Dr. Jackson's discovery of ether / by William Barber.

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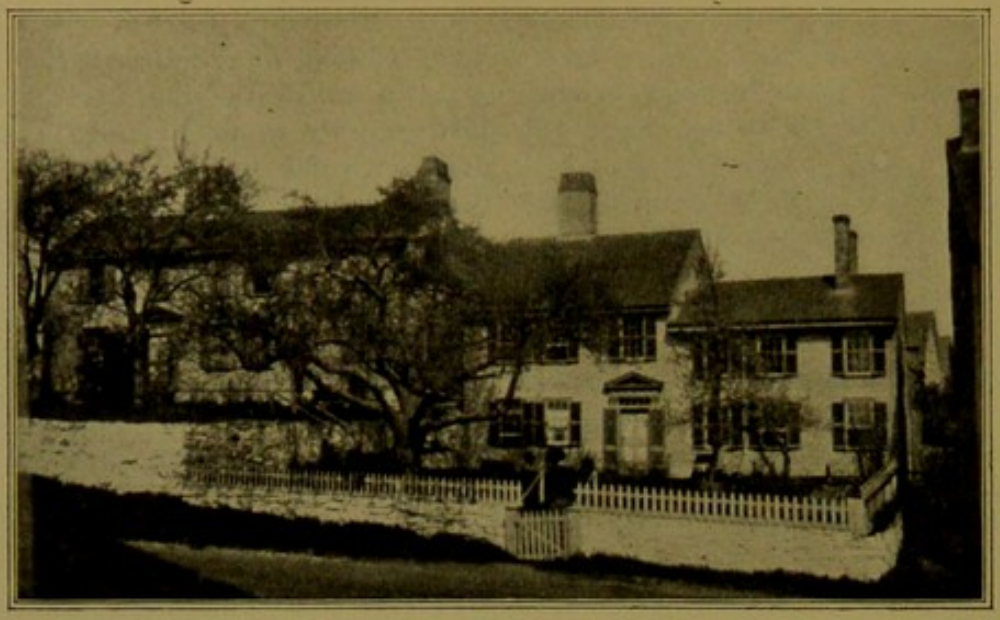


Birthplace of Dr. C. T. Jackson, North Street, Plymouth, Mass.

DR. JACKSON'S DISCOVERY OF ETHERization

By William Barber

CHARLES T. JACKSON, whose name is inseparably associated with the discovery of anaesthesia by means of the inhalation of sulphuric ether, had attained at the date of the discovery a prominent place among the scientific men of the United States. Born in 1805, he had received the degree of M. D. from Harvard University in 1829, had then spent three years in Europe, studying in Paris, visiting Switzerland, Italy, the Tyrol, Bavaria, and Austria, and making geological explorations in Sicily and the mountain region of Auvergne, in France. He returned to the United States in 1832 and began practice as a surgeon and physician, but soon turned his attention almost exclusively to researches in chemistry, geology, and mineralogy. From 1836 to 1850 his time was largely occupied in exploring and describing the geology of Maine, Rhode Island, New Hampshire, and Michigan, and in chemical investigations connected with his field work. From time to time he contributed many valuable papers to "Silliman's Journal" and to the proceedings of various scientific bodies, including the French Academy of Sciences.

His account of the discovery of the anaesthetic properties of sulphuric ether is briefly as follows: In the winter of 1841-2, while delivering a lecture in Boston, he accidentally broke a glass jar of chlorine gas, the fumes of which nearly suffocated him. He at once inhaled sulphuric ether and was thereby much relieved. But the next morning his throat was again very painful, and his lungs much oppressed. Again he had recourse to sulphuric ether. He sat down, soaked a towel in ether, and placed it over his mouth and nose, so as to allow him to inhale the vapor mixed with air. Under its operation he gradually became insensible to pain, and then unconscious for a space, as he infers, of about a quarter of an hour. As consciousness gradually returned, the sensation of pain in the throat returned with it.

