topic not very creditable to the name of Dr. Charles T. Jackson, (otherwise quite respectable,) which I must reserve for my next chapter.

CHAPTER VII.

DR. CHARLES T. JACKSON, AND HIS CLAIM THAT HE HIMSELF MADE THIS, THE GREATEST DISCOVERY OF MODERN TIMES, AND THAT, TOO, LONG IN ADVANCE OF ALL OTHER COMPETITORS.

In my last chapter I took up and considered in all its bearings, the bold assertion of this gentleman, that the protoxide of nitrogen, or nitrous oxyd gas, is incapable of producing any anæsthetic effect. Whether I succeeded in putting an extinguisher on this assertion, is a matter which I must refer to the judgment of my readers. Let not any one, however, entertain for a moment the idea that the effort to which reference is had, exhausted the intrepidity of the learned Doctor. He claims, also, that he really discovered anæsthesia, and acquired a full knowledge of all its principles and elements several years in advance of experimentation by Wells, at Hartford, in December, 1844.

In the second chapter of his work entitled "A Manual of Anæsthesia," he makes (as he supposes), by a few flourishes of his pen, an effectual disposition of all other competitors; he ante-dates, by a pretended discovery of his own, the claim of Wells to the extent of three or four years. In Chapter No. 1, he annihilated (if ink and paper can do it), the anæsthetic properties of the nitrous oxyd; but he obviously thought it expedient to "lay an anchor to the windward," or, in other words, to provide for the emergency that would arise should the nitrous oxyd turn out to be an available anæsthetic after all. He therefore, in Chapter No. 2, entered upon the work of demonstrating that he (the learned Doctor) is the great "I am" of the scientific world; that to his puissance, and to that only, mankind are indebted for this wonderful discovery. The narrative is as interesting as any novel, and just about as substantial and true. "In the year 1837,"

he says, "I discovered that ether vapor was superior to alcohol as a remedy for the strangling and toxical effects of chlorine gas, and it was used for that purpose in my laboratory from that time forth." (p. 16.) "In the winter of 1841-2, I was employed in giving a few lectures before the Mechanics' Charitable Association, in Boston, and in my last lecture, which I think was in the month of February, I had occasion to show a number of experiments in illustration of the theory of volcanic eruptions, and for these experiments I prepared a large quantity of chlorine gas, collecting it in gallon glass jars, over water. Just as one of these large jars was filled with pure chlorine, it overturned and broke, and in my endeavors to save the vessel I accidentally got my lungs full of chlorine gas, which nearly suffocated me, so that my life was in imminent danger." (p. 18.)

"The next morning my throat was severely inflamed and very painful, and I perceived a distinct flavor of chlorine in my breath, and my lungs were still much oppressed."

"I determined, therefore to make a more thorough trial of ether vapor." * * * "I had a large supply of perfectly pure washed sulphuric ether (oxyd of ethyle)." * * *

"Soaking my towel in ether, I placed it over my mouth and nose, so as to allow me to inhale the ether vapor mingled with air, and began to inhale the ether into my lungs." Dr. J. then goes on to describe the effect: "Irritability ceased; sense of coolness, followed by warmth; giddiness and exhilaration; numbness; swimming sensation, as if afloat in the air; soon fell into a dreamy state, and then became unconscious of all surrounding things." When he awoke the pain in his throat was gone, but his limbs were benumbed, and nerves of sensation paralyzed; he experienced "thrilling along the spine," which was "not in any way disagreeable." "Little by little" he recovered sensation, but it was some time before it fully returned, and his "throat became really painful." (p. 19.)

The learned Doctor then arrives at the gist of the whole matter, which he sets forth as follows: "Reflecting on these phenomena, *the idea flashed into my mind* that I had made

the discovery I had for so long time been in quest of—a means of rendering the nerves of sensation temporarily insensible, so as to admit of the performance of a surgical operation on an individual without his suffering pain therefrom.” (p. 19, 20.) (This paragraph I quoted in my first chapter, but it is here repeated so that my readers may have it before them in connection with what is to follow).

Dr. J. then adverts to the numerous instances in which he made known to sundry parties the sedative and alleviating effects of the vapor of sulphuric ether; but it is unnecessary to repeat the details. One sample will be sufficient to enable my readers to form an enlightened judgment of the whole. “From the year 1842 to 1846,” (he says,) “Dr. William F. Channing was an assistant in my laboratory, and during the winter of 1845, by the accidental inhalation of chlorine gas, came very near losing his life. I came in at the opportune moment, and at once administered the ether vapor to him very freely, so as to bring on temporary relief, though he suffered much for weeks afterward from the violence of the inflammatory action brought on by the chlorine. He describes the pain as being as severe as that from the surgeon’s knife.”

It is from such premises that the learned gentleman calls upon the public to come at once to the conclusion that he is the true author of modern anæsthesia. Upon this entire subject I submit the following remarks:

(1.) This second chapter the Doctor entitles “*Approach to and final discovery of Anæsthesia—The discovery entrusted to scientific friends.*” Here is an intimation that there was a party trusting, and parties trusted. Who was the former? “Intrusted, delivered in trust, committed to the hands or care of another in confidence that he will be faithful in discharging his duty.”—(Webster). It seems that some being had concluded to confer a great benefaction on mankind, and to intrust the development not to the vulgar herd, not to a poor dentist, but “to scientific friends.” Why “friends,” in the plural number? Why not say at once, to that great friend of science, the learned Doctor Charles T. Jackson?

There is in all this verbiage a plain intimation that it is a piece of presumption for any other than a scientific character to pretend to the authorship of such a discovery as anæsthesia. The idea of Dr. J. seems to be, that learned professors and doctors should have a complete monopoly of every discovery in science, or resulting therefrom; and yet the whole corps of scientific men, both in Europe and America, had the great fact on which this discovery is based, (as I have already remarked), for near one-half century directly under their eyes, and yet they did not detect it. The truth is, that it was a matter of acute observation merely, and Horace Wells was the very man to do the work. Jenner was a physician, engaged in practice in a rural district. He discovered that persons engaged in the ordinary duty of the dairyman, contracted a slight complaint which shielded them at all times thereafter from the most loathsome of diseases, the small-pox, and thus detected the principle of vaccination, which he introduced into practice. He no doubt possessed high powers of investigation, judgment, perseverance, and very likely (as in the case of Wells) great enthusiasm; but I never understood that he was in any proper sense a scientific character. When Sir Humphrey Davy discovered the nitrous oxyd and ascertained its elements, and to some extent its effects on the human system, he did so in the exercise of the highest scientific powers known to men. As I have already said, he, in the course of his experiments, got a partial hold of anæsthesia, but it was reserved to Horace Wells to grasp it and drag it out. Do I in this cast any reproach on Sir Humphrey? Not at all. Do I elevate the latter to the exalted position occupied by the former in the history of science? No, not at all. What I insist upon is, that there is no monopoly, no intrusting "to scientific friends," and to them only. The truth is, that observers with inventive, sagacious, and (often) philosophical minds, are following all the while on the track of those whose avocation is science, and obtain from elements furnished by the latter results frequently useful, and sometimes magnificent. When, as in this case, the development deeply concerned our common humanity, when it has already reliev-

ed, and is to relieve an amount of anguish of which it is impossible to form an adequate conception, and when its author, in all the generosity of his impulsive nature, immediately proclaimed the fact, and sought from it not the slightest personal advantage, I will suffer no man (however respectable he may otherwise be), to put on airs, exclaiming, stand aside! you! a dentist, pretend to have discovered anæsthesia! not at all; it was intrusted to "scientific friends!!" A man much more humble than was Horace Wells may, in the way indicated, make himself in every sense the benefactor of his race; and if he does so, is he not to be recognized as such?

(2.) But the learned Doctor tells us that "reflecting on these phenomena," (referring to the inhalation of the vapor of ether, in the winter of 1841-2, and the effects of such inhalation,) "the idea flashed into my mind I had made the discovery I had for so long a time been in quest of." It would seem that this "flash" was a long time in "flashing," for according to a passage which I have already quoted from his book, (p. 16), he discovered in 1837, that the vapor is superior to alcohol as a remedy for the strangling and toxic effects resulting from the inhalation of chlorine gas, and he adds, it was used for that purpose in his laboratory from that time forth. Yes! it was used for that purpose, and that only, on the memorable occasion in the winters of 1841-2, when the "flash" occurred. Why so long delayed? Was there anything peculiar or special on this last occasion? It is true the Doctor says he made himself insensible. Was it not well known that the vapor of ether could make men drunk, or in other words, insensible? In their joint application for a patent, Jackson and Morton not only state, but swear, that "it is well known to chemists" that the vapor "of sulphuric ether when breathed or introduced into the lungs of an animal, has produced a peculiar effect on its nervous system, one which was supposed to be analogous to what is usually termed intoxication," meaning that this was known at the date of their application, and had long been known. According to the Doctor, this was all that occurred on the occasion named, viz., insensibility from intoxication; and how that

could be provocative of a *flash* is more than I can understand. Besides, the learned Doctor should remember that there are all sorts of *flashes*, the *ignis fatuus*, for example, which sometimes leads men into very ridiculous positions.

(3.) Dr. Jackson claims that he verbally mentioned the fact from 1841-2 forward to sundry individuals, whose names he gives. What did he mention? Was it anything more than that the vapor of ether when inhaled would alleviate pain, and even suspend it for a long time, a fact which was well known? Did he distinctly announce to any one, in advance of the Wells discovery, that the nerves of sensation could be so completely paralyzed that the surgeon's knife could be introduced into any part of the system, even into the eye, the most sensitive of all the organs, without producing any pain? But nothing can be more unreliable than loose private conversation, often misreclected, ante-dated or perverted. In settling a question of this character, I understand that the scientific class in Europe attach little importance to this species of proof in adjusting the claims of competitors to the honor of a discovery.

(4.) However this may be, the fact that Dr. Jackson does not claim to have announced this most remarkable fact in any lecture or public discourse, to have written it down in any letter, to have caused it to be published in any scientific journal or in the newspapers, to have communicated it to any scientific body, either in this country or in Europe, to have made any effort to introduce it into dentistry, or into any hospital in Boston or elsewhere, nor to have suggested it to the many accomplished surgeons whom he was meeting day by day in Boston, and occasionally in other parts of the country, is perfectly conclusive against him. Who can believe that a man possessed of such a passion for fame as he has ever manifested, could have kept such a doubly interesting secret locked up in his breast for so many years? His whole deportment on and after Morton called on him in September, 1846, for the purpose already explained, points to only one result. He would now have us believe that he then handed over to a man whom he has since with some justice

characterized as a *mere* ignoramus, a trust of the last importance, a verification of his theory, and the ascertainment of the verity of his supposed discovery; and yet he did not even condescend to attend on the trial; and when Morton was admitted into the Massachusetts General Hospital, to wit, on the 16th day of October, 1846, to test the vapor in a capital operation, he (J.) was not present, nor did he interest himself in the subject at all until some time in November, when having arrived at the conclusion that there might be something in anæsthesia after all, he made the secret communication to a scientific body in Europe, on which I will comment directly. How forcibly does this conduct of Jackson confirm the truth of the statement which I have already quoted from Dr. Wells' pamphlet, as follows: Jackson and Morton "expressed themselves in disbelief that surgical operations could be performed without pain; both admitted that its *modus operandi* was entirely new to them;" and then he adds, "these are the individuals who now claim the discovery." Did Wells write down and publish the truth? Whatever others may do, those who knew him will not doubt.

(5.) By the 13th of November, 1846, Dr. Jackson seems to have awoke to the importance of this subject, for he then dispatched a secret communication to be deposited in the archives of the Academy of Arts and Sciences, in Paris, and there to remain unopened till he should give further direction on the subject. I have quoted this paper verbatim in my first chapter, and therefore it need not be inserted here *in extenso*. It is sufficient to say he states that "five or six years ago he noticed the peculiar state of insensibility into which the nervous system is thrown by the inhalation of the vapor of pure sulphuric ether, which he respired abundantly, first by way of experiment, and afterwards when he had a severe catarrh caused by the inhalation of chlorine gas." He had "latterly made a useful application of this fact by persuading a dentist of this city to administer the vapor of ether to his patients when about to undergo the operation of the extraction of teeth. It was observed that persons suffered no pain in the operation, and that no inconvenience resulted from the ad-

ministration of the vapor." Now the learned gentleman does not pretend to have noticed anything anterior to the 30th of September, 1846, (when Morton extracted Frost's tooth), except the sedative effect, or (if you please) "the peculiar state of insensibility" produced by the inhalation of the vapor. He had performed no anæsthetic experiments, none on himself, none on others, and made no useful application until "latterly." Ah! that word "latterly" ties the learned gentleman up to one inexorable position. "I have latterly persuaded a dentist of this city," *alias* Wm. T. G. Morton, "to administer," etc., etc. So that we have here a most formal and grave admission and statement that he had made no "useful application" of the peculiarity which he noticed five or six years anterior to the date of his communication until we come down to the era of the extraction of Frost's tooth—not a word about that remarkable *flash* that poured such a flood of light into his mind in the winters of 1841–2. Verily! those who would appropriate to themselves the discoveries of others, whether from love of fame or filthy lucre, by arts and practices such as I have occasion to comment on here, "should have long memories."

(6.) But what, learned Doctor, about that unhappy "conjunction" affair, upon which I took occasion to comment early in this examination? I then produced an extract from your assignment to Wm. T. G. Morton, of all your interest in this discovery, in the preamble of which you stated in the most formal and precise manner, that you, Charles T. Jackson and Wm. T. G. Morton, had made the same "in conjunction" with each other; and I referred also to your and his joint application for letters patent, in which you both not only stated, but, in substance, swore to the same thing; and I thus showed how irretrievably he, the said Morton, had committed himself in opposition to a claim which he has been urging with so much pertinacity for so many years, that he is the sole author of anæsthesia. But "conjunction" is a two-edged sword, and cuts up effectually not only Morton's pretension, but your own. It is admitted on all hands that Morton made no discovery till the evening of the 30th of Decem-

ber, 1846, when he extracted Mr. Frost's tooth. It is sheer impudence in him to pretend to any earlier date; and as you was his *conjunctor* (if I may be permitted to invent a word), how could you (*solus*) have made a discovery several years in advance of any action by him on the subject? As well might one of the *Siamese Twins* have pretended that he was born into the world a half dozen years before his mate! No umbilical cord will bear any such strain as that!!

(7.) "What is yours to bestow, is not yours to reserve," is one of the maxims of Shakspeare; a maxim which Dr. Jackson has violated in a very marked degree, if we are to believe his own account of the matter. If he really ascertained the practicability of anæsthesia, and possessed himself of all its essential elements in the winters of 1841-2, then he has laid himself open to the imputation of utter indifference to the sufferings of frail humanity. Not a finger did he lift to make his discovery practical, till Morton called on him in September, 1846, for information in respect to the nitrous oxyd; when, as he would have us believe, he persuaded him to substitute therefor the vapor of sulphuric ether, as being more convenient and equally effective. How was it, in the meantime, with the vast multitude of men and women who were suffering in all parts of the civilized world the keenest distress under the application of the surgeon's knife, the optician's needle, and the dentist's forceps? Did the learned Doctor do anything for their relief? Did he rush into the arena with a magic wand to dissipate all this anguish? Did he condescend even to enter the Massachusetts General Hospital on such an errand of beneficence? He does not pretend that he did anything during the considerable period referred to, to bring out his supposed discovery, but remained dead or inert on the subject until his powers were in a slight degree stirred and awakened by the call of Morton, and then his effort was of the humblest character—the mere substitution of one element for another, which had long been known to produce analogous effects on the human system.

In conclusion, I will only say that I would cherish something of that "charity which thinketh no evil—which rejoic-

eth not in iniquity, but rejoiceth in the truth." I cannot think of Dr. Jackson "the evil" which his groundless pretensions evidently imply. Nor can I rejoice in the injustice, not to say iniquity, which he perpetrates by seeking to appropriate to himself honors and rewards which, in fact, belong to another. It is easy to see that a morbid love of fame has betrayed him into a false position, or rather a series of them. "Conjunction" with! and disjunction from! Morton, and oppugnation to Wells! with such vagaries and extravagances as denying the anæsthetic power of the nitrous oxyd, and antedating his own action on the subject several years, so as to supercede Wells! All this is truly pitiable, in which I can not rejoice; but I do rejoice in the great fact every day becoming more and more evident, that Horace Wells was the true author of anæsthesia.

CHAPTER VIII.

REPORT OF THE HON. HENRY WILSON, CHAIRMAN OF THE SENATE COMMITTEE ON MILITARY AFFAIRS, SUBMITTED TO THE UNITED STATES SENATE AT THE THIRD SESSION OF THE THIRTY-SEVENTH CONGRESS, FEB. 13TH, 1863.

THIS report purports to express the opinions of the entire Committee touching the origin of modern anæsthesia, but it is understood that the concurrence of the other members was yielded as a matter of complaisance to the solicitations of the honorable chairman. The report therefore must be deemed his offspring, but whether by conception or adoption, need not be made a subject of inquiry.

No doubt the honorable chairman is an able and a most faithful representative of "*the Boston notion*," that modern anæsthesia originated in the great commercial emporium of New England. Hence he was prepared to go the whole figure in favor of Wm. T. G. Morton as the author of this invaluable discovery, and if the reckless statements and sweeping assertions of this document can avail, he must undoubtedly be recognized as such, and among the greatest of the benefactors of our race. But it so happens there are those—who have done what the honorable chairman has not even attempted,—who have carefully investigated this matter, and looked into all the leading facts of the case, who have weighed, in even scales, the evidence adduced on the one side and on the other, and have maturely considered and intelligently applied the scientific elements and principles appertaining to the subject; and who have been constrained by a love of truth, rectitude, and fair dealing, to come to conclusions directly the reverse of those on which the honorable gentleman has so rashly precipitated himself.