From this experience he deduced the truth that sulphuric ether can be safely and effectually applied as an anaesthetic in surgical operations. He mentioned

this incident to several of his friends, and expressed to them his conviction of the important nature of his discovery. Their testimony was given before a Congressional committee appointed in 1851 to determine who was the discoverer of the new anaesthetic. Dr. Jackson at this time, and for years afterwards, was so busy with his geological and chemical investigations that he had no time to introduce his great discovery in a satisfactory manner to public notice. But on September 30, 1846, according to the testimony of Mr. George O. Barnes, a student in Dr. Jackson's office, Mr. W. T. G. Morton, a dentist who had been a student in Dr. Jackson's chemical office and laboratory, entered the office and said he proposed to extract the tooth of a female patient by making her believe that a bag inflated with air contained something that would render the operation painless. Dr. Jackson dissuaded him from this unwise project, and told him to get a bottle of pure strong sulphuric ether, spatter it on a handkerchief, and take care that it should be well inhaled. Morton said, "Sulphuric ether! What is it? Is it a gas? Show me some." Dr. Jackson did so. Morton smelt of it, as if it was something quite new to him, remarked that it was "queer-smelling stuff," and asked Dr. Jackson repeatedly if it would accomplish the result, and if it was perfectly safe to administer. Dr. Jackson replied affirmatively to both questions, and Morton, after being shown by Dr. Jackson's example precisely how it was to be administered, left the office. He returned either that day or the next, and reported the success of the experiment. Dr. Jackson then directed him to call on Dr. Warren and obtain his permission to administer the ether at the Massachusetts General Hospital. Morton reluctantly consented to do so, as he wished to keep secret the nature of the anaesthetic, and asked if something could not be used to disguise the smell. Dr. Jackson told him he would not consent to any secresy about the matter. Morton accordingly called on Dr. Warren, and on October 16, 1846, without notice to Dr. Jackson, attended and administered the ether to the patient, who, while under its influence, was painlessly relieved of a tumor in the cheek. Dr. Jackson called on Dr. Warren soon afterwards, told him that Morton had called by his direction, and that the new anaesthetic was sulphuric ether. He then asked Dr. Warren to have it administered in some capital operation. Dr. Warren consented, named the following Saturday as the time, and asked Dr. Jackson to attend and personally administer the ether. Dr. Jackson, however, was under an engagement to be in Maryland on the Monday following, and in order to fulfil it was obliged to leave Boston on Friday evening. The operation (an amputation above the knee joint) was successfully performed under the influence of the anaesthetic.

A few months later Morton began to assert that he was the original discoverer of anaesthesia by the inhalation of sulphuric ether. This pretension was, of course, contested by Dr. Jackson, and the state of hostility commenced between the two claimants, and their respective adherents, which has become well known in medical annals as the "ether controversy."

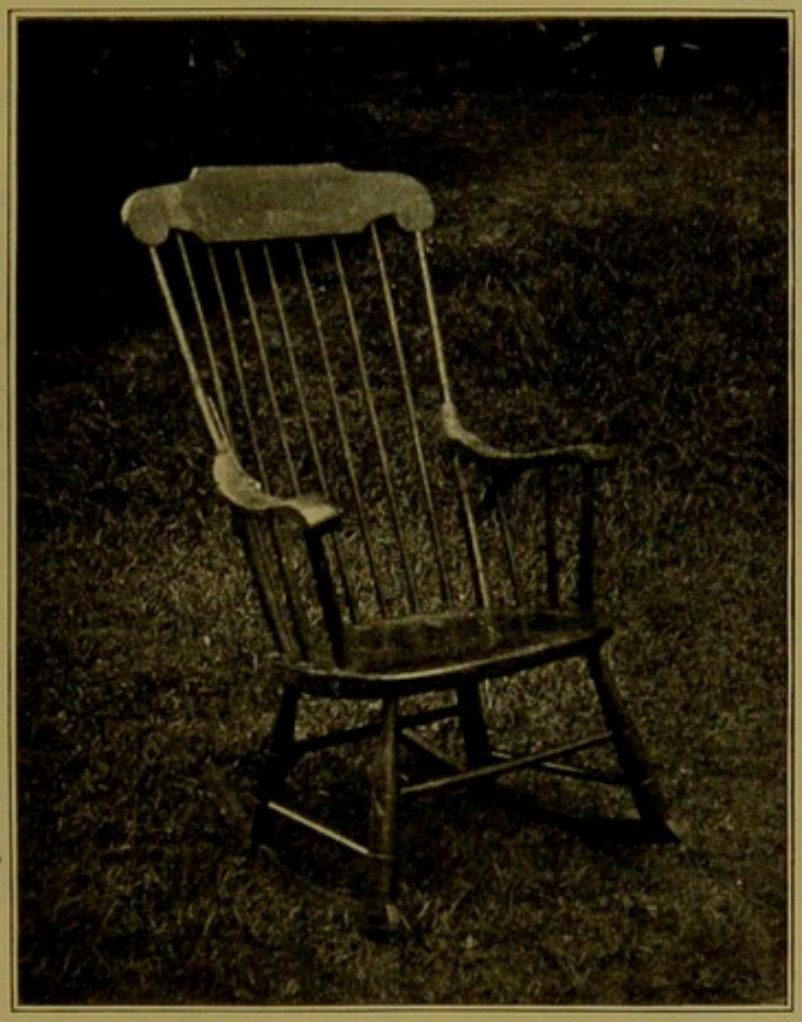
The testimony of Mr. George O. Barnes as to Morton's apparent ignorance of the nature of sulphuric ether on the 30th of September, 1846, has already been referred to. It is fully corrborated by the deposition of Mr. James McIntyre, a fellow-student who was present at the same interview. As this deposition is, in substance, a mere repetition of what Mr. Barnes has stated, it need not be further noticed.