This report consists of two parts: the report proper occupying only six pages, and an appendix, or rather three appen-

dixes, one hundred and sixty pages, making a very considerable volume, the printing of which must have cost the Government several hundred dollars. It was not submitted till the 13th of February, only eighteen days before the expiration of the Congress, and it is doubtful whether it could have been printed and laid on the table of members in advance of that event, but if otherwise, it is certain that such an extensive and complicated document could not have been read over, and much less thoroughly digested and understood amidst all the anxieties, perplexities, and confusion which uniformly attend the last few days of an out-going Congress. This, no doubt, the honorable chairman deemed quite immaterial, for, after holding up Wm. T. G. Morton as being beyond question, the alpha and omega, the beginning and the end of anæsthesia, as now understood and practiced throughout the civilized world, concludes as follows: "Your committee," (in fact the honorable chairman,) "are of the opinion that something is due," (meaning from the United States to the aforesaid Wm. T. G. Morton,) "but they report these facts for the information of the Senate without any recommendation." O! most lame and impotent conclusion! The honorable chairman has found out that there is due from the United States of America to the aforesaid Morton "*something*" whether due legally, equitably, or morally, he does not condescend to tell us, but we, as a nation, on some grounds, owe "*something*," whether in *greenbacks* or in the *yellow dust* does not appear. All we learn is that "*something*" is in the abstract due, but Morton is after the *concrete*. He has had, for the last ten or fifteen years, and still has a shrewd eye for the contents of the United States Treasury.

The honorable chairman should have recollected that "hope deferred maketh the heart sick," but nevertheless allowance must be made in his favor. He was, no doubt, painfully impressed by the darkness that pervaded the Senate chamber on this subject, he concluded therefore to report certain facts "for the information of the Senate," to rush into the Senatorial arena in the hope of dissipating that darkness by the exhibition of certain facts, having all the penetrating, diffu-

sive, and effulgent power of a calcium light. Hence it becomes quite material to inquire what these facts are that are capable of producing such marvelous results. Some of the more prominent will be here adverted to, and are as follows:

1. The honorable chairman opens his exposé with the following statement:

"That at the time of the alleged discovery in 1846," (meaning by Morton,) "and for a long and indefinite period prior thereto, means had been sought, *and sometimes with success*, to relieve and *even to destroy pain* in surgical operations." Ah: then somebody had embarked in this inquiry in advance of Morton and had succeeded not only in relieving, but in actually destroying "pain in surgical operations." Who was that somebody? Could it have been any other than Horace Wells? and yet the honorable chairman does not even mention the name of the man to whom the late Col. Bissell accorded so much merit. Recollect that the honorable chairman had before him a question of priority. Hence the name of the individual who at or before the era of Morton's pretended discovery sought means "with success" * * * * "to destroy pain in surgical operations," became highly important. Do, honorable sir! let us know who it was? Why any reticence on such a subject? When and where were the experiments tried? What were the means? How long used? In surgery or dentistry, or in both? Was Morton acquainted with the party and thoroughly posted as to all the facts? Did he stealthily seize hold of the discovery of another, and has he been seeking to appropriate it to his own use? All these were most material inquiries, and yet the honorable chairman has not a word to say on the subject. He could have obtained an abundance of light by paying a flying visit to Hartford and the Charter Oak. That, however, would not answer his purpose. But, perhaps, we ought to be satisfied with the modicum of truth contained in the report. Let it then be written down that at, or before 1846, *somebody* (other than Wm. T. G. Morton) had "sought" * * * "with success" * * * "means" * * *

“to destroy pain in surgical operations,” and then an enlightened public judgment will be quite likely to supply the hiatus. The honorable chairman need not be surprised should the name of the estimable though truly unfortunate Horace Wells appear in that connection.

2. But the honorable chairman obviously thought it would hardly do to leave Morton’s case on such a footing; he therefore proceeds as follows:

“For this purpose opium, Indian hemp, mesmerism, nitrous oxyd gas, and alcohol, were used, and all in their turn abandoned, except that opium in many cases, and mesmerism in a few, still continued to be used with partial and imperfect success. But at that time, (meaning in 1846,) there was not any safe and certain means of producing anæsthesia known to and used by the medical profession.”

It will be observed that the honorable chairman does not say that no such means had at the date named been discovered, for that he had already conceded, but only that they were not “known to and used by the medical” (meaning surgical) “profession.” But this, if admitted, would by no means settle the competing claims of Wells or Morton in favor of the latter. What is meant by the suggestion that there was not, at the date named, any such means known to the profession? Generally? or not at all? In the latter sense the statement would be false, as it was, and had been for near two years, known at Hartford that such means do exist, and what is more, had during that very considerable period, been used day by day with safety and success. But it is due to candor and truth that I should admit, as I now do, that the fact had not become generally known to the profession at the date referred to. Wells was doing all he could to make it known, and had effected all in that respect, which could have been reasonably expected considering the delicate state of his health, and the difficulties which he had to encounter. But what if Morton then undertook to intercept him and to palm himself off on the public (by substituting another agent known to produce analogous effects on the human system for the one used by Wells) as the original or true

discoverer of anæsthesia? Can any success which may have attended his efforts either detract from the merits of Wells or mitigate his own baseness? The honorable chairman will hardly succeed in advancing the pretensions of Morton by the suggestion under consideration.

In the extract first quoted he admits that somebody had with some agent succeeded in producing anæsthesia, and in the last he enumerates the agents, and among them the nitrous oxyd gas, and in the same connection he tells us that they were all successively abandoned. It is obvious that the nitrous oxyd must have been the agent that had been used with success, for no one would think of attributing any real anæsthetic power to either of the other four agents named; so that we have in substance a statement that although the nitrous oxyd had been used with success, yet at the era of Morton's discovery it had been abandoned. It is a pity that the honorable chairman did not refer to some of the evidence on which he based such an allegation. The use of the nitrous oxyd abandoned by Horace Wells! when in less than one month before his death he was present and administered it successfully to Henry A. Goodale, January 1st, 1848, on the occasion of the amputation of his leg, as sworn to by a whole cloud of witnesses. No! Horace Wells never abandoned the use of the nitrous oxyd while living, and if such use was suspended for a considerable number of years in consequence of the deplorable event referred to, that establishes nothing to the prejudice of the Wells claim. In a former chapter I have stated the principles upon which every question as to the authorship of any discovery must turn—principles that are recognized by the whole scientific world. They need not be repeated here.

In this case (as I have already abundantly shown) Horace Wells was the very first (after Sir Humphrey Davy) to conceive the idea of paralyzing the nerves of sensation by inhalation, and the first to ascertain that it could be done perfectly and with entire safety, and the first to introduce it into practice. What if he did not select the best agent? What if another has been ascertained to be more convenient or even

more effective; and what if in consequence the use of the agent first selected has been suspended or wholly abandoned? Does this deprive him of the honor of having inaugurated the whole movement? The use of an agent may for a time be abandoned through misconception, and then such use may be revived with much more than its original éclat, and this is exactly what has happened in respect to the nitrous oxyd. Little did the honorable chairman anticipate when he wrote down that word "abandoned" that the use of the nitrous oxyd would be revived in less than six months thereafter, and would spread with unexampled rapidity all over the United States, vindicating everywhere the character of Horace Wells for truth, honor, and rectitude, and establishing on a basis which no power can subvert, his pretensions to be regarded as the true author of modern anæsthesia.

3. After speaking of the first anæsthetic experiment tried by Mr. Morton, to wit: the extraction of Mr. Frost's tooth on the 30th of September, 1846, the honorable chairman proceeds as follows: "It was almost immediately introduced into the medical hospital at Dr. Morton's request, where with a short interruption within the first month, it has been since used with entire success. Having verified *his* discovery he applied for and obtained a patent under the great seal of the United States. This was determined on as the best means of publicly verifying his right to the discovery, and of keeping this new and mysterious agent out of unskillful hands, but in order to extend its benefits to the utmost limits of safety, he at once gave free permission for its use to all public institutions which Dr. Warren, Sr., surgeon of the medical hospital at Boston, saw fit to name. He also invited all reliable members of the medical faculty to receive instruction, and join in testing its value!" This was certainly a display of wonderful liberality! "He gave free permission for its use to all public institutions" which Dr. Warren might see fit to designate, and this he did "in order to extend its benefits to the utmost limit of safety!" So that no one could draw the line of safety but the learned Dr. Warren! and where did he draw it? On what public institutions was this

extraordinary benefaction bestowed? Were they all of Boston, or did the line comprehend those of New York, Philadelphia, and Baltimore? It is certain that it could not have included "the New York Eye Infirmary;" a public charity against which Morton basely brought a suit for violating his patent, after taking up contributions in the city of New York to the amount of many thousand dollars to reward his pretended discovery—a suit in which he was ignominiously defeated, as he deserved to be. But this by no means exhausted the beneficence of the illustrious Morton.

According to the honorable chairman, "he also invited all reliable members of the faculty to receive instruction and join in testing its value." "Reliable Members!" by what ear-mark did he determine who were and who were not reliable? Please to explain, Mr. Chairman! And then they were invited to receive instruction! In what? how to inhale the vapor of ether? which had been inhaled a multitude of times in Europe and America! and invited also "to join in testing its value," but not a word about permitting them to use this agent in their own private practice. Had they dared to do so without paying tribute to W. T. G. Morton, they would have been snapped up with a lawsuit forthwith. And then the honorable chairman speaks of sulphuric ether as a "new and mysterious agent." "New!" that which had been the toy and plaything of chemical students for a half century, at least! "Mysterious!" that which when inhaled had ever produced excitement and exhilaration with substantial insensibility and unconsciousness—a state quite analogous to intoxication.

Sulphuric ether new and mysterious! an article of merchandize, and a substance to be found in every apothecary's shop in the country, with its composition and elements thoroughly known to the scientific world. Verily! the honorable chairman has a curious method of enlightening the Senate on the subject of anæsthesia! But we have not reached the climax of the honorable chairman, for he tells us that Morton "having verified his discovery, applied for and obtained a patent under the great seal of the United States. This was

determined on as the best method of publicly verifying his right to the discovery." It is quite obvious that it was the purpose of the honorable chairman to hold up Morton to the Senate and the country as a disinterested and truly beneficent character. But that patent business—an attempt to make merchandize of a discovery that deeply concerned our common humanity—had rather a squally look, therefore, the honorable chairman attempts to alleviate the case by the suggestion that it was "determined to apply for letters patent as the best method of publicly verifying his right to the discovery." Who came to this sapient conclusion? Was there a council held of the Mortonites in and about Boston on this subject? Was the honorable chairman present, and did he constitute the principal figure on the canvass, or was it after all the great Dr. Morton who, utterly excluding every selfish motive, and all ideas of "filthy lucre," sought, in a self-sacrificing spirit, letters patent of the United States for the purpose only "of publicly verifying his right to the discovery." And a remarkable way had he of asserting that right! "Conjunction!" "conjunction!" (Here the spectre leaps into the arena and confronts the honorable chairman!) "Conjunction!" has already overthrown both Morton and Jackson! Look out, Mr. Chairman, a similar catastrophe is impending in your case!

Morton and Jackson go into the patent office and swear that they have made this discovery "in conjunction" with each other, and thus a patent is obtained (according to the honorable chairman) in the name of Morton (Jackson having assigned his interest) only to verify his (M.'s) "right to the discovery." He the sole author of anæsthesia! He alone entitled to the honor of the discovery! and to him, only, should be accorded national recognition and reward! and this verified by letters patent thus obtained! What an extraordinary demonstrator of truth is our chairman! How is the fog of senatorial ignorance dissipated by the flood of light which he pours into the Senate chamber! "Your Committee" * * * "report these facts for the information of the Senate." O! Mr. Chairman! O! O!

4. But the honorable chairman has not as yet consummated his mission of senatorial enlightenment after his novel and peculiar fashion—he, therefore, proceeds as follows: “a bill granting relief generally to the discoverer passed the Senate in 1853, and again in 1854,” * * * “We are satisfied that Dr. Morton is the discoverer.” * * * “A bill twice passed the Senate appropriating a hundred thousand dollars to the discoverer.” No one reading these sentences could fail to understand them as importing that the United States Senate had, on two occasions, decided this question in favor of Morton, and had accorded to him the magnificent sum named, as an expression of their sense of his merits, and yet had the honorable chairman made in *hæc verba* any such statement it would have been an atrocious falsehood. A succinct statement of the facts will sufficiently elucidate the disingenuousness of this part of the report. Morton spent nearly the whole of the first session of the Thirty-second Congress (1851-2) in lobbying his claim in and about the two Houses of Congress. Early in the session he presented a memorial to the House of Representatives on which a select committee was raised having for its chairman, as I have before stated, Colonel Bissell, of Illinois.

Morton and Jackson appeared before them with able counsel and were heard at length, but the family of Dr. Wells was not represented. Most of the proofs by which his claim is established as against both Morton and Jackson, whether jointly or severally, have since been collected and taken. His widow and child were alike poor and defenceless, and yet Colonel Bissell, under such adverse circumstances, had no difficulty in recognizing great merit in Wells.

The Committee is understood to have been divided—three for Morton (of whom Colonel Bissell was one) and two for Jackson. Colonel Bissell drew up a report expressing the opinions and stating the conclusions of the majority, but did not present it to the House. Morton resorted to the novel and exceptionable expedient of taking the report out of the hands of Colonel Bissell and having it printed at his own expense. With this irregular document he went unknown to

other claimants, before the Senate Committee on Military Affairs and (extraordinary as it may seem) induced by his ex-parte representations a determination on their part to propose an amendment of the army appropriation bill then (near the close of the session) about to come up, according to him the much coveted one hundred thousand dollars. Such a proposition (soon after submitted) took the Senators, of course, very much by surprise, but it so happened there were members of that honorable body who had some knowledge of the subject and who (not without reason) considered Morton little better than an impostor. These Senators opposed to the proposition an uncompromising resistance, and the result, after full debate and mature consideration, was its rejection by eleven majority, there being seventeen for and twenty-eight against the measure. At the short session of the same Congress (1852-3) Morton was induced to take a more sensible view of this subject—he utterly despaired of carrying his claim by any of the lobbying appliances not unknown at Washington, to which he had resorted at the previous session. Hence, the parties in interest had no difficulty in concluding that it would be alike fair and just to refer the question to some judicial tribunal for adjudication. A bill was thereupon introduced with a preamble reciting that this great discovery had been made by either Morton, Jackson, or Wells, and that it was impossible for Congress to determine which, stating that the discovery was of great importance to humanity, and that the National Legislature was disposed to recognize and reward it as such, appropriating the amount already named to that end, and referring the whole matter to the United States Courts for the Northern District of New York, to be there adjudicated in conformity with the merits as they might appear on investigation and trial, and this bill was passed by a vote of twenty-six in the affirmative to twenty-three in the negative, and failing in the House, was re-passed in the Senate at the first Session of the Thirty-third Congress only to fail in the House again, and this constitutes all the action of the two Houses on the subject. The Senate has rejected Morton's claim once by a decisive majority, and twice have affirmed

that it is impossible for them to ascertain who was the discoverer, and that the question could only be settled by the courts. All these facts were accessible to the honorable chairman. He had nothing to do but to call for the Senate journals of the two sessions of the Thirty-second, and the first session of the Thirty-third Congress, and they would have been before him. Why did not the honorable gentleman report the truth "for the information of the Senate," or would not that answer the purpose of Morton?

5. But we begin to be anxious for honorable Senators and doubt whether their optics can stand such a flood of light on the subject of anæsthesia. Nevertheless every man should encounter with equanimity the hazards of his position whatever they may be, and therefore let these worthy though unfortunate public servants attend with composure to an account current which the honorable chairman has opened between the public and the aforesaid Wm. T. G. Morton. It is presented in the following terms: "An account stated supported by satisfactory evidence, shows that Dr. Morton has expended in money and time and sacrifice of professional business, more than two hundred thousand dollars in discovering, defending the discovery and his rights thereto, and perfecting and giving the nation this pain-destroying agent."

Here are sundry elements all wrapped up together, and it is utterly impossible for us to form any intelligent estimate of their several or respective importance or value. Dr. Morton has expended money (Item No. 1)—spent time, (Item No. 2)—and sacrificed professional business (Item No. 3)—but how much of each we are not told—in doing what?—in making the discovery (Item No. 1)—in defending it, that is to say, in showing it to be genuine and true (Item No. 2)—in maintaining his right to it (Item No. 3)—in perfecting the agent, that is to say, improving sulphuric ether! (Item No. 4)—and in giving it to the nation (Item No. 5)—(an odd way of giving it to take out letters patent, and then sue any one using the gift)—in all of which (according to the honorable chairman) he has expended more than two hundred thousand dollars! How much more? Why not tell us?

Why not say how much money? how much time in lobbying at Washington, and how much in trumpeting his own merits over the country, and in obtaining from simple and well-meaning people large contributions to his own exchequer. What was his business income, and why sacrifice it (if any there was)? What did it cost to make the discovery, (probably just about as much as Franklin's kite, by means of which he made one of the greatest discoveries of the last century). What to defend it, what to maintain his pretended right? (here the lobbying business should come in). What did he do to sulphuric ether that could be called perfecting it, and if anything, how costly was it? and what in giving this "new and mysterious agent to the nation," (here patent agent and patent office fees must not be lost sight of.) On all these points the honorable chairman tells us in effect that he had before him "satisfactory evidence." Why then not produce this evidence? Was it verbal, or written, or printed? If verbal, who were the witnesses, by whom and when produced and when examined? And if written or printed, on what occasion did it originate, how authenticated, and what its substance, purport, or effect? In the first instance I was greatly puzzled to conjecture from what source the honorable chairman could have got the extravagant idea that Wm. T. G. Morton had sacrificed and expended on anæsthesia more than two hundred thousand dollars, but on recurring to the appendix of this remarkable report, I find amidst a chaos of other matter, what he is pleased to denominate an "account stated," which is a real curiosity, and I would produce it in extenso for the amusement, if not for the edification of my readers, were it not that it will occupy more space than it is worth.