Morton himself gives a version of the same interview. After admitting that Dr. Jackson dissuaded him from the bag experiment, he (Morton) said, "Why cannot I give the ether gas? He said

Respectfully
Your Obt Servt.
Charles T. Jackson

that I could do so, and spoke again of the students taking it at Cambridge. He said *the patient would be dull and stupefied; and that I could do what I pleased with him; that he would not be able to help himself.*" Morton then admits that he made the inquiries he wished as to the different kinds of ether, and asked Dr. Jackson to show him what he had, and that Dr. Jackson directed him to get some, highly rectified, at Burnett's (a well-known chemist). He explains the reason why he was not more explicit, by saying that "he feared Dr. Jackson might forestall him, and guess what he was experimenting upon." (See "Trials of a Public Benefactor," New York, 1859, by Nathan P. Rice, M. D., p. 172-3, a book containing Morton's biography from materials furnished by himself.)

According to the testimony presented to the Congressional committee above referred to, Morton himself, before he had determined to claim the discovery, repeatedly admitted to various persons that Dr. Jackson was the discoverer, and that he merely followed Dr. Jackson's directions. D. P. Wilson, for a time an assistant in Morton's office, declares that this was the uniform statement of Morton, and in giving an account of what Morton said respecting the interview referred to by Dr. Barnes, affirms that Morton described the instructions then received by him from Dr. Jackson as they are set forth by Mr. Barnes.



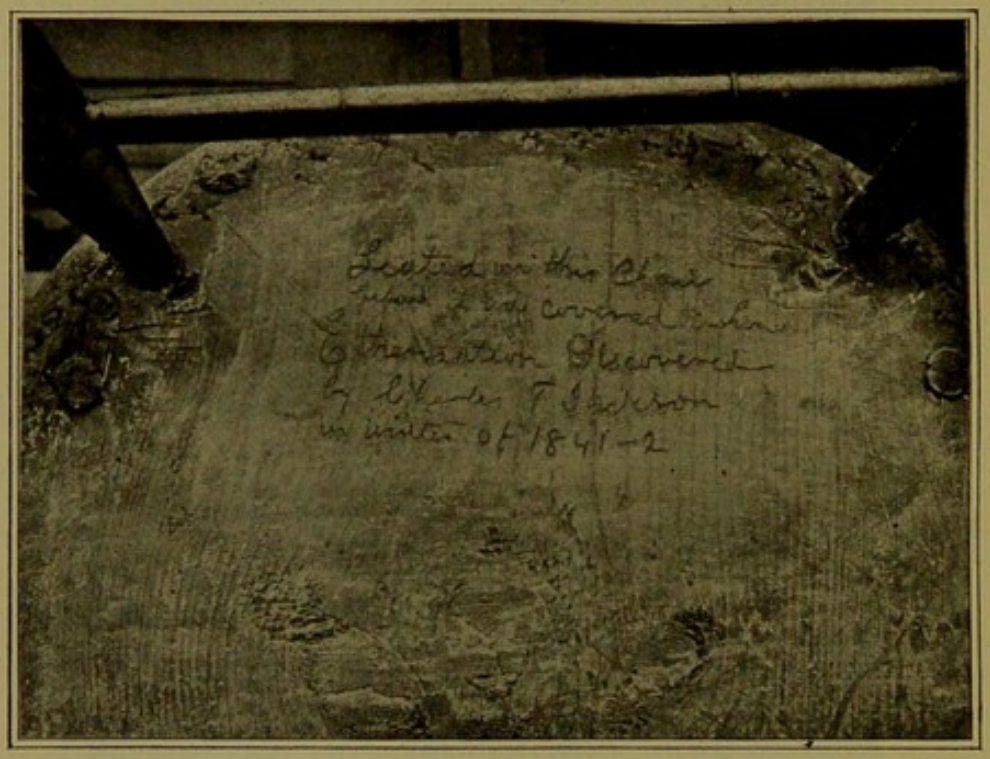
Chair in which Etherization was Discovered by Dr. Charles T. Jackson, Winter of 1841-2

Alvah Blaisdell, of Boston, stated that in a conversation with Morton he asked him, "Was it Dr. Jackson who made the discovery?" Mr. Morton at once answered that it was, and that Dr. Jackson had communicated it to him, with instructions as to the proper mode of applying the ether.