The aggregate of loss figured out, however, is two hundred thousand five hundred and sixty-one dollars. How the books were kept, whether by single or double entry, does not appear; but as most of the items are in round numbers, the look of the affair is suspicious. No less than twelve thousand five hundred and fifty dollars given to Webster, Choate, Curtis, and other eminent lawyers—what for? as they appeared

in no law suit—besides three thousand one hundred and sixty-two dollars bestowed on “various professional and scientific men for services rendered in promulgating the discovery, etc.,” and two thousand one hundred dollars to “various literary gentlemen for procuring favorable opinions of the press, etc.,” four thousand three hundred and twenty-six dollars for “printing and publishing pamphlets, etc.,” two thousand six hundred and forty dollars for ether, and three thousand and sixty dollars for apparatus “distributed among professional men,” seventeen thousand five hundred and twenty dollars for “hotel and traveling expenses from time of discovery to date, etc.,” being after the rate of one thousand dollars per annum; five thousand nine hundred and ninety-nine dollars for printing, said in a note “items not classified”—(does this include printing Col. Bissell’s report, and other lobbying exigences at Washington?) ten thousand two hundred and fifty-five dollars for “expense for testimony of medical, surgical, literary scientific, and other gentlemen,” more “printing,” “distributing the same,” to “refute opponents and overcome opposition,” including “expense of the suit suggested by the President of the United States, as a prerequisite to paying Dr. Morton! (Where was that suit brought? Who was defendant, and who tried it? What was the result? I have ever understood that Dr. Morton got up somewhere a humbug law-suit against an accommodating defendant, and succeeded of course, but when he came to sue in earnest, as he did the Eye Infirmary, his fortunes were quite different. Why does he not charge over this last expense to the public, as he has the former?) Eighty-five thousand dollars for “sacrifice of income worth ten thousand dollars per annum, but from excess of modesty put down in the account “at only half that sum,” and *then with forty-two thousand dollars for interest!* we have all the prominent parts of the case. But there are two very curious items, not hitherto noticed.

No. 1, is as follows: “deficiency in patent account two thousand dollars.” So that after all, that patent business turned out a poor speculation, and he now wants the public to make up the loss, or in other words, “to pay for heating the poker.”

No. 2, reads thus, "cost of manufacture of nitrous oxyd gas for experiment at Washington, fifty dollars." To this is appended the following note: "This was for trial demanded by Dr. Morton to disprove to the satisfaction of the Congressional Committee the claim of Horace Wells, by showing the inert character of the agent for the purposes of anæsthesia," or in other words, he, Dr. Morton, with Dr. Wells in his grave, and his family absent, got up an *ex parte* experiment to demonstrate the ineffectiveness of the nitrous oxyd, to satisfy the Committee that Wells had accomplished nothing, and that Bishop Brownell and a multitude of other citizens of Hartford, of the first respectability, who had under oath spoken to the contrary, had been swearing to a parcel of lies. How do we know that the nitrous oxyd was on that occasion properly prepared, or that it was properly administered? Very recent developments, showing its entire availability, prove that an atrocious fraud must have been perpetrated on the Committee, and there is nothing in the character of Morton to relieve him from such an imputation.* Besides, in this transaction he substantially admits that Wells was the first in conception, and the first in experimentation, and that unless he could demonstrate completely the uselessness of the agent used by him, his own pretensions must fall to the ground.

But after all what was this pretended discovery of Morton? Was it anything more than detecting one of the secrets of nature, and that, too, a most interesting secret? Did it not consist simply in ascertaining that by inhaling a certain gaseous or vapory substance the nerves of sensation could be so far paralyzed that dental and surgical operations could be performed without pain? When the fact was fully ascertained nothing remained for Dr. Morton to do but to attract to it the attention of scientific men. This he accomplished in a very short time by inducing the surgeons of the Massachusetts General Hospital to make it practical. There was substantially the end of the whole matter.

The discovery was so important and so deeply interesting that a knowledge of it must inevitably be disseminated all

*Vide in the Appendix, letter of Dr. May, of Washington, D. C., (of a recent date,) for proof that the fraud suggested was in fact attempted, but that it was detected and exposed on the spot.

over the civilized world. It flashed to Europe, and the new practice was there introduced in a few weeks and made universal without the agency of Wm. T. G. Morton. What need of abandoning his own practice, of employing Webster, Choate, and Curtis, of enlisting the press, and putting in activity a large and complicated system of agencies?

Those who seek to appropriate to themselves honors and rewards belonging to another, usually find the undertaking alike arduous and expensive.

But, honorable chairman, if we are to have "an account stated," why not bring in both sides of that account? Why charge ever against the public all that Morton has lost or paid out, and not credit that same public with all that he has taken in? And, sir, as you seem to have an aptitude for ciphering, I will furnish you with some new elements for the exercise of your taste and skill.

In 1855, W. S. Tuckerman, then of Boston, Treasurer of the Eastern Railroad Company, (which situation he had held many years) was ascertained to be a defaulter, and that he had robbed his employers (the company) of about a quarter of million of dollars. It turned out on investigation that he had, out of this amount, paid over to Morton no less than \$50,000 in connection with this very matter, whether by way of purchase of an interest, or on some other terms, does not appear.

Tuckerman, in the fall of that year, was prosecuted for embezzlement, and on the trial Mr. Benj. T. Reed testified as follows: "Tuckerman came to me and confessed his crime, and among other things said he had let Morton have a part of the money. He begged me to keep the name (Morton) secret, as if known it would prevent him from getting the money. I said I did not see how he could keep it secret. When I asked if it was more than \$5,000, he said it was more. I went as high as \$20,000. In each case, before reaching that sum, when I asked him he said it was more. I had my fears it was more, but I do not recollect that I asked whether it was more than \$20,000."

At a subsequent part of the same trial the witness testified that Tuckerman "thought it important that the name of Dr.

Morton should be kept secret as he (Tuckerman) expected a large sum of money from that quarter if confidence was not violated." On cross-examination the witness said, "I understood his object in making this request was that the exposure might not affect the action of Congress."

Mr. Hooper (understood to be the Hon. Mr. Hooper, now a member of the House from Boston,) was called and testified, "He (Tuckerman) next spoke of advances to Dr. Wm. T. G. Morton to assist him in procuring a patent at Washington, or in obtaining a reward from the Government for his invention of ether. He was surprised to find, on consulting his books, how much this amounted to. Dr. Morton, he said, was about to receive \$100,000 from the Government for his invention."

A committee of investigation was appointed by the stockholders soon after Tuckerman's embezzlement had been detected, and they found the aggregate amount to be \$245,103.25! and that his assets amount only to \$59,444, leaving \$185,608.25 wholly unprovided for.

On pages 23 and 24 of this report may be found a statement of the objects or purposes to which Tuckerman had applied his plunder, and among them this curious item:

"An investment of a kind and character which we are advised by the counsel of the corporation, cannot be disclosed even to us without prejudice to the interests of the company, and from which we are assured and have reason to believe the company may yet derive great benefit, involved, as Mr. Tuckerman declares, an expenditure of \$50,000."

It will not take a very sharp pair of spectacles to read, under this verbiage the name of Wm. T. G. Morton! No doubt Morton did receive from Tuckerman the amount named, but I have no means of ascertaining the date or dates at which payments were made. According to Mr. Hooper, Tuckerman said that he paid the money to Morton to assist in obtaining the patent, or a reward from the Government for his invention of ether. Morton might have had money of Tuckerman for both objects, but probably much the larger part was paid over on occasion of his effort in 1851-2 to obtain a grant of \$100 000 from the Treasury, when his lob-

bying hospitalities and expenses at Washington are well known to have been exceedingly profuse and extravagant.

The honorable chairman will no doubt add interest, as he has charged it on the other side of the account, and this will make at least \$36,000 more—aggregate, \$86,000—a pretty considerable sum—"it does not grow on every bush." In addition to this, the honorable chairman should not overlook the large sums given to Dr. Morton by sundry institutions and individuals of the cities of New York and Boston, in the fall of '58 and the winter succeeding.

In the appendix to the report, so often referred to, (p. 72) may be found the details of these benefactions—the aggregate is \$11,300. How much he obtained in Philadelphia, Baltimore, and other large cities, is more than I can say. As the object was to make him a reward of a truly national character, and as the efforts were strenuous and the influences powerful (though misdirected as I shall ever believe), the sums were doubtless very considerable. He has occasionally appeared before the public since for the same object, and if we can rely on newspaper statements, he was so engaged last winter in the State of Maine. It is not too much to assume that he has received from time to time sums which, with the interest, will amount to at least \$125,000, including, of course, the Tuckerman contribution. In the meantime the destitute widow and child of Horace Wells, the real author of modern anæsthesia, have not had the slightest recognition—have not received the first red cent. This state of things I regard as a crying reproach to the American people. In view of all these facts my readers will judge what must be the honorable chairman's powers of deglutition to enable him to swallow such a stupendous humbug as that Morton has sustained losses in the cause of anæsthesia to an amount exceeding \$200,000.

6. Among the many latitudinous statements contained in this report, there is none, perhaps, which is more so than the following:—"From 1849 to 1854 inclusive, two reports were made by Committees of the House, affirming the right of Dr. Morton, and recommending compensation. They are elabo-

rate and carefully considered reports, founded upon a great mass of testimony, taken as well by Dr. Morton to support his claim, as by the several contestants to destroy it, and after carefully considering and weighing the testimony, and the acts of the several parties at the time of the discovery and immediately subsequent thereto, they reported in favor of his claim, and recommended compensation."

I hardly know why the date 1854 is introduced, as the first committee was raised at the second session of the Thirtieth Congress (1848-9), and the second at the first session of the Thirty-second (1851-2), and no committee of that body has since acted on the subject till the late session. I am credibly informed, and therefore believe that the Wells family was not represented before either committee by counsel, and no testimony was submitted except that contained in the small pamphlet already alluded to, which is supposed, as I have heretofore stated, to have been transmitted by some friend to the Committee (Col. Bissell's) raised in '51-2. But however this may be, I positively know that at least nineteen parts out of twenty of the ample evidence obtained and now existing in favor of the Wells claim, was taken in the vacation between the first and second session of the Thirty-second Congress, that is to say, in the fall of '52, and has never been submitted to any committee. The object in taking it was to counteract the pretensions of Morton and to sustain those of Wells, should Morton attempt a realization of his designs on the Treasury at the second session, but it having been arranged to refer the question to the courts, its production became unnecessary.

I deny that either committee carefully considered and weighed the testimony in favor of the Wells claim, because it was not in existence (which was not their fault); and I deny that the honorable chairman has ever done so. It was in existence when he made his report, and he must have known it. I fully believe he has never read one word of it, and that he has taken the whole thing on trust. The truth is, this report was a complete surprise to the Wells family. Morton had pretermitted his assaults on the United States

Treasury for near ten years, when he suddenly caused his memorial to be presented (as I have understood) by the hand of the honorable chairman, and this he had referred to his own committee, of all which Mrs. Wells and child had not the slightest knowledge. The result was a report taking large and extensive ground in favor of Morton, but recommending nothing. Why then was the report made? Was it the object of the honorable chairman to puff the pretensions of Morton into some sort of importance? Was it to prejudice the case for a future Congress? Was it to enable some one to do just what the Hon. Mr. Hooper attempted in the House at the late session? That honorable gentleman is a member of the Committee of Ways and Means; he introduced a resolution directing his own committee to make an inquiry on the subject, and this was passed. Why was this subject referred to the Ways and Means, unless it was because he was a member? Not a little adroitness is displayed in the management of this question in the Senate and House. Senator Wilson presents a memorial, and has it referred to a committee of which he is chairman. Representative Hooper introduces a resolution of inquiry, and has it referred to a committee of which he was a member, to the Ways and Means, far more inappropriate than any other committee of the House.

These honorable gentlemen seem to think it unsafe to hand over the subject to other committees of the Senate or House. It will not do to trust them. And besides the Hon. Mr. Hooper was (and I suppose is now) one of the Directors of the Eastern Railroad Company, to which, no doubt, Tuckerman (now in the Connecticut State Prison for robbing the United States mail) has assigned his interest in the fund which so obstinately adheres to the United States Treasury. He therefore deemed himself peculiarly qualified to look up this claim of Morton, and no doubt he found the report of the honorable chairman available in dealing with the other members of the committee. Under his auspices this Morton affair suddenly jumped up from \$100,000 to \$200,000. It would no doubt be quite convenient to divide this last named sum about equally between the aforesaid Railroad Company and the aforesaid Wm. T. G. Morton.

No sooner had this audacious proposition appeared in the House than a large majority ordered the enacting clause of the bill to be stricken out, or in other words, they kicked it out of the hall, and this has probably given a quietus to Morton and his pretensions for some time to come.

In conclusion, I will only say I cherish for these honorable gentlemen sentiments of high respect and no unkind feelings. Both occupy very distinguished positions in our public councils. The honorable Senator has rendered important services to the country as chairman of the Senate Committee on Military affairs. I am willing to accord to him an ample wreath of laurels, but no sprig can be inserted to represent his efforts on the subject of anæsthesia.

CHAPTER IX.

ANÆSTHESIA ; THE RESUMÉ WITH A CONTRAST.

“OF making many books there is no end,” is one of the maxims “of the Preacher, the son of David, King of Jerusalem,”—a maxim which may have occurred to some of my readers in connection with this examination, but I conceive that some allowances should be made in my favor, as I am not a volunteer, and undertook this examination at the solicitation of an esteemed friend who has long entertained opinions in coincidence with the views presented in these pages. Circumstances had placed me in a situation to acquire a thorough knowledge of the subject—hence his appeal, and my accord, though I knew the labor would be very considerable, resulting from the vastness of the material with which I should have to deal, and the necessity of condensation so as to present the essential merits of the case within reasonable limits. But a thorough examination was indispensable to countervail efforts of unexampled persistency, and sustained by commanding influences. Besides, the only return I expected or desired for my endeavors would consist in the satisfaction which I have ever experienced in vindicating merit and resisting imposture. My readers may rest assured that I have not the slightest interest in this subject, though I feel a deep interest in it, and of this feeling thoroughness is the only adequate exponent. It would have been easy to fill these pages with asseverations and unauthenticated statements, but the public mind needed enlightenment, and this required precision and accuracy. Facts, unquestionable facts, with numerous and extensive complications, had to be produced, and the bearing of those facts on the question at issue had to be explained and pointed out. In this way, and in this only, could I adequately commend myself to the confi-

dence of those who wish to know the truth, and desire that justice may be done in the premises. I now come to the conclusion of the whole matter, and invite attention to the following

RESUME.

(1.) An impression seems to have existed from a remote period that there must exist in nature means by which the nerves of sensation could be so far paralyzed that dental and surgical operations could be performed without pain, but it was generally if not universally believed that access could only be obtained to those nerves by deglutition, or through the medium of the stomach.

(2.) To the illustrious Sir Humphrey Davy we are indebted for the first important step taken towards the realization of this object. He was the first to make or manufacture the nitrous oxyd gas, the first to analyze it or to determine its component parts, and the first to ascertain that it could be inhaled with impunity. He noticed its effect on the human system, in producing excitement, exhilaration, and a species of insensibility and unconsciousness quite analogous to that resulting from intoxication, and even went the length of suggesting that "some slight surgical operations, in which there is no great effusion of blood," might perhaps, by means of this gas, be performed without pain.

(3.) No doubt Sir Humphrey had in his investigations arrived at the verge of this great discovery—he was on the point of making it, but he contented himself with speculation merely—he caused no experiments of verification to be tried (I mean in surgery), and did not even express himself with sufficient fulness and earnestness to attract the attention of the scientific world, much less of the surgical profession.

(4.) From the laboratory of Sir Humphrey the preparation and inhalation of the nitrous oxyd passed into every other chemical laboratory of the civilized world, and from that time forward it continued to be exhibited in illustration of its effects on the human system, generally before chemical students, but not infrequently before public assemblies, more for the amusement than the edification of the spectators. There

is not the slightest doubt but that the anæsthetic state had been frequently produced in a greater or less perfection anterior to the 10th of December, 1844, and yet neither the learned nor the unlearned had at that date detected this most interesting fact, though put on the inquiry by the suggestion of Sir Humphrey.

(5.) It was reserved for Horace Wells, of Hartford, Connecticut, to realize the truth of that suggestion, though I have not the slightest idea he had ever read one word of the writings of Sir Humphrey. He in fact accomplished much more, for he ascertained that not only slight but every species of operation could by the inhalation of this gas be rendered painless.

(6.) How his sharp, quick eye detected the fact on the evening of the 10th of December, 1844, at Colton's lecture, how he resolved to bring it the next day to the test of an experiment on himself, and then caused one of his teeth to be extracted, after having been brought under the influence of the gas, and with what enthusiasm, on returning to consciousness, he recognized the success of that experiment, have already been sufficiently explained. Recollect that this was precisely one year, nine months and twenty days before the pretended discovery by Wm. T. G. Morton of substantially the same thing at Boston.

(7.) This identity, notwithstanding Morton used the vapor of sulphuric ether and Wells the nitrous oxyd, has been established by the highest scientific authority. Professor Willard Parker, of New York, has expressed the opinion that "it being known that nitrous oxyd would produce anæsthesia in surgical operations, it would suggest to any one having a knowledge of the two substances that sulphuric ether would produce the same effect, and that the substitution of the ether for the gas would not merit the name of a discovery;" and in this opinion Professor John W. Francis, also of New York, Professor Thomas D. Mutter, of Philadelphia, Professor Abner Jackson, of Hartford, and many other scientific characters, have expressed their concurrence.

(8.) The practicability of this substitution was distinctly recognized by Wells soon after his great discovery in December, 1844. He consulted Dr. P. W. Ellsworth, Dr. E. E. Marcy, and Dr. J. M. Riggs as to the expediency of using the vapor of ether in place of the gas. He actually did use it with success in one case of dentistry, and even went to the city of New York and announced his discovery to Dr. Valentine Mott, telling him that "he had used ether in the extraction of teeth, and believed it might be employed for the same purpose in great surgical operations." It appears from facts stated by Dr. Mott that this interview *must* have taken place in 1845, and probably early in that year.