Testimony equally strong on this point was furnished by Allen Clark, Horace J. Payne, Phineas A. Stone and Daniel I. Blake, all highly respectable and unimpeachable witnesses.

The Honorable Edward Stanley, a member of the Congressional committee, states that Morton was unable to answer questions relative to the composition of sulphuric ether, addressed to him personally by Mr. Stanley. (See his report, p. 24.)

The Honorable Edward Everett writes, in a letter to Dr. Jackson dated 21st October, 1851, referring to an address delivered 3d November, 1846, by Dr. Henry J. Bigelow, of the Massachusetts General Hospital, as follows: "Dr. Bigelow, after describing the dental operation performed by Dr. Morton under the influence of the newly-discovered 'compound,' as it was then called, stated that Dr. Morton had derived his knowledge of the substance used from you. . . . Dr. Bigelow ascribes its first suggestion to Dr. Charles T. Jackson, and its application, under his advice, for mitigating pain, to Dr. W. T. G. Morton, both of Boston." (See report, p. 37-8.) Another letter by Mr. Everett is as follows:



Inscription made by Dr. Jackson in the Bottom of a Chair: "Seated in this Chair Before it was Covered and Cushioned Etherization was Discovered by Charles T. Jackson in Winter of 1841-2

Cambridge, 26th February, 1847.

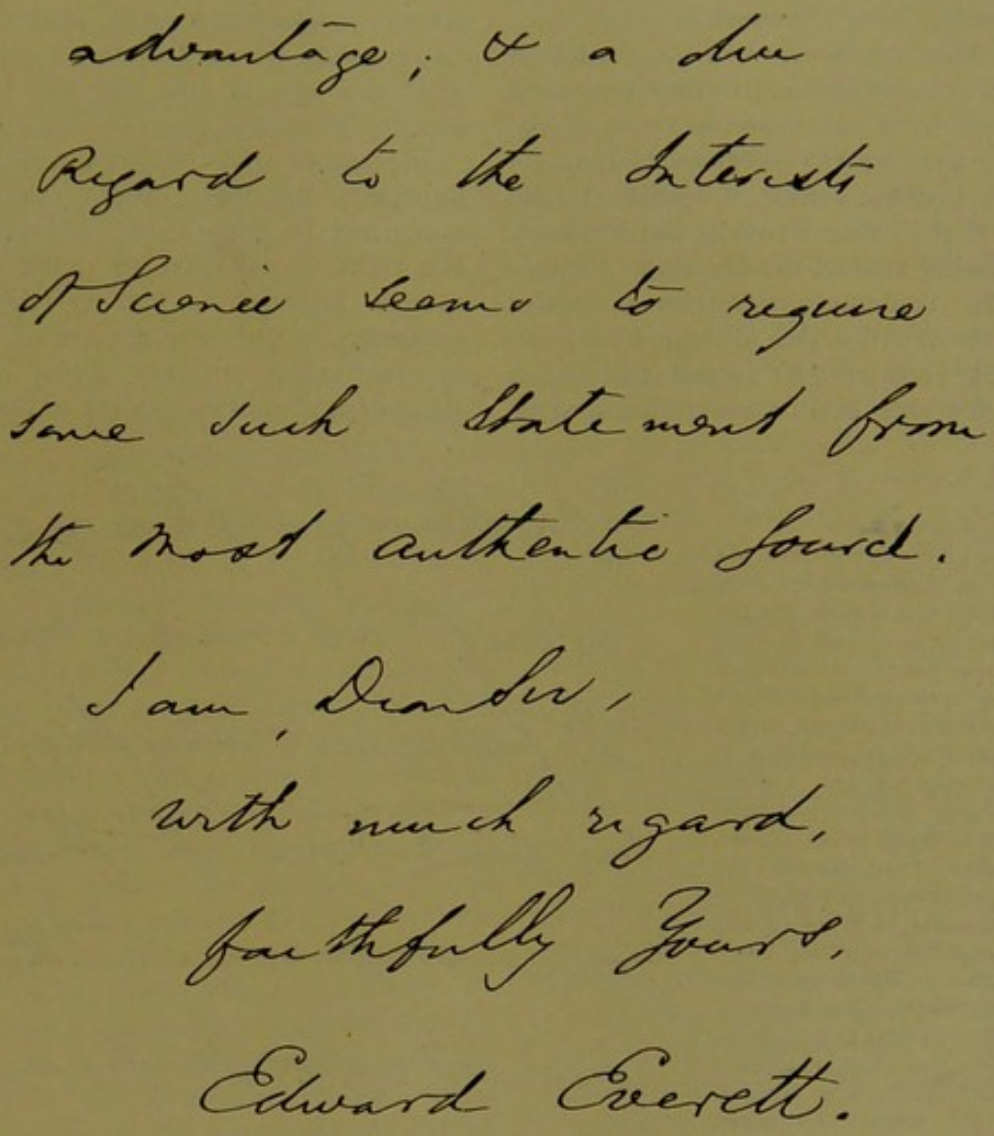
Dear Sir: Considering the great importance of your discovery of a mode of producing temporary insensibility to pain during the performance of surgical operations, I have thought that it might be advisable for you, in the form of a paper addressed to the American Academy of Arts and Sciences, to place on record the most important facts connected with the discovery and its introduction into general notoriety and practice. Although these facts are