(9.) Drs. Ellsworth, Marcy and Riggs thought it would be safer to adhere to the use of the nitrous oxyd, and he (Wells) concurring in that opinion, continued at all times thereafter to use the former—a choice which recent developments, alike sudden and surprising, have abundantly vindicated.

(10.) Having conceived an idea of what constitutes modern anæsthesia on the evening of December 10th, 1844, and having on the succeeding day, by an experiment on himself, verified its truth—he immediately introduced it into his own practice, and caused it to be introduced into the practice of all the dentists at Hartford. The new system was uniformly successful, and was unattended with inconvenience or danger.

(11.) A few days after the discovery he went to Boston to make it known there. After having seen both Morton and Jackson (who treated very lightly the idea that teeth could be extracted without pain), he called on Professor Warren, and communicated to him the facts. The Professor communicated the pretensions of Dr. Wells to his pupils, and advised them to look into the matter; they accordingly had an interview with him, he made the requisite explanations, and then performed an experiment in their presence—he extracted a tooth for a party under the influence of the nitrous oxyd, but the result did not quite come up to his expectations,—he thought the gas bag had been prematurely withdrawn, or in other words, that the party had not been brought fully under the influence of the gas. But Dr. C. A. Taft, of Hartford,

one of the students present thought otherwise, for in his deposition as published by Mr. Smith in his work on Anæsthesia, he says: "I regarded the operation as successful, and as proving the truth of Dr. Wells' theory, for although the patient made some noise—a phenomenon constantly witnessed in the use of any anæsthetic agent—he nevertheless said he felt no pain." And here I would advert to the fact that while these papers have been passing through the press, two other students, present on the same occasion, to wit, Dr. Wm. M. Cornell, of Philadelphia, and Dr. Mason M. Miles, of Aurora, Ill., have volunteered statements in substantial coincidence with those of Dr. Taft. The deposition of Dr. Taft, and the articles from the pens of Doctors Cornell and Miles, appear in the appendix.

(12.) Dr. Wells returned to Hartford and continued to devote himself, with some intervals occasioned by ill health, to his profession, using at all times with success the nitrous oxyd. He was exceedingly enthusiastic on the subject, and exerted himself very much to improve both the gas and the instrument or method of administration. Dr. Ellsworth says that the agent ultimately became much more effective in his hands than it was in the first instance.

(13.) Ere long Dr. Wells carried the use of the nitrous oxyd into general surgery. He was present and administered the gas to Henry A. Goodale, January 1st, 1848, on the occasion of the excision by Dr. P. W. Ellsworth of his leg, and then again to Mrs. Mary Gabriel, January 4th, 1848, on the removal of a fatty tumor, by Dr. S. B. Beresford, from one of her shoulders. In both cases the anæsthesia was perfect, and the operation painless.

(14.) During this whole period the discovery of Dr. Wells had the utmost notoriety at Hartford—it obtained early general publicity through the newspapers, and Dr. Ellsworth made a formal record of the fact in the *Boston Surgical and Medical Journal*, June 18th, 1845. "The nitrous oxyd gas," says the learned Doctor, "has been used in quite a number of cases by our dentists, and has been found by its excitement perfectly to destroy pain!" Have we not here perfect anæ-

thesia? Did not Dr. Ellsworth know what he was writing about? What motive had he for perverting the truth? Recollect that this record was made one year, three months and twelve days before anæsthesia was paturiated as is claimed at Boston.

(15.) On the 24th day of January, A. D. 1848, Dr. Wells went down prematurely to the grave, with his reason upset, as his friends verily believe—the victim of the shameless treatment which he had received in connection with this subject. “It is not strange,” says Dr. Wm. M. Cornell, “that being deprived of the honor of this discovery, that Dr. Wells, with his peculiar nervous idiosyncrasy, should have sunk under it.”

(16.) The nitrous oxyd being a bulky article, and its preparation attended with considerable inconvenience and expense, it was certain to be superceded, at least for a time, by other agents not objectionable on these accounts. It was so in the first instance by sulphuric ether, and ultimately by chloroform and chloric ether, so that the anæsthetic power of the nitrous oxyd was hardly known to or recognized by the public. Poor Wells being dead, and his family defenceless, this whole field was thrown open to be occupied by daring unscrupulousness in one quarter, and insatiable love of fame (with pitiable self-delusion) in another, and they entered and took possession, first occupying it in “conjunction,” and then scrambling for it in disjunction, but though disjoined in everything else conjoined in the clamors with which they made the welkin ring—Wells failed! failed! abandoned anæsthesia! nitrous oxyd worthless! no anæsthetic power! the Hartford practice a humbug and a cheat!

(17.) But “truth is mighty, and will prevail.” The use of the nitrous oxyd is suddenly and providentially renewed at New Haven, Conn., in dentistry. In the month of June, A. D. 1863, no less than 1785! teeth were extracted by a single dentist without pain by the use of this element. A knowledge of its availability and of its superiority over other agents immediately flashes all over the country, and is very generally adopted by the dental profession everywhere. All, all! both operators and patients, come to the same conclusion as to its

merits as compared with sulphuric ether that Bishop Brownell and his daughter Miss Francis did, who had tried both; "*she thought it,*" (to wit, the vapor of ether, says the Bishop,) "*less genial in its effects than the nitrous oxyd, and such was my own judgment of its operation.*"

(18.) Why should not sulphuric ether be *less genial* than the nitrous oxyd? Is not the latter compounded entirely of oxygen and nitrogen, the elements that enter into the composition of the air we breathe, the only difference consisting in the fact that the oxygen is in excess? It greatly enhances vitality, whereas sulphuric ether greatly diminishes it. The effect of the nitrous oxyd is to inspire the patient with much more than usual vitality, or life, and that of all other agents to cut it down and fritter it away. In the former case there is such a sense of exquisite enjoyment disseminated through the whole system as to pre-occupy the nerves, and render a realization of pain impossible. Mr. Francis C. Goodrich, (after speaking of the "indiscribably rapturous or pleasurable sensation" which he experienced), adds, "I neither felt nor feared pain, nor do I believe it possible to have inflicted pain upon me in any manner during the time my nervous system remained entirely under the influence of the exhilarating gas." In the case of the vapor of ether and the other agents, the nerves do not act because they are by a great reduction of vitality rendered inanimate. The nitrous oxyd can be inhaled *per se*, the vapor of ether can not—it has to be mingled largely with common air to be taken at all. The former supports combustion, the latter does not. The one is life, the other death. Not a single instance of fatal or injurious consequences resulting from the use of the nitrous oxyd, when properly prepared and administered can be pointed out; whereas deaths from the use of sulphuric ether and the other agents are understood to have been numerous.

(19.) It is true that the nitrous oxyd cannot, for obvious reasons, be used on the field of battle, but elsewhere it is just as available as any other agent. The extirpation of the schirous testicle by Dr. E. E. Marcy, August 17th, 1847, and the excision of Henry A. Goodale's leg by Dr. P. W. Ellsworth,

January 1st, 1848, with the patient in both instances under the influence of the nitrous oxyd, administered by Dr. Wells, furnish conclusive proof that that agent can be used with success in great surgical operations. Nothing prevents its introduction into hospitals for all the purposes of surgery, and it will be no matter of surprise if it is so introduced at no remote day. It is quite likely also to become a valuable remedial agent, particularly in cases of reduced vitality, but this topic is outside of the object or purpose of these papers, and therefore can barely be alluded to.

(20.) These considerations are abundantly adequate to evince that the pretensions advanced in behalf of Dr. Wells, or rather of his family, are sound and just. To him, and to him only, should be accorded the honor of having made this great discovery, and to his family the reward which public gratitude shall see fit to confer on so great a benefactor.

(21.) Nor does the fact that Wm. T. G. Morton, on the joint application of himself and Charles T. Jackson, succeeded in obtaining letters patent of the United States for the discovery, constitute the slightest objection to the Wells claim, for those letters have been decided by the Circuit Court of the United States for the southern district of New York to be null and void. No doubt these letters were very improvidently issued by the authorities at Washington, both as to the law and the fact. For the former, reference may be had to the opinion of Judge Shipman, concurred in by Mr. Justice Nelson, as reported in Chapter II, and for the latter, to the contents of these papers generally. If Dr. Wells was the first to discover anæsthesia, and the first to make it practical, then the Morton letters patent were void for that reason—void on the law, void on the fact, constituting a duplex invalidity.

(22.) But Wm. T. G. Morton has practiced duplicity in a broader and much more reprehensible sense. He has at all times, not only when he took out his letters patent, but during the whole of his persistent efforts to obtain a recognition of his claims by Congress and the country, known substantially all the facts that constitute Horace Wells the true author

of modern anæsthesia—has known not only that he discovered the principle, and the *modus operandi*, but carried it into successful practice long anterior to the date of his own pretensions, for (1) the intimate relations which had existed between him and Wells, in the first instance as instructor and pupil, and subsequently as partners; (2) the thorough knowledge which he had acquired of Hartford and its people, and the probability of his keeping that knowledge good by occasional visits to that city in consequence of the alliance which he had formed in its vicinage; (3) the call which Wells made on both Jackson and Morton a few days after he made his great discovery, when in Boston to bring the same out, and their incredulity when he made it known to them, as averred by Wells, and proved as to Morton by Mrs. Walton, of Canada, and the part taken by him in the experiment of Wells before Dr. Warren's class of students, to test the validity of the discovery, as admitted by Morton himself, and the success of that experiment, partial as Wells thought, but sufficient in the judgment of Doctors Taft, Cornell, and Miles, (students present), to indicate the truth of his theory; (4) the notoriety which the discovery obtained at Hartford; (5) the publicity given to it by the newspapers; (6) the annunciation of the fact by Dr. P. W. Ellsworth in the *Boston Medical and Surgical Journal* of June 18th, 1845; (7) his statement to Mr. Roberts that he took his idea from Wells' use of the nitrous oxyd, and though he added the gas failed, we now know how to appreciate that averment; (8) his admission to Dr. Hayden (his own witness) in substance that he knew precisely what agent Dr. Wells used, and its nature and effect, for he averred that his own was not at all like it, and how could he say that without such knowledge; and finally, his application to Wells at Hartford for instruction in the preparation of the nitrous oxyd, and for some of the gas itself to take to Boston, the appropriate response of Wells, telling him to go to Jackson for it, his subsequent call on that gentleman, his mysterious conduct, wants an India rubber bag (the very article used by Wells) to cheat a patient into an anæsthetic state by the inhalation of common air! and his ultimate ad-

mission that his object was the nitrous oxyd and its use in his profession—*these, these facts* point inevitably to the conclusion that he (M.) knew precisely all that Wells had done, and also to another conclusion, that he at an early day conceived the base idea of furtively appropriating the discovery of Wells to his own use.

(23.) The case of Dr. Charles T. Jackson is little if any better than that of Wm. T. G. Morton. His asseverations that the nitrous oxyd gas has no anæsthetic power whatever, and that he made this discovery years in advance of all other competitors, constitute one of the most remarkable cases of self-delusion disclosed by the records of science.

(24.) By swearing, as Jackson and Morton did, that they had made this discovery "in conjunction" with each other, Jackson and Morton have tied themselves down irretrievably to the 30th of September, 1846, as being the date of such discovery. They then for the first time came in contact on this subject—then was their first consultation, and then only did Jackson tell Morton to substitute ether for the gas, and give him information as to its nature and effects. Recollect! that we have the highest scientific authority for saying that such substitution does not deserve the name of discovery, and recollect further that in his communication to the French Academy, Dr. Jackson substantially admits that whatever discovery he had made must take date from September 30th, 1846. That communication is dated November 13th, 1846, and he says, "I have *latterly*" persuaded "a dentist of this city," (meaning Morton,) "to administer the vapor of ether to his patients when about to undergo the operation of the extraction of teeth. It was observed that persons suffered no pain in the operation, and that no inconvenience resulted from the administration of the vapor." The word "*latterly*" evidently refers to the extraction of Mr. Frost's tooth on the 30th of September, and with the word "conjunction," irresistibly tie down both Jackson and Morton to that date. As well may the bullock undertake to escape from the ring of slaughter as for either of those gentlemen to squirm out of that conclusion.

(25.) It will be recollected that Dr. Jackson in the assignment of his interest in this discovery, put himself on truly disinterested ground, for in the preamble he avers as one of the motives for making it that he was "desirous of benefiting" Morton, and "not to be interested in any patent." But all is not gold that glistens. It appears that the learned Doctor, notwithstanding his aversion to patents and his tender solicitude for the welfare of the assignee, (Morton,) took from him contemporaneously with the assignment, a stipulation that he would accord to him ten per cent. of the profits arising from the discovery, as a compensation for the part which he had taken in making it. He afterwards, by his counsel, demanded twenty per cent., which Morton would not concede. But the profits were nil! According to the Hon. Mr. Wilson, a minus quantity of over \$200,000! Hence it is manifest that our worthy friend, the Doctor, can not have fingered much of any of the yellow dust (to say nothing of greenbacks!) under this head of acquisition.

(26.) Widely different have been the fortunes of the illustrious Wm. T. G. Morton. His hands are exceedingly capacious and his fingers nimble. How did the nerves of his system thrill with more than anæsthetic enjoyment as he grasped the large sum which W. S. Tuckerman (so opportunely for him) abstracted from the exchequer of the Eastern Railroad Company, and how exquisite must have been his sensations (beating the exhilarating gas all hollow) as the millionaires of New York and Boston, in a spirit of true beneficence, poured into his lap their thousands. He now enters the national arena,—supported by the Hon. Chairman of the Senate Committee on Military affairs on the right, and by the Hon. Member of the Committee of Ways and Means from Boston on the left, he approaches the portals of the U. S. Treasury! "Lift up your heads, O ye gates!" exclaims the Hon. Chairman. Amen! and Amen! cries the Hon. Member, (with a vivid sense of the losses of the E. R. R. Co.,)—they display to his admiring vision a magnificent fortune! No less than \$200,000! but it is impossible for him to advance upon it. He can neither flank those pintals nor carry

them by direct assault, for they are guarded by "the flaming sword" of Justice, "turning every way," and will continue to be so guarded until humbug shall be deemed of more value than true merit, and charlantry, trickery and fraud shall be more esteemed than frankness, sincerity and truth.

We will now attend to the remarkable

CONTRAST

which is presented by the course of Wm. T. G. Morton as compared with that of Horace Wells in relation to the matter under consideration.

The actions of men are the only proper interpreter of their motives, and the only reliable exponent of what constitutes character. It is by referring to these that we are to ascertain whether they are sincere, frank, ingenuous, kind, beneficent, disinterested, truthful, upright, and just,—in short, whether they are disposed to observe and do observe the golden rule of doing unto others as they would be done by. Will Wm. T. G. Morton stand the test of such a scrutiny? A few particulars will throw a flood of light on this subject, and will indicate the conclusion to which we should come with unerring certainty.

(1.) Witness the sly, artful and insidious manner in which he approached Dr. Charles T. Jackson to worm out of him information to be used in this connection;—how he wanted an India rubber bag to cheat, as he pretended, a patient into the anæsthetic state by the inhalation of common air, when his real object was to ascertain how to manufacture the nitrous oxyd, and his intention to use it in the same manner and for the same purpose Wells had been and was using it at Hartford. Why so much mystery if his purposes were not sinister—if he did not intend to purloin Wells' discovery and to appropriate it to his own use?

(2.) Witness also the avidity with which he snatched at the suggestion of Jackson that the vapor of sulphuric ether would produce all the effects of the nitrous oxyd, and that he could substitute the former for the latter, and witness also his admission in the first instance by that unhappy "conjunc-

tion" affair, of his obligations to that gentleman for that suggestion, and his utter denial of such obligations ever since.

(3.) Also the imposition which he practiced on the surgeons of the General Hospital at Boston, in pretending that he had at hand a *peculiar* preparation which he had concocted that would produce the anæsthetic state, and what an entire want of frankness there was in keeping dark as to its character, until he was compelled by their determination not to use the article until they were well informed on that point.

(4.) Also the falsehood which he inserted in his advertisement of a copartnership in dentistry with N. C. Keep, dated November 29th, 1846, in which he spoke of the anæsthetic agent to be used by the new firm as "the fluid recently invented," not by himself alone, but by him and Dr. Jackson, thus telling a lie as to the character of the agent, and giving the lie in advance (a second time) to the pretension incessantly made ever since that he was the sole author of this discovery.

(5.) Also the following letter addressed to Dr. Wells at Hartford:

BOSTON, Oct. 19th, 1846.

FRIEND WELLS:

Dear Sir:—I write to inform you that I have discovered a *preparation* by inhaling which a person is thrown into a sound sleep. The time required to produce sleep is only a few moments, and the time in which persons remain asleep can be regulated at pleasure. While in this state the severest surgical or dental operations may be performed, the patient not experiencing the slightest pain. I have *patented* it, and am now about sending out agents to dispose of the right to use it. I will dispose of a right to an individual to use in his own practice alone, or for a town, county, or state. My object in writing you is to know if you would not like to visit New York and the other cities to dispose of rights upon shares. I have used *the compound* in more than one hundred and sixty cases in extracting teeth, and I have been invited

to administer it to patients in the Massachusetts General Hospital, and have succeeded in every case.

The Professors Warren and Hayward have given me certificates to this effect. I have administered it in the hospital in the presence of the students and physicians—the room for operations being full as possible. For further particulars I will refer you to extracts from the daily journals of this city which I forward to you.

Respectfully yours,

WM. T. G. MORTON.