known to many persons in their general outline in this neighborhood, others at a distance do not possess that advantage: and a due regard to the interests of Science seems to require some such statement from the most authentic source.

I am, dear sir, with much regard, faithfully yours,

EDWARD EVERETT.

Dr. Jackson, desirous of having his claim adjudicated by some scientific body or recognized authority, on the 13th November, 1846, addressed a memorial on the subject to the French Academy of Sciences. He informed Morton of this proceeding, and Morton likewise presented his claim and sent over a special messenger to insure its proper presentation. A commision of nine of the most eminent surgeons of France was appointed to examine the question and report thereon at some future day. The report was not presented until the year 1850. The commissioners reported that they had examined all the documents attentively and conscientiously, and on their recommendation the Academy awarded "A prize of 2500 francs to M. Jackson for his observations and his experiments upon the anaesthetic ef-



Fac-simile of a Page from Edward Everett's Letter

fects produced by the inhalation of ether. Another of 2500 francs to M. Morton for having introduced this method into surgical practice *according to the directions of M. Jackson (d'apres les indications de M. Jackson).*"

In Morton's account of the award, he states that he declined to notice it, until warned by a correspondent in Paris, some two years afterwards, that he would lose the benefit of it unless he did so. That he then wrote to the Academy protesting against the decision. "Finally, the Academy's *expression of opinion* was received by Dr. Morton in the *acceptable form of their largest gold medal.* On one side of this magnificent testimonial is a finely executed head of Minerva, etc. Valuable as was the medal, it did not absorb the whole sum of 2500 francs voted by the Academy, and the balance was expended in a massive gold frame, ornamented with branches of laurel—that classic tribute to victory." ("Trials," etc., p. 218. See also biography in American Encyclopaedia.)

The simple truth is that the Academy expressed no other opinion than that contained in the award. Morton had the right to ask that so much of the money awarded to him as might be necessary to purchase the medal, which, is merely the ordinary medal of the Academy, should be applied to that pur-