Here it will be observed that Dr. Morton writes that he has “discovered a *preparation* by inhaling which a person is thrown into a sound sleep.” He had not discovered that a new or unknown effect would be produced by an old or well-known article, but he represents that the agent or article itself was new. Wells had previously ascertained that the anæsthetic state could be produced both by the nitrous oxyd and by the vapor of ether, and was using the former daily for that purpose; but Morton announces a wonderful event. I have discovered, he says, in substance, “a preparation,” a new agent which can be used with a facility and effect that is truly extraordinary, and that this new agent is a “compound,” and if so, properly denominated a “preparation,”—that is to say, I have taken various simples and have compounded them, and the result is an element that can be inhaled, producing the effect and having the power stated. To do this would ordinarily require much scientific knowledge, thorough investigation, and protracted experimentation. I have dipped (he gives his correspondent to understand) deep into the science of chemistry. I have investigated the qualities of sundry articles and have ascertained how and in what proportions they should be combined. I have cudgeled my brains, and trimmed the midnight lamp, and the result is a “preparation,” or “compound,” which has a remarkable anæsthetic power. Now if this were true he would unquestionably be entitled to letters patent, for such “a composition of matter” is one of the cases expressly provided for by Act of Congress.

Therefore the annunciation "I have patented it and am now about to send out agents to dispose of the right to use it," could have been no matter of surprise to Wells. It was the natural sequence from the premises stated. But unfortunately, Morton had discovered nothing whatever. He had merely obtained an old and well-known article, to wit: sulphuric ether—an article to be found in every apothecary's shop—had used it, mingled with common air, in an old way, viz: by inhalation, and had only discovered that it would produce a certain effect not before suspected, provided we assume he had discovered anything. What are we to think of the rectitude of any man who could characterize such a discovery as "a preparation," "a compound," or "composition of matter," or is he to be let off on the ground that he is an *ignoramus*, and did not know what he had discovered, or could not use language appropriate to the case? But unfortunately, this charitable construction is utterly excluded by the mendacity which follows: "I have patented it," &c. Now, at the date of his letter, (October 19th, 1846,) he had no more patented "a preparation," or "compound," than he had invented or discovered one. The joint application of Morton and Jackson for the letters and the jurat thereto attached, bear date October 27th, 1846, more than one week after the date of his letter to Wells, and the letters themselves, November 13th, 1846, more than three weeks after the same date.

Poor Wells having been thus bamboozled into the belief that Morton had really discovered or compounded a new anæsthetic agent, and one, too, of peculiar efficacy, sat down and addressed to him the following letter:

"HARTFORD, CONN., Oct. 20th, 1846.

DR. MORTON:

Dear Sir:—Your letter dated yesterday, is just received, and I hasten to answer it, for I fear you will adopt a method of disposing of your rights which will defeat your object. Before you make any arrangements whatever I wish to see you. I think I will be in Boston next week; probably Mon-

day night. If the operation of administering the gas is not attended with too much trouble, and will produce the effect you state, it will undoubtedly be a fortune to you, provided it is rightly managed.

Yours in haste,

H. WELLS."

This letter undoubtedly proves that Wells inferred from Morton's letter that he had discovered, not the practicability of anæsthesia, but another anæsthetic agent, just as Professor Simpson afterwards discovered one in chloroform, and Professor Warren still another in chloric ether, and that the agent was some gaseous substance, though he qualified his impressions as to its availability for fortune making by a two-fold "*if*." It also shows that he thought the subject of sufficient importance to be worthy of his attention. Accordingly on the succeeding Saturday, (for he did not wait till Monday,) he went with his lady to Boston, and immediately on his arrival, called on Morton. What transpired on that occasion we learn from an account of the matter given by Wells in the Boston Medical and Surgical Journal, of May 12th, 1847, as follows: "I there saw Dr. Morton" (meaning at his office) "administer his so-called "compound," and the patient instead of going quietly to sleep to be aroused at pleasure, as I had been informed would be the case, became exhilarated, succeeded by a stupor, the same as is produced by the inhalation of the nitrous oxyd gas. While at Dr. Morton's, three or four patients inhaled the "compound," and two of them informed me it was an entire failure. I thought this remarkable after his operating on one hundred and sixty patients "without a single failure." I then inquired about the patent which the latter stated had been obtained for the compound, and learned to my surprise, he had not obtained one." Mrs. Wells, (in a deposition which appears in Mr. Smith's Anæsthesia, p. 113,) swears that on Dr. Wells returning from this interview, she asked him as he entered the room, "Whether Morton had discovered anything new? He replied, no; it is my old discovery, and he does not know how

to use it. He added he perceived what it was immediately on entering the room from the atmosphere—he said it was nothing but ether.” Dr. Wells then returned to Hartford, having incurred the trouble and expense of his journey to Boston as the consequence of the imposition practiced upon him by Morton.

But I have not yet done with the depravity displayed in this connection, for the letter of October 19th is produced by Col. Bissell in his report, and from thence is quoted into the report of Senator Wilson, with the word “perfected” substituted for the word “patented,” so that it reads, “I have *perfected* it, and am now about sending out agents to dispose of the right to use it.” No one could think for a moment of charging over this alteration to the responsibility of Col. Bissell, who was a man of unalloyed rectitude. Here I might be disposed to consider it a typographical error, were it not for the fact that other important papers have been mutilated in furtherance of Morton’s pretensions before Congress. But if the word in fact used was “perfected,” would not that aggravate the falsity of this letter? He would then say, in substance: I have “perfected” my “preparation.” Ah! perfected sulphuric ether, when it is notorious that he could have done nothing to it. But the original mendacity remains, notwithstanding the substitution, for unless he has patented it, how could he say, “I am now about sending out agents to dispose of the right to use it.” So that by this change, we have two falsehoods in place of one, as the sentence stood originally.

(6.) Witness also the effrontery displayed in producing such a correspondence as an admission by Wells that he had not discovered anæsthesia, and had not practiced it with success.

(7.) Also the imposition which he has attempted to practice on Congress in producing a humbug account of expenditures made and losses incurred in this behalf, amounting, with interest, to the enormous sum of \$200,561, while he carefully suppresses the \$50,000 which he got from the wretched Tuckerman; the \$11,300 accorded to him by the good men of New

York and Boston, and other sums obtained elsewhere to a considerable amount.

(8.) Also the trait of character exhibited in first appealing with success to the beneficence of New York for a recognition of his claim to this discovery, and then after realizing his object, in turning round and suing a charitable institution in that same city for making some use of it.

(9.) Also the disposition which he has manifested from the beginning to take advantage of a discovery of the last importance to humanity for the acquisition of "filthy lucre," and nothing else. What other motive could have prompted him to take out letters patent for such a discovery, and to seek by such means the power to prescribe terms and limits for its use in alleviating the keenest pangs known to our nature.

(10.) Have I not shown that he was fully and distinctly apprised of all that Wells had discovered and done at Hartford, many months before the developments at Boston, and if so, how can we avoid the conclusion that he deliberately undertook to purloin the discovery of another, and to appropriate its honors and rewards to his own use? I purposely abstain from using a word which is alone adequate to express my sense of such conduct.

This is quite enough for Wm. T. G. Morton. I now turn to the unfortunate Horace Wells, in every moral and intellectual attribute, his direct opposite. Was there in his character one particle of the alloy of selfishness? Did he seek letters patent and endeavor to make merchandize of that which should be conceded at once to humanity? Did he practice any mystery, art, or craft? On the contrary, did he not instantly blazon his discovery to the community in which he lived? Did he not, casting aside all professional rivalry and renouncing all thought of personal advantage, make the fact known to his brother dentists, and instruct them in an art alike new and surprising? Did he not undertake more than one considerable journey to bring his discovery to the knowledge of the prominent surgeons of our great cities? Did he not follow up his discovery with great enthusiasm, and make

large advances in the efficacy of his practice? Was he not at all times open, frank and sincere? When was he ever known to tell a lie, or make an equivocal statement? Did he swear that he had made his discovery "in conjunction" with another, and then deny utterly that participation? Did he prate about his "preparation," his "compound," and "perfecting" that compound? On the contrary, was it not with him the nitrous oxyd, "the laughing gas," at the beginning, the middle, and the end? Did he harrass Congress for access to the National Treasury, or worry the beneficently disposed of our large cities to bestow on him from their abundance many thousands? Did he find any where a Tuckerman to pour into his lap what most men would deem a handsome estate? Was he not truly disinterested? Was he not upright, just, and strictly conscientious? Horace Wells I did not know, but the information which I have received as to his life and conversation, is so complete and authentic, I do not hesitate to declare my belief that a more unexceptionable character never lived. He was impulsive and sensitive to a fault, and at the same time was possessed of more than ordinary powers. I am satisfied that had he received a thorough educational training, he would have been competent to achieve for himself in the history of science a position of which any man might be proud.

I must here take leave of his unfortunate case;—"of that man," (to repeat language which I used on a former occasion,) "who did more for suffering humanity, than any one else since the days of Jenner, and who, had his reason and his life been spared, would at this moment be the acknowledged author of anæsthesia throughout the civilized world, and associated in the same bright galaxy with other illustrious benefactors of mankind. Shall imposture be permitted to usurp the place of merit? Shall ignorance and presumption overtop the emanations of true genius, and all the promptings of a generous, noble, and self-sacrificing spirit? Shall artifice, chicanery, and mendacity stand before sincerity, rectitude, truth and honor? And shall an attempt to commit a piracy on the reputation of the dead, and to rob the widow

and the fatherless of what they deem a priceless jewel, be held in as high esteem as the memory of one who consecrated all his best faculties and utmost energies to an alleviation of the keenest pangs known to humanity, and who went down to the grave a victim alike to his success and to the opposition which that success prompted? Until these things happen, there can be no failure of Justice for the family of Horace Wells."—*Smith's Anæsthesia*, p. 135.

ADDENDUM.

SINCE the foregoing chapters (excepting the last) appeared in the *Medical and Surgical Reporter*, the use of the nitrous oxyd as an anæsthetic has made rapid progress in the United States. By far the most prominent of the operators with that element has been and is Mr. G. Q. Colton, doing business under the name of the "Colton Dental Association," at No. 19 Cooper Institute, New York City. Indeed, to this gentleman alone are we indebted for its introduction into practice after a suspension of many years, and for making its virtue and efficiency very generally known throughout the country. In this he has not only subserved in a high degree the cause of humanity, but he has placed the claims of Dr. Wells as the discoverer of the principle and as a successful practitioner of modern anæsthesia on a basis which can not be shaken. His efforts have been characterized with matchless vigor and perseverance, and he is entitled to the more honor for ascribing, as he uniformly has, all the merits of this great discovery to Dr. Wells, claiming only for himself the credit of reviving and then vindicating the practice of that unfortunate character. Wells was the first to conceive the idea (after Sir H. Davy) of reaching the nerves by inhalation, and he chose for his agent the nitrous oxyd; other parties acting upon the same idea (derived from Wells), selected other agents much more convenient and supposed to be equally safe and efficacious, and these for a long time completely superseded the use of the former in practice. Thus a door was opened for controverting the claim of Wells—he was held up to the world as a mere visionary speculator, amusing himself with an agent of no practical value whatever. In this state of the case, Mr. Colton appears upon the theatre, resumes the practice of Dr. Wells,

and carries it to a triumphant consummation; so that his name must ever hereafter be associated with that of the true author of this discovery.

To illustrate the frankness with which Mr. Colton has ever treated this subject, I produce here extracts from a communication made by him to the *Medical and Surgical Reporter* of January 23d, 1864, as follows:

"No one, I think, who has taken pains to examine the evidence on the subject, can doubt that the honor of the discovery belongs to the late Dr. Horace Wells, of Hartford, Connecticut. He made his discovery at one of my exhibitions of the nitrous oxyd gas in the city of Hartford, on the evening of the 10th December, 1844, and the next day he brought that discovery to the test of an experiment on himself. I, at his request, administered to him the gas, and Dr. Riggs, a dentist, extracted one of his large molar teeth without the slightest pain. The success of the operation surprised us all. This was no doubt the first successful trial of an adequate anæsthetic agent, and led to all that has since followed in this beneficent line of effort." * * * * "I call nitrous oxyd the new anæsthetic, because I have, after a long interval, revived the use of it. But it is in fact the old anæsthetic of Horace Wells, and I rejoice that Providence has permitted me to live and demonstrate the truth and validity of his great discovery."

In Chapter VI. I adverted to the extensive use which Mr. Colton had made of the nitrous oxyd before he recurred to that discovery, and re-introduced the gas into dentistry. More precise details on this subject may perhaps be properly given here.

He commenced, as I am credibly informed, the practice of administering the nitrous oxyd to illustrate chemical principles, in the winter of '43-'44, and continued it, with some intervals, down to 1863. About six months in the fall, winter and spring of each year were thus occupied, and at least two exhibitions were given every week, sometimes three or four, and the gas was usually administered to twelve or fifteen persons on each occasion. The only anæsthetic use which he

made of this element during this long period consisted in the experiment successfully tried on Dr. Wells on the morning of the 11th day of December, 1844, which has resulted in such vast good to mankind. How many there were who thus imbibed the gas (whether for scientific purposes or amusement is immaterial) I have no means of ascertaining. No doubt the number was very large. The circumstances under which the attention of Mr. Colton was, at New Haven, in June, 1863, particularly attracted to the nitrous oxyd as an anæsthetic agent in dentistry, his introduction of it into practice in that city, in connection with Mr. Joseph H. Smith, dentist, and the success which attended their efforts there, together with his removal to New York, and the establishment of the "Colton Dental Association," are fully explained in the same chapter, (VI.) and need not be repeated here. During the first six months after the Association commenced business in New York, no register was kept of the names of its patrons, but at the expiration of that period one was commenced, at my suggestion, and has been continued ever since. Each patient is asked to subscribe his or her name, which is uniformly done, and to this is added the date and number of teeth extracted. In a separate column provided for the purpose, the party appends such observations as he or she may deem just, and the testimonials thus obtained in favor of the gas are alike numerous and satisfactory. The whole number of names which appear on this register up to the 1st day of January, 1867, is (17,601) seventeen thousand six hundred and one. I find on examination that the teeth extracted for each individual averaged two and a fraction, and as the number extracted in New Haven while Mr. Colton was there, was 3,929, I conclude that the persons who imbibed the gas for that purpose must have been at least fifteen hundred. I have no means of ascertaining how many took the gas in New York before the register was commenced, but probably there were several thousand.

In addition to this, he has within the past year established branches of this business at Philadelphia, Baltimore, St. Louis, Cincinnati, Brooklyn and Boston, in the order here named, all of which are, as I understand, now doing well, and are

likely to do better. With these elements of calculation, the most important of which is positive, it is not too much to assume that Mr. Colton has administered the nitrous oxyd, or has caused it to be administered as an anæsthetic for dental purposes to not less than 25,000 persons, and if to this aggregate we add all those who imbibed the gas at his chemical lectures, we shall have a vast array of men, women and children who have under his auspices each enjoyed, by the agency indicated, a brief interval of delicious insensibility, to be aroused to consciousness in many cases (25,000!!!) relieved from a serious evil, and in all not experiencing any.

During the past year the use of the nitrous oxyd has been re-introduced into surgery, and trials have been made of it by some of the most distinguished surgeons of New York, Brooklyn, Philadelphia, Baltimore, Cincinnati and St. Louis, with results alike satisfactory to themselves and gratifying to the friends of the lamented Wells. I purposely use the word "re-introduced," in justice to Dr. Ellsworth, and other surgeons of Hartford, who were the first to give this element a trial, and to ascertain its unquestionable efficacy. They may properly be said to have *introduced* the nitrous oxyd into surgery. I shall not be at all surprised if its progress in that department shall be from henceforth just as rapid and extensive as it has been of late in dentistry. It can not for obvious reasons be used on the field of battle, but everywhere else I fully believe it is greatly superior to every other agent. In conclusion, on this point, it is but justice for me to remark, that it is mainly if not exclusively due to the efforts of Mr. Colton that the attention of the surgical profession has of late been so strongly attracted to the subject—efforts which I the more highly appreciate as they were strictly disinterested, and prompted by no other motive than a desire to do good.

I can not conclude these remarks without pointing to the significant fact that in all the vast use which Mr. Colton has made of the nitrous oxyd, whether in lecturing on chemistry, practicing dentistry, or in depriving the surgeon's knife of all its terrors, has the slightest accident occurred, or injury been done to any one.

My readers will find in the Appendix reports of some of these recent cases in surgery, a great majority of which are what are usually called "capital cases," and I invite particular attention to the report bearing the names of Drs. Taylor and Vermilye, who present a case in which the nitrous oxyd took instant effect, after the vapor of sulphuric ether had utterly failed.

They will note also the letter of the distinguished Dr. May, of Washington, D. C., to myself, of recent date, which contains matter of a deeply interesting import, and also an account from a late Cincinnati paper of a lecture by Wm. T. G. Morton to a class of medical students, in which he made a characteristic exhibition of himself!!

T. S.

APPENDIX.

SOME of the recent cases, illustrating and proving the efficacy and value of the nitrous oxyd gas as an anæsthetic agent in surgery:

From the Medical and Surgical Reporter of January 6th, 1866.

BY J. M. CARNOCHAN, M. D.,

Surgeon-in-Chief to the State Emigrant's Hospital, New York, etc., etc.

I desire to present through the pages of the *Medical and Surgical Reporter*, a general statement of the facts respecting three surgical operations which I performed, using nitrous oxyd gas, administered by Dr. Colton, as the anæsthetic, and my opinion on the value of this agent as compared with chloroform and ether.

The first operation took place on the 22d of last July, and was the removal of the entire breast, and glands of the axilla, for cancer. The patient, a lady in feeble health, was suffering from disease of the throat and lungs, and general debility. In thirty-five seconds from the time she began inhaling the gas, she was in a profound anæsthetic sleep. She remained insensible for sixteen consecutive minutes, until the operation was completed, and in forty seconds from the time the bag was removed, awoke to consciousness, without nausea, sickness, or vomiting, as is so often the case with the inhalation of chloroform and sulphuric ether.

The second and third capital operations occurred at the State Emigrant's Hospital, on the second of December, and consisted of two amputations of the leg. The time required to produce an anæsthetic sleep in the first patient, a male adult, extremely debilitated, and worn out by disease, was forty-five seconds; whole duration of the operation and influence, two minutes and a quarter. No nausea, or unpleasant symptoms.

The third operation was on a boy of about 13 years of age. The time consumed in the inhalation, operation and recovery from the anæsthetic sleep, was two minutes, the gas working equally as in the

other cases, and the patient, after complete anæsthesia, awaking entirely free from unpleasant symptoms.