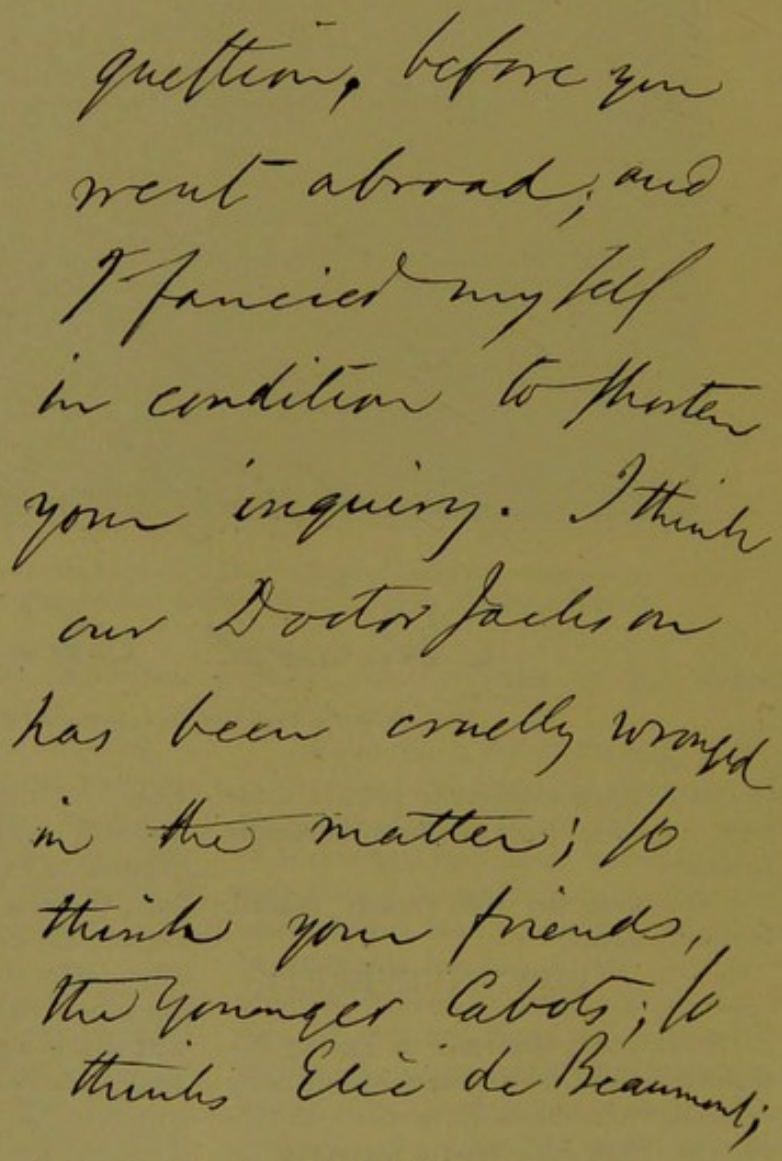
DEAR AGASSIZ,

I am very sorry to find you gone, as I came loaded with books and was to show you the places. I am to call to your mind that you promised to give an hour to this tedious question before you went abroad, and I fancied myself in condition to shorten your inquiry. I think our Doctor Jackson has been cruelly wronged in the matter. So think your friends the younger Cabots; so thinks Elie de Beaumont; so Whewell, and so Humboldt who has lately examined the whole affair and sent him the Prussian Eagle.

Will you please to look at Dr Morton's own book *Anæsthesia* herewith sent, and at his witness, Dr. Gould's testimony. What is most material is, I believe, marked with pencil in the margin. I have asked the Doctor J. to put the principal heads of his plea on paper, which you will find within the covers of "*Anæsthesia.*"

May I ask the kind attention of my friend Mrs. Agassiz to this particular volume, as I am to restore it to the Doctor J., to whom it is important.

Ever yours,
R. W. EMERSON.



Fac-simile of a Page from a Letter by Ralph Waldo Emerson

pose. He did so. The medal cost 300 francs. The balance, 2200 francs, was remitted to Morton, who seems to have used it in ornamenting the medal with the elaborate additions which he describes. (See letter of Elie de Beaumont, a distinguished member of the Academy, to Jackson. Report, p. 56.) M. de Beaumont concludes his letter thus: "It (the medal) was not struck separately for him. You have the right to ask for one exactly like it; only in that case you should receive but 2200 francs instead of 2500 francs."

In the year 1851, Dr. Jackson had addressed a letter to Baron von Humboldt, giving a condensed history of the origin of etherization. In consequence of this communication the Baron, by order of the King of Prussia, applied to the Honorable Daniel Webster, then Secretary of State, for all the evidence of the American claimants to the discovery of anaesthesia. It is presumed he was furnished with all the documents required, and Dr. Jackson and Dr. Morton were both officially informed of the application. The protracted investigation which Baron von Humboldt bestowed on the case, resulted in a decision in favor of Dr. Jackson, who, in 1857, received from the King of Prussia, through the Prussian Minister at Washington, the Order of the Red Eagle. In addition to these honors conferred upon him by foreign governments, are the Cross of the Legion of Honor, at the suggestion of the great surgeon Trousseau, from the French Republic, the Order of St. Maurice and Lazzaro from the King of Italy, the Order of the Medijieh from the Sultan of Turkey, and a gold medal struck expressly for the purpose, at the suggestion of the great chemist Berzelius, from the King of Sweden.

In a memorial addressed to Congress, under date of November 20, 1847, by physicians and surgeons of the Massachusetts General Hospital, it is stated that the first satisfactory experiments in the prevention of pain by means of the inhalation of ether were made "by two citizens of Boston." Among the names signed to this memorial appear those of Drs. John C. Warren, Jacob Bigelow, and Henry J. Bigelow. The "two citizens" alluded to are obviously Dr. Jackson and Dr. Morton. But as Dr. Jackson was not present on these occasions, in what sense can it be said that these successful experiments were made by both? Evidently in this: that Dr. Jackson's head contrived, planned, and directed, what Dr. Morton's hand executed.