For minor operations, or for capital operations, such as amputations, which, when properly performed should require but a few minutes, I have no hesitation in stating that the nitrous oxyd gas, as an anæsthetic, is far superior to either chloroform or ether. Insensibility is suddenly produced, and the patient recovers consciousness quickly, the operation being attended by no nausea or sickness, and without the dangerous effects often incident to chloroform and ether.

It is worthy of remark that the nitrous oxyd gas approximates, in its chemical combination, to the composition of the ordinary atmosphere, and we may thus, inferentially, account for its more favorable influence. Whether it can be used in operations which from their nature require from half an hour to an hour's time, remain still to be proved by actual experiment.

The duration of the anæsthetic influence in the case of the first operation, previously alluded to, is the longest on record; and I may here state that this is the first capital operation performed under the influence of the gas, since the great discovery of Wells, of Hartford, twenty-two years ago, that a harmless sleep could be produced by a chemical agent, which could annul for the time being, the greatest suffering. It is not at all improbable that had Wells lived and had the boldness to follow up his early successful experiments, chloroform and ether would never have been thought of as anæsthetics.

To G. Q. Colton is due the credit of reviving the use of this important agent, in the practice of dentistry, after a lull of twenty-two years.

The value of a safe anæsthetic agent, which can be used without anticipation of danger by the patient, is a great boon to suffering humanity, and I have related thus minutely its action in my own cases, in the belief that if similar favorable results are met with by others, the nitrous oxyd gas will supersede all other anæsthetics now in use.

From the Medical and Surgical Reporter of January 27th, 1866.

NITROUS OXYD GAS IN SURGICAL OPERATIONS.

Editor Medical and Surgical Reporter:

In your number for January 6th, 1866, is a letter from the distinguished surgeon J. M. Carnochan, of New York, respecting the use of nitrous oxyd gas in operations. In this he states:

"This is the first capital operation performed under the influence of the gas, since the great discovery of Wells, of Hartford, twenty-two years ago," etc.

By turning to pages 52 to 68 of the work called *Anæsthesia*, published in 1859, by Hon. Truman Smith, in defense of Wells before Congress, you will find a full account of an amputation performed by me in 1848, eighteen years ago—with a success fully equal to that attained since, either by gas or chloroform. *This* was the first amputation. The same reasons are there given for preferring the gas to other anæsthetics, which are urged by Dr. Carnochan. Probably he was unaware of this operation when he made the above statement.

In that case Wells himself gave the gas.

Very respectfully yours,

P. W. ELLSWORTH.

HARTFORD, CONN., Jan. 12, 1866.

From the Medical and Surgical Reporter of Feb. 10th, 1866.

NITROUS OXYD GAS IN CAPITAL OPERATIONS.

Editor Medical and Surgical Reporter :

I observe in your last number, January 27th, a communication from Dr. Ellsworth, of Hartford, in which he states that I was in error in supposing that I was the first to perform a capital surgical operation under the influence of nitrous oxyd gas, as he had amputated a limb eighteen years ago, Dr. Wells himself administering the gas. I was aware, when I wrote my letter on this subject, that one or more surgical operations had been performed in Hartford, about the time of Wells' discovery. I therefore, if you will observe, distinctly stated that mine are the first capital operations performed under the influence of the gas, *since* the discovery of Wells, meaning since that epoch. I did not lay claim to any priority in the use of the gas, nor to any particular merit, except that of reviving its use for surgical purposes, after it had been abandoned in favor of chloroform and ether for nearly eighteen years, and proving and corroborating the fact that it is preferable to either, and perfectly suitable for all surgical operations of short duration.

I am pleased to find that so distinguished a surgeon as Dr. Ellsworth should have been one of the first to practically demonstrate the anæsthetic qualities of nitrous oxyd gas in surgery proper.

Since my letter in December, I have performed four more capital operations upon adults, viz., one amputation of the thigh, one of the leg, the removal of a tumor from the side, and the extraction of a cataract, making in all, since last July, seven successful capital operations under the influence of anæsthesia produced by the nitrous oxyd gas. I have also, during this time, used chloroform and ether in many operations, and my opinion in regard to the superiority of the nitrous oxyd as an anæsthetic is still unchanged. I believe, however, that there is great room for improvement in the mode of administration of the gas; one principal fault at present being the repeated inhalation of the same material. An instrument which will act by a valvular arrangement, as in Reed's stomach-pump, would obviate this difficulty, and I have no doubt but that some skillful mechanician will produce one that will meet the necessary requirements.

The necessity which exists for some anæsthetic agent which will enable the patient to place himself in the hands of the operator without fear of the unpleasant, dangerous, and sometimes fatal effects of chloroform and sulphuric ether, renders the consideration of this subject a matter of much importance to the profession and to the world at large, and the elucidation and record of new facts connected with it may be made the basis of future improvements.

With the exception of the undoubted claim which Wells has to the discovery of anæsthesia for surgical purposes, I regard the historical part of the subject as of comparatively small import. As the matter now stands, however, by reference to Senator Truman Smith's Congressional report, referred to by Dr. Ellsworth, I find that on August 17th, 1847, Dr. E. E. Marcy, then of Hartford, now of this city, removed a schirrous testicle; that on January 1st, 1848, Dr. P. W. Ellsworth, of Hartford, performed an amputation of the thigh on a boy, and that three days after, Dr. S. B. Beresford, of the same place, removed an adipose tumor, six ounces in weight, from the shoulder of an adult.

Since these operations, performed at the time of Wells' discovery, nitrous oxyd gas as an anæsthetic, has been absolutely abandoned in capital surgery, until my operation, the extirpation of a cancerous mammary tumor, with enlarged cancerous glands in the axilla, on the 22d of July, 1865, an interval of about eighteen years. The period of time (sixteen minutes) that the patient was kept under the influence of the gas, during that operation, is, as far as I know, the longest on record. I must state, however, that during this time the bag containing the gas was removed several times from the mouth of

the patient, in order that the lungs might be injected with atmospheric air.

The subject now remains open for future experiment to develop the further capabilities of the nitrous oxyd gas as an anæsthetic agent.

J. M. CARNOCHAN, M. D.

NEW YORK, Jan. 30th, 1866.

NOTE.—The learned Doctor is mistaken in the idea that Mr. Smith made a report to Congress on the subject. After taking some part in defeating the attempt at the first session of the Thirty-Second Congress to accord to Wm. T. G. Morton the large sum of \$100,000 out of the public treasury, as a reward for making this great discovery, and anticipating a renewal of that attempt at the succeeding session, he devoted much of the interval to a thorough investigation of the subject, and collected a large mass of testimony showing conclusively that Horace Wells was the true author of modern anæsthesia. As that attempt was not made, these proofs were not produced to Congress, but remained in his hands till 1859, when they were published, with suitable comments, in a thin volume denominated "Anæsthesia," which he rejoices to say has contributed powerfully to the dissemination of just views on this subject, particularly among the surgical, medical and dental professions. Nor does the fact noted with some emphasis by the learned Doctor, to wit, that the use of the nitrous oxyd in surgery had long been "absolutely abandoned," at the time he re-introduced it, as stated in his first communication, detract in the slightest degree from the merits of Wells, for he conceived the grand idea of reaching the nerves of sensation through the medium of the lungs, and selected to that end an agent (as the experience of the learned Doctor proves) both efficacious and safe. That the use of it should have been superseded by other agents more readily obtained, and more easily applied, is no matter of surprise, particularly when we consider how little was known of its effect on the human system beyond the production of excitement. It is now in the hands of surgeons and dentists, but may at no remote day pass into the hands of physicians, to become a remedial agent of no small value.

T. S.

From the Medical and Surgical Reporter of Dec. 2d, 1865.

PENNSYLVANIA HOSPITAL, Oct. 12, 1865.

Surgical Clinic by Dr. T. G. Morton. (Reported by C. R. Morgan.)

RE-AMPUTATION FOR INTENSE NEURALGIA IN A STUMP. ANÆSTHESIA INDUCED BY NITROUS OXYD.

John McCollom, aged 24, of strumous diathesis, was admitted to the hospital Oct. 12, 1865. He had been serving in the Army of the Potomac. On the 28th of September, 1864, his left foot was carried away by a piece of shell, amputation was performed a few hours afterwards, in the inferior third of the leg, by antero-posterior flaps. Union progressed favorably for three weeks, although, even during that time, there was an unusual amount of tenderness in the stump, but more especially in the course of the anterior tibial and peroneal nerves. Over the position of the end of the last nerve a hard nodule can be readily felt through the skin, intensely sensitive to pressure, and evidently involved in the cicatrix. Several small nodules can be felt in other parts of the stump. The skin is adherent to the end of the bones, and the whole stump has the feeling of hardness, and immediately over the peroneal nerve at its termination, the skin is discolored, and has frequently been the seat of ulcerations. The tissues above the stump are healthy, and his general health is good. The nodules are bulbous enlargements of the nerves which are disorganized, and the hardness is due to a deposit of fibrous matter. The only operation that will give him relief consists in a re-amputation higher up, going beyond the diseased nerves. Excisions of these tumors would not be of benefit here, as probably all the nerves are involved.

I use in this case, as an anæsthetic, the protoxide of nitrogen, which consists of one equivalent of oxygen and one of nitrogen. The gas is carried in various sized gutta-percha bags, having a flexible tube and a hard rubber mouth-piece, with a stop-cock attached, which is placed against the teeth, the mouth being held open by a small wedge. The lips are drawn over the mouth-piece, and the nose being closed, the patient is directed to take a full breath. From twenty to thirty seconds is quite sufficient to induce total anæsthesia.

The patient was put under the influence of this agent in about fifteen seconds, and the amputation performed by making lateral skin flaps and a circular of the muscles, without the slightest pain or unpleasant effect. The operation lasted two minutes.

DISSECTING ABSCESS OF THE LEG. OPERATION; NITROUS OXYD GAS.

James ———, colored, aged 15. Received a blow upon the left leg five weeks ago. An abscess has formed, which is about the middle of the limb on the outer side, immediately under the skin. The pus has worked its way in various directions, and has reached the surface by one small orifice at the inner side of the tibia. All this requires is a free incision, laying open the undermined portion. A flaxseed poultice and then some stimulating wash may be applied. Profound anæsthesia was induced by the nitrous oxyd lasting one minute, and the abscess was freely opened. No unpleasant symptoms followed the use of the gas. Consciousness returned very rapidly. No sickness of the stomach.

SYPHILITIC SARCOCELE. SLOUGHING OF THE SCROTUM.
REMOVAL OF THE GLAND. NITROUS OXYD.

—————, aged 22. The patient contracted chancre three years ago, which was followed by inguinal enlargement and profuse skin eruption. Ulceration of his nose is a prominent symptom, and the part has assumed the flattened appearance consequent upon the loss of its bony structure. About a year since the right testicle began to enlarge, became heavy, very hard, and at times painful. Six weeks ago, the testicle increased enormously in size, the skin covering it sloughed, leaving the organ entirely denuded. There is a fetid discharge, which weakens him very much. In this disease we find the organ infiltrated with a yellowish lymph, which is deposited in and around the tubules, finally obliterating the normal structure. The parts here have sloughed to such an extent as to leave no chance for the organ being covered by skin. In consequence of this, the great discharge, and the disorganization of the part, we shall remove it. The nitrous oxyd was inhaled, perfect anæsthesia being induced, an incision was made, running up the cord, which was turned out and divided. The hæmorrhage being controlled with one acu-pressure needle.

NEW YORK ORTHOPÆDIC INSTITUTION,
No. 1303 Broadway, N. Y., June 12, 1866.

Dr. G. Q. Colton:

Dear Sir—We take great pleasure in complying with your request to give you the facts in relation to the operation yesterday with the use of the nitrous oxyd gas.

Desiring to operate upon the hip joint, we resorted to sulphuric ether, but found it impossible to bring the patient under its anæsthetic influence. It was carefully administered, and the patient, a very intelligent young lady, we thought a particularly good patient for the purpose. She was very quiet, and anxious to aid us in every way she could. But after spending seventy minutes, and using more than half a pound of Squibb's ether, we failed to make any anæsthetic impression, and abandoned the effort. About five hours afterward you administered the nitrous oxyd gas. In forty seconds the patient was in complete anæsthesia. The operation—division of the sartorius muscle—lasted about thirty seconds, and in about twenty seconds more the patient opened her eyes, and smiling, asked if the operation had been done. There was neither nausea, vomiting, headache, nor any other unpleasant symptoms. We were much gratified with the result.

This is the third case where you have administered the gas for us in surgical operations, (one a severe operation for breaking up ankylosis at the hip-joint), and we have found it to answer every requirement as an anæsthetic. We do not know how it would answer in long operations, as we have not tried it when much time was occupied. We shall continue to use it in all cases of tenotomy, when not more than two or three minutes are required to operate.

Very respectfully yours,

CHAS. F. TAYLOR, M. D.

W. E. VERMILYE, M. D.

To Dr. G. Q. Colton, No. 19 Cooper Institute, New York.

BALTIMORE, June 26, 1866.

To the Colton Dental Association.

Gentlemen—I willingly give you my experience in the use of the nitrous oxyd gas. I have inhaled in my own person, twice, the nitrous oxyd gas in sittings to you, for the extraction of several painful teeth. Its anæsthetic influence was almost immediate, the inhalation pleasant, the operation of extraction painless, and the relief permanent, followed by no uneasiness, as I have known to result from the inhalation of chloroform and sulphuric ether. My knowledge of the chemical composition of the gas assured me that no dangerous or unpleasant results could follow its use when pure and properly administered.

Having a patient with a large tumor occupying the whole front of the right arm, extending over and beneath the scapula, I desired him to submit while you administered the nitrous oxyd gas. In thirty seconds the patient was in a complete sleep; the operation of the removal of the tumor was completed in seven minutes, when he awoke, expressing his ignorance of anything that had transpired. There was no unpleasant symptoms, such as are known to operators after the inhalation of chloroform and sulphuric ether.

Very respectfully,

JOHN C. S. MONKUR, M. D.

From Dr. Griscom, M. D.

NEW YORK, March 8, 1865.

Having occasion recently to undergo a minor surgical operation of much severity, I embraced the opportunity to try the anæsthetic effect of nitrous oxyd gas, administered by Dr. G. Q. Colton. I found it perfectly satisfactory. I was put into a sound sleep in a few seconds, and remained so until the operation and dressing of the wound were completed. While looking for the incisions to begin, I found they had all been done.

JOHN H. GRISCOM,

Physician to New York Hospital.

NEW YORK, Jan. 2, 1866.

DR. COLTON; Sir—I have used the nitrous oxyd, or as it is popularly called, laughing gas, in a recent case of extirpation of the eye, with marked success. The patient, a man of about sixty years of age, had been an invalid for nearly two years, suffering from severe inflammation of the eye, with great prostration of strength. About two weeks ago, a small tumor was discovered within the orbit of the eye. After a consultation with two eminent oculists, we decided on its removal. Fearing the use of chloroform or ether, as an anæsthetic, we determined to use the nitrous oxyd, which was prepared and administered by yourself. The operation was performed while the patient was under its influence,—it lasted about eight minutes, when he aroused, having experienced no pain, or any of the unpleasant effects which result from ether and chloroform. I con-

sider the great and crowning benefit of the scientific achievement of Wells (made practical by you, after a long interval,) the healthy and normal condition in which this agent leaves the patient. I am confident the better it is known to the profession, the greater will be its popularity.

H. H. WARNER, M. D.

Proofs that the experiment tried by Dr. Wells before Professor Warren's medical class, (present, Wm. T. G. Morton,) in Dec. '44, or January, '45, with the nitrous oxyd was a success.

Testimony of a Medical Student as to the success of Dr. Wells' experiment before Professor Warren's Medical Class, in the winter of 1844.

From the Medical and Surgical Reporter, May 21st, 1864

ANÆSTHESIA.

Editor Medical and Surgical Reporter:

I have read your articles, remarks, criticisms, and correspondence, upon the anæsthetic question. I have some light to throw upon this subject. During the winter of 1843 and '44, I attended the medical lectures of the Harvard Medical College, which were then delivered in the old college building in Mason street. During that course of lectures, Prof. John C. Warren, M. D., at the close of one of his lectures on Surgery, stated to the class that there was a gentleman in the room below, a Mr. Wells, from Hartford, Connecticut, who thought he had made a discovery which would prevent pain in surgical operations. Dr. Warren added, it will be a vast good to suffering humanity if it should prove true. He invited the class to meet Mr. Wells in the lower room. I with others, went into that room and was there introduced to Horace Wells, of Hartford.

Mr. Wells stated that he had made a discovery which would prevent all pain in the extraction of teeth, and, he thought, in all surgical operations. As a class, we were all much interested. Mr. Wells proceeded to make his experiments, which did not perfectly succeed, though they did in part. He stated that he had succeeded in many cases in producing such a degree of anæsthesia that he had extracted teeth when no pain was felt, and that he could do it again, though he had not succeed perfectly on this occasion. I had no doubt that he

told the truth, but, either from the badness of the gas, or from some other cause, he did not fully succeed. I was told by some of the class, however, that in the evening of the same day, he did succeed in another place.

From these facts, I never had a doubt that the discovery of the anæsthetic properties of sulphuric ether belonged to Horace Wells. It will be recollected that this was in 1844, and that Morton did nothing about the matter till September, 1846, nearly two years later.

It is not strange that being deprived of the just honor of this discovery, Mr. Wells, with his peculiar nervous idiosyncrasy, should have sunk under it. As his widow is still living, it is but just that she should reap the reward of his discovery. You and your correspondents, therefore, are engaged in the promotion of justice in setting this matter right, both in the eyes of the scientific world, and of the nation, from which a pecuniary reward has been claimed. "Let justice be done though the heavens fall," and Jackson and Morton fail to get money from this discovery.

Yours, &c.,

WM. M. CORNELL, M. D.

SOUTH PENN SQUARE, Philada., April, 1864.

Testimony of another Medical Student, present on the same occasion, on the same subject.

From the Medical and Surgical Reporter, of September 20th, 1864.

ANÆSTHESIA.

Editor Medical and Surgical Reporter:

There has been much discussion in our medical journals, within the last fifteen years, in relation to the discovery of the anæsthetic properties of sulphuric ether.

Several persons have claimed the honor of the discovery, but it can not belong to them all.

I remember an incident in connection with this matter which I will relate.

During the term of 1843-44, I was attending lectures in the medical department of Harvard University.

Dr. J. C. Warren remarked to the class, at the close of one of his lectures, that there was a person in the building by the name of

Horace Wells, from Hartford, Conn., who had, or thought he had, discovered an agent which would relieve or prevent pain in surgical operations. Dr. Warren also said, that it would be a great blessing if it should prove true, and advised the class to see Mr. Wells. We met him in another part of the college, where he explained to us the nature of his discovery, and gave it as his opinion that it would alleviate and probably prevent *all* pain in surgical operations. Mr. Wells made some experiments before the class with this new agent, but I was not able to remain and see them at this time. But I did witness some of his experiments in the evening of the same day, in another place, and was highly pleased with the results, and I think the class were greatly interested in his remarks and experiments.

I was a resident of Boston for several years subsequently, and I never heard of any other person making any claim to the discovery, for some two or three years after the above named period.

I have not the least doubt but that we are indebted to Horace Wells for the discovery of this invaluable mitigator of human suffering.

I esteem Dr. Jackson highly for his scientific researches, and have admired the industry of Dr. Morton in calling the attention of the profession and the public generally to this valuable agent, but their efforts to appropriate to themselves the *honor* and pecuniary benefit of Mr. Wells' discovery, must be regarded as a *great wrong*.

Very respectfully,

MASON M. MILES, M. D.

AURORA, ILLS., July, 1864.

Testimony of still another Medical Student, present on the same occasion.

Extract from a deposition of C. A. Taft, M. D., of Hartford, Connecticut.

"I knew the late Dr. Horace Wells, of Hartford. I think I first met him when he came to Boston in January, A. D. 1845, for the purpose of making known his discovery of an anæsthetic agent to the Medical Faculty of that city. I was at that time a member of the Medical Class of Harvard University.

"Dr. Wells was introduced to our class by Dr. John C. Warren, then Professor of Anatomy at the University. Dr. Wells then made a statement of his discovery; spoke of its importance, and his hopes

of introducing it (the anæsthetic agent) into general use in surgical operations.

"On the same, or the following evening, Dr. Wells proceeded to administer the nitrous oxyd gas to several of the students and spectators present. At this time Dr. Wells extracted a tooth for some one under the influence of the gas. The patient halloed somewhat during the operation, but on his return to consciousness, said he felt no pain whatever. I took the gas, with others, at that time, and while under its influence, I was entirely unconscious. Others to whom the gas was administered, made the same declaration. The gas was administered and inhaled from a mouth-piece attached to a bag.

"I regarded the operation at Boston, above described, as successful, and as proving the truth of Dr. Wells' theory, for although the patient made some noise—a phenomenon constantly witnessed in the use of any anæsthetic agent—he nevertheless said he felt no pain."—*Smith's Anæsthesia*, p. 94.

Testimony of C. H. Haywood, M. D., House Surgeon of the Massachusetts General Hospital, at the time Morton tried his experiments there, and whose name is prominently presented in the case of Dr. Morton. (Vide his letter to Dr. Wells, of October 19th, 1846, quoted and commented on in the last chapter.)

NEW YORK, January 14th, 1853.

DEAR SIR:—I comply very cheerfully with your request, and herewith send you some thoughts on the ether controversy. From the position which I happened to occupy when Morton first applied ether to surgery in the Massachusetts General Hospital; from my having assisted at the first operation of any magnitude ever done under the influence of an anæsthetic agent, and been consequently more or less mixed up with the controversy, you may have supposed that I had some facts in my possession bearing on the disputed point. But the truth is, that the ground has been so thoroughly worked over, that I have nothing to communicate but a few considerations which have influenced my own mind, based on facts well known and acknowledged by all parties; and to plunge at once in *medias res* the present state of the business seems to be this: Several parties lay claim to remuneration from government and the everlasting gratitude of all mankind, on the ground of having severally and independently

discovered and perfected means of lulling sensibility during surgical operations. Now I do not believe that any one party has a right to a claim like that, for there is a probability from analogy, made a certainty by documentary evidence—that this discovery, like almost all other great discoveries, was the offspring of several brains, and was gradually brought forth. It was no Minerva, born with one blow. Moreover, in analyzing the *nature* of the discovery, we can detect several elements which were successively brought to light.

Thus we observe in the first period, an indefinite search after *some* method of producing insensibility to pain, and animal magnetism was tried and failed; opium and other anodynes were then made use of, but the result was unsatisfactory. Then came a *second period*, when a great advance was made, *which is beyond all dispute*, due to Dr. Horace Wells. In this period was made known the great fact that substances applied to the pulmonary surfaces by inhalation produced a sudden and concentrated effect quite different from that of the same agent taken into the stomach. This method of administration required that the substances should be in a state of vapor or gas, and *Dr. Wells soon discovered by experimentation that certain intoxicating agents* would produce, when inhaled, insensibility to pain, and this was the first important step in the history of Anæsthesia.

The question of priority may be easily settled. It is satisfactorily proved that Dr. Wells' experiments had established the above mentioned points, as early as October, 1844, though they had not determined either the best agent, or perfected the method of administration in detail. But this question will be attended to in a moment. It is well known that Dr. Morton was a student in Dr. Wells' office and *witnessed these experiments*, yet the administration of ether to the first case of surgery in the Massachusetts Hospital did not take place till October, 1846, as appears by my own letter to Dr. Morton, which has been cited in all the histories of the controversy, as I supported all the claims set up by Morton. What my real opinion is and always has been, you shall soon see. In the third period, the anæsthetic properties of certain substances were discovered. First nitrous oxyd gas was tried; then sulphuric ether; then chloroform; then chloric ether. These discoveries were all made by different individuals, and their relative value and safety has not yet been finally determined by surgeons. In one hospital you will find at the present time nothing used but chloroform; in another, chloroform is regarded as dangerous, and chloric ether is substituted, while in very few is sulphuric ether ever used. Now for which of these agent and which discoverer shall

remuneration be granted? To each and all, I say. To Dr. Morton for sulphuric ether, to Dr. Simpson for chloroform, and to Dr. John C. Warren for chloric ether, but *before all*, let full and ample justice be done to that noble genius which first conceived the grand idea which has been the basis of all the experiments and the father of all the discoveries. To the spirit of Dr. Horace Wells belongs the honor of having given to suffering humanity the greatest boon ever received from science.

With sentiments of respect and esteem,

I remain your obedient servant,

C. H. HAYWOOD,

Formerly House Surgeon of the Mass. Gen. Hospital.

NOTE.—I deem it proper to append to this generous and manly letter of Dr. Haywood, a few remarks :

I might be disposed to accord to Dr. Morton some merit, had he put his case on a proper footing. He might, perhaps, have said with propriety, that by activity, perseverance and energy, he had succeeded in attracting the attention of the learned Professors of the Massachusetts General Hospital to anæsthesia, and had induced them to undertake a course of experimentation which resulted in establishing its practicability. In this way, (he might have insisted,) he had greatly expedited the development of Wells' ideas, and had contributed powerfully to an early dissemination of a knowledge of his discovery throughout the civilized world. In thus subordinating his own claims to those of the true author of modern anæsthesia, his position, to say the least, would have been respectable. But such has not been his course. He has usurped the status of a principal, and has arrogated all the merits of a discovery which he well knows was the work of another. With what disingenuousness and tergiversation he has pursued this undertaking, sufficiently appears from the foregoing pages. Of the manifold forms of wrong known among men, that of scientific larceny is the meanest, if not the most detestable. But I can not, with Professor Haywood, award to him any credit for merely substituting the vapor of sulphuric ether for the nitrous oxyd. I have proved by the highest scientific authority known to this country that such substitution does not deserve the name of discovery. Besides Dr. H. seems not to have been aware at the time he penned his letter that Dr. Morton had stated under oath that Dr.

Charles T. Jackson was his *conjuncter* in the performance of that humble act. In that, no doubt, he told the truth.

T. S.

Letter of recent date from Jno. Frederick May, M. D., of Washington, D. C., to the author, showing that the experiment with the nitrous oxyd gas, as tried by himself and an other, in the presence of the Congressional Committee, (Col. Bissell's,) in the winter of 1851-52, was successful, and as tried by Wm. T. G. Morton, in presence of the same Committee, unsuccessful, (as no doubt he intended it should be!!):

WASHINGTON, Feb. 14th, 1867.

HON. TRUMAN SMITH:

Dear Sir:—In compliance with your request that I would communicate to you in writing the substance of a conversation I had with you some weeks since in relation to the administration of the nitrous oxyd gas in this city, (I think either in the year 1851, or 1852,) by Dr. Wm. T. G. Morton, I send you the following statement:

This gentleman called on me at the period referred to, and requested me to be present at the National Hotel to witness some experiments he intended to make with the nitrous oxyd gas in presence of a Congressional Committee and others.

He told me his object was to prove that this agent would not produce anæsthesia, and if he did so, he said Mr. Wells' claim and that of his heirs to its discovery as an anæsthetic agent must necessarily be destroyed.

I accepted his invitation. There were present the Committee and others, and two young men to whom he proposed to administer the gas.

He gave it himself to the first, and in a few minutes it produced its usual exhilarating or exciting effects, and having caused this he remarked to those present, "You see, gentlemen! this gas will not cause insensibility, but merely excitement," or words to that effect.

I said to him, "Anæsthetic agents generally produce a stage of excitement before they induce their sedative effect, and to test this experiment fully and fairly, you should continue the inhalation of the gas." He replied, "He would not take that responsibility as he did not know what might be the result," or words to that effect.

My friend, the late and lamented Dr. Coolidge, of the U. S. Army, heard our conversation and proposed to me that we should administer ourselves the gas to the other person who had consented to take it, and should continue its application sufficiently long to ascertain if it would cause an anæsthetic result.

We did so, and when the man became violent, had him held, and kept up the application of the gas. He very soon became perfectly insensible, of which I satisfied myself by running a pin several times to a considerable depth in his limb.

I have since that time repeatedly stated to different persons my belief that the anæsthetic state produced by the nitrous oxyd gas on that occasion was complete, and that I could have amputated the man's leg without his being conscious of pain.

Very respectfully,

Your obedient servant,

JNO. FREDERICK MAY.

A remarkable specimen of romancing in the form of a lecture recently delivered by Wm. T. G. Morton, before a class of Medical Students, at Cincinnati, on the origin of modern anæsthesia :

From the Cincinnati Weekly Gazette of Dec. 28th, 1866.

In commencing, the Doctor felt himself constrained to notice the difference manifested in his reception here, for the first time, and his first appearance at the Massachusetts General Hospital, where he first applied, in 1846, to test the value of his discovery; here, all congratulation and welcome; there, derision and sneers.

While a practicing dentist in Boston he had occasion to employ ether in a carious tooth, which was so sensitive as to cause the most acute pain on contact with the instrument. After two or three applications, he found that he could manipulate without causing any pain whatever, and that the adjacent side of the face was entirely without sensibility. This, said he, sent a thrill throughout my frame, and I thought that what would quiet this little nerve would probably render the whole body insensible to pain. The idea seized me with an iron grasp, and I immediately commenced experimenting upon all the dogs and cats in the neighborhood, insomuch that I became a terror to the surrounding vicinity, and animals were no longer permitted to stray off in my direction. After practicing mutilation of all kinds,

and having freed my ether from its acid and alcoholic impurities, I succeeded in bringing a dog fully under its influence. I cut him open, saw that his heart was pulsating regularly, dispatched him with my revolver, and hastened forthwith to the Massachusetts General Hospital to communicate my discovery.

The Doctor then proceeded to narrate the cold reception he met; how he was treated with laughter and contempt, his invention ridiculed and himself derided. Being impressed, however, that he was the humble instrument in a grand discovery, nothing daunted by his failure, he proceeded to take it himself, and thus describes his sensations :

"As I came under its influence, I became more and more exhilarated, until I wanted to shout glory; then a general tremulousness, and I knew no more. Friends crowded around me in great consternation, and doctors rushed in from every direction, so that when I opened my eyes I confronted some eight or ten gentlemen of the medical profession. Profession and public were still incredulous, and I longed for an opportunity to test it before them. Just as I was about to administer it again to myself, my door bell was rung very timidly—just such a ring as you make at the dentist's door when you hope to heaven the doctor isn't home—and in stepped a man muffled about the head, with the inquiry: 'Do you mesmerize in drawing teeth, sir?' 'Certainly, sir; walk in.' I placed him under the influence of the ether; he became profoundly unconscious, when I proceeded to extract his tooth. All this time my own feelings were becoming more and more excited, and as I drew the tooth I felt like shouting glory, when, to my consternation, I observed my patient's face white as snow, and he soon slipped from his chair to the floor. Visions of trial by jury, manslaughter, hempen cords, &c, began to float through my imagination; when I instinctively snatched him from the floor, and held him up like a loose rag. Setting him in the chair, he began to breathe again, and I myself took one long inhalation of relief. 'How did you feel, sir?' 'I felt as though I was in Heaven, sir.' And so did I," said the lecturer. "The man left, and I followed him at a respectful distance; saw him enter a gate; noted the place, and returned home, where I passed a miserable, excited night.

"Nex. morning I walked down to the house of my patient, very accidentally, you know, when I heard a man whistling. Observing that it was my patient of yesterday, I asked him how he felt. 'Never better, sir. You have a singular way of drawing teeth up

there, and I'll send you all my friends.' Here then, I thought, was a final success.

"Next morning I heard that several physicians were to visit me at 11 o'clock, and jumping into my buggy I drove around and hunted up ten or twelve patients to come and have their teeth extracted without pain. I succeeded admirably, and was congratulated by all present.

"Still, however, the profession was against me. 'Such a discovery could not be made by an outsider'—'not a scientific man,' 'no good out of Nazareth,' &c., &c. Such were the criticisms. Finally, however, Dr. Warren permitted me to administer the ether to a female patient who was to have a tumor removed from the jaw. Everything proceeded admirably, but as the woman began to recover from its effects I was gravely informed by the Doctor that I did not know how near I had come to killing the patient.

"Failing in Boston, I proceeded to New York. All doors were closed against me here; importunities were of no avail; when, finally, I was told I might operate if I could find a patient who would submit. But even the patients were prejudiced against me, by the surgeons in charge. I then returned to Boston, and took twenty men with me to New York, to whom I had administered it previously, paid their expenses at the Astor House, and offered them \$50 a tooth. I then requested permission to operate in the Hospital Amphitheater, which was finally granted, after my men had been reduced to six. I was then permitted to give it to a woman, to be operated on before the class; placed her under its influence; the operation was performed, and when she recovered I asked her if she felt the pain. 'Sir,' said she, 'you would not deceive a poor woman, would you?' I placed her hand upon her breast which had been removed, when her eyes filled with tears of gratitude, and I tell you, gentlemen, I would not exchange that moment for all the scorns and sneers I have ever received before or since.

"Elated by my success, I returned to Boston, and had no sooner arrived than I was startled at hearing the newsboys crying, 'Thrilling news; death from ether!' etc. I purchased a paper, jumped immediately into the train and started for New York. Arriving there I proceeded forthwith to the Broadway Hospital, and observed an immense crowd gathered around; edged my way through, and had nearly arrived at the door, when I discovered an effigy of one Wm. G. Morton suspended in mid air. I was about entering, when some one yelled out 'Morton' after me. They came like so many

bloodhounds. I rushed around the corner of the building and jumped into a pile of shavings, which completely covered me, and thus preserved me from the fury of the mob. After my escape, I determined to investigate the cause of death; secured the services of an ostler, and together we exhumed the body, and detected an autopsy, a tumor in the posterior lobe of the brain. I did not dare to publish it, however, as the penalty attached to 'resurrecting' was at that time very severe; but it satisfied my own mind that the ether was not the cause of the death.

"On my return to Boston, I purchased for a large sum—over \$13,000—two or three medical journals and periodicals, and published them in my own interests—converted my house into a hospital, and employed twenty young physicians to operate, free of charge, requiring only certificates from the patients, as to the effects of the inhalation. These I forwarded to all parts of Europe, and afterward sent out the physicians to explain and illustrate my discovery. A short time after this I was arrested and imprisoned for some six or eight hours, on the charge of having poisoned a young man with ether, and was released on bail of \$17,000.

"My friends now began to expostulate with me on my conduct, and even went so far as to have a conservator appointed for me, on the charge of my mental imbecility. Of this, of course, I soon rid myself. In the following spring I sailed for Europe; and now the triumph began. I was congratulated not only by professional men, but by kings, princes and potentates. On my return I presented my claims to Congress. The subject was passed from committee to committee, until finally it came into the hands of the late lamented Dr. Fries, your fellow-townsmen, then a Member of Congress; when it was decided, on sworn affidavits of Boston and New York physicians, that to me was due the credit of the discovery. After wire-working in every possible manner, presenting bouquets, applauding speeches, loaning money where no return was to be asked, etc., etc., after the manner of politicians, my claim was finally placed on the private calendar, where it will probably remain until the end of time."

Ah! Doctor! then it seems you not only applauded the speeches of Hon. Members, but you *loaned "money when no return was to be asked!"* Who to? Could it have been to any body else than members? We begin to get a little inkling of the disposition which you made of the \$50,000 which you had of Tuckerman! And then why did you not explain to the boys at Cincinnati all about that unhappy

“conjunction” with Dr. Charles T. Jackson in making this discovery!! Besides, you failed in Boston! and had to resort to New York in order to consummate the paturition of the idea with which it seems you were big! Alas! for “the hub of the universe!” so long inflated with pride in the belief that modern anæsthesia originated within its precincts. Learned sir! you were guilty of intolerable cruelty in this treatment of your thick and thin supporters at Boston! who, no doubt, are very honest, whatever may be thought of their discretion and good sense!