No doubt Dr. Morton succeeded in creating a very general impression that the discovery was made by him. He was a man of great energy and activity; he spent large sums of money in advertising his "Letheon," as he called it. He was a dentist, and, at one time, in large practice, and was thus afforded frequent opportunities of diffusing among the community a belief in the truth of his pretensions.

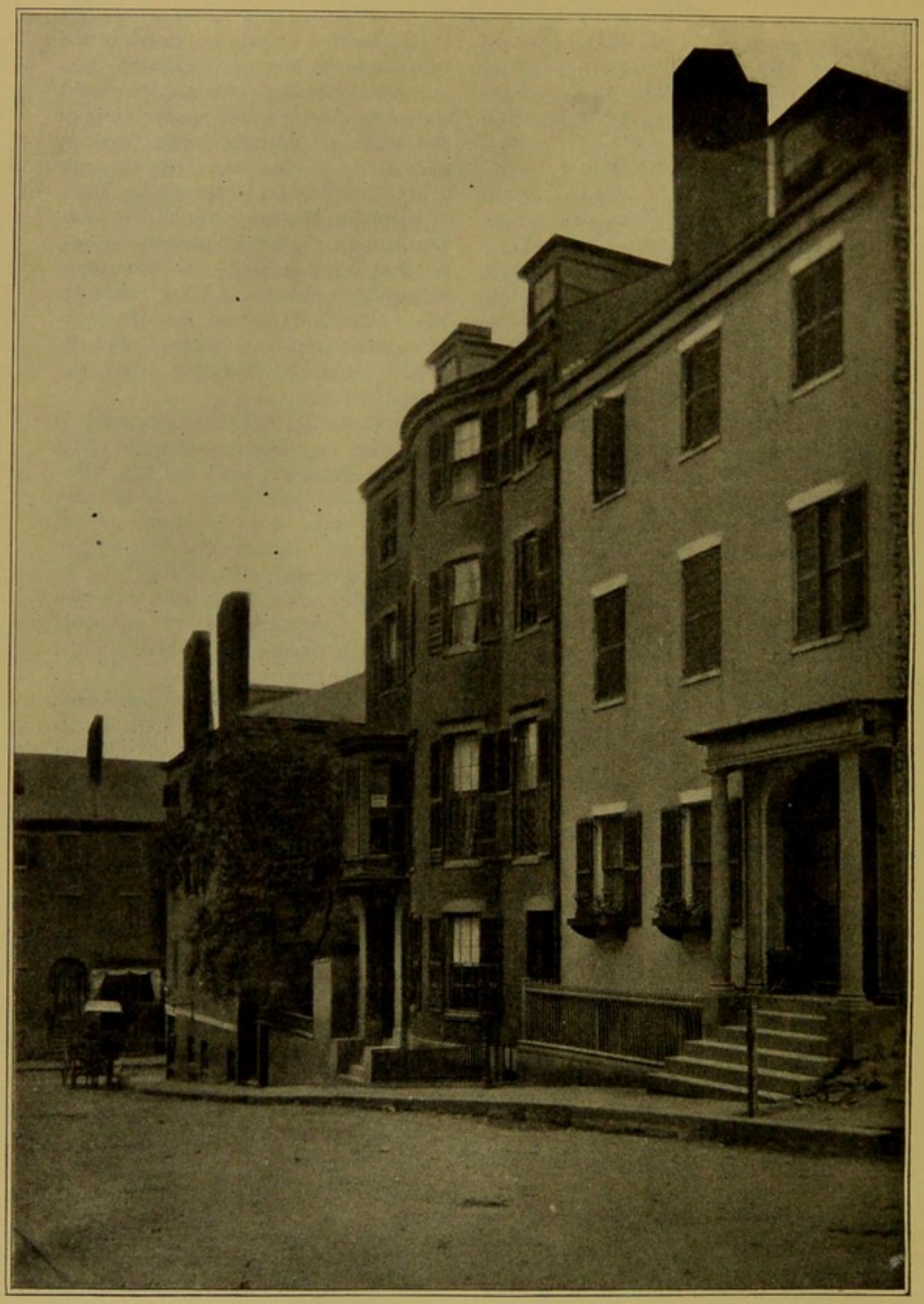
In Dr. Morton's book ("Trials," etc., p. 49) is an account headed "William T. G. Morton in account with his Discovery from October, 1846, to 1858." The debit side of this account foots up $187,-561; the credit side $1600. Among the items are the following:

Various literary gentlemen for procuring favorable opinions of the press, preparation of replies and other papers, with salary of private secretary.....$2,100

Printing and publishing of papers and pamphlets during introduction of discovery, newspaper articles, circulars, etc..... 4,326

Hotel and travelling expenses in Washington City from time of discovery to date; with hack hire, telegraphing, expressing, etc..... 17,520

To this charge is appended the following significant note: "Large as this sum is, it by no means includes all the expenses. Those who have endeavored



Residence of Dr. Jackson on Somerset St., Boston, Built on the Site of his Labratory

to push a claim before Congress, or have lived winter after winter at Washington, can fully appreciate why it should be even much more."

By way of explanation, it should be stated that Dr. Morton spent several winters at Washington for the purpose of endeavoring to induce Congress to pay him a large sum of money as the discoverer of anaesthesia by means of the use of ether.

Strong efforts have been recently made, in view of the near approach of October 16, 1896, the semi-centennial year from the date of the first use of sulphuric ether as an anaesthetic in the Massachusetts General Hospital, to revive and reassert the claim which Morton struggled so long and persistently, but in vain, to establish. No new light can possibly be thrown, at this late date, on the controversy. That Dr. Morton's path was a thorny one, is manifest from the chapters of his book ("Trials," etc.) headed "Pecuniary Difficulties," "The Last Defeat," "Action of the Charitable," and "Conclusion."

Dr. Jackson quietly pursued his scientific career until the year 1873, when the active, inventive brain that had sent forth to the world so many valuable conceptions, ceased to perform its normal functions, and his life closed, seven years later, on August 28, 1880, in one of the departments of the Massachusetts General Hospital, the institution in which his beneficent discovery was first introduced to public notice.

Dr. Morton died in 1868, on July 15th.

Was Dr. Jackson's report of the circumstances of his discovery true? Did he, as testified by several of his friends, soon afterwards, and prior to October, 1846, tell them of this discovery and express his confidence in it?

Is the narrative true of Messrs. Barnes and McIntyre as to the occurrences of September 30, 1846, at the interview between Dr. Jackson and Morton, when the latter, according to their statement, showed his ignorance of the nature and effects of sulphuric ether until instructed by Dr. Jackson?

Are the numerous witnesses to be believed, who state definitely and positively, that Morton, shortly after October 16, 1846, repeatedly admitted that the discovery was not his, but Dr. Jackson's, and that in using it he had followed Dr. Jackson's instructions? It seems incredible that all this testimony can be untrue.

With what color of consistency or reason can Morton's adherents be permitted to urge his claims to the discovery, in view of the fact that they were submitted by him to the French Academy, that the Academy decided against them, and awarded the honor of the discovery to Dr. Jackson, and that of the successful administration of the anaesthetic in conformity with his directions to Morton; that Morton recognized the fairness of this decision by accepting the prize awarded to him and surrounding the medal which constituted a part of it, with a golden wreath of laurel,—"that classical tribute to victory"?

The decision of the French Academy was acquiesced in by both parties, as reasonable and just. The controversy thereby became *"res judicata,"* and both parties were in reason and justice precluded from disputing it.

No national testimonial has yet been awarded, and probably none ever will be, to those whose names are most closely connected with the discovery of the greatest boon that has ever been conferred by science on suffering humanity. "The whole world," says that eminent surgeon, Sir James Paget, "owes to them immeasurable happiness."

The nation has provided, with unexampled liberality, for those who came to its aid in the great conflict of more than thirty years ago. Said Lincoln at Gettysburg, in his grand tribute to their memory: "The world will little heed, nor long remember, what we say here,

MEDALS RECEIVED BY DR. JACKSON

Cross of Legion of Honor,
Gift of Louis Napoleon

Red Eagle of Prussia,
Gift of the King of Prussia

Gold Medal,
Gift of Oscar, King of Sweeden

Small Cross of Legion of Honor,
(Size to be worn)

Order of Medijieh,
Gift of the Sultan of Turkey

Cross of S. S. Maurice and Lazzaro,
Given by the King of Sardinia

Medals Given to Dr. Jackson in Honor of his Great Discovery
(Reverse)

but it will never forget what they did here." And it ought not—and especially our own government ought not—to forget the lives that were saved and the torments that were mitigated on the battlefield, and in warship and hospital, by means of Jackson's great discovery and Morton's energy in explaining and facilitating its practical application, and rapidly extending the sphere of its usefulness.