T. S.

From the American Law Register of September, 1863.

UNITED STATES CIRCUIT COURT,
SOUTHERN DISTRICT OF NEW YORK.

WILLIAM T. G. MORTON *vs.* THE NEW YORK EYE
INFIRMARY.

At common law an inventor has no exclusive right to his invention. Such right is the creature of the statute by which alone the right claimed in any given case must be determined.

In its strict sense a discovery is not patentable.

The discovery of the use of ether in surgical operations, though of inestimable benefit to the human race, was merely the discovery of a more perfect *effect* of the action of well known agents, operating by well known means upon well known subjects, and as such was not legally entitled to be patented.

Motion for a new trial.

Mr. Cozzens and Mr. Keller for the motion.

Mr. Owen and Mr. B. D. Silliman, contra.

The opinion of the court was delivered by

SHIPMAN, J.—This is an action at law brought to recover damages for the infringement of a well known patent. The case came on to be heard at a prior term of this court before a jury, and after some testimony had been taken tending to show an infringement by the defendants, the court, having doubts as to the validity of the patent, arrested the hearing of the evidence, and directed the counsel to argue the question of law arising on the face of the specification. This question is—as will be at once obvious to any one familiar with the law of patents, who reads the specification—is the subject matter of the alleged invention patentable? The question, after argument, was decided in the negative, and the patent declared void. The

same question is now again presented, on a motion for a new trial, before a full court. The point is one of substance and not of form. It was discussed as such, and will be so decided. Any criticisms which we may make on the language of the specification will be made only for the purpose of dealing with the subject which that language envelops; and if at any time we appear to discard the phraseology of the instrument, it will not be because we complain of its terms, but only for the reason that we desire to strip the alleged invention, and present it naked for consideration. As various parts of the specification were referred to on the argument as having a bearing on the single point raised, it is proper to give the whole instrument, which is in the following words :

The Schedule referred to in these Letters Patent, and making part of the same.

“To all persons to whom these presents shall come :

“Be it known, that we, Charles T. Jackson and William T. G. Morton, of Boston, in the county of Suffolk, and State of Massachusetts, have 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 to, or muscular action of, persons who undergo the same ; and we do hereby declare that the following is a full and exact description of our said invention or discovery :

“It is well known to chemists that when alcohol is submitted to distillation with certain acids, peculiar compounds termed *ethers* are formed, each of which is usually distinguished by the name of the acid employed in its preparation. It has also been known that the vapors of some, if not all, of these chemical distillations, particularly those of sulphuric ether, when breathed or introduced into the lungs of an animal, have produced a peculiar effect upon its nervous system ; one which has been supposed to be analogous to what is usually termed intoxication.

“It has never (to our knowledge) been known until our discovery that the inhalation of such vapors (particularly those of sulphuric ether) would produce insensibility to pain, or such a state of quiet of nervous action as to render a person or animal incapable, to a great extent, if not entirely, of experiencing pain while under the action of the knife, or other instrument of operation of a surgeon calculated

to produce pain. This is our discovery ; and the combining it with, or applying it to, any operation of surgery, for the purpose of alleviating animal suffering, as well as of enabling a surgeon to conduct his operation with little or no struggling or muscular action of the patient, and with more certainty of success, constitutes our invention. The nervous quiet and insensibility to pain produced on a person is generally of short duration ; the degree or extent of it, or time which it lasts, depends on the amount of ethereal vapor received into the system, and the constitutional character of the person to whom it is administered. Practice will soon acquaint an experienced surgeon with the amount of etheric vapor to be administered to persons for the accomplishment of the surgical operation or operations required in their respective cases. For the extraction of a tooth, the individual may be thrown into the insensible state, generally speaking, only a few minutes. For the removal of a tumor, or the performance of the amputation of a limb, it is necessary to regulate the amount of vapor inhaled to the time required to complete the operation. Various modes may be adopted for conveying the etheric vapor into the lungs. A very simple one is to saturate a piece of cloth or sponge with sulphuric ether, and place it to the nostrils or mouth, so that the person may inhale the vapors. A more effective one is to take a glass, or other proper vessel, like a common bottle or flask. Place in it a sponge saturated with sulphuric ether. Let there be a hole made through the side of the vessel for the admission of atmospheric air (which hole may or may not be provided with a valve opening downwards, or so as to allow air to pass into the vessel,) a valve on the outside of the neck opening upwards, and another valve in the neck and between that last mentioned and the body of the vessel or flask, which latter valve in the neck should open towards the mouth of the neck or bottle. The extremity of the neck is to be placed in the mouth of the patient, and his nostrils stopped or closed in such manner as to cause him to inhale air through the bottle, and exhale it through the neck and out of the valve on the outside of the neck. The air thus breathed, by passing in contact with the sponge, will be charged with the etheric vapors, which will be conveyed by it into the lungs of the patient. This will soon produce the state of insensibility or nervous quiet required.

“In order to render the ether agreeable to various persons, we often combine it with one or more essential oils having pleasant perfumes. This may be effected by mixing the ether and essential oil, and washing the mixture in water. The impurities will subside, and

the ether, impregnated with the perfume, will rise to the top of the water. We sometimes combine a narcotic preparation, such as opium or morphine, with the ether. This may be done by any ways known to chemists by which a combination of etheric and narcotic vapors may be produced. After a person has been put into the state of insensibility as above described, a surgical operation may be performed upon him without, so far as repeated experiments have proved, giving to him any apparent or real pain, or so little, in comparison to that produced by the usual process of conducting surgical operations, as to be scarcely noticeable. There is very nearly, if not entire, absence of all pain. Immediately, or soon after the operation is completed, a restoration of the patient to his usual feelings takes place, without, generally speaking, his having been sensible of the performance of the operation.

“From the experiments we have made, we are led to prefer the vapors of sulphuric ether to those of muriatic or other kind of ether, but any such may be employed which will properly produce the state of insensibility without any injurious consequences to the patient.

“We are fully aware that narcotics have been administered to patients undergoing surgical operations, as we believe always by introducing them into the stomach. This we consider in no respect to embody our invention, as we operate through the lungs and air passages, and the effects produced upon the patient are entirely or so far different as to render the one of very little, while the other is of immense utility. The consequences of the change are very considerable, as an immense amount of human or animal suffering can be prevented by the application of our discovery.

“What we claim as our invention is the hereinbefore described means by which we are enabled to effect the above highly important improvement in surgical operations, viz., by combining therewith the application of ether, or the vapor thereof, substantially as above specified.

“In testimony whereof, we have hereunto set our signatures, this 27th day of October, A. D. 1846.

(Signed,)

CHARLES T. JACKSON.
WM. T. G. MORTON.

“Witnesses,
R. H. EDDY.
W. H. LEIGHTON.

At common law an inventor has no exclusive right to his invention or discovery. That exclusive right is the creature of the statute, and to that we must look to see if the right claimed in a given case is within its terms. The act of Congress provides, "That any person or persons having discovered or invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter, not known or used by others before his or their discovery or invention thereof, and not at the time of his application for a patent in public use or on sale with his consent or allowance as the inventor or discoverer," shall be entitled to receive a patent therefor. The true field of inquiry in the present case is to ascertain whether or not the alleged invention set forth in this specification, is embraced within the scope of the act. Very little light can be shed on our path by attempting to draw a practical distinction between the legal purport of the words "discovery" and "invention." In its naked, ordinary sense, a discovery is not patentable. A discovery of a new principle, force, or law, operating, or which can be made to operate, on matter, will not entitle the discoverer to a patent. It is only where the explorer has gone beyond the mere domain of discovery, and has laid hold of the new principle, force, or law, and connected it with some particular medium or mechanical contrivance, by which, or through which, it acts on the material world, that he can secure the exclusive control of it under the patent act. He then controls his discovery through the means by which he has brought it into practical action, or their equivalent, and only through them. It is then an invention, although it embraces a discovery. Sever the force or principle discovered from the means or mechanism through which he has brought it into the domain of invention, and it immediately falls out of that domain, and eludes his grasp. It is then a naked discovery, and not an invention.

These remarks are not made for the purpose of laying down sweeping general propositions. We are too well aware of the futility or we might say, mischief, of that practice of expounding the law of patents, to embark in it. But these suggestions are submitted for the purpose of showing the relation of the terms "discovery" and "invention," and especially the dependence of the former upon the latter, as used in the statute. Every invention may, in a certain sense, embrace more or less of discovery, for it must always include something that is new; but it by no means follows that every discovery is an invention. It may be the soul of an invention, but it can

not be subject to the exclusive control of the patentee, or the patent law, until it inhabits a body, no more than can a disembodied spirit be subjected to the control of human laws.

Now, that this patent contains the record of a discovery there can be no doubt. And it is equally clear that, in a certain sense, it was new at about the date of the patent. It is important here to ascertain precisely what that discovery was. It is described in general terms in the first paragraph of the specification, to be "a new and useful improvement in surgical operations on animals." This is, at best, vague—not from any fault of the person who drafted the schedule, but from the inherent difficulties of his task, and the imperfect nature of human language as an instrument of thought. But we can clearly gather from the paper itself what the discovery was; and we are aided in this by those parts of the specification which state what was old and well known. The second paragraph recites "It is well known to chemists that where alcohol is submitted to distillation with certain acids, peculiar compounds, termed ethers, are formed, each of which is usually distinguished by the name of the acid employed in its preparation." The origin and existence of ethers, those wonderful agents that produce a harmless insensibility to pain, formed no part of the discovery. No one of them was brought to light by these patentees, for they were all well known before. The same paragraph further sets forth that "it has also been known that the vapors of some, if not all, of these chemical distillations, particularly those of sulphuric ether, when breathed or introduced into the lungs of an animal, have produced a *peculiar effect* on the nervous system, one which has been supposed to be analogous to what is usually termed intoxication." It was not, then, the fact that these vapors could be introduced into the air-passages and lungs that was discovered. This was as old as respiration, or at least as old as the existence of the vapors. Neither was it discovered that when inhaled these vapors produced an effect like that of intoxication, exhilaration, and more or less stupefaction. This, too, had long been well known.

The next paragraph distinctly sets forth the real discovery that was made, viz., that this well known inhalation of well known agents (in increased quantities) would produce a state of the animal analogous to complete intoxication, accompanied with total insensibility to pain. It appropriately adds: "This is our discovery." It is not important to inquire here whether this was the discovery of an increased and more perfect effect, the same in kind with that already

well known, or whether it was the discovery of an entirely new effect. The effect discovered was produced by old agents, operating by old means upon old subjects. The *effect* alone was new, and to that only can the term "discovery" apply. That this mere discovery, however novel and important, is not patentable, needs neither argument nor authority to prove. This the specification impliedly concedes, for after thus clearly setting forth the discovery, a struggle is made to grapple it to something in active existence, and thus make the two in this new special relation a patentable *invention*. This is done by "combining it with, or applying it to, any surgical operation." "This is our invention." The beneficial effects described as resulting from the application, refer merely to the utility of the alleged invention, which is not in question, and may, therefore, be laid out of the case. The object of this combining the discovery with, or applying it to, surgical operations, is apparent. It was to shelter the discovery under those terms of the patent act which protect "any new and useful improvement on any art." It was clearly not the discovery or invention of an "art," "machine," or "manufacture," or "composition of matter." Nor was it an "improvement" on any of the last three. It was, therefore, called, in substance, an improvement in the art of surgery. But we cannot change a thing by a name. In a certain general sense it is an improvement in the art of surgery. So would the invention of a new and useful lancet, saw, forceps, or bandage, be an improvement on the same art. But the patent securing the exclusive use or sale of such an instrument must rest exclusively upon the novelty of its construction. It could borrow no element of patentability from the art in which it was designed to be used, except merely the element of utility. Of this latter, the art would furnish the test. Now this discovery of the effect of ether on the patient in holding him motionless and insensible during the operation, has the same *legal relation* to the art of surgery that a machine or other mechanical contrivance for holding him would have. It holds him better, stiller, and with less discomfort and danger to himself than any mechanism could; but its office is to hold and protect the patient. It has no other relation to, or connection with, the art of the surgeon. We use the word "protect," as applied to the patient in the largest sense, and as including not only exemption from pain during the operation, but also from the shock which such operations often give the system. The only legal quality or aid, then, which this alleged invention can draw from the art with which it is connected in the specification, is that which relates to its utility. Of this it sup-

plies undoubted evidence. The eminent surgeons who testified on the trial, concurred in stating that its usefulness could not be over-rated. We must, then, leaving the art of surgery to supply the evidence of its utility, contemplate the discovery as separated from the use to which it is applied. At this point the patent breaks down; for the specification presents nothing new except the *effect* produced by well known agents, administered in well known ways, on well known subjects. This new or additional effect is not produced by any new instrument by which the agent is administered, nor by any different application of it to the body of the patient. It is simply produced by increasing the *quantity* of the vapor inhaled. And even this quantity is to be regulated by the discretion of the operator, and may vary with the susceptibility of the patient to its influence. It is nothing more, in the eye of the law, than the application of a well known agent, by well known means, to a new and more perfect use, which is not sufficient to support a patent.

But it was insisted on the argument that the claim, at the close of the specification, when properly understood, disclosed the true character of the invention, and furnished ground upon which the patent can stand. This clause declares, that "what we claim as our invention is the hereinbefore described means by which we are enabled to effect the above highly important improvement in surgical operations, viz., by combining therewith the application of ether, or the vapor thereof, substantially as above described." The plaintiff's counsel insists that the true reading of the claim, in the light of the preceding part of the specification, is not that which asserts a *combination* of the discovery with *surgical operations*, but rather an application of the discovery to surgical operations by the *means described*; "and that the means described, and the only means described, are the process of rendering the system insensible to pain by the inhalation of ether." But we do not discover that this exposition of the claim relieves the difficulty. What is the *process* which is here set forth? The process of the inhalation of the vapor, and nothing else. To couple with it the *effect* produced by calling it a process of rendering the system insensible to pain, is merely to connect the result with the means. The *means*, that is the process of inhalation of vapors, existed among the animals of the geologic ages preceding the creation of our race. That process, in connection with these vapors, is as old as the vapors themselves. We come, therefore, to the same point, only by a different road. We have, after all, only a new or more perfect effect of a well known chemical agent, operating through one of the ordinary functions of animal life.

It is curious and instructive to observe the perpetual struggle in the specification, to draw from the surgical operation some support to the patent beyond that of its utility. "We are fully aware," says the paragraph immediately preceding the claim, "that narcotics have been administered to patients undergoing surgical operations, and as we believe, always by introducing them into the *stomach*. This we consider in no respect to embody our invention, as we operate through the *lungs and air-passages*." An examination of this single passage in the specification will demonstrate the impossibility of sustaining this patent on any grounds known to the law. Now suppose these agents had been fluids instead of elastic vapors, and their effect had been known when taken into the stomach, to be the same as that now long known to have resulted from their inhalation, viz., a state of partial intoxication. Would the discovery that an increased quantity of the fluid produced a more perfect effect, by rendering intoxication complete, accompanied with total insensibility to pain, have rendered the discovery patentable? We think clearly not. In this view of the subject, we here lay out of the case the application of the new effect to surgical operations. We will allude to that again in a moment. Now a precisely parallel case is presented, by the actual facts before us, to the one just supposed. The inhalation of the ethers had long been known. By increasing their quantity, it was discovered that a new or more complete effect was produced, by which the subject was rendered wholly insensible. This can be no more patentable than the discovery that the increased quantity of liquors taken into the stomach would produce a like result. In both cases, there is only a naked discovery of a new effect resulting from a well known agent, working by a well known process. This effect is a temporary suspension of sensibility and motion in the animal body. Here, what is new in the alleged invention begins and ends. The fact that the surgeon can operate upon the body in the condition to which it is thus reduced, forms no part of the invention or discovery. It simply furnishes evidence that it can be applied to at least one useful purpose—a fact quite independent of the other elements necessary to make a discovery patentable.

Before dismissing this case it may not be amiss to speak of the character of the discovery upon which the patent is founded. Its value in securing insensibility during the surgical operation, and thus saving the patient from sharp anguish while it is proceeding, and mitigating the shock to his system, which would otherwise be much greater, was proved on the trial by distinguished surgeons of the

city of New York. They agree in ranking it among the great discoveries of modern times; and one of them remarked that its value was too great to be estimated in dollars and cents. Its universal use too, concurs to the same point. Its discoverer is entitled to be classed among the greatest benefactors of mankind. But the beneficent and imposing character of the discovery cannot change the legal principles upon which the law of patents is founded, nor abrogate the rules by which judicial construction must be governed. These principles and rules are fixed, and uninfluenced by shades and degrees of comparative merit. They secure to the inventor a monopoly in the manufacture, use, and sale of very humble contrivances, of limited usefulness, the fruits of indifferent skill and trifling ingenuity, as well as those grander products of his genius which confer renown on himself, and extensive and lasting benefits on society. But they are inadequate to the protection of every discovery, by securing its exclusive control to the explorer to whose eye it may be first disclosed. A discovery may be brilliant and useful, and not patentable. No matter through what long, solitary vigils, or by what importunate efforts, the secret may have been wrung from the bosom of nature, or to what useful purposes it may be applied. Something more is necessary. The new force or principle brought to light must be embodied and set to work, and can be patented only in connection or combination with the means by which, or the medium through which it operates. Neither the natural functions of an animal upon which, or through which, it may be designed to operate, nor any of the useful purposes to which it may be applied, can form any essential parts of the combination, however they may illustrate and establish its usefulness.

Motion for a new trial denied.

NELSON, J., concurred.

NOTE.—The learned author of the foregoing highly satisfactory opinion had not before him any question as to the origin of modern anæsthesia, and when therefore he says, “its discoverer is entitled to be classed among the greatest benefactors of mankind,” he must be understood to refer to the *actual discoverer*—to the person who shall appear to have first conceived the grand idea, and to have first made it practical. These pages have been written in vain if they do not enable an impartial public to come to just conclusions on that subject.

T. S.